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Signature

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CONSULTATION – AORTA ==================================================================

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ASSESSMENT / PLAN:

Aortic Aneurysm - AAA (Plan EVAR)

Abdominal aortic aneurysm - The patient will be scheduled for an endovascular abdominal aortic aneurysm (EVAR) procedure. Given the size of the aortic aneurysm of \_\_\_ cm which is associated with an annual rupture risk of 9% per year, endovascular treatment of the abdominal aortic aneurysm will reduce the risk of rupture and aneurysm-related death. I have discussed with the patient regarding the benefits and risk of treatment. The patient is aware of the purpose of treatment which is to exclude the aneurysm using endovascular stent-graft as this will reduce the risk of aneurysm-related rupture and aneurysm-related death. I have also discussed with the patient regarding potential risks and complications of the procedure, which include contrast-induced nephrology, arterial dissection, thrombosis, bleeding, and infection. The overall risk of above complications is 1%. The patient verbalizes understanding and wishes to proceed with the recommended treatment.

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Aortic aneurysm - AAA (Conservative Treatment)

Abdominal aortic aneurysm - I recommend conservative treatment for the aortic aneurysm at this time. Given the size of the aortic aneurysm of \_\_\_cm in diameter in this patient, it is associated with an annual risk of rupture rate of < 1% per year. At this size, the benefit of endovascular treatment is equivalent to the risks and complications of the procedure when taken into account the overall medical morbidities of the patient. I have discussed with the patient regarding this treatment plan. The patient is advised to return to my clinic as outpatient for serial abdominal duplex ultrasound evaluation. The patient verbalizes understanding regarding above treatment recommendation.

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Aortic aneurysm - Descending Thoracic Aneurysm (Conservative Treatment)

Descending thoracic aortic aneurysm - I recommend conservative treatment for the thoracic aortic aneurysm at this time as the size of the thoracic aortic aneurysm in this patient is stable and does not meet the criteria for endovascular treatment (i.e., less than 5cm in diameter without evidence of intramural hematoma, dissection, saccular or false aneurysm, contrast extravasation, or aortobronchial fistula). The size of the aortic aneurysm poses minimal risk of rupture (<1% per year) which should be monitored yearly with surveillance with CT scan of the chest. Aneurysm treatment with endovascular stent-graft placement will be considered when the aortic aneurysm diameter reaches 5.0 cm in size considering all of associated medical co-morbidities in this patient. The patient verbalizes understanding regarding above treatment recommendation.

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Aortic aneurysm - Ascending Thoracic Aneurysm (CT Surgery Referral)

Ascending thoracic aortic aneurysm - Given the patient has an ascending thoracic aortic aneurysm, I recommend cardiothoracic surgery consultation with Dr. Min Lu Huang. The location of this ascending thoracic aortic aneurysm is not amenable to endovascular stent-graft placement, and the surgical treatment involves median sternotomy with possible cardiopulmonary bypass. I will defer further treatment to cardiothoracic surgery recommendation.

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Aortic occlusion (Plan ABF)

Aortic occlusion - The patient will be scheduled for an aortobifemoral artery bypass. The purpose of the planned procedure is to bypass the aortoiliac occlusive disease which will improve the lower leg circulation and alleviate the ischemic symptoms. Potential risks of the procedure include bypass graft thrombosis, bleeding, myocardial infarction, stroke, pneumonia, renal failure, infection, and death. The overall risk of above complications is 2%. I have discussed with the patient who agrees to proceed with the planned procedure of aortobifemoral bypass.

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(transfer to USC for FEVAR)

Juxtarenal Aortic Aneurysm –

Complex abdominal aortic aneurysm with bilateral common iliac artery aneurysm –

Juxtarenal aortic aneurysm –

Due to the complexity of aortic aneurysm in this patient which involves 1) juxtarenal aorta, 2) widened aortic neck with poor endograft landing zone, 3) severe aortic aneurysm tortuosity, and 4) bilateral common iliac artery aneurysm, aortoiliac occlusive disease, this aortic aneurysm will require a specialized fenestrated stent-graft to exclude the aortic aneurysm. Currently this specialized stent graft is not available in Garfield Medical Center, as this specialized endograft is only available in tertiary medical center such as LAC/USC Medical Center or UCLA Medical Center. Therefore, I recommend the patient to be transferred to LAC/USC Medical Center as soon as possible for fenestrated stent-graft repair.

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Abdominal Pain; R/O Mesenteric Ischemia (Conservative Tx)

ASSESSMENT: 1. Abdominal pain, 2. Rule out mesenteric ischemia

PLAN - I recommend conservative treatment as the patient has no clinical evidence of mesenteric ischemia. The CT finding along with physical exam are consistent with bowel obstruction rather than mesenteric ischemia. There is no indication to pursue any angiographic evaluation or intervention for mesenteric ischemia. Further management regarding the bowel obstruction will defer to GI and general surgery consultation.

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CONSULTATION – CAROTID

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ASSESSMENT / PLAN:

Carotid Stenosis (Conservative Treatment)

Bilateral mild to moderate carotid artery stenosis - I recommend conservative treatment for the carotid artery stenosis at this time, as the carotid disease in this patient is stable which does not require angiographic evaluation or carotid endarterectomy. Further medical treatments including daily aspirin, cholesterol lowering medication, fluid hydration, regular exercise, and blood pressure management were necessary in the management of the carotid disease which were discussed with the patient. I recommend the patient to undergo yearly carotid duplex ultrasound for surveillance evaluation. The patient is advised to follow up in my clinic for outpatient carotid duplex surveillance study.

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Carotid Occlusion (Conservative Treatment)

\_\_\_ Left Right \_\_\_\_ hemispheric stroke with carotid artery occlusion - I recommend conservative treatment at this time, as carotid artery occlusion in this patient is not amenable to catheter-based intervention or surgical treatment with carotid endarterectomy. Interventional or surgical treatment for carotid artery occlusion is not indicated as it will not provide clinical benefit in terms of stroke risk reduction or survival rate improvement. Further medical treatments including daily aspirin, cholesterol lowering medication, fluid hydration, regular exercise, and blood pressure management were necessary in the management of the carotid disease which were discussed with the patient. I recommend the patient to undergo yearly carotid duplex ultrasound for surveillance evaluation. The patient is advised to follow up in my clinic for outpatient carotid duplex surveillance study.

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Carotid Dissection (Conservative Treatment)

\_\_\_ Right vs. Left \_\_\_\_ carotid artery dissection - I recommend conservative treatment with anticoagulation therapy (i.e., Xarelto or warfarin) for the carotid artery dissection for at least six months. The duration of anticoagulation therapy will be dependent on the follow up carotid duplex ultrasound in the future. The carotid dissection in this patient does not require angiographic evaluation or surgical treatment with carotid endarterectomy. Further medical treatments including daily aspirin, cholesterol lowering medication, fluid hydration, regular exercise, and blood pressure management were necessary in the management of the carotid disease which were discussed with the patient. I recommend the patient to undergo yearly carotid duplex ultrasound for surveillance evaluation. The patient is advised to follow up in my clinic for outpatient carotid duplex surveillance study.

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Carotid Stenosis (recent stroke & elective CEA in 2 weeks)

------ Recent CVA with high grade << right vs. left >> carotid artery stenosis ----- I recommend elective carotid endarterectomy in 2 weeks due the recently stroke in this patient. The basis of this treatment recommendation is as follows: 1. it will allow time for neurological recovery following the recent stroke, 2. It reduces the risk of reperfusion injury which can occur with immediate carotid endarterectomy, and 3. it minimizes the risk of hemorrhagic stroke conversion from an ischemic stroke which can occur with immediate carotid endarterectomy. Further medical treatments including daily aspirin, cholesterol lowering medication, fluid hydration, regular exercise, and blood pressure management were necessary in the management of the carotid disease which were discussed with the patient.

The << \_\_\_\_ right vs. left \_\_ >> carotid artery endarterectomy is tentatively scheduled for Monday \_\_\_\_\_\_. We’ll arrange for patient to be admitted to hospital for the planned surgery.

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Carotid Stenosis (Elective CEA in 4 weeks)

------ Recent CVA with high grade << right vs. left >> carotid artery stenosis ----- I recommend elective carotid endarterectomy in 4 weeks due the recently stroke in this patient. The basis of this treatment recommendation is as follows: 1. it will allow time for neurological recovery following the recent stroke, 2. It reduces the risk of reperfusion injury which can occur with immediate carotid endarterectomy, and 3. it minimizes the risk of hemorrhagic stroke conversion from an ischemic stroke which can occur with immediate carotid endarterectomy. Further medical treatments including daily aspirin, cholesterol lowering medication, fluid hydration, regular exercise, and blood pressure management were necessary in the management of the carotid disease which were discussed with the patient.

------ Concomitant coronary artery disease with high grade << right vs. left >> carotid artery stenosis ----- I recommend the patient to undergo coronary artery bypass first with an elective carotid endarterectomy in 4 weeks following the coronary artery bypass. The basis of this treatment recommendation is to allow to sufficient time for the patient to recovery from the coronary artery bypass before undergoing carotid endarterectomy. Further medical treatments including daily aspirin, cholesterol lowering medication, fluid hydration, regular exercise, and blood pressure management were necessary in the management of the carotid disease which were discussed with the patient.

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The patient will be scheduled for \_\_\_\_\_\_ right vs. left \_\_\_\_\_ carotid endarterectomy on \_\_\_\_\_.

The patient is advised to return to my clinic for follow up in 4 weeks so that an elective carotid endarterectomy can be scheduled.

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Carotid disease (Plan Angiogram)

(\_\_\_ Right / Left /Bilateral \_\_\_) carotid artery stenosis - Due to the conflicting results of carotid imaging studies in this patient (MRA/CTA \_\_\_%, carotid ultrasound \_\_\_% of \_\_ right left\_\_ carotid artery stenosis), I recommend carotid angiogram to further assess the severity of the carotid artery disease. The purpose of the planned procedure is to better identify the carotid occlusive disease so that appropriate treatment can be offered. I have also discussed with the patient regarding potential risks and complications of the procedure, which include contrast-induced nephrology, arterial dissection, thrombosis, bleeding, and infection. The overall risk of above complications is less than 1%. I have discussed with the patient who agrees to proceed with the planned procedure.

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Carotid disease (Plan CTA)

(\_\_\_ Right / Left /Bilateral \_\_\_) carotid artery stenosis - I recommend CT angiogram (CTA) of the neck to further assess the severity of the carotid artery disease in this patient. The basis of this recommendation is that 1) the neurological symptoms in this patient are potentially attributable to carotid artery stenosis, and 2) the carotid duplex ultrasound was insufficient to demonstrate adequate anatomical severity of the carotid artery stenosis. The purpose of the CT angiogram is to better identify the carotid occlusive disease so that appropriate treatment can be offered. Additionally, CT angiogram has greater diagnostic accuracy for carotid stenosis evaluation compared to carotid duplex ultrasound. Further treatment of either conservative therapy versus carotid endarterectomy will be determined based on the outcome of CT angiogram.

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Carotid disease (Plan Immediate CEA)

(\_\_\_ Right / Left ) carotid artery stenosis - Due to the symptomatic carotid artery stenosis, the patient will be scheduled for \_\_\_\_\_ right vs. left \_\_\_\_ carotid endarterectomy. Based on clinical literatures, the risk of his ipsilateral stroke rate due to his symptomatic carotid artery stenosis is 13% per year (The North American Symptomatic Carotid Endarterectomy, or NASCET trial). Surgical interventions with carotid endarterectomy can reduce his stroke risk and stroke-related death rate to less than 2% per year.The purpose of the planned procedure is to remove the carotid atheromatous plaque and restore carotid artery flow, which will reduce the risk of stroke and stroke-related death rate. Potential risks of the procedure include perioperative stroke, bleeding, myocardial infarction, pneumonia, renal failure, wound infection, and death. The overall risk of above complications is 1%. I have discussed with the patient who agrees to proceed with the planned procedure of carotid endarterectomy.

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Carotid artery disease (Transfer to USC for Carotid Stenting)

---------- HIGH BIFURCATION -------- I've reviewed the carotid duplex ultrasound and CT image of this patient who has a high carotid stenosis extending to the level of C1/C2 cervical vertebrae. I recommend carotid artery stenting for this patient as this anatomical disease pattern is not suited for the traditional carotid endarterectomy due to the carotid disease approaching the skull base. Since carotid stenting is a highly specialized neuro-interventional procedure, this patient should be referred to tertiary medical facility with appropriate bi-planar angiographic equipment and Medicare-certified interventional stroke program.

---------- PRIOR NECK RADIATOIN -------- Because the patient has a prior history of neck irradiation for cancer, I recommend carotid artery stenting for this patient as the radiation-induced carotid artery stenosis in this patient is not amenable to the traditional carotid endarterectomy due to high risk of neurological complications in the irradiated neck scar tissues. Since carotid stenting is a highly specialized neuro-interventional procedure, this patient should be referred to tertiary medical facility with appropriate bi-planar angiographic equipment and Medicare-certified interventional stroke program.

---------- PRIOR CEA -------- Because the patient has a recurrent carotid artery stenosis following a prior carotid endarterectomy, I recommend carotid artery stenting for this patient as the recurrent carotid stenosis is not amenable to the traditional carotid endarterectomy which is associated with high perioperative neurological complications due to post-surgical neck scar tissues. Since carotid stenting is a highly specialized neuro-interventional procedure, this patient should be referred to tertiary medical facility with appropriate bi-planar angiographic equipment and Medicare-certified interventional stroke program.

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At the present time, all AHMC facilities, including Garfield Medical Center, do not have the proper bi-planar imaging equipment or Medicare-approved interventional stroke certification to perform this procedure.

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Based on these considerations, I recommend the patient to be referred to KECK/USC School of Medicine for carotid stenting procedure by one of the following physicians: Dr. Ray Mathews (office number: (323) 442-6130), Sung Ham (office number: (323) 442-5951), or Dr. Sugku Han (office number: (323) 442-4859).

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(Temporal Arteritis, Plan Temporal Artery Biopsy)

ASSESSMENT: Headache, r/o temporal arteritis

PLAN: The patient will be scheduled for temporal artery biopsy which will provide definitive diagnostic proof of temporal arteritis. The purpose of the planned procedure is to biopsy the temporal artery to confirm the diagnosis of temporal arteritis, which will influence the subsequent treatment modality. Potential risks of the procedure include incisional pain, wound infection, bleeding, and wound dehiscence. The overall risk of above complications is 1%. I have discussed with the patient who agrees to proceed with the planned procedure of temporal artery biopsy.

Thank you for this consultation.

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CONSULTATION – DVT

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ASSESSMENT / PLAN:

CVI / Leg Swelling (Conservative treatment)

(\_\_\_ Right / Left ) leg chronic venous insufficiency - I recommend conservative treatment for the chronic venous insufficiency in this patient at this time. I also recommend the patient to keep the lower extremities elevated as much as possible. Further management strategies including compression stocking, fluid hydration, avoidance of leg crossing, and regular exercise such as walking or recumbent bicycling were discussed with the patient. I recommend the patient to follow up in my clinic in 2 weeks for surveillance venous duplex ultrasound. The patient verbalizes understanding regarding my treatment recommendation.

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CVI & Lymphedema / Leg Swelling (Conservative treatment + Outpatient Lymphedema Pump)

(\_\_\_ Right / Left ) leg chronic venous insufficiency and lymphedema - I recommend conservative treatment with the chronic venous insufficiency and lymphedema in this patient at this time. I also recommend the patient to keep the lower extremities elevated as much as possible. Further management strategies including compression stocking, fluid hydration, avoidance of leg crossing, and regular exercise such as walking or recumbent bicycling were discussed with the patient. I advised the patient to return to my clinic where we can arrange for lymphedema pump device for home therapy. The patient verbalizes understanding regarding my treatment recommendation.

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DVT (Conservative treatment)

(\_\_\_ Right / Left ) leg deep vein thrombosis - I recommend conservative treatment with anticoagulation therapy (i.e., Xarelto or warfarin) for the deep vein thrombosis at this time. The duration of anticoagulation therapy will be dependent on the follow up venous duplex ultrasound in the future. The DVT condition in this patient does not warrant endovascular intervention such as thrombectomy or thrombectomy at this time. I also recommend the patient to keep the lower extremities elevated as much as possible. Further management strategies including compression stocking and regular exercise such as walking or recumbent bicycling were discussed with the patient. If the patient does not improve with these conservative treatment, I will then consider endovascular interventions including catheter-based thrombectomy. I recommend the patient to follow up in my clinic in 2 weeks for surveillance venous duplex ultrasound. The patient verbalizes understanding regarding my treatment recommendation.

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DVT (Conservative treatment)

(\_\_\_ Right / Left ) upper extremity deep vein thrombosis - I recommend conservative treatment with anticoagulation therapy (i.e., Xarelto or warfarin) for the deep vein thrombosis at this time. The duration of anticoagulation therapy will be dependent on the follow up venous duplex ultrasound in the future. The DVT condition in this patient does not warrant endovascular intervention such as thrombectomy or thrombectomy at this time. I also recommend the patient to keep the lower extremities elevated as much as possible. Further management strategies including compression stocking and regular exercise such as walking or recumbent bicycling were discussed with the patient. If the patient does not improve with these conservative treatment, I will then consider endovascular interventions including catheter-based thrombectomy. I recommend the patient to follow up in my clinic in 2 weeks for surveillance venous duplex ultrasound. The patient verbalizes understanding regarding my treatment recommendation.

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DVT (IVC Filter placement)

(\_\_\_ Right / Left ) leg deep vein thrombosis - I recommend conservative treatment for the deep vein thrombosis condition at this time. Due to the underlying medical co-morbidities (i.e., ---- advanced age, frequent fall risk, high risk for bleeding, recent history of stroke ----- ), the patient is not a suitable candidate for long term anticoagulation, I recommend IVC filter placement for pulmonary embolism prophylaxis. I also recommend the patient to keep the lower extremities elevated as much as possible. Further management strategies including compression stocking and regular exercise such as walking or recumbent bicycling were discussed with the patient. The patient is also aware of potential risks and complications of an IVC filter placement which include contrast-induced nephrology, IVC filter migration, IVC filter thrombosis, contrast-induced allergic reaction, bleeding, and infection. The overall risk of above complications is 1%. I have discussed with the patient who agrees to proceed with the planned procedure.

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DVT (Transfer to GMC for venography and endovascular Intervention)

(\_\_\_ Right / Left ) leg symptomatic deep vein thrombosis - Given the severity of the lower leg swelling and pain due to DVT, I recommend the patient to be transferred to Garfield Medical Center to undergo lower leg venography with endovascular interventions including thrombectomy and/or thrombolysis, and IVC filter placement. The benefits of this treatment strategy include: 1) reduce the thrombus burden which will alleviate the DVT symptoms, 2) decrease the risk of pulmonary embolism, and 3) restore venous valvular function and therefore reduce the long term sequelae of post-thrombotic syndrome. The patient is also aware of potential risks and complications of the treatment procedure which include contrast-induced nephrology, recurrent deep vein thrombosis, pulmonary embolism, contrast-induced allergic reaction, bleeding, infection, IVC filter migration, and IVC filter thrombosis. The overall risk of above complications is 1%. I have discussed with the patient who agrees to proceed with the planned procedure.

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DVT (Plan Endovascular Intervention)

(\_\_\_ Right / Left ) leg symptomatic deep vein thrombosis - Given the severity of the leg swelling in this patient due to DVT, I recommend lower leg venography and endovascular DVT interventions including thrombectomy and/or thrombolysis, and IVC filter placement. The benefits of this treatment strategy include: 1) reduce the thrombus burden which will alleviate the DVT symptoms, 2) decrease the risk of pulmonary embolism, and 3) restore venous valvular function and therefore reduce the long term sequelae of post-thrombotic syndrome. The patient is also aware of potential risks and complications of the treatment procedure which include contrast-induced nephrology, recurrent deep vein thrombosis, pulmonary embolism, contrast-induced allergic reaction, bleeding, infection, IVC filter migration, and IVC filter thrombosis. The overall risk of above complications is 1%. I have discussed with the patient who agrees to proceed with the planned procedure.

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Thank you for this consultation.

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CONSULTATION – ESRD ==================================================================

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ASSESSMENT / PLAN:

ESRD (Plan Quinton catheter placement)

End stage renal disease requiring urgent hemodialysis - We will place a non-tunneled dialysis catheter at bedside for immediate hemodialysis access. I have discussed with the patient regarding potential risks and complications of the procedure, which include infection, bleeding, vessel injury, nerve injury, pneumothorax, catheter site bleeding, and catheter infection. The overall risk of these complications is 1%. The patient verbalizes understanding and wishes to proceed with the recommended treatment. The patient will also be scheduled for tunneled dialysis catheter insertion and AV access creation electively if clinically indicated.

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ESRD (Plan Permacath catheter placement)

End stage renal disease requiring hemodialysis - The patient will be scheduled for tunneled dialysis catheter placement. I have discussed with the patient regarding potential risks and complications of the procedure, which include infection, bleeding, vessel injury, nerve injury, pneumothorax, catheter site bleeding, and catheter infection. The overall risk of these complications is 1%. The patient verbalizes understanding and wishes to proceed with the recommended treatment.

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ESRD (Plan AVG thrombectomy/permacath placement)

End stage renal disease with thrombosed AV access - The patient will be scheduled for AV access thrombectomy and possible permacath placement. I have discussed with the patient regarding the benefits and risks of the planned procedures. The patient is aware of the benefit of the purpose which is to restore the AV access so hemodialysis can be performed. In the event that AV access thrombectomy is not successful, a tunneled dialysis catheter will be placed. Potential risks of the procedure include infection, bleeding, AV graft thrombosis, catheter site bleeding, and catheter infection. The overall risk of these surgical complications is 1%. The patient verbalizes understanding and wishes to proceed with the recommended treatment.

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ESRD with bleeding AV access pseudoaneurysm (Plan AV fistula pseudoaneurysm repair and repair of bleeding AV fistula with possible permacath placement)

Left arm bleeding AV fistula vs. AV fistula pseudoaneurysm - The patient will be scheduled for urgent surgical exploration with repair of the AV fistula pseudoaneurysm and AV fistula revision, as well as possible permacath placement. The purpose of the planned procedure is to repair the bleeding AV fistula and correct the underlying pseudoaneurysm. In the event that AV access thrombectomy is not successful, a tunneled dialysis catheter will be placed. Potential risks of the procedure include nerve injury, vessel injury, bleeding, infection, deep vein thrombosis, and arterial thrombosis. The overall risk of these surgical complications is 1%. The patient verbalizes understanding and wishes to proceed with the recommended treatment.

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ESRD (Plan AVF / AVG creation)

End stage renal disease requiring long term dialysis access - The patient will be scheduled for an upper extremity AV fistula versus AV graft creation for long term dialysis access. I have discussed with the patient regarding the benefits and risks of the planned procedures. The patient is aware of the benefit of the purpose which is to create a long term dialysis access in the upper extremity. I have also discussed with the patient regarding potential risks and complications of the procedure, which include infection, bleeding, AV graft thrombosis, steal syndrome, and AV access infection. The overall risk of these surgical complications is 1%. The patient verbalizes understanding and wishes to proceed with the recommended treatment.

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ESRD (Plan PD catheter placement)

End stage renal disease requiring peritoneal dialysis - The patient will be scheduled for laparoscopic peritoneal dialysis catheter placement. I have discussed with the patient regarding the benefits and risks of peritoneal dialysis catheter placement. The patient is aware of the benefit of the purpose which is to create a peritoneal dialysis access so peritoneal dialysis can be initiated. I have also discussed with the patient regarding potential risks and complications of the procedure, which include iatrogenic bowel injuries, bowel perforation, peritoneal dialysis catheter migration, peritoneal dialysis catheter occlusion, vessel injury, bowel perforation, bleeding, and infection. The overall risk of these surgical complications is 1%. The patient verbalizes understanding and wishes to proceed with laparoscopic PD catheter placement.

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ESRD (Plan PD catheter revision)

End stage renal disease with malfunction peritoneal dialysis catheter - The patient will be scheduled for laparoscopic peritoneal dialysis catheter revision. I have discussed with the patient regarding the benefits and risks of procedure. The patient is aware of the benefit of the purpose which is to revise or replace the existing peritoneal dialysis catheter so peritoneal dialysis can be performed. I have also discussed with the patient regarding potential risks and complications of the procedure, which include iatrogenic bowel injuries, bowel perforation, peritoneal dialysis catheter migration, peritoneal dialysis catheter occlusion, vessel injury, bowel perforation, bleeding, and infection. The overall risk of these surgical complications is 1%. The patient verbalizes understanding and wishes to proceed with laparoscopic PD catheter placement.

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ESRD (Plan PD catheter removal)

End stage renal disease with malfunction peritoneal dialysis catheter - The patient will be scheduled for peritoneal dialysis catheter removal. I have discussed with the patient regarding the benefits and risks of procedure. The patient is aware of the benefit of the purpose which is to remove the existing peritoneal dialysis catheter due to infection. I have also discussed with the patient regarding potential risks and complications of the procedure, which include iatrogenic bowel injuries, bowel perforation, bleeding, and infection. The overall risk of these surgical complications is 1%. The patient verbalizes understanding and wishes to proceed with PD catheter placement removal.

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ESRD (Plan DRIL)

ASSESSMENT: End stage renal disease with arterial steal syndrome and finger gangrene

PLAN: The patient will be scheduled for surgical revascularization procedure (DRIL – Distal Revascularization and Interval Ligation procedure) to correct the arterial steal syndrome. This is a brachial artery bypass to improve the arterial circulation to the patient’s upper extremity. I have discussed with the patient regarding the benefits and risks of procedure. The patient is aware of the benefit of the purpose which is to improve the hand circulation by means of a surgical bypass procedure. I have also discussed with the patient regarding potential risks and complications of the procedure, which include nerve injury, bypass graft occlusion, wound infection, bleeding, and infection. The overall risk of these surgical complications is 1%. The patient verbalizes understanding and wishes to proceed with DRIL bypass procedure.

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CONSULTATION – LEG

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ASSESSMENT / PLAN:

Groin hematoma (Plan hematoma evacuation)

(\_\_\_ Right / Left ) leg groin hematoma - The patient will be scheduled for urgent surgical exploration with evaluation of femoral and possible retroperitoneal hematoma. The purpose of the planned procedure is to evaluate the groin hematoma and repair possible bleeding vessel. Potential risks of the procedure include nerve injury, vessel injury, bleeding, infection, deep vein thrombosis, and arterial thrombosis. The overall risk of above complications is 1%. I have discussed with the patient who agrees to proceed with the planned procedure.

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Leg Swelling (Plan Outpatient Lymphedema Pump)

Lower extremity chronic venous insufficiency and lymphedema - I recommend conservative treatment with the chronic venous insufficiency and lymphedema in this patient at this time. I also recommend the patient to keep the lower extremities elevated as much as possible. Further management strategies including compression stocking, fluid hydration, avoidance of leg crossing, and regular exercise such as walking or recumbent bicycling were discussed with the patient. I advised the patient to return to my clinic where we can arrange for outpatient lymphedema pump device. The patient verbalizes understanding regarding my treatment recommendation.

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 PAD (Plan conservative treatment)

1. Bilateral lower leg peripheral arterial disease - I recommend conservative treatment for the peripheral arterial disease in this patient, who has adequate perfusion with arterial flow to the lower extremities based on both physical exam and arterial duplex study. There is no indication or benefits with angiographic evaluation and endovascular interventions. I also discussed with the patient regarding life-style modification strategies to improve his peripheral arterial disease which include: daily exercise, cholesterol management with decreased intake of animal food products, increased intake of plant-based food products, and avoidance of processed foods or high sugar content products. I recommend outpatient follow up with repeat arterial duplex ultrasound in 3-6 months. The patient is instructed to follow up in my clinic for outpatient surveillance arterial duplex ultrasound of lower leg extremities.

2. Bilateral foot wounds - I recommend bilateral heel protector boots with foam padding around the ankle which will reduce the incidence of decubitus heel ulcer. The heel protector boots should be in place at all times.

3. Lower leg pain - The lower extremity pain in this patient is due to repetitive strain injury which is caused in part by muscle cramp secondary to localized metabolic acidosis in the lower leg muscles. I recommend physical therapy as well as daily aerobic exercise (i.e., walking 30 minutes daily) to increase the metabolic process of the calf muscle which will strengthen the lower extremity musculature and decrease lower leg muscle pain.

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PAD (Plan outpatient angiogram)

1. Bilateral lower leg pain with chronic arterial occlusive disease – I recommend outpatient lower leg angiography with endovascular interventions. The patient has chronic arterial ischemia with stable lower leg perfusion at the present time based on arterial duplex ultrasound and physical exam. We will arrange this procedure once the patient is discharged from the hospital as there is no clinical urgency to pursue angiographic intervention during this current hospital course due to other concurrent medical issues. Furthermore, due to the renal insufficiency in this patient, we plan to perform outpatient lower leg angiogram with endovascular interventions using carbon dioxide gas (CO2) which will minimize contrast-induced nephrotoxicity. Currently

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Garfield Medical Center

Beverly Hospital

San Gabriel Valley Medical Center

Alhambra Hospital Medical Center

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does not have the CO2 angiography capability. I have discussed with the patient regarding the treatment plan who verbalizes understanding.

2. Bilateral foot wounds - I recommend bilateral heel protector boots with foam padding around the ankle which will reduce the incidence of decubitus heel ulcer. The heel protector boots should be in place at all times.

3. Lower leg pain - The lower extremity pain in this patient is due to repetitive strain injury which is caused in part by muscle cramp secondary to localized metabolic acidosis in the lower leg muscles. I recommend physical therapy as well as daily aerobic exercise (i.e., walking 30 minutes daily) to increase the metabolic process of the calf muscle which will strengthen the lower extremity musculature and decrease lower leg muscle pain.

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PAD (Plan transfer to GMC for angiogram)

(\_\_\_ Right / Left ) leg arterial ischemia with \_\_\_\_\_(non-healing wound) - I recommend the patient to be transferred to Garfield Medical Center for higher level of care including \_\_\_\_ right left \_\_\_ leg angiogram with endovascular interventions. The purpose of the planned procedure is to evaluate the lower extremity arterial occlusive disease. Potential endovascular treatments including balloon angioplasty, atherectomy, and/or stenting will be performed if clinically indicated to improve the arterial circulation and reduce limb ischemia. Potential risks of the procedure include contrast-induced nephrology, arterial dissection, thrombosis, bleeding, and infection. The overall risk of above complications is 1%. I have discussed with the patient who agrees to proceed with the planned procedure.

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 PAD (Plan CT Angiogram)

(\_\_\_ Right / Left ) leg arterial ischemia with non-healing wound - We will obtain CT angiogram of abdomen/pelvis/lower extremities to further evaluate his peripheral arterial circulation. Further treatment strategy including angiogram interventions versus surgical bypass will be determined based on the CT angiogram. I have discussed with the patient regarding the need for CT angiogram to further assess the lower extremity circulation, and the patient agrees to proceed with the planned evaluation.

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\*\*\* PAD (Plan leg angiogram / intervention)

(\_\_\_ Right / Left ) leg arterial ischemia with non-healing wound - The patient will be scheduled for lower extremity angiogram with endovascular interventions. The purpose of the planned procedure is to evaluate the lower extremity arterial occlusive disease. Potential endovascular treatments including balloon angioplasty, atherectomy, and/or stenting will be performed as clinically indicated in an effort to improve the arterial circulation and reduce limb ischemia. Potential risks of the procedure include contrast-induced nephropathy, arterial dissection, thrombosis, bleeding, and infection. The overall risk of above complications is 1%. I have discussed with the patient who agrees to proceed with the planned procedure.

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PAD (Plan Leg Bypass)

Severe lower extremity ischemia with gangrene / non-healing wound – Due to the severe lower extremity arterial ischemia with non-healing wound, the patient will be scheduled for lower leg bypass grafting procedure. The purpose of the surgical bypass procedure is to improve the arterial circulation, promote wound healing, and prevent lower extremity amputation. Potential risks of the procedure include hematoma, bleeding, nerve injury, bypass graft occlusion, bypass graft thrombosis, bypass graft infection, limb loss requiring amputation, myocardial infarction, stroke, or death. The overall risk of above complications is 1%. I have discussed with the patient who agrees to proceed with the planned procedure. We’ll obtain cardiology evaluation for preoperative risk assessment.

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PAD / LEG GANGRENE (Plan Leg Angio then BKA vs. AKA)

Severe lower extremity ischemia with gangrene - Given the overall medical comorbidities in this patient including \_\_\_\_\_\_\_\_\_\_ and dementia, the patient can no longer ambulate. As the result, there is no benefit of surgical revascularization given the severity of the lower extremity gangrene. Therefore, I recommend the patient to undergo lower leg amputation. The patient will be scheduled for an angiographic evaluation with endovascular interventions due in part to the diminished femoral and popliteal flow. The angiographic findings will determine the level of the leg amputation (below knee amputation versus above knee amputation). Additionally, endovascular intervention will potentially improve the femoropopliteal arterial flow which will decrease wound-related complication. The patient will be scheduled for lower leg angiogram on \_\_\_\_\_\_, and tentatively followed by lower leg amputation on \_\_\_\_\_\_\_\_.

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PAD / LEG GANGRENE (Plan BKA vs. AKA)

**ASSESSMENT / PLAN:**

<< Right vs. Left >> leg ischemia with wet gangrene - I recommend << right vs. Left >> leg above knee amputation for the lower extremity gangrene in this patient. This recommendation is based on the following considerations:

- The severity of the leg gangrene is beyond any hope for limb salvage.

- The patient has << significant dementia vs. not been able to ambulate for the past \_\_\_\_\_\_ months >>. Given the severe lower leg muscle atrophy and overall body deconditioning, the probability for the patient to regain ambulatory capability is less than 1%.

- The overall frail condition in this patient including advanced age and underlying cardiac disease precludes any surgical revascularization or endovascular interventions for limb salvage.

- The overall medical co-morbidities in this patient including advanced age and underlying cardiac disease pose significant perioperative risks with any surgical revascularization procedure.

- The gangrene limb will require above knee amputation to prevent further progression of the gangrene proximally to the body.

- The patient already has a history of multiple right leg surgical revascularization and endovascular interventions, which have not improved the arterial circulation.

- The patient is not a candidate for surgical revascularization due to lack of adequate tibial out flow artery for surgical bypass.

- The patient is not a candidate for any vascular bypass procedure. The patient has significant multiple medical co-morbidities which are associated with high perioperative morbidity and mortality for any lower extremity surgical revascularization.

- The patient has severe leg contracture which impedes his future ambulatory capability. Any surgical or endovascular revascularization attempt will not improve his ambulatory potential.

- The patient is an active cigarette smoker which will severely impair the treatment outcome of any endovascular or surgical revascularization procedure.

- The patient has had multiple left leg endovascular interventions in the last year which has failed to improve her left leg perfusion

- The patient has a DNR status.

Therefore, I recommend the patient to undergo lower leg amputation. I have discussed with the patient and family regarding the recommended plan. The patient and family are aware the purpose of the procedure is to remove ischemic leg which will eliminate the source of ischemic pain and sepsis. Potential risks of the procedure include hematoma, bleeding, wound infection, respiratory failure, myocardial infarction, stroke, or death. The overall risk of above complications is 1%. The patient and family agree with the recommended plan and wish to proceed.

------ PT NO WILLING TO UNDERGO AMPUTATION --------

Given the overall medical comorbidities in this patient including a) history of multiple right leg surgical revascularization and endovascular interventions, b) lack of adequate tibial out flow artery for surgical revascularization, c) patient’s unwillingness to undergo any further surgical reconstructive procedure, he is not a candidate for any surgical intervention. I therefore recommend conservative treatment for his peripheral arterial disease with treatment strategies including: local wound care, IV antibiotic, and IV pain analgesic. In the event that his ischemic pain is refractory to IV pain analgesic medication, I would recommend right amputation (above knee amputation) as a definitive treatment for his right foot ischemia.

However, the patient at this time is not willing or ready to accept the amputation treatment option. I spoke to his daughter \_\_\_\_\_\_\_\_\_ tonight and informed her about my treatment recommendation. The daughter and his family are in agreement with my recommendation of right leg amputation. However, the patient is not psychologically ready this treatment plan. I’ll continue my discussion with the patient. Once the patient agrees and accepts the treatment plan of right leg amputation, we’ll schedule the patient for this procedure.

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Thank you for this consultation.

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PL.CL - Arm angio - PTA (Artery)

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PL.CL - Arm angio - PTA (Artery)

REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. << \_\_\_ Right vs. Left \_\_\_\_ >> arm pain. 2. End stage renal disease

POSTOPERATIVE DIAGNOSIS: Same.

PROCEDURES:

====== RIGHT ARM ANGIO =======

1. Ultrasound guidance for vascular access of right common femoral artery (CPT# 76937)
2. Catheter placement of descending thoracic aorta for aortography, radiological supervision and interpretation (CPT# 75600-XU)
3. Selective catheter placement of right subclavian artery and axillary artery for angiography (CPT# 36217)
4. Selective catheter placement of right brachial artery for angiography (CPT# 36218)
5. Right upper extremity angiography, radiological supervision and interpretation (CPT# 75710-XU)
6. Transluminal balloon angioplasty of right subclavian artery (CPT# 37246)
7. Transluminal balloon angioplasty of right axillary artery (CPT# 37247)
8. Transluminal balloon angioplasty of right brachial artery (CPT# 37247-XS)
9. Intravascular ultrasound of the thoracic aorta (CPT# 37252), right innominate artery (CPT# 37253), subclavian artery (CPT# 37253-XS), axillary artery (CPT# 37253-XS), brachial artery (CPT# 37253-XS), radial artery (CPT# 37253-XS), and ulnar artery (CPT# 37253-XS)

====== LEFT ARM ANGIO =======

1. Ultrasound guidance for vascular access of right common femoral artery (CPT# 76937)
2. Catheter placement of descending thoracic aorta for aortography, radiological supervision and interpretation (CPT# 75600-XU)
3. Selective catheter placement of left subclavian artery and axillary artery for angiography (CPT# 36217)
4. Selective catheter placement of left brachial artery for angiography (CPT# 36218)
5. Left upper extremity angiography, radiological supervision and interpretation (CPT# 75710-XU)
6. Transluminal balloon angioplasty of left subclavian artery (CPT# 37246)
7. Transluminal balloon angioplasty of left axillary artery (CPT# 37247)
8. Transluminal balloon angioplasty of left brachial artery (CPT# 37247-XS)
9. Intravascular ultrasound of the thoracic aorta (CPT# 37252), left subclavian artery (CPT# 37253), axillary artery (CPT# 37253-XS), brachial artery (CPT# 37253-XS), radial artery (CPT# 37253-XS), and ulnar artery (CPT# 37253-XS).

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ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: 0 unit(s) PRBC transfusion

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS:

======== **Pre-AV Access Creation** =======

This is a \_\_\_-year-old patient who was recently evaluated for arteriovenous access creation for hemodialysis. On physical examination, the patient has diminished upper extremity arterial pulses suggestive of arterial occlusive disease. A recent upper extremity arterial duplex ultrasound revealed biphasic flow with probable arterial stenosis in the upper extremity. The patient is therefore scheduled for an upper extremity arteriogram evaluation to further assess the upper extremity arterial circulation. Possible endovascular interventions with balloon angioplasty and/or stent placement will be considered if an arterial stenosis is identified in the upper extremity arterial circulation. I have discussed with the patient regarding potential benefits and risks of the treatment plan. Potential benefits of the planned procedure include improvement of the upper extremity arterial circulation with endovascular treatment which may include balloon angioplasty or stenting. Potential risks of the procedure include contrast-induced nephropathy, renal failure requiring hemodialysis, groin bleeding, groin infection, vessel occlusion due to thrombosis, and vessel perforation. The overall risk of these complications is 2%. The patient verbalized understanding of the benefits and risks the treatment plan.

========  **Steal Phenomenon** =======

This is a \_\_\_-year-old patient who reports worsening of ischemic pain in the << \_\_\_ right vs. left \_\_\_ >> upper extremity due to an arterial steal phenomenon caused by the arteriovenous access. The patient has absence of palpable radial and ulnar arterial pulses which were augmented with AV graft compression. A recent upper extremity arterial duplex ultrasound revealed monophasic arterial flow in the upper extremity. The patient is therefore scheduled for an upper extremity arteriography to further assess the upper extremity arterial circulation. Possible endovascular interventions with balloon angioplasty and/or stent placement will be considered if an arterial stenosis is identified in the upper extremity arterial circulation. I have discussed with the patient regarding potential benefits and risks of the treatment plan. Potential benefits of the planned procedure include improvement of the upper extremity arterial circulation with endovascular treatment which may include balloon angioplasty or stenting. Potential risks of the procedure include contrast-induced nephropathy, renal failure requiring hemodialysis, groin bleeding, groin infection, vessel occlusion due to thrombosis, and vessel perforation. The overall risk of these complications is 2%. The patient verbalized understanding of the benefits and risks the treatment plan.

PROCEDURE IN DETAIL: The risks, benefits, and alternatives of the procedure were discussed with the patient. Written informed consent was obtained. The patient's medication records were evaluated and reviewed within the patient’s chart. The patient's laboratory values were carefully reviewed within the patient’s chart. The patient was placed in the supine position on the angiographic suite and the right groin was prepped and draped in the standard usual sterile fashion. 1% lidocaine was used to anesthetize the groin. Next under real-time ultrasound guidance, a 21-gauge micropuncture needle was used to access the right common femoral artery. An ultrasound image was permanently saved. A microcatheter-introducer sheath was inserted. A 0.035’ guidewire was inserted through the sheath into the abdominal aorta and exchanged for a 5 French vascular sheath. Ipsilateral common femoral artery angiogram was performed to evaluate the access site for suitability of a closure device. Next selective catheterization of the descending thoracic aorta was performed with a diagnostic catheter. A thoracic angiogram was performed. Next a vertebral catheter was used to select the << \_\_\_ right vs. left \_\_\_ >> subclavian artery and an angiogram was performed in the anteroposterior projection. The catheter was then used to select the << \_\_\_ right vs. left \_\_\_ >> axillary artery followed by << \_\_\_ right vs. left \_\_\_ >> brachial artery. Multiple digital subtraction angiograms of the << \_\_\_ right vs. left \_\_\_ >> upper extremity were performed in the anteroposterior projection. A 0.014” microwire was advanced through the angled catheter and selectively cannulated the radial artery. Intravascular ultrasound of the right upper extremity was performed by placing an intravascular ultrasound catheter through the 0.014” guidewire whereby innominate artery, subclavian artery, axillary artery, brachial artery, and radial artery were evaluated. Multiple images of these segmental arteries were evaluated using intravascular ultrasound using a pullback technique. The intravascular ultrasound images were saved on a local workstation and used for interpretation and to guide treatment.

These angiographic evaluations including intravascular ultrasound revealed the followings:

1. Thoracic aorta: patent flow without stenosis.

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2. Innominate artery: patent flow without stenosis.

2. Innominate artery: \_\_\_ % luminal stenosis.

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3. Subclavian artery: patent flow without stenosis.

3. Subclavian artery: \_\_\_ % luminal stenosis.

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4. Axillary artery: patent flow without stenosis.

4. Axillary artery: \_\_\_ % luminal stenosis.

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5. Brachial artery: patent flow without stenosis.

5. Brachial artery: \_\_\_ % luminal stenosis.

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6. Radial artery: patent flow without stenosis.

6. Radial artery: \_\_\_ % luminal stenosis.

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7. Ulnar artery: patent flow without stenosis.

7. Ulnar artery: \_\_\_ % luminal stenosis.

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==== < PTA of Subclavian Artery > =====

Based on these findings, we proceeded with balloon angioplasty of the << \_\_\_ right vs. left \_\_\_ >> subclavian artery using a \_\_\_ 5.0 mm x 80 mm angioplasty catheter. The balloon catheter was positioned across the stenotic segment of the subclavian artery and insufflated to 10 atmospheric pressures for a total of 30 seconds. Completion angiogram revealed successful radiographic result with residual stenosis of less than 20%.

==== < PTA of Axillary Artery > =====

Next we turned our attention to the axillary artery. We placed a 5.0 mm angioplasty balloon to dilate the axillary artery stenosis. The balloon was insufflated to 10 atmospheric pressures for a total of one minute. Completion angiogram revealed successful radiographic result with residual stenosis of less than 20%.

==== < PTA of Brachial Artery > =====

We placed a 5.0 mm angioplasty balloon to treat the brachial artery stenosis. The balloon was insufflated to 10 atmospheric pressures for a total of one minute. Completion angiogram revealed successful radiographic result with residual stenosis of less than 20%.

==== < PTA of Radial Artery > =====

Next we placed a \_\_\_ 2.5 mm angioplasty balloon to treat the radial artery stenosis. The balloon was positioned across the stenotic segment of the radial artery, and insufflated to 10 atmospheric pressures for a total of 30 seconds. Completion angiogram revealed successful radiographic result with residual stenosis of less than 20%.

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Following these interventions, the catheter and sheath were removed from the femoral artery. A closure device using Angioseal was used in the femoral artery to achieve adequate hemostasis. Standard dressings were applied. The patient tolerated the procedure well with no immediate complications and returned to the recovery area in stable condition.

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**Findings of << \_\_\_ right vs. left \_\_\_ >>** **upper extremity arterial circulation:**

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========== COPY AND PASTE FROM FINDINGS LISTED ABOVE ==============

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**Treatment Outcomes:** Successful balloon angioplasty of << \_\_\_ right vs. left \_\_\_ >> upper extremity arterial circulation including << \_\_\_ right vs. left \_\_\_ >> subclavian artery, axillary artery, brachial artery, and radial artery.

**Plan:** The patient will be scheduled for << \_\_\_ right vs. left \_\_\_ >> upper extremity arteriovenous access creation which is scheduled in \_\_\_ weeks. The patient will continue with hemodialysis via the jugular vein tunneled dialysis catheter.

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PL.CL – AVG Interventions

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 REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Left arm ischemia, 2. Left finger necrosis

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Puncture of << \_\_\_ right vs. left \_\_\_ >> << \_\_ brachiocephalic vs. brachioaxillary | brachiobasilic | radiocephalic \_\_\_>> << \_\_\_ fistula vs. graft \_\_\_ >> with ultrasound guidance (CPT# 76937)
2. Percutaneous mechanical thrombectomy with transluminal balloon angioplasty of peripheral dialysis segment (CPT# 36905)
3. Percutaneous transluminal balloon angioplasty and central dialysis segment (CPT# 36907)

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2. Percutaneous transluminal balloon angioplasty of peripheral dialysis segment (CPT# 36902)

2. Percutaneous intravascular stent placement of peripheral dialysis segment (CPT# 36903)

2. Mechanical thrombectomy and/or thrombolysis of peripheral dialysis segment (CPT# 36904)

2. Mechanical thrombectomy and/or thrombolysis with balloon angioplasty of peripheral dialysis segment (CPT# 36905)

2. Mechanical thrombectomy and/or thrombolysis with intravascular stent placement of peripheral dialysis segment (CPT# 36906)

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3. Percutaneous transluminal balloon angioplasty and central dialysis segment (CPT# 36907)

3. Percutaneous stent placement of central dialysis segment (CPT# 36908)

3. Percutaneous embolization of dialysis segment (CPT# 36909)

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4. Intravascular ultrasound of the << \_\_\_ right vs. left \_\_\_ >> << \_\_ brachiocephalic vs. brachioaxillary | brachiobasilic | radiocephalic \_\_\_>> arteriovenous << \_\_\_ fistula vs. graft \_\_\_ >> (CPT# 37252), axillary vein (CPT# 37253), subclavian vein (CPT# 37253-XS), innominate vein (CPT# 37253-XS), and superior vena cava (CPT# 37253-XS)

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5. Placement of tunneled dialysis catheter (CPT# 36558)

5. Removal of tunneled dialysis catheter (CPT# 36589)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: 0 unit(s) PRBC transfusion

IV FLUID: 200 ml

COMPLICATIONS: None

CONDITION: Stable

INDICATION:

**======== Dialysis Access Intervention =======**

This is a \_\_\_ year-old patient who reports difficulty with the arteriovenous access due to increased arm pain and swelling following hemodialysis.

This is a \_\_\_ year-old patient who reports difficulty with dialysis in the arteriovenous access with increased arm swelling and pain, as well as increased venous pressure during hemodialysis sessions.

This is a \_\_\_ year-old patient who reports difficulty with dialysis in the arteriovenous access due increased arm swelling and pain, as well as prolonged bleeding from needle cannulation sites following hemodialysis.

This is a \_\_\_ year-old patient who reports difficulty with dialysis in the arteriovenous access with prolonged bleeding from needle cannulation sites, as well as poor flow in the arteriovenous access during hemodialysis sessions.

Additionally, the patient’s recent dialysis adequacy test showed a low dialysis clearance with KT/V ratio of less than 1.0, which represents AV access recirculation with AV access malfunction resulting in inadequate hemodialysis.

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The patient has a prior history of venous stent placement in the dialysis access venous circulation due to intraluminal stenosis.

The patient has enlarging AV access pseudoaneurysm with associated skin breakdown from needle access site. This has resulted in increased arm pain and swelling.

The patient is s/p AV access pseudoaneurysm resection with AV access revision, and a known history of AV access dysfunction with central venous stenosis.

The patient has a known history of pacemaker placement via the subclavian vein. The pacemaker wires in the central venous circulation have resulted in venous obstruction resulting in central venous hypertension and dialysis access malfunction.

The patient has a known history of central venous occlusion including innominate vein and superior vena cava thrombosis, caused in part from prior central venous catheter insertion.

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The patient underwent the initial AV access creation under my care on \_\_\_\_\_\_. Since then, the patient has developed AV access thrombosis and has undergone multiple AV access thrombectomy procedures in the past. The patient recently underwent an AV access thrombectomy procedure on \_\_\_\_\_\_\_ under my care. A recent venous duplex ultrasound revealed intraluminal stenosis of AV access as well as central venous obstruction. The duplex ultrasound showed diminished flow rate with high grade intraluminal stenosis in the AV access. I have discussed with the patient regarding potential benefits and risks of the treatment plan. The purpose of the procedure is to evaluate the circulation of the dialysis access with venography and intra-vascular ultrasound. Appropriate endovascular interventions including thrombectomy, balloon angioplasty, and/or stent placement will be performed to treat the intraluminal stenosis. Potential risks of the procedure include arm and hand ischemia, nerve injury, arm numbness, wound infection, bleeding, pulmonary embolism, myocardial infarction, stroke, and death. The overall risk of these complications is 2%. The patient accepts these benefits and risks of the recommended treatment.

**======= Thrombosed AV access #1 =======**

This is a \_\_\_ year-old patient who reports a two-day history of AV access thrombosis, and the patient is scheduled for dialysis access thrombectomy and endovascular interventions.  The patient underwent the initial AV access creation under my care on \_\_\_\_\_\_. Since then, the patient has a history of AV access thrombosis and has undergone multiple AV access thrombectomy procedures in the past. The patient recently underwent an AV access thrombectomy procedure on \_\_\_\_\_\_\_ under my care. I have discussed with the patient regarding potential benefits and risks of the treatment plan. The purpose of the procedure is to evaluate the circulation of the dialysis access with venography and intra-vascular ultrasound. Appropriate endovascular interventions including thrombectomy, balloon angioplasty, and/or stent placement will be performed to treat the intraluminal stenosis. Potential risks of the procedure include arm and hand ischemia, nerve injury, arm numbness, wound infection, bleeding, pulmonary embolism, myocardial infarction, stroke, and death. The overall risk of these complications is 2%. The patient accepts these benefits and risks of the recommended treatment.

**======= Thrombosed AV access #2 =======**

This is a \_\_\_ year-old patient who recently developed AV access thrombosis, and was referred to us by the dialysis center for a thrombectomy procedure. The patient underwent the initial AV access creation under my care on \_\_\_\_\_\_. Since then, the patient has a history of AV access thrombosis and has undergone multiple AV access thrombectomy procedures in the past. The patient recently underwent an AV access thrombectomy procedure on \_\_\_\_\_\_\_ under my care. I have discussed with the patient regarding potential benefits and risks of the treatment plan. The purpose of the procedure is to evaluate the circulation of the dialysis access with venography and intra-vascular ultrasound. Appropriate endovascular interventions including thrombectomy, balloon angioplasty, and/or stent placement will be performed to treat the intraluminal stenosis. Potential risks of the procedure include arm and hand ischemia, nerve injury, arm numbness, wound infection, bleeding, pulmonary embolism, myocardial infarction, stroke, and death. The overall risk of these complications is 2%. The patient accepts these benefits and risks of the recommended treatment.

======= **Permacath removal and AV access venography (#1)** ======

This is a \_\_\_ year-old patient who has end stage renal disease who has an upper extremity dialysis access and a tunneled dialysis catheter in the jugular vein. The arteriovenous access creation was performed on \_\_\_\_\_\_\_\_\_ under my care. The patient currently receives hemodialysis via the upper extremity AV access, and the permacath is no longer being used for hemodialysis. A recent venous duplex ultrasound revealed intraluminal stenosis in the dialysis access as well as a diminished flow rate of less than 500mL/min, which was indicative of impending dialysis access thrombosis. The patient reports a recent history of dialysis difficulty in the AV access during hemodialysis as well as neck swelling which may be caused in part by catheter-induced central venous stenosis. Based on these considerations, the patient is scheduled for AV access venography and endovascular interventions, as well as central venous interventions with permacath removal. I have discussed with the patient regarding potential benefits and risks of the treatment plan. The purpose of the procedure is to evaluate the central venous circulation and ensure there is no residual thrombus or permacath-associated stenosis in the jugular vein or superior vena cava. Appropriate endovascular interventions including thrombectomy or balloon angioplasty of jugular vein stenosis will be performed if clinically indicated. The permacath will also be removed at the same setting. I have also discussed with the patient regarding the benefits and risks of AV access intervention. The purpose of this procedure is to identify potential intraluminal stenosis of the upper extremity AV access circulation. Appropriate endovascular interventions including balloon angioplasty and/or stenting will be performed to treat the intraluminal stenosis. Potential risks of the procedure include arm and hand ischemia, nerve injury, arm numbness, wound infection, and bleeding. The overall risk of these complications is 2%. The patient accepts these benefits and risks of the recommended treatment.

======= **Permacath removal and AV access venography (#2)** =====

This is a \_\_\_ year-old patient who has end stage renal disease who previously underwent an upper extremity AV access creation on \_\_\_\_\_\_\_ under my care. The patient also has a tunneled dialysis catheter dialysis which is no longer being used for hemodialysis. A recent venous duplex ultrasound revealed intraluminal stenosis in the dialysis access as well as a diminished flow rate of less than 400mL/min, which was indicative of impending dialysis access thrombosis. The patient reports a recent history of dialysis difficulty in the AV access during hemodialysis as well as neck swelling which may be caused in part by catheter-induced central venous stenosis. Based on these considerations, the patient is scheduled for AV access venography and endovascular interventions, as well as central venous interventions with permacath removal. I have discussed with the patient regarding potential benefits and risks of the treatment plan. The purpose of the procedure is to evaluate the central venous circulation and ensure there is no residual thrombus or permacath-associated stenosis in the jugular vein or superior vena cava. Appropriate endovascular interventions including thrombectomy or balloon angioplasty of jugular vein stenosis will be performed if clinically indicated. The permacath will also be removed at the same setting. I have also discussed with the patient regarding the benefits and risks of AV access intervention. The purpose of this procedure is to identify potential intraluminal stenosis of the upper extremity AV access circulation. Appropriate endovascular interventions including balloon angioplasty and/or stenting will be performed to treat the intraluminal stenosis. Potential risks of the procedure include arm and hand ischemia, nerve injury, arm numbness, wound infection, and bleeding. The overall risk of these complications is 2%. The patient accepts these benefits and risks of the recommended treatment.

======= **New Permacath Placement** ==========

This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease which will require urgent hemodialysis. The patient is therefore scheduled for Permacath placement so hemodialysis can be initiated. I have discussed with the patient regarding potential benefits and risks of the treatment plan. The purpose of the procedure is to insert a tunneled dialysis catheter in the jugular vein to allow hemodialysis. Potential risks of the procedure include neck pain, neck hematoma, bleeding, wound infection, catheter infection, catheter occlusion, pneumothorax, cardiac tamponade, and nerve injury. The overall risk of these complications is 2%. The patient accepts these benefits and risks of the recommended treatment.

PROCEDURE IN DETAIL: The risks, benefits, and alternatives of the procedure were discussed with the patient. Written informed consent was obtained. The patient's medication records were evaluated and reviewed within the patient’s chart. The patient's laboratory values were carefully reviewed within the patient’s chart. The patient was placed in the supine position on the angiographic suite and the left arm was prepped and draped in the standard usual sterile fashion. 1% lidocaine was used to anesthetize the arm. Next under real-time ultrasound guidance, a 21-gauge micropuncture needle was used to access the << \_\_\_ right vs. left \_\_\_ >> << \_\_ brachiocephalic vs. brachioaxillary | brachiobasilic | radiocephalic \_\_\_>> arteriovenous << \_\_\_ fistula vs. graft \_\_\_ >>. An ultrasound image was saved. A microcatheter-introducer sheath was inserted. A 0.035” guidewire was inserted through the sheath into the AV << \_\_\_ fistula vs. graft \_\_\_ >> and exchanged for a 6 French sheath. Contrast injection was performed using Optiray contrast to evaluate the luminal patency of the AV << \_\_\_ fistula vs. graft \_\_\_ >> as well as central venous circulation. A 0.014’ guidewire placed in the AV << \_\_\_ fistula vs. graft \_\_\_ >> through the introducer sheath which was followed by an intravascular ultrasound catheter. Intraluminal examination of the AV << \_\_\_ fistula vs. graft \_\_\_ >> as well as the central venous circulation was performed using IVUS using a pullback technique. Vessel examined using intravascular ultrasound included the AV << \_\_\_ fistula vs. graft \_\_\_ >>, axillary vein, subclavian vein, innominate vein, and superior vena cava. The intravascular ultrasound images were saved on a local workstation and used for interpretation and to guide treatment.

These angiographic evaluations including intravascular ultrasound revealed the followings:

1. << \_\_\_ Right vs. Left \_\_\_ >> << \_\_ brachiocephalic vs. brachioaxillary | brachiobasilic | radiocephalic \_\_\_>> arteriovenous << \_\_\_ fistula vs. graft \_\_\_ >> with \_\_\_ % luminal stenosis and intraluminal thrombus.

2. Axillary vein with \_\_\_% luminal stenosis. A pre-existing nitinol stent with intra-stent stenosis was identified.

3. Subclavian vein with \_\_\_% luminal stenosis. An extrinsic compression caused in part by the first rib and clavicle compression was identified.

4. Innominate vein with 10% luminal stenosis.

5. Superior vena cava with patent flow without luminal stenosis.

========= < Thrombectomy + PTA of Peripheral Dialysis Segment, CPT# 36905 > ========

Based on these findings, we proceeded with mechanical thrombectomy and balloon angioplasty of the AV << \_\_\_ fistula vs. graft \_\_\_ >> first. Percutaneous thrombectomy of the << \_\_ brachiocephalic vs. brachioaxillary | brachiobasilic | radiocephalic \_\_\_>> arteriovenous << \_\_\_ fistula vs. graft \_\_\_ >> was performed using the aspiration thrombectomy technique. An angioplasty balloon catheter was inserted over the region of thrombus and the balloon was inflated to macerate the thrombus using the Fogarty thrombectomy method. The thrombus was aspirated via the introducer sheath connecting to an aspirating syringe. A total of 10ml of thrombus was aspirated from the introducer sheath. Balloon angioplasty of the AV << \_\_\_ fistula vs. graft \_\_\_ >> was next performed using an \_\_\_ 8 mm angioplasty balloon to correct the intraluminal stenosis. The balloon was insufflated to 12 atmospheric pressure for 30 seconds. A repeat angiogram was performed following the intervention.

We next performed balloon angioplasty to treat the intraluminal stenosis of the axillary vein. An axillary venous stent was identified in the axillary vein with a high-grade intra-stent stenosis. \_\_\_\_ vs. \_\_\_\_ A high grade intraluminal stenosis caused by an sclerotic valve was identified. The venous stenosis was treated with balloon angioplasty using an 8 mm angioplasty balloon. The balloon was insufflated to 12 atmospheric pressure for 30 seconds. A completion angiogram was performed following the intervention.

======= < PTA of Peripheral Dialysis Segment, CPT# 36902 > ========

Based on these findings, we proceeded with balloon angioplasty of the AV << \_\_\_ fistula vs. graft \_\_\_ >> first. Balloon angioplasty of the AV << \_\_\_ fistula vs. graft \_\_\_ >> was performed using an \_\_\_ 8 mm angioplasty balloon which was positioned over the intraluminal stenosis. The balloon was insufflated to 12 atmospheric pressure for 30 seconds. A repeat angiogram was performed following the intervention.

We next performed balloon angioplasty to treat the intraluminal stenosis of the axillary vein. An axillary venous stent was identified in the axillary vein with a high-grade intra-stent stenosis. \_\_\_\_ vs. \_\_\_\_ A high grade intraluminal stenosis caused by an sclerotic valve was identified. The venous stenosis was treated with balloon angioplasty using an 8 mm angioplasty balloon. The balloon was insufflated to 12 atmospheric pressure for 30 seconds. A completion angiogram was performed following the intervention.

======= < Percutaneous Stenting of Peripheral Dialysis Segment, CPT #36903 > ========

Based on these findings, we proceeded with transluminal stent placement of the axillary vein. We placed a \_\_\_\_ mm x \_\_\_\_ mm Nitinol stent across the stenotic segment of the axillary vein. Once the stent was deployed, the stent catheter was removed, and balloon angioplasty was performed using a \_\_\_ mm balloon across the stented axillary vein. A repeat angiogram was performed following the intervention.

======= < Mechanical Thrombectomy + Stenting of Peripheral Dialysis Segment, CPT #36906 > ========

Based on these findings, we proceeded with mechanical thrombectomy and intravascular stent placement of the AV << \_\_\_ fistula vs. graft \_\_\_ >> and axillary vein. Percutaneous thrombectomy of the << \_\_ brachiocephalic vs. brachioaxillary | brachiobasilic | radiocephalic \_\_\_>> arteriovenous << \_\_\_ fistula vs. graft \_\_\_ >> was performed using the aspiration thrombectomy technique. An angioplasty balloon catheter was inserted over the region of thrombus and the balloon was inflated to macerate the thrombus using the Fogarty thrombectomy method. The thrombus was aspirated via the introducer sheath connecting to an aspirating syringe. A total of 10ml of thrombus was aspirated from the introducer sheath. We next placed a \_\_\_\_ mm x \_\_\_\_ mm Nitinol stent across the stenotic segment of the AV << \_\_\_ fistula vs. graft \_\_\_ >> and axillary vein. Once the stent was deployed, the stent catheter was removed, and balloon angioplasty was performed using a \_\_\_ mm balloon across the stented axillary vein. A repeat angiogram was performed following the intervention.

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======= < PTA of Central Dialysis Segment, CPT# 36907 > ========

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We next performed balloon angioplasty to correct the intraluminal stenosis of the subclavian vein. A high-grade intraluminal stenosis caused in part by the extrinsic compression of the first rib and clavicle was identified. The venous stenosis was treated with balloon angioplasty using an 8 mm angioplasty balloon. The balloon was insufflated to 12 atmospheric pressure for 30 seconds. A completion angiogram was performed following the intervention.

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The sheath and catheter were then removed and hemostasis was achieved with a 4-0 Monocryl suture as well as manual compression. Sterile dressings were applied.

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======= < Permacath Removal > ========

Next we turned our attention to permacath removal procedure. Local anesthesia using 1% lidocaine was injected over the catheter insertion site. A hemostat was used to carefully open the skin site where the catheter exited, which loosened the cuffed portion of the catheter from the adjacent tissue. Next with steady traction pressure, the catheter was removed from the right neck and right chest region. Manual pressure was applied in the right chest region for 20 minutes to achieve hemostasis. Appropriate dressing was applied over the incision site.

======= < Permacath Placement > ========

Next we turned our attention to permacath placement procedure. Local anesthesia using 1% lidocaine was injected over the catheter insertion site. Using a portable ultrasound unit, the jugular vein was visualized and accessed percutaneously. A guidewire was inserted in the vein, which was followed by dilator and peel away sheath placement into the vein. Next we made an inferior lateral counter incision using a scalpel approximately 5 cm away from the venous puncture site. A double lumen tunneled dialysis Permacath was inserted subcutaneously from the counter incision site and brought out through the venous puncture site. The Permacath was introduced into the vein via the peel-away sheath. The position of the catheter was placed in the vena cava which was confirmed by fluoroscopy. A 3-0 prolene suture was used to anchor the catheter to the skin site securely. Excellent blood flow was withdrawn from the catheter lumens without difficulty. High concentration of heparin solution was used to pack the Permacath catheter. Appropriate dressing was applied over the incision site.

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The patient tolerated the procedure well without complication. I was present throughout the entire procedure.

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**Findings:**

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========== COPY AND PASTE FROM FINDINGS LISTED ABOVE ==============

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**Treatment Outcomes:**

1. Successful balloon angioplasty and thrombectomy of << \_\_\_ right vs. left \_\_\_ >> << \_\_ brachiocephalic vs. brachioaxillary | brachiobasilic | radiocephalic \_\_\_>> arteriovenous << \_\_\_ fistula vs. graft \_\_\_ >> with resultant luminal patency.
2. Successful balloon angioplasty of << \_\_\_ right vs. left \_\_\_ >> subclavian vein with resultant luminal patency.
3. Successful removal of tunneled dialysis catheter.

PLAN:

The patient may continue with hemodialysis via the AV << \_\_\_ fistula vs. graft \_\_\_ >>, and is instructed to return for follow up clinic evaluation with surveillance duplex ultrasound in four weeks.

Due to the residual high grade luminal stenosis despite of endovascular interventions, the patient will be scheduled for surgical revision and possible new AV access creation in 2 weeks.

Discharge instructions were reviewed with the patient and a follow up visit was scheduled.

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PL.CL – Carotid angio

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PL.CL - carotid angio

REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: < \_\_\_ Right Left \_\_\_\_> carotid artery stenosis < \_\_\_\_ with without \_\_\_> stroke

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous access of right common femoral artery under ultrasound guidance (CPT# 76937)

2. Catheter placement in the thoracic aorta for aortogram and extracranial carotid artery angiogram (CPT# 36221)

3. Selective catheterization of right common carotid artery for ipsilateral carotid angiogram and intracerebral angiogram (CPT# 36223)

4. Selective catheterization of left common carotid artery for ipsilateral carotid angiogram and intracerebral angiogram (CPT# 36223-XS)

5. Selective catheterization of right vertebral artery for ipsilateral vertebral circulation angiogram (CPT# 36226)

6. Selective catheterization of left vertebral artery for ipsilateral vertebral circulation angiogram (CPT# 36226-XS)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_ year-old patient who has been diagnosed with a high grade carotid artery stenosis based on carotid duplex ultrasound. The patient was taken to the cath lab to undergo carotid angiogram to further assess the patient's carotid stenosis. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is identify his carotid artery lesion so appropriate treatment can be determined. The patient is also aware of the potential risks of the procedure, which include contrast-induced nephropathy, vessel perforation, arterial dissection, contrast-induced allergic reaction, bleeding, and wound infection. The overall risk of these complications is 1%. The patient has accepted these benefits and risks, and agreed to proceed with the planned procedure.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. Monitored local anesthesia with sedation was administered and maintained throughout the entire operation. The patient's right groin was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. The patient was given 1% lidocaine for local anesthesia. Using percutaneous technique, the right common femoral artery was accessed and a 6F introducer sheath was inserted. Next a guidewire and a diagnostic pigtail catheter were placed in the ascending thoracic aorta and an aortogram was performed using a power injector, which was followed by aortic arch angiogram. Next we removed the pigtail catheter and replaced it with a SIM2 selective catheter. We selectively catheterized the right common carotid artery, and selective right common carotid artery angiogram was performed in both AP and lateral position. Next we kept the catheter in the common carotid artery and performed intracerebral angiogram in both AP and lateral position. We then selectively catheterized the left common carotid artery, and selective left common carotid artery angiogram was performed in both AP and lateral position. Next we kept the catheter in the common carotid artery and performed intracerebral angiogram in both AP and lateral position. We then selectively catheterized the left vertebral artery, and selective ipsilateral vertebral artery angiogram was performed in both AP and lateral position. We then selectively catheterized the right vertebral artery, and selective ipsilateral vertebral artery angiogram was performed in both AP and lateral position. Following carotid artery and vertebral artery angiogram, the catheter and wire were removed from the groin. A closure device was applied in the groin following the sheath removal to achieve groin hemostasis. The patient tolerated the procedure well and suffered no complications. I was present throughout the entire procedure.

IMPRESSION:

1. Patent thoracic aorta, patent bilateral common carotid arteries, and patent bilateral subclavian arteries were identified. Bilateral vertebral arteries were patent without significant stenosis.

2. < \_\_\_ Mild Moderate Severe\_\_\_ > < \_\_\_ right left \_\_\_\_> internal carotid artery stenosis (>90%) was identified. Intracerebral circulation including anterior cerebral artery and middle cerebral artery were patent without significant stenosis.

3. < \_\_\_ Mild Moderate Severe\_\_\_ > < \_\_\_ right left \_\_\_\_> internal carotid artery stenosis (< \_\_\_ %) was identified. Intracerebral circulation including anterior cerebral artery and middle cerebral artery were patent without significant stenosis.

< ……... SURGERY ……….>

TREATMENT DISPOSITION - In view of the patient's severe < \_\_\_ right left \_\_\_\_> carotid artery stenosis, we plan to perform carotid endarterectomy < \_\_\_ tomorrow | at a later date \_\_\_>. The purpose of the planned procedure is to remove the carotid atheromatous plaque and restore carotid artery flow, which will reduce the patient's risk of stroke and stroke-relate death. Potential risks of the procedure include perioperative stroke, bleeding, myocardial infarction, pneumonia, renal failure, wound infection, and death. The overall risk of above complications is 1%. I've discussed with the patient who agrees to proceed with the planned procedure of carotid endarterectomy.

< ……….. OBSERVATION …………. >

TREATMENT DISPOSITION - In view of the patient's mild to moderate carotid artery stenosis, I recommend conservative treatment at this time. There is no benefit with surgical endarterectomy in terms of stroke risk reduction based on the degree of the patient’s carotid artery disease. The patient will follow up in my clinic in two weeks.

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PL.CL - Central line placement

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Respiratory failure, 2. Lack of adequate IV access

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous access of < \_\_\_\_ right left \_\_\_\_ > in < \_\_\_\_ subclavian jugular femoral \_\_\_> vein under ultrasound guidance (CPT# 76937)

2. Placement of triple-lumen central venous catheter in the < \_\_\_\_ right left \_\_\_\_ > in < \_\_\_\_ subclavian jugular femoral \_\_\_> vein (CPT# 36556)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 2 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who developed respiratory failure and acute renal failure. The patient has been in ICU under the care of pulmonary and critical care physician. I was asked to place a triple lumen central venous catheter for IV access. Benefits and risks of the procedure were explained to the patient's family. Potential risks of the procedure include catheter infection, pneumothorax, bleeding, vessel perforation, and nerve injury were explained to the patient and patient’s family. The overall risks of these complications were 1%. Informed consent was obtained and the patient's family agree with the planned procedure.

PROCEDURE IN DETAIL: The patient's < \_\_\_\_ right left \_\_\_\_ > < \_\_\_\_\_ neck groin \_\_\_\_ > was prepped sterilely and then draped in a standard fashion. The patient was given local anesthesia with 10 ml of 1% of lidocaine. Using a portable ultrasound unit, the < \_\_\_\_ subclavian jugular femoral \_\_\_> vein was visualized and accessed percutaneously. A guidewire was inserted in the vein, which was followed by dilator placement. Next the dilator was removed, and a triple lumen central venous catheter was inserted over the guidewire and placed in the vein. The guidewire was next removed. Excellent flow of blood with excellent blood return was established from the catheter ports. All lumens of the catheter were infused with heparinized solution. The catheter was sutured to the skin using 3-0 Nylon sutures. High concentration of heparin was used to pack in the catheter lumens. Appropriate dressing was applied over the catheter insertion site to secure the catheter. The patient tolerated the procedure well without complication.

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PL.CL - DVT (pop vein, AngioJet, IVCF, PTA, Iliac stent)

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS:

1. < Right Left > leg iliofemoral deep vein thrombosis

2. < Right Left > leg swelling and pain

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous access of < \_\_\_\_ right left> popliteal vein under ultrasound guidance (CPT# 76937)

2. Catheter placement in < \_\_\_\_ right left > femoral vein and iliac vein for venography (CPT# 36000)

3. Venography of femoral vein and iliac vein (CPT# 75820)

4. Venography of inferior vena cava (CPT# 75825)

5. Percutaneous inferior vena cava placement using OPTION retrievable filter (CPT# 37191)

6. Percutaneous thrombectomy of femoral and iliac vein using AngioJet thrombectomy catheter with thrombolytic infusion (CPT# 37187)

7. Transluminal balloon angioplasty of iliac vein (CPT# 37248)

8. Transluminal balloon angioplasty of femoral vein (CPT# 37249)

9. Percutaneous intravascular stent placement of < right vs left > common iliac vein using Wallstents (16mm x 90mm Wallstent) (CPT#37238)

10. Percutaneous intravascular stent placement of < right vs left > external iliac vein and common femoral vein using Wallstents (16mm x 60mm Wallstent) (CPT# 37239)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 10 ml

BLOOD ADMINISTERED: 0 unit(s) PRBC transfusion

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who recently developed pain and swelling in the <\_\_\_\_ right left \_\_\_\_ > leg and a venous duplex ultrasound showed significant iliofemoral deep vein thrombosis. Despite systemic anticoagulation with intravenous heparin, the patient's leg pain and swelling persisted. Due to the persistent DVT symptoms despite intravenous anticoagulation therapy, the patient is taken to the cath lab to undergo venographic evaluation and endovascular interventions. These interventions include thrombectomy and/or thrombolysis, and IVC filter placement. The benefits of this treatment strategy is to 1) reduce the thrombus burden which will alleviate the DVT symptoms, 2) decrease the risk of pulmonary embolism, and 3) restore venous valvular function and therefore reduce the long term sequelae of post-thrombotic syndrome. The patient is also aware of potential risks and complications of the treatment procedure which include contrast-induced nephrology, recurrent deep vein thrombosis, pulmonary embolism, contrast-induced allergic reaction, bleeding, infection, IVC filter migration, and IVC filter thrombosis. The overall risk of above complications is 1%. I've discussed with the patient who agrees to proceed with the planned procedure.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table on a prone position. The patient was given local anesthesia and intravenous sedation which was maintained throughout the entire procedure. The patient's <\_\_\_\_ right left \_\_\_\_ > popliteal fossa was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. The patient was given 1% lidocaine for local anesthesia. Using percutaneous technique, the popliteal vein was accessed and a 6F introducer sheath was inserted. Next a guidewire and a selective catheter was placed in the femoral vein. Contrast injection was performed for femoral vein venography. Next a selective catheter was placed in the iliac vein, and contrast injection was performed for iliac vein venography. Next a selective catheter was placed in the inferior vena cava, and contrast injection was performed for IVC venography. This revealed < \_\_\_\_\_ 80%> intraluminal thrombus in the iliac vein and < \_\_\_\_\_ 80%> intraluminal thrombus in the femoral vein.

------------ IVC FILTER PLACEMENT --------------

Next we placed a 6F retrievable OPTION IVC filter in the infrarenal portion of the inferior vena cava. The IVC filter was positioned and deployed without difficulty. Completion fluoroscopy confirmed the adequate position of the IVC filter.

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Next we proceeded with percutaneous thrombectomy of the femoral vein and iliac vein using the AngioJet thrombectomy catheter as well as thrombolytic agent infusion. Thrombolytic agent using tPA was infused via the AngioJet catheter for power pulse spray in the femoral and iliac vein. Following the infusion of 10mg of tPA thrombolytic agent, percutaneous thrombectomy using AngioJet was activated. Following that, we performed balloon angioplasty of the femoral vein using an 8 mm by 10 cm angioplasty balloon. The balloon insufflation was maintained at 2 atmospheric pressure for 30 seconds. We also performed balloon angioplasty of the iliac vein using a 10 mm by 10 cm angioplasty balloon. The balloon insufflation was maintained at 4 atmospheric pressure for 30 seconds. Completion venogram was performed which revealed chronic thrombus with extrinsic compression. At this point we proceeded with percutaneous intravascular stent placement using a self-expanding Wallstent. A 16mm by 90mm Wallstent was deployed in the common iliac vein, which was followed by balloon dilatation using a 12mm angioplasty balloon. A second Wallstent of 16mm by 60mm was also deployed in the external iliac vein extending into the proximal common femoral vein. This was also followed by balloon angioplasty using a 12mm angioplasty balloon catheter. Completion venography demonstrated successful treatment outcome with complete flow restoration in the common iliac vein, external iliac vein, and common femoral vein. Next the catheter and sheath were removed from the popliteal vein. Compression dressing was applied in the lower extremity in a circumferential fashion. The patient tolerated the procedure well without complications, and I was present throughout the entire procedure.

TREATMENT DISPOSITION - The patient may ambulate and resume regular diet, and the patient can remove the current compression dressing in 48 hours. The patient may be discharged to home once the patient is able to ambulate with assistance. The patient is advised to continue with anticoagulation for at least 6 months, and also follow up in my clinic for serial venous duplex ultrasound. Once the follow up venous duplex ultrasound shows absence of venous thrombosis and the patient remains symptom free, we'll schedule the patient for outpatient elective IVC filter retrieval. I have also advised the patient regarding life style modifications, including a) daily wear of compression stocking (knee high 20-30mm Hg), b) daily aerobic exercise 30 minutes, c) daily water intake of at least 50 oz to maintain adequate body hydration, and d) avoidance of leg crossing when sitting.

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PL.CL - DVT (pop vein, AngioJet, IVCF, lysis, 1st day)

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS:

1. < Right Left > leg iliofemoral deep vein thrombosis

2. < Right Left > leg swelling and pain

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous access of < \_\_\_\_ right left> popliteal vein under ultrasound guidance (CPT# 76937)

2. Catheter placement in < \_\_\_\_ right left > femoral vein and iliac vein for venography (CPT# 36000)

3. Venography of femoral vein and iliac vein (CPT# 75820)

4. Venography of inferior vena cava (CPT# 75825)

5. Percutaneous inferior vena cava filter placement using OPTION retrievable filter (CPT# 37191)

6. Percutaneous thrombectomy of femoral and iliac vein using AngioJet thrombectomy catheter with thrombolytic infusion (CPT# 37187)

7. Catheter-directed thrombolytic therapy of iliofemoral vein using EKOS ultrasound-accelerated thrombolytic infusion catheter with tPA infusion (Initiation of thrombolytic therapy, CPT# 37212)

8. Transluminal balloon angioplasty of iliac vein (CPT# 37248)

9. Transluminal balloon angioplasty of femoral vein (CPT# 37249)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 10 ml

BLOOD ADMINISTERED: 0 unit(s) PRBC transfusion

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who recently developed pain and swelling in the <\_\_\_\_ right left \_\_\_\_ > leg and a venous duplex ultrasound showed significant iliofemoral deep vein thrombosis. Despite systemic anticoagulation with intravenous heparin, the patient's leg pain and swelling persisted. Due to the persistent DVT symptoms despite intravenous anticoagulation therapy, the patient is taken to the cath lab to undergo venographic evaluation and endovascular interventions. These interventions include thrombectomy and/or thrombolysis, and IVC filter placement. The benefits of this treatment strategy is to 1) reduce the thrombus burden which will alleviate the DVT symptoms, 2) decrease the risk of pulmonary embolism, and 3) restore venous valvular function and therefore reduce the long term sequelae of post-thrombotic syndrome. The patient is also aware of potential risks and complications of the treatment procedure which include contrast-induced nephrology, recurrent deep vein thrombosis, pulmonary embolism, contrast-induced allergic reaction, bleeding, infection, IVC filter migration, and IVC filter thrombosis. The overall risk of above complications is 1%. I've discussed with the patient who agrees to proceed with the planned procedure.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table on a prone position. The patient was given local anesthesia and intravenous sedation which was maintained throughout the entire procedure. The patient's <\_\_\_\_ right left \_\_\_\_ > popliteal fossa was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. The patient was given 1% lidocaine for local anesthesia. Using percutaneous technique, the popliteal vein was accessed and a 6F introducer sheath was inserted. Next a guidewire and a selective catheter was placed in the femoral vein. Contrast injection was performed for femoral vein venography. Next a selective catheter was placed in the iliac vein, and contrast injection was performed for iliac vein venography. Next a selective catheter was placed in the inferior vena cava, and contrast injection was performed for IVC venography. This revealed < \_\_\_\_\_ 80%> intraluminal thrombus in the iliac vein and < \_\_\_\_\_ 80%> intraluminal thrombus in the femoral vein.

------------ IVC FILTER PLACEMENT --------------

Next we placed a 6F retrievable OPTION IVC filter in the infrarenal portion of the inferior vena cava. The IVC filter was positioned and deployed without difficulty. Completion fluoroscopy confirmed the adequate position of the IVC filter.

-------------------------------------------------------

Next we proceeded with percutaneous thrombectomy of the femoral vein and iliac vein using the AngioJet thrombectomy catheter as well as thrombolytic agent infusion. Thrombolytic agent using tPA was infused via the AngioJet catheter for power pulse spray in the femoral and iliac vein. Following the infusion of 10mg of tPA thrombolytic agent, percutaneous thrombectomy using AngioJet was activated. Following that, we performed balloon angioplasty of the femoral vein using an 8 mm by 10 cm angioplasty balloon. The balloon insufflation was maintained at 4 atmospheric pressure for 30 seconds. We also performed balloon angioplasty of the iliac vein using a 10 mm by 10 cm angioplasty balloon. The balloon insufflation was maintained at 4 atmospheric pressure for 30 seconds. Completion venogram was performed which revealed 50% residual thrombus in the femoral and iliac veins. At this point we proceeded with thrombolytic catheter placement in the femoral vein and iliac vein for continuous thrombolytic infusion. The thrombolytic infusion catheter was next connected to tPA infusion pump at an infusion rate of 1mg/hr. The catheter was securely taped in the leg. The patient was taken to the ICU in stable condition where thrombolytic therapy will continue overnight. The patient tolerated the procedure well and I was present throughout the entire operation.

-------- TX DISPOSITION FOR EKOS CATHETER -----------

TREATMENT DISPOSITION - The patient will be transferred to ICU with continual catheter-directed thrombolytic infusion (1mg tPA/hr or 40mg tPA in 1,000cc NS with infusion rate of 25cc/hr via the "drug" port of thrombolytic catheter, and NaCl saline at 25cc/hr via the "coolant' port of the thrombolytic catheter, and 300u/hr via popliteal introducer sheath). The patient will return to cath lab tomorrow for follow up venography and possible interventions.

-------- TX DISPOSITION FOR THROMBOLYTIC CATHETER -------------

TREATMENT DISPOSITION - The patient will be transferred to ICU with continual catheter-directed thrombolytic infusion (1mg tPA/hr or 40mg tPA in 1,000cc NS with infusion rate of 25cc/hr via the thrombolytic catheter, and 300u/hr via popliteal introducer sheath). The patient will return to cath lab tomorrow for follow up venography and possible interventions.

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PL.CL - DVT (pop vein, AngioJet, PTA, lysis, 2st day)

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. < Right Left > leg iliofemoral deep vein thrombosis, 2. < Right Left > leg swelling and pain, 3. May Turner Syndrome

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Catheter placement in < \_\_\_\_ right left > femoral vein and iliac vein for venography (CPT# 36000)

2. Venography of femoral vein and iliac vein (CPT# 75820)

3. Venography of inferior vena cava (CPT# 75825)

4. Percutaneous thrombectomy of femoral and iliac vein using AngioJet thrombectomy catheter with thrombolytic infusion (CPT# 37187)

5. Catheter-directed thrombolytic therapy of iliofemoral vein with tPA infusion (termination of thrombolytic therapy with catheter removal, CPT# 37214)

6. Transluminal balloon angioplasty of iliac vein (CPT# 37248)

7. Transluminal balloon angioplasty of femoral vein (CPT# 37249)

8. Transcatheter intravascular stent placement in < \_\_\_\_ right left > iliac vein (Wallstent 16mm x 80mm; CPT# 37238)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 10 ml

BLOOD ADMINISTERED: 0 unit(s) PRBC transfusion

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who recently developed pain and swelling in the <\_\_\_\_ right left \_\_\_\_ > leg and the patient underwent venography with thrombolytic therapy infusion using tPA yesterday due to iliofemoral DVT. The patient returns to the cath lab to undergo further venographic evaluation to assess the progression of the thrombolytic therapy. I've discussed with the patient regarding the benefits of the procedure which include resolution of the DVT using thrombolytic therapy. The patient is also aware of potential risks and complications of the treatment procedure which include contrast-induced nephrology, recurrent deep vein thrombosis, pulmonary embolism, contrast-induced allergic reaction, bleeding, infection, IVC filter migration, and IVC filter thrombosis. The overall risk of above complications is 1%. I've discussed with the patient who agrees to proceed with the planned procedure.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table on a prone position. The patient was given local anesthesia and intravenous sedation which was maintained throughout the entire procedure. The patient's <\_\_\_\_ right left \_\_\_\_ > popliteal fossa was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. The patient was given 1% lidocaine for local anesthesia. The previously placed thrombolytic catheter was removed at this time following 24 hours of thrombolytic infusion using tPA. We placed a guidewire across the iliac vein and femoral vein. Contrast injection was performed for femoral vein venography and iliac venography. This revealed residual intraluminal thrombosis with stenosis of the iliac vein and femoral vein. The iliac vein stenosis was approximately 50% and the femoral vein stenosis was 50%. Next we proceeded with percutaneous thrombectomy of the femoral vein and iliac vein using the AngioJet thrombectomy catheter as well as thrombolytic agent infusion. Thrombolytic agent using tPA was infused via the AngioJet catheter for power pulse spray in the femoral and iliac vein. Following the infusion of 10mg of tPA thrombolytic agent, percutaneous thrombectomy using AngioJet was activated. Following that, we performed balloon angioplasty of the femoral vein using an 8 mm by 10 cm angioplasty balloon. The balloon insufflation was maintained at 2 atmospheric pressure for 30 seconds. We also performed balloon angioplasty of the iliac vein using a 10 mm by 10 cm angioplasty balloon. The balloon insufflation was maintained at 2 atmospheric pressure for 30 seconds. Completion venogram was performed which revealed \_\_\_ 10% \_\_\_ residual thrombus in the femoral and iliac veins.

A high grade left common iliac vein compression caused by right common iliac artery, which was consistent with May Thurner's Syndrome, was identified. We proceeded with intravascular stent placement using a Wallstent 16mm x 80mm in the left common iliac vein. Post stenting balloon angioplasty was performed. Completion venography demonstrated successful resolution of common iliac vein stenosis or thrombus.

At this point, all guidewire and introducer sheath were removed from the popliteal fossa. Pressure dressing was applied in the popliteal fossa to achieve hemostasis. Compression dressing was applied in the usual fashion. The patient tolerated the procedure without complication. I was present throughout the entire procedure.

TREATMENT DISPOSITION - The patient may ambulate, and possibly discharged to home tomorrow. The patient should continue with oral anticoagulation and daily compression stocking for 6 months. The patient is instructed to follow up in my clinic for outpatient venous duplex ultrasound in 2 weeks.

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PL.CL - EVAR (non-ruptured)

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: Abdominal aortic aneurysm

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous access of right femoral artery with deployment of femoral artery closure device (CPT# 34713-RT)

2. Percutaneous access of left femoral artery with deployment of femoral artery closure device (CPT#34713-LT)

3. Endovascular abdominal aortic aneurysm with aorto-bi-iliac stent graft placement for non-ruptured aortic aneurysm (CPT# 34705)

4. Intravascular ultrasound evaluation (non-coronary) of abdominal aorta during therapeutic interventions (CPT# 37252)

5. Intravascular ultrasound evaluation (non-coronary) of right common iliac artery during therapeutic interventions (add-on vessel, CPT# 37253)

6. Intravascular ultrasound evaluation (non-coronary) of right external iliac artery during therapeutic interventions (add-on vessel, CPT# 37253)

7. Intravascular ultrasound evaluation (non-coronary) of left common iliac artery during therapeutic interventions (add-on vessel, CPT# 37253)

8. Intravascular ultrasound evaluation (non-coronary) of left external iliac artery during therapeutic interventions (add-on vessel, CPT# 37253)

ANESTHESIA: General endotracheal anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 20 ml

BLOOD ADMINISTERED: 0 unit(s) PRBC transfusion

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old male patient who was recently diagnosed with a \_\_ cm abdominal aortic aneurysm which was confirmed by an abdominal CT scan. The patient has been under the care of Dr. \_\_\_\_. It was determined that the patient's aortic aneurysm anatomy is amenable to endovascular stent-graft repair. We therefore plan to perform endovascular abdominal aortic aneurysm repair using a bifurcated aortic stent graft. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to reduce the risk of aneurysm rupture and aneurysm-related death. The patient is also aware of the potential risks and complications of the procedure, which include contrast allergy, contrast induced renal failure requiring hemodialysis, wound infection, bleeding, endograft limb thrombosis, lower leg ischemia, pneumonia, MI, stroke, spinal cord paralysis, and death. The patient is aware that the overall risk of these complications is 2%. The patient has accepted these benefits and risks of the procedure, and the patient agreed to proceed with the planned treatment.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. The patient was given general anesthesia and maintained throughout the entire procedure. The patient's abdomen and bilateral lower extremities were prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. Next we proceeded with ultrasound guided percutaneous access of the right groin. Under ultrasound visualization, we obtained percutaneous access in the right femoral artery, which was followed by the placement of an introducer sheath. Next we placed two percutaneous closure devices in the right femoral artery using the Perclose closure device, which was followed by an introducer sheath exchange in which we placed an 18 French introducer sheath. Next under ultrasound visualization, we obtained percutaneous access in the left femoral artery, which was followed by the placement of an introducer sheath. We next placed two percutaneous closure devices in the left femoral artery using the Perclose device, which was followed by an introducer sheath exchange in which we placed a 14 French introducer sheath. Systemic heparin was given intravenously for anticoagulation.

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We performed intravascular ultrasound examination of the aorta by positioning an intravascular ultrasound catheter in the aorta to determine the vessel diameter, as this was necessary to determine the appropriate size of the stent graft to be used. We performed intravascular ultrasound examination of the right common iliac artery and right external iliac artery by positioning an intravascular ultrasound catheter in these vessels to determine the vessel diameter, as this was necessary to determine the appropriate size of the stent graft to be used. We performed intravascular ultrasound examination of the left common iliac artery and left external iliac artery by positioning an intravascular ultrasound catheter in these vessels to determine the vessel diameter, as this was necessary to determine the appropriate size of the stent graft to be used.

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We next placed a stiff Amplatz guidewire via the right femoral artery sheath and a stiff Glidewire via the left femoral artery. A marker pigtail catheter was introduced via the left femoral guidewire so the pigtail catheter was advanced and positioned in the abdominal aorta. Using power injection, we performed abdominal aortogram using the marker pigtail catheter to identify the renal artery, aortic aneurysm, and bilateral iliac arteries. The locations of the renal arteries were identified. Next we inserted a

-------- Gore EXCLUDER vs. COOK Zenith ----------

bifurcated aortic endovascular prosthesis from the right groin sheath approach and positioned the device in the infrarenal aorta. The device was next deployed in the infrarenal portion of the abdominal aorta. Next we removed the pigtail from the left groin and inserted a selective catheter in which we cannulate the contralateral gate of the bifurcated endoprosthesis from the left groin approach. We next inserted a contralateral iliac endograft limb from the main body of the bifurcated device and extended to the common iliac artery as well as the external iliac artery. Next we finished the deployment of the main bifurcated endoprosthesis in which the device was removed. The endoprosthesis device was next removed from the right groin. Following that, balloon angioplasty of the bilateral iliac endografts using an aortic molding balloon in which we dilated the aortic portion of the bifurcated main device. Following completion of the above deployment of the main body device with one iliac endograft docking limb, we performed a completion angiogram using a pigtail catheter, which revealed successful aortic aneurysm exclusion by the endografts with satisfactory radiographic results. Bilateral renal arteries and hypogastric arteries were patent and visualized. Bilateral percutaneous closure devices were deployed following the removal of bilateral femoral sheaths. Hemostasis was achieved satisfactorily. Flow was reestablished to the bilateral lower extremities, and protamine was given to reverse the heparin. Dermabond dressing was applied in bilateral groin which was followed by gauze dressing placement. The patient tolerated the procedure well without any complication, and she was taken to the recovery room in a stable condition. I was present throughout the entire operation.

SUPERVISION AND INTERPRETATION OF ENDOVASCULAR AORTIC ANEURYSM REPAIR: Completion angiogram following endovascular aortic stent graft placement demonstrated successful exclusion of the aortic aneurysm without endoleak. Bilateral renal arteries and hypogastric arteries were patent.

TREATMENT DISPOSITION: The patient will be admitted to the ICU for postoperative monitoring.

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PL.CL - EVAR (non-ruptured) + hypogastric embo

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: 1. Abdominal aortic aneurysm; 2. Right iliac artery aneurysm

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous access of right femoral artery with deployment of femoral artery closure device (CPT# 34713-RT)

2. Percutaneous access of left femoral artery with deployment of femoral artery closure device (CPT#34713-LT)

3. Percutaneous embolization of right hypogastric artery with 14mm microcoils for right iliac artery aneurysm (CPT# 37243)

4. Endovascular abdominal aortic aneurysm with aorto-bi-iliac stent graft placement for non-ruptured aortic aneurysm (CPT# 34705)

5. Intravascular ultrasound evaluation (non-coronary) of abdominal aorta during therapeutic interventions (CPT# 37252)

6. Intravascular ultrasound evaluation (non-coronary) of right common iliac artery during therapeutic interventions (add-on vessel, CPT# 37253)

7. Intravascular ultrasound evaluation (non-coronary) of right external iliac artery during therapeutic interventions (add-on vessel, CPT# 37253)

8. Intravascular ultrasound evaluation (non-coronary) of left common iliac artery during therapeutic interventions (add-on vessel, CPT# 37253)

9. Intravascular ultrasound evaluation (non-coronary) of left external iliac artery during therapeutic interventions (add-on vessel, CPT# 37253)

ANESTHESIA: General endotracheal anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 20 ml

BLOOD ADMINISTERED: 0 unit(s) PRBC transfusion

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old male patient who was recently diagnosed with a \_\_ cm abdominal aortic aneurysm as well as a large iliac artery aneurysm which was confirmed by an abdominal CT scan. The patient has been under the care of Dr. \_\_\_\_. It was determined that the patient's aortoiliac aneurysm anatomy is amenable to endovascular stent-graft repair. We therefore plan to perform endovascular abdominal aortic aneurysm repair using a bifurcated aortic stent graft. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to reduce the risk of aneurysm rupture and aneurysm-related death. The patient is also aware of the potential risks and complications of the procedure, which include contrast allergy, contrast induced renal failure requiring hemodialysis, wound infection, bleeding, endograft limb thrombosis, lower leg ischemia, pneumonia, MI, stroke, spinal cord paralysis, and death. The patient is aware that the overall risk of these complications is 2%. The patient has accepted these benefits and risks of the procedure, and the patient agreed to proceed with the planned treatment.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. The patient was given general anesthesia and maintained throughout the entire procedure. The patient's abdomen and bilateral lower extremities were prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. Next we proceeded with ultrasound guided percutaneous access of the right groin. Under ultrasound visualization, we obtained percutaneous access in the right femoral artery, which was followed by the placement of an introducer sheath. Next we placed two percutaneous closure devices in the right femoral artery using the Perclose closure device, which was followed by an introducer sheath exchange in which we placed an 18 French introducer sheath. Next under ultrasound visualization, we obtained percutaneous access in the left femoral artery, which was followed by the placement of an introducer sheath. We next placed two percutaneous closure devices in the left femoral artery using the Perclose device, which was followed by an introducer sheath exchange in which we placed a 14 French introducer sheath. Systemic heparin was given intravenously for anticoagulation.

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We performed intravascular ultrasound examination of the aorta by positioning an intravascular ultrasound catheter in the aorta to determine the vessel diameter, as this was necessary to determine the appropriate size of the stent graft to be used. We performed intravascular ultrasound examination of the right common iliac artery and right external iliac artery by positioning an intravascular ultrasound catheter in these vessels to determine the vessel diameter, as this was necessary to determine the appropriate size of the stent graft to be used. We performed intravascular ultrasound examination of the left common iliac artery and left external iliac artery by positioning an intravascular ultrasound catheter in these vessels to determine the vessel diameter, as this was necessary to determine the appropriate size of the stent graft to be used.

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We next catheterized the right hypogastric artery and placed four microcoils in the right hypogastric artery for selective embolization. This effectively prevents type II endoleak from the hypogastric artery once endograft is placed. We next placed a stiff Amplatz guidewire via the right femoral artery sheath and a stiff Glidewire via the left femoral artery. A marker pigtail catheter was introduced via the left femoral guidewire so the pigtail catheter was advanced and positioned in the abdominal aorta. Using power injection, we performed abdominal aortogram using the marker pigtail catheter to identify the renal artery, aortic aneurysm, and bilateral iliac arteries. The locations of the renal arteries were identified. Next we inserted a

-------- Gore EXCLUDER vs. COOK Zenith ----------

bifurcated aortic endovascular prosthesis from the right groin sheath approach and positioned the device in the infrarenal aorta. The device was next deployed in the infrarenal portion of the abdominal aorta. Next we removed the pigtail from the left groin and inserted a selective catheter in which we cannulate the contralateral gate of the bifurcated endoprosthesis from the left groin approach. We next inserted a contralateral iliac endograft limb from the main body of the bifurcated device and extended to the common iliac artery as well as the external iliac artery. Next we finished the deployment of the main bifurcated endoprosthesis in which the device was removed. The endoprosthesis device was next removed from the right groin. Following that, balloon angioplasty of the bilateral iliac endografts using an aortic molding balloon in which we dilated the aortic portion of the bifurcated main device. Following completion of the above deployment of the main body device with one iliac endograft docking limb, we performed a completion angiogram using a pigtail catheter, which revealed successful aortic aneurysm exclusion by the endografts with satisfactory radiographic results. Bilateral renal arteries and hypogastric arteries were patent and visualized. Bilateral percutaneous closure devices were deployed following the removal of bilateral femoral sheaths. Hemostasis was achieved satisfactorily. Flow was reestablished to the bilateral lower extremities, and protamine was given to reverse the heparin. Dermabond dressing was applied in bilateral groin which was followed by gauze dressing placement. The patient tolerated the procedure well without any complication, and she was taken to the recovery room in a stable condition. I was present throughout the entire operation.

SUPERVISION AND INTERPRETATION OF ENDOVASCULAR AORTIC ANEURYSM REPAIR: Completion angiogram following endovascular aortic stent graft placement demonstrated successful exclusion of the aortic aneurysm without endoleak. Bilateral renal arteries and were patent.

TREATMENT DISPOSITION: The patient will be admitted to the ICU for postoperative monitoring.

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PL.CL – EVAR - Aortic cuff, renal Viabahn

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: 1. s/p endovascular abdominal aortic aneurysm repair, 2. Presence of endoleak

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous access of right femoral artery with deployment of femoral artery closure device (CPT# 34713-RT)

2. Percutaneous access of left femoral artery with deployment of femoral artery closure device (CPT#34713-LT)

3. Abdominal aortogram with radiological supervision and interpretation (CPT# 75625)

4. Placement of proximal aortic stent-graft cuff (CPT# 34825)

5. Catheter placement in bilateral renal artery for renal artery angiogram (CPT# 36252)

6. Left renal artery stent placement with Viabahn stent-graft (CPT# 37236)

7. Supervision and interpretation of aortic cuff placement (CPT# 75953)

ANESTHESIA: General endotracheal anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 50 ml

BLOOD ADMINISTERED: 0 unit(s) PRBC transfusion

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old male patient who recently underwent endovascular abdominal aortic aneurysm repair due to a ruptured aortic aneurysm. A recent CT angiogram of the abdomen revealed type I endoleak. Due to the presence of the aortic endoleak, we plan to perform aortogram with possible intervention to repair the endoleak. I've discussed with the patient and family regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to eliminate the endoleak which will eliminate the risk of aneurysm rupture and aneurysm-related death. The patient is also aware of the potential risks and complications of the procedure, which include contrast allergy, contrast induced renal failure requiring hemodialysis, wound infection, bleeding, endograft limb thrombosis, lower leg ischemia, pneumonia, MI, stroke, spinal cord paralysis, and death. The patient is aware that the overall risk of these complications is 2%. The patient has accepted these benefits and risks of the procedure, and the patient agreed to proceed with the planned treatment.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. The patient was given general anesthesia and maintained throughout the entire procedure. The patient's abdomen and bilateral lower extremities were prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. Next we proceeded with ultrasound guided percutaneous access of the right groin. Under ultrasound visualization, we obtained percutaneous access in the right femoral artery, which was followed by the placement of a 7 French introducer sheath. Next we placed two percutaneous closure devices in the right femoral artery using the Perclose device, which was followed by an introducer sheath exchange in which we placed a 7 French introducer sheath. Next under ultrasound visualization, we obtained percutaneous access in the left femoral artery, which was followed by the placement of a 7 French introducer sheath. We next placed two percutaneous closure devices in the left femoral artery using the Perclose device, which was followed by an introducer sheath exchange in which we placed a 7 French introducer sheath. Systemic heparin was given intravenously for anticoagulation. We next placed a stiff Amplatz guidewire via the right femoral artery sheath and a stiff Glidewire via the left femoral artery. A marker pigtail catheter was introduced via the left femoral guidewire so the pigtail catheter was advanced and positioned in the abdominal aorta. Using power injection, we performed abdominal aortogram using the marker pigtail catheter to identify the renal artery, aortic aneurysm, and bilateral iliac arteries. The locations of the renal arteries were identified. The aortogram identified a type I proximal neck endoleak. Due to the proximity of the aortic endoleak to the renal artery, placement of an aortic cuff would occlude the renal artery flow. Therefore decision was made to place renal artery stent-graft along with aortic cuff placement to exclude the endoleak while preserving the renal flow. We selectively catheterized bilateral renal arteries for selective bilateral renal artery angiogram. We next placed a 6F introduce sheath into the left renal artery. Due to the acute angulation of the right renal artery, we were unable to place an introduce sheath in the right renal artery. Once the left renal artery sheath is placed, we deployed a 23mm aortic cuff in the supra-renal portion of the proximal aortic stent-graft. A 6mm x 5cm Viabahn stent-graft was also deployed in the left renal artery adjacent to the aortic cuff, which preserved the renal artery flow. Balloon angioplasty of the aortic cuff was performed to ensure full deployment of the aortic cuff. Next we performed a completion angiogram using a pigtail catheter, which revealed successful aortic aneurysm exclusion by the endografts with satisfactory radiographic results. Adequate blood flow the left renal artery was identified. Right renal artery blood flow as also identified via collateral flow. Arterial flow to the left renal artery with sufficient renal flow. Bilateral percutaneous closure devices were deployed following the removal of bilateral femoral sheaths. Hemostasis was achieved satisfactorily. Flow was reestablished to the bilateral lower extremities, and protamine was given to reverse the heparin. Dermabond dressing was applied in bilateral groin which was followed by gauze dressing placement. The patient tolerated the procedure well without any complication, and she was taken to the recovery room in a stable condition. I was present throughout the entire operation.

SUPERVISION AND INTERPRETATION OF ENDOVASCULAR AORTIC CUFF STENT GRAFT PLACEMENT: An GORE EXCLUDER 23mm x 3.5cm aortic cuff was deployed in the proximal aortic neck which successfully sealed the aortic endoleak. Left renal artery stent graft was successfully placed in the left renal artery which preserved the renal artery flow.

TREATMENT DISPOSITION: The patient will return to ICU for postoperative monitoring. Will continue blood transfusion as needed. Continue monitor his GI bleeding.

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PL.CL - EVAR - ilio-iliac endograft (non-ruptured)

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: 1. Abdominal aortic aneurysm; 2. s/p endovascular aortic aneurysm repair; 3. presence of endoleak following endovascular aortic aneurysm repair

POSTOPERATIVE DIAGNOSIS: Same

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PROCEDURES:

1. Percutaneous access of right femoral artery with deployment of femoral artery closure device (CPT# 34713-RT)

3. Endovascular abdominal aortic aneurysm with right ilio-iliac stent graft placement (CPT# 34707-RT)

PROCEDURES:

1. Percutaneous access of left femoral artery with deployment of femoral artery closure device (CPT#34713-LT)

2. Endovascular abdominal aortic aneurysm with left ilio-iliac stent graft placement (CPT# 34707-LT)

PROCEDURES:

1. Percutaneous access of right femoral artery with deployment of femoral artery closure device (CPT# 34713-RT)

2. Percutaneous access of left femoral artery with deployment of femoral artery closure device (CPT#34713-LT)

3. Endovascular abdominal aortic aneurysm with right ilio-iliac stent graft placement (CPT# 34707-RT)

4. Endovascular abdominal aortic aneurysm with left ilio-iliac stent graft placement (CPT# 34707-LT)

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ANESTHESIA: General endotracheal anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 20 ml

BLOOD ADMINISTERED: 0 unit(s) PRBC transfusion

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old male patient who was previously diagnosed with a \_\_ cm abdominal aortic aneurysm which was confirmed by an abdominal CT scan. The patient previously underwent endovascular aortic aneurysm with GORE stent-graft in 2016. The patient recently developed acute onset of left leg pain. A CT scan was performed which showed left iliac endograft occlusion. Due to his left leg iliac artery occlusion with left leg ischemia, we plan to perform endovascular aortic aneurysm repair using an ilio-iliac stent graft.

INDICATIONS: This is a \_\_\_ year-old male patient who was previously diagnosed with a \_\_ cm abdominal aortic aneurysm which was confirmed by an abdominal CT scan. The patient previously underwent endovascular aortic aneurysm with \_\_\_\_\_ stent-graft in 2016. The patient recently underwent CT of abdomen and abdominal ultrasound which showed the present of endoleak with possible aortic aneurysm enlargement. Due to the presence of endoleak with aortic aneurysm enlargement, we plan to perform endovascular aortic aneurysm repair using iliac stent graft placement.

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I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to improve left leg arterial flow, reduce the risk of aneurysm rupture and aneurysm-related death. The patient is also aware of the potential risks and complications of the procedure, which include contrast allergy, contrast induced renal failure requiring hemodialysis, wound infection, bleeding, endograft limb thrombosis, lower leg ischemia, pneumonia, MI, stroke, spinal cord paralysis, and death. The patient is aware that the overall risk of these complications is 2%. The patient has accepted these benefits and risks of the procedure, and the patient agreed to proceed with the planned treatment.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. The patient was given general anesthesia and maintained throughout the entire procedure. The patient's abdomen and bilateral lower extremities were prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. Next we proceeded with ultrasound guided percutaneous access of the right groin. Under ultrasound visualization, we obtained percutaneous access in the bilateral femoral arteries, which was followed by the placement of a 12 French introducer sheath. Systemic heparin was given intravenously for anticoagulation. We next placed a stiff Amplatz guidewire via the femoral artery sheath. A marker pigtail catheter was introduced via the left femoral guidewire so the pigtail catheter was advanced and positioned in the abdominal aorta. Using power injection, we performed abdominal aortogram using the marker pigtail catheter to identify the renal artery, abdominal aorta, and bilateral iliac arteries. The locations of the renal arteries were identified.

---------- right iliac endograft placement only ---------------------------

Next we inserted a Gore EXCLUDER iliac endovascular prosthesis from the right groin sheath approach and positioned the device in the aortic stent-graft to reinforce the right iliac endograft. The iliac endograft was deployed followed by the removal of the device catheter. Following that, balloon angioplasty of the iliac endograft was performed using a molding angioplasty balloon.

---------- left iliac endograft placement only ---------------------------

Next we inserted a Gore EXCLUDER iliac endovascular prosthesis from the left groin sheath approach and positioned the device in the aortic stent-graft to reinforce the right iliac endograft. The iliac endograft was deployed followed by the removal of the device catheter. Following that, balloon angioplasty of the iliac endograft was performed using a molding angioplasty balloon.

---------- bilateral iliac endograft placement ---------------------------

Next we inserted a Gore EXCLUDER iliac endovascular prosthesis from the right groin sheath approach and positioned the device in the aortic stent-graft to reinforce the right iliac endograft. The iliac endograft was deployed followed by the removal of the device catheter. Following that, balloon angioplasty of the iliac endograft was performed using a molding angioplasty balloon. We next inserted a Gore EXCLUDER iliac endovascular prosthesis from the left groin sheath approach and positioned the device in the aortic stent-graft to reinforce the left iliac endograft. The iliac endograft was deployed followed by the removal of the device catheter. Following that, balloon angioplasty of the iliac endograft was performed using a molding angioplasty balloon.

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We next performed a completion angiogram using a pigtail catheter, which revealed successful aortic aneurysm exclusion by the endografts with satisfactory radiographic results. Bilateral renal arteries and satisfactory aortic flow within the aortoiliac endograft was visualized. No radiographic evidence of endoleak was identified. Percutaneous closure devices were deployed and femoral hemostasis was achieved satisfactorily. Flow was reestablished to the bilateral lower extremities, and protamine was given to reverse the heparin. Dermabond dressing was applied in bilateral groin which was followed by gauze dressing placement. The patient tolerated the procedure well without any complication, and she was taken to the recovery room in a stable condition. I was present throughout the entire operation.

SUPERVISION AND INTERPRETATION OF ENDOVASCULAR AORTIC ANEURYSM REPAIR: Completion angiogram following endovascular iliac stent graft placement demonstrated successful exclusion of the aortic aneurysm without endoleak with successful restoration of bilateral lower leg arterial circulation. Bilateral renal arteries were patent.

TREATMENT DISPOSITION: The patient will be admitted to the ICU for postoperative monitoring.

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PL.CL - IVC filter placement

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Lower extremity deep vein thrombosis, 2. Contraindication for anticoagulation

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous access of right femoral vein under ultrasound guidance (CPT# 76937)

2. Catheter placement in inferior vena cava (CPT# 36010)

3. Angiogram of inferior vena cava (CPT# 75825)

4. Percutaneous IVC filter placement using Option Retrievable filter (CPT# 37191)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 2 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_ year-old patient who has been diagnosed with lower extremity deep vein thrombosis. Due to the patient’s medical comorbidities including < \_\_\_\_ recent stoke, GI bleeding , high risk of fall \_\_\_\_ >, the patient is not a candidate for long term anticoagulation. The patient was therefore scheduled to undergo an IVC filter placement for pulmonary embolism prophylaxis. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to prevent pulmonary embolism or PE-related death. The patient is also aware of the potential risks of the procedure, which include contrast-induced nephropathy, vessel perforation, IVC thrombosis, IVC filter migration, IVC filter perforation, contrast-induced allergic reaction, bleeding, and wound infection. The overall risk of these complications is 1%. The patient has accepted these benefits and risks, and agreed to proceed with the planned procedure.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. Local anesthesia was administered in the right groin region. Appropriate time out was performed whereby the patient and site of surgery were identified. The patient's right groin was prepped sterilely and draped in the standard fashion. The patient was given 1% lidocaine for local anesthesia. Using percutaneous technique, the right common femoral vein was accessed and a 6F introducer sheath was inserted. Next a guidewire was introduced in the right femoral vein and the guidewire was positioned in the inferior vena cava. Next we placed a 6F guiding sheath in the inferior vena cava. Contrast injection was performed for IVC venography. Next we placed a 6F retrievable OPTION IVC filter in the infrarenal portion of the inferior vena cava. The IVC filter was positioned and deployed without difficulty. Completion fluoroscopy confirmed the adequate position of the IVC filter. Next the guidewire and introducer sheath were removed from the groin. Manual pressure was applied in the groin following the sheath removal to achieve groin hemostasis. The patient tolerated the procedure well and suffered no complications. I was present throughout the entire procedure.

IMPRESSION: Successful IVC filter placement without complication.

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PL.CL - IVC filter retrieval (attempted)

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Lower extremity deep vein thrombosis, 2. s/p IVC filter placement

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous access of right femoral vein under ultrasound guidance (CPT# 76937)

2. Catheter placement in inferior vena cava (CPT# 36010)

3. Angiogram of inferior vena cava (CPT# 75825)

4. Attempted percutaneous IVC filter retrieval

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 2 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_ year-old patient who previously has received an IVC filter placement. The patient no longer needs the IVC filter and is therefore scheduled to undergo an IVC filter removal. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to remove the IVC filter from the IVC. The patient is also aware of the potential risks of the procedure, which include contrast-induced nephropathy, vessel perforation, IVC filter migration, IVC filter perforation, contrast-induced allergic reaction, bleeding, and wound infection. The overall risk of these complications is 1%. The patient has accepted these benefits and risks, and agreed to proceed with the planned procedure.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. Local anesthesia was administered in the right groin region. Appropriate time out was performed whereby the patient and site of surgery were identified. The patient's right groin was prepped sterilely and draped in the standard fashion. The patient was given 1% lidocaine for local anesthesia. Using percutaneous technique, the right jugular vein was accessed and a 10F introducer heath was inserted. Next a guidewire was introduced in the right jugular vein and the guidewire was positioned in the inferior vena cava. Next we placed a 10F guiding sheath in the inferior vena cava. Contrast injection was performed for IVC venography which showed the IVC filter was tilted. Due to the malposition of the IVC filter, we were not able to capture the hook of the IVC filter using a snare. After multiple attempts to retrieve the IVC filter, we determined the IVC filter retrieval was not feasible. Next the introducer sheath was removed from the jugular vein. Manual pressure was applied in the neck following the sheath removal to achieve adequate hemostasis. The patient tolerated the procedure well and suffered no complications. I was present throughout the entire procedure.

IMPRESSION: Attempted IVC filter retrieval which was unsuccessful due to the malposition of the IVC filter.

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PL.CL - IVC filter retrieval

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Lower extremity deep vein thrombosis, 2. s/p IVC filter placement POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous access of right femoral vein under ultrasound guidance (CPT# 76937)

2. Catheter placement in inferior vena cava (CPT# 36010)

3. Venography of inferior vena cava (CPT# 75825)

4. Percutaneous IVC filter retrieval (CPT# 37193)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 2 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_ year-old patient who previously has received an IVC filter placement. The patient no longer needs the IVC filter and is therefore scheduled to undergo an IVC filter removal. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to remove the IVC filter from the IVC. The patient is also aware of the potential risks of the procedure, which include contrast-induced nephropathy, vessel perforation, IVC filter migration, IVC filter perforation, contrast-induced allergic reaction, bleeding, and wound infection. The overall risk of these complications is 1%. The patient has accepted these benefits and risks, and agreed to proceed with the planned procedure.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. Local anesthesia was administered in the right groin region. Appropriate time out was performed whereby the patient and site of surgery were identified. The patient's right groin was prepped sterilely and draped in the standard fashion. The patient was given 1% lidocaine for local anesthesia. Using percutaneous technique, the right jugular vein was accessed and a 10F introducer heath was inserted. Next a guidewire was introduced in the right jugular vein and the guidewire was positioned in the inferior vena cava. Next we placed a 10F guiding sheath in the inferior vena cava. Contrast injection was performed for IVC venography which confirmed IVC filter was thrombus free. Next we inserted a snare wire over the 10F introducer sheath. The snare was able to catch the hook of the IVC filter, which was successfully retrieved from the IVC. The entire sheath including the IVC filter was removed from the jugular vein. Manual pressure was applied in the neck following the sheath removal to achieve adequate hemostasis. The patient tolerated the procedure well and suffered no complications. I was present throughout the entire procedure.

IMPRESSION: Successful IVC filter retrieval without complication.

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PL.CL - leg interventions

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Left leg ischemia, 2. Left foot non-healing wound

POSTOPERATIVE DIAGNOSIS: Same

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**====== RIGHT LEG ANGIO =====**

**============================**

PROCEDURES PERFORMED:

1. Ultrasound guidance for vascular access (CPT# 76937)
2. Abdominal aortography with bilateral iliofemoral angiography (CPT# 75630-XU)

---------< External Iliac Artery PTA > ----------------

1. Endovascular revascularization of right iliac artery using balloon angioplasty (CPT# 37220-RT)
2. Endovascular revascularization of right iliac artery using stent and balloon angioplasty (CPT# 37221-RT)

---------< Femoro-popliteal Intervention > ----------------

1. Endovascular revascularization of right femoral and popliteal artery using atherectomy and balloon angioplasty (CPT# 37225- RT)

Endovascular revascularization of right femoral and popliteal artery using balloon angioplasty (CPT# 37224- RT)

Endovascular revascularization of right femoral and popliteal artery using atherectomy, stenting, and balloon angioplasty (CPT# 37227- RT)

------- < Tibial Artery Atherectomy + PTA > --------------

1. Endovascular revascularization of right tibioperoneal trunk and posterior tibial artery using atherectomy and balloon angioplasty (CPT# 37229- RT, initial vessel)

Endovascular revascularization of right \_\_\_\_\_\_ artery using atherectomy and balloon angioplasty (CPT# 37233-XS- RT, add-on vessel)

------- < Tibial Artery PTA > --------------

1. Endovascular revascularization of right \_\_\_\_ tibial artery using balloon angioplasty (CPT# 37228- RT, initial vessel)

Endovascular revascularization of right \_\_\_\_ tibial artery using balloon angioplasty (CPT# 37232- RT, add-on vessel)

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1. Intravascular ultrasound of the right common femoral artery (CPT# 37252), superficial femoral artery (CPT# 37253), popliteal artery (CPT# 37253-XS), tibioperoneal trunk (CPT# 37253-XS), anterior tibial artery (CPT# 37253-XS), and \_\_\_\_\_ posterior tibial artery (CPT# 37253-XS)

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**====== LEFT LEG ANGIO =====**

**==========================**

PROCEDURES PERFORMED:

1. Ultrasound guidance for vascular access (CPT# 76937)
2. Abdominal aortography with bilateral iliofemoral angiography (CPT# 75630-XU)

---------< External Iliac Artery PTA > ----------------

1. Endovascular revascularization of left iliac artery using balloon angioplasty (CPT# 37220-LT)

Endovascular revascularization of left iliac artery using stent and balloon angioplasty (CPT# 37221-LT)

---------< Femoro-popliteal Intervention > ----------------

1. Endovascular revascularization of left femoral and popliteal artery using atherectomy and balloon angioplasty (CPT# 37225-LT)

1. Endovascular revascularization of left femoral and popliteal artery using balloon angioplasty (CPT# 37224-LT)

4. Endovascular revascularization of left femoral and popliteal artery using atherectomy, stenting, and balloon angioplasty (CPT# 37227-LT)

------- < Tibial Artery Atherectomy + PTA > --------------

1. Endovascular revascularization of left tibioperoneal trunk and posterior tibial artery using atherectomy and balloon angioplasty (CPT# 37229-LT, initial vessel)

1. Endovascular revascularization of left \_\_\_\_\_\_ artery using atherectomy and balloon angioplasty (CPT# 37233-XS-LT, add-on vessel)

------- < Tibial Artery PTA > --------------

1. Endovascular revascularization of left \_\_\_\_ tibial artery using balloon angioplasty (CPT# 37228-LT, initial vessel)

1. Endovascular revascularization of left \_\_\_\_ tibial artery using balloon angioplasty (CPT# 37232-LT, add-on vessel)

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1. Intravascular ultrasound of the left common femoral artery (CPT# 37252), superficial femoral artery (CPT# 37253), popliteal artery (CPT# 37253-XS), tibioperoneal trunk (CPT# 37253-XS), anterior tibial artery (CPT# 37253-XS), and \_\_\_\_\_ posterior tibial artery (CPT# 37253-XS)

------- < Diagnostic Angio Only > --------------

1. Percutaneous vascular access of common femoral artery under ultrasound guidance (CPT# 76937)

2. Abdominal aortogram with bilateral lower leg angiography, including radiological supervision and interpretation (CPT# 75630)

3. Catheter placement in << \_\_ right vs. left \_\_ >> femoral artery for selective angiogram (CPT# 36246)

4. Catheter placement in << \_\_ right vs. left \_\_ >> popliteal artery for selective angiogram (CPT# 36247)

5. Supervision and interpretation of selective femoral artery angiogram (CPT# 75774)

6. Supervision and interpretation of selective popliteal artery angiogram (CPT# 75774)

FLUOROSCOPIC TIME: 8.1 minutes

CONTRAST: 35 cc of Optiray-240.

MEDICATION: 3,000 U Heparin IV. 1% buffered lidocaine locally.

ESTIMATED BLOOD LOSS: 5 cc.

COMPLICATIONS: None.

MODERATE SEDATION: Under physician supervision, 1 mg Versed and 50 mcg fentanyl were administered intravenously for moderate sedation. Pulse oximetry, heart rate and BP are continuously monitored by an independent trained observer present. I was present during the entire procedure and spent 60 minutes of face to face sedation time with the patient.

MERIT-BASED INCENTIVE PAYMENT SYSTEM (MIPS) CODE: G9500

MIPS MEASURE: #145: Radiation Exposure indices, OR Exposure Time and Number of Fluorographic Images Documented in Final Procedure Report

INDICATIONS:

===== **Rest Pain** =====

This is a \_\_\_\_\_ year-old-patient who reports worsening of << \_\_\_ right vs. left \_\_\_ >> lower leg ischemic rest pain which has not improved with conservative treatment. A recent arterial duplex ultrasound demonstrated severe arterial occlusive disease of the << \_\_\_ right vs. left \_\_\_ >> lower extremity. The patient is scheduled to undergo lower leg arteriography procedure with endovascular interventions. Possible endovascular interventions with atherectomy, balloon angioplasty, and/or stent placement will be considered for lower extremity arterial stenosis. I have discussed with the patient regarding potential benefits and risks of the treatment plan. Potential benefits of the planned procedure include improvement of the lower extremity arterial circulation and alleviation of leg pain symptoms. Potential risks of the procedure include contrast-induced nephropathy, renal failure requiring hemodialysis, groin bleeding, groin infection, vessel occlusion due to thrombosis, and vessel perforation. The overall risk of these complications is 2%. The patient verbalizes understanding of the benefits and risks the treatment plan.

===== **Tissue Loss** =====

This is a \_\_\_\_\_ year-old-patient who reports worsening of << \_\_\_ right vs. left \_\_\_ >> lower leg ischemic rest pain with non-healing ulcers. A recent arterial duplex ultrasound demonstrated severe arterial occlusive disease of the << \_\_\_ right vs. left \_\_\_ >> lower extremity. The patient is therefore scheduled to undergo left lower leg arteriography procedure with endovascular interventions. Possible endovascular interventions with atherectomy, balloon angioplasty, and/or stent placement will be considered for lower extremity arterial stenosis. I have discussed with the patient regarding potential benefits and risks of the treatment plan. Potential benefits of the planned procedure include improvement of the lower extremity arterial circulation and alleviation of leg pain symptoms. Potential risks of the procedure include contrast-induced nephropathy, renal failure requiring hemodialysis, groin bleeding, groin infection, vessel occlusion due to thrombosis, and vessel perforation. The overall risk of these complications is 2%. The patient verbalizes understanding of the benefits and risks the treatment plan.

PROCEDURE IN DETAIL:The risks, benefits, and alternatives of the procedure were discussed with the patient. Written informed consent was obtained. The patient's medication records were evaluated and reviewed within the patient’s chart. The patient's laboratory values were carefully reviewed within the patient’s chart. The patient was placed in the supine position on the angiographic suite and the right groin was prepped and draped in the standard usual sterile fashion. 1% lidocaine was used to anesthetize the groin. Next under real-time ultrasound guidance, a 21-gauge micropuncture needle was used to access the << \_\_\_ right vs. left \_\_\_ >> common femoral artery. An ultrasound image was permanently saved. A microcatheter-introducer sheath was inserted. A 0.035 guidewire was inserted through the sheath into the abdominal aorta and exchanged for a 5 French vascular sheath. Ipsilateral common femoral artery angiogram was performed to evaluate the access site for suitability of a closure device.

Next selective catheterization of the abdominal aorta was performed with a RIM catheter, which was advanced into the abdominal aorta over the Glidewire. An angiogram was performed. Next the catheter was used to select the << \_\_\_ right vs. left \_\_\_ >> common iliac artery origin and an angiogram was performed in the anteroposterior projection. The catheter was then used to select the left common femoral artery and multiple digital subtraction angiograms of the lower extremity were performed in the anteroposterior projection. Exchange was made with a 6 French 55 cm Flexor sheath over a guidewire. A 120 cm angled tip catheter was used to selectively catheterize the superficial femoral artery and an angiogram was performed. Selective catheterization of the popliteal artery and tibioperoneal trunk were then performed followed by angiograms. Lateral angiogram of the foot was also performed.

An angled tip catheter and 0.014” microwire combination was used to selectively catheterize the \_\_\_\_\_ posterior tibial artery and an angiogram was performed. Intravascular ultrasound of the left lower extremity was performed throughout the \_\_\_\_\_ posterior tibial artery, popliteal artery, superficial femoral artery, common femoral artery, and external iliac artery using a pullback technique. The intravascular ultrasound images were saved on a local workstation and used for interpretation and to guide treatment.

These angiographic evaluations including intravascular ultrasound revealed the followings:

1. Abdominal aorta: patent flow without stenosis.

1. Abdominal aorta: \_\_\_ % luminal stenosis.

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2. Common iliac artery: patent flow without stenosis.

2. Common iliac artery: \_\_\_ % luminal stenosis.

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3. External iliac artery: patent flow without stenosis.

3. External iliac artery: \_\_\_ % luminal stenosis.

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4. Common femoral artery: patent flow without stenosis

4. Common femoral artery: \_\_\_ % luminal stenosis.

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5. Profunda femoral artery: patent flow without stenosis..

5. Profunda femoral artery: \_\_\_ % luminal stenosis.

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6. Superficial femoral artery: patent flow without stenosis.

6. Superficial femoral artery: \_\_\_ % luminal stenosis.

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7. Popliteal artery: patent flow without stenosis.

7. Popliteal artery: \_\_\_ % luminal stenosis.

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8. Tibioperoneal trunk: patent flow without stenosis.

8. Tibioperoneal trunk: \_\_\_ % luminal stenosis.

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9. Anterior tibial artery: patent flow without stenosis.

9. Anterior tibial artery: \_\_\_ % luminal stenosis.

9. Anterior tibial artery: chronic total occlusion.

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10. Posterior tibial artery: patent flow without stenosis.

10. Posterior tibial artery: \_\_\_ % luminal stenosis.

10. Posterior tibial artery: chronic total occlusion.

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11. Peroneal artery: patent flow without stenosis.

11. Peroneal artery: \_\_\_ % luminal stenosis.

11. Peroneal artery: chronic total occlusion.

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====== < EXTERNAL ILIAC ARTERY = PTA > ======

Based on these findings, we proceeded with balloon angioplasty of the external iliac artery using a \_\_\_ mm x \_\_\_ mm angioplasty catheter. The balloon catheter was positioned across the stenotic external iliac artery and insufflated to 10 atmospheric pressure for a total of 30 seconds. Completion angiogram revealed successful radiographic result with residual stenosis of less than \_\_\_%.

====== < FEMORO-POPLITEAL ARTERY = ATHERECTOMY + PTA > ======

Based on these findings, we proceeded with atherectomy and balloon angioplasty of the superficial femoral artery and popliteal artery. We placed a Glidewire and traversed the wire across the \_\_\_\_\_ occluded/stenotic superficial femoral artery. We placed a Philip laser atherectomy device over the wire and initiated atherectomy in the diseased segment of the superficial femoral artery as well as the popliteal artery. Next the atherectomy device was removed and we placed a \_\_\_\_\_\_ mm x \_\_\_\_\_ mm balloon for balloon angioplasty of the superficial femoral artery and popliteal artery. The balloon was insufflated to 10 atmospheric pressure for a total of one minute. Completion angiogram revealed successful radiographic result with residual stenosis of less than \_\_\_%.

====== < FEMORO-POPLITEAL ARTERY = ATHERECTOMY + STENTING + PTA > ======

Based on these findings, we proceeded with atherectomy, stenting, and balloon angioplasty of the superficial femoral artery and popliteal artery. We placed a Glidewire and traversed the wire across the \_\_\_\_\_ occluded/stenotic superficial femoral artery. We placed a Philip laser atherectomy device over the wire and initiated atherectomy in the diseased segment of the superficial femoral artery as well as the popliteal artery. Next the atherectomy device was removed and we placed a \_\_\_ mm x \_\_\_ mm self-expanding Abbot nitinol stent balloon across the disease vessel. Once the stent was deployed, we proceed with balloon angioplasty of the stented segment using an angioplasty balloon catheter. The balloon was insufflated to 10 atmospheric pressure for a total of 20 seconds. Completion angiogram revealed successful radiographic result with residual stenosis of less than \_\_\_%.

====== < TIBIAL ARTERY = ATHERECTOMY + PTA > ======

Next we turned our attention to the stenotic tibioperoneal trunk and \_\_\_\_\_ anterior tibial artery. We performed percutaneous atherectomy using a Philip laser atherectomy device. We placed a laser atherectomy device over the wire and initiated atherectomy in the diseased segment of the tibioperoneal trunk and \_\_\_\_\_ anterior tibial artery. Next the atherectomy device was removed and we placed a \_\_\_ mm balloon for balloon angioplasty of the tibioperoneal trunk and \_\_\_\_\_ anterior tibial artery. The balloon was insufflated to 10 atmospheric pressure for a total of one minute. Completion angiogram revealed successful radiographic result with residual stenosis of less than \_\_\_%.

Next we turned our attention to the \_\_\_\_\_ posterior tibial artery disease. We performed percutaneous atherectomy using a Philip laser atherectomy device. We placed a laser atherectomy device in the diseased \_\_\_\_\_ posterior tibial artery and initiated laser atherectomy over the diseased segment. Next the atherectomy device was removed and we placed a \_\_\_ mm balloon for balloon angioplasty of the \_\_\_\_\_ posterior tibial artery. The balloon was insufflated to 10 atmospheric pressure for a total of one minute. Completion angiogram revealed successful radiographic result with residual stenosis of less than \_\_\_%.

====== < TIBIAL ARTERY = PTA > ======

Next we turned our attention to the \_\_\_\_ tibial artery disease. We performed percutaneous balloon angioplasty by placing a \_\_\_ mm balloon across the stenotic segment of this artery. The balloon was insufflated to 10 atmospheric pressure for a total of one minute. Completion angiogram revealed successful radiographic result with residual stenosis of less than \_\_\_%.

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Following these interventions, the catheter and sheath were removed from the femoral artery. A closure device using Angioseal was used in the femoral artery to achieve adequate hemostasis. Standard dressings were applied. The patient tolerated the procedure well with no immediate complications and returned to the recovery area in stable condition.

**Findings of** << \_\_\_ Right vs. Left \_\_\_ >> **Lower Extremity Arterial Circulation:**

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========== COPY AND PASTE FROM FINDINGS LISTED ABOVE ==============

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**Treatment Outcomes:**

1. Successful interventions of superficial femoral artery and popliteal artery using atherectomy and balloon angioplasty with satisfactory angiographic result.

2. Successful interventions of tibioperoneal trunk and \_\_\_\_ tibial artery ---- using atherectomy and balloon angioplasty with satisfactory angiographic result.

TREATMENT DISPOSITION - The patient is instructed to return to clinic for follow up evaluation in four weeks. I have also discussed with the patient regarding medical therapy for the peripheral arterial occlusive disease. These treatment strategies include lipid control with goal LDL less than 70 mg/dL, goal blood pressure < 130/90, goal hemoglobin A1c < 7%, and exercise therapy (20 minutes a day for 3 days a week). Discharge instructions were reviewed with the patient and a follow up visit was scheduled.

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PL.CL - Leg lysis - AngioJet,PTA (1st day)

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. < \_\_\_\_ right left \_\_\_\_ > leg ischemia, 2. < \_\_\_\_ right left \_\_\_\_ > femoral artery thrombosis

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous vascular access of common femoral artery under ultrasound guidance (CPT# 76937)

2. Abdominal aortogram with bilateral lower leg angiography, including radiological supervision and interpretation (CPT# 75630)

3. Catheter placement in contralateral femoral artery for selective angiogram, and radiological supervision and interpretation (CPT# 36246 & CPT#75710)

4. Catheter placement in contralateral popliteal artery for selective angiogram, and radiological supervision and interpretation (CPT# 36248 & CPT# 75774)

5. Catheter placement in contralateral tibial artery for selective angiogram, and radiological supervision and interpretation (CPT# 36248 & CPT# 75774)

6. Percutaneous thrombectomy of femoral artery using AngioJet thrombectomy catheter (CPT# 37184)

7. Percutaneous thrombectomy of popliteal artery using AngioJet thrombectomy catheter (CPT# 37185)

8. Catheter-directed thrombolytic therapy via thrombolytic infusion catheter in the femoral and popliteal arteries (CPT# 37211)

9. Transluminal balloon angioplasty of superficial femoral artery (CPT# 37224)

10. Transluminal balloon angioplasty of popliteal artery (CPT# 37224-XS)

11. Transluminal balloon angioplasty of anterior tibial artery (CPT# 37228)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who developed an acute onset of < \_\_\_\_ right left \_\_\_\_ >foot pain with foot cyanosis. Clinical exam was consistent with acute thromboembolism of the lower extremity. Due to the severe ischemic condition, the patient was taken to cath lab for urgent lower leg angiographic evaluation with possible endovascular interventions. I've discussed with the patient's family regarding the benefits and risks of the procedure. The patient and family are aware of the benefits of the planned procedure which is to identify lower leg arterial occlusive disease and to improve her lower leg arterial circulation via endovascular intervention. The patient's family is also aware of the potential risks of the procedure, which include contrast-induced nephropathy, vessel perforation, arterial dissection, contrast-induced allergic reaction, bleeding, and wound infection. The overall risk of these complications is 1%. The patient's family has accepted these benefits and risks, and agreed to proceed with the planned procedure.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. The patient's < \_\_\_\_ right left \_\_\_\_ > groin was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. The patient was given 1% lidocaine for local anesthesia. Using percutaneous technique, the common femoral artery was accessed and a 6F introducer sheath was inserted. Next a guidewire and a 6 French guiding catheter were placed in the abdominal aorta and an aortogram was performed using a contrast injection, which was followed by bilateral lower leg run-off angiography. Next we performed selective catheterization of the contralateral common femoral artery which was followed by selective angiography of the femoral artery. Following that, we also performed selective catheterization of popliteal artery which was followed by selective popliteal artery angiography. This was followed by selective anterior tibial artery catheterization for selective anterior tibial angiogram.

These angiographic views demonstrated 1. patent abdominal aorta with patent bilateral iliac arteries. 2. Significant intraluminal irregularities due to arterial thrombus with intraluminal narrowing in the superficial femoral artery (80%), popliteal artery (70%), and anterior tibial artery (60%). 3. Distal flow was noted via < \_\_\_\_\_ anterior posterior \_\_\_\_\_> tibial artery.

We next placed an AngioJet thrombectomy catheter in the superficial femoral artery and proceeded with percutaneous thrombectomy. We also placed the AngioJet catheter in the popliteal artery for percutaneous thrombectomy. Total thrombectomy activation time was 80 seconds and a total of 80ml of thrombotic fluid was removed via the thrombectomy catheter. Next we performed balloon angioplasty of the superficial femoral artery using a 5.0mm angioplasty balloon catheter. Transluminal balloon angioplasty of the popliteal artery was also performed using a 5.0mm balloon. Anterior tibial artery balloon angioplasty was performed using a 2.5mm angioplasty balloon catheter. Completion angiogram was performed following balloon angioplasty which revealed persistent thrombotic occlusion. We then placed a guidewire and a thrombolytic infusion catheter in the anterior tibial artery, and we initiated thrombolytic infusion with continuous tPA infusion. The catheter and sheath were securely taped in the groin. The patient tolerated the procedure well and suffered no complications. I was present throughout the entire procedure.

IMPRESSION:

1. Abdominal aortogram showed patent abdominal aorta, patent bilateral renal arteries, patent bilateral common iliac arteries, and patent bilateral external iliac arteries.

2. < \_\_\_\_\_ Right Left \_\_\_\_\_> leg angiogram showed patent common femoral artery with significant luminal narrowing consistent with thrombotic occlusion of the left superficial femoral artery ( \_\_\_\_ 80%), popliteal artery ( \_\_\_ 70%), and anterior tibial artery ( \_\_\_60%). Intraluminal stenosis and thrombotic occlusion of left lower extremity was treated with AngioJet thrombectomy, transluminal balloon angioplasty, and thrombolytic agent infusion using a thrombolytic infusion catheter. Completion angiogram showed persistent residual thrombotic occlusion of left femoropopliteal artery. Thrombolytic infusion will be continued using tPA for 24 hours.

TREATMENT DISPOSITION - The patient will be transferred to ICU with continual catheter-directed thrombolytic infusion (1mg tPA/hr or 40mg tPA in 1,000cc NS with infusion rate of 25cc/hr via thrombolytic catheter and 300u/hr via femoral side port of introducer sheath). The patient will return to cath lab tomorrow for repeat angiogram.

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PL.CL - Leg lysis - AngioJet,PTA (2nd day, lysis DC)

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. < \_\_\_\_ Right Left \_\_\_\_ > leg ischemia, 2. < \_\_\_\_ Right Left \_\_\_\_ > popliteal artery thrombosis, 3. s/p lower leg thrombolytic therapy

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Catheter placement in femoral artery for selective angiogram, and radiological supervision and interpretation (CPT# 36246 & CPT#75710)

2. Catheter placement in popliteal artery for selective angiogram, and radiological supervision and interpretation (CPT# 36248 & CPT# 75774)

3. Catheter-directed thrombolytic therapy of the femoral artery and popliteal artery with follow up angiogram and removal of catheter (CPT# 37214).

4. Percutaneous thrombectomy of femoral artery using AngioJet thrombectomy catheter (CPT# 37184)

5. Percutaneous thrombectomy of popliteal artery using AngioJet thrombectomy catheter (CPT# 37185)

6. Transluminal balloon angioplasty of superficial femoral artery (CPT# 37224)

7. Transluminal balloon angioplasty of popliteal artery (CPT# 37224-XS)

8. Transluminal balloon angioplasty of anterior tibial artery (CPT# 37228)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who developed an acute onset of foot pain with cyanotic discoloration. The patient underwent angiogram yesterday and underwent initiation of thrombolytic therapy of his femoral artery and popliteal artery. The patient has been receiving thrombolytic therapy for the past 24 hours. The patient now returns to the cath lab to undergo further angiographic evaluation and endovascular interventions. The patient and family are aware of the benefits of the planned procedure which is to identify lower leg arterial occlusive disease and to improve the patient's lower leg arterial circulation via endovascular intervention. The patient's family is also aware of the potential risks of the procedure, which include contrast-induced nephropathy, vessel perforation, arterial dissection, contrast-induced allergic reaction, bleeding, and wound infection. The overall risk of these complications is 1%. The patient's family has accepted these benefits and risks, and agreed to proceed with the planned procedure.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. Local anesthesia was administered in the right groin region. The patient's ( \_\_\_\_\_ right left \_\_\_\_\_ > groin was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. The patient was given 1% lidocaine for local anesthesia. The previously placed thrombolytic infusion catheter was removed from the right groin, which terminated the thrombolytic therapy. We placed a guidewire in the left femoral artery. Using contrast injection via the femoral sheath, we placed a catheter in the contralateral femoral artery for selective femoral artery angiogram. This was followed by lower leg run-off angiogram. Following that, we also performed selective catheterization of popliteal artery which was followed by selective popliteal artery angiography. This was followed by selective anterior tibial artery catheterization for selective anterior tibial angiogram. These angiographic images revealed improved restoration of flow in the lower leg arterial circulation. An intraluminal stenosis with thrombus of 40% was identified in the femoral artery and popliteal artery. We next placed an AngioJet thrombectomy catheter in the superficial femoral artery and proceeded with percutaneous thrombectomy. We also placed the AngioJet catheter in the popliteal artery for percutaneous thrombectomy. Total thrombectomy activation time was 80 seconds and a total of 80ml of thrombotic fluid was removed via the thrombectomy catheter. We proceeded with balloon angioplasty of the left popliteal artery using a 5.0mm angioplasty balloon. Transluminal balloon angioplasty of the popliteal artery was also performed using a 5.0mm balloon. Anterior tibial artery balloon angioplasty was performed using a 2.5mm angioplasty balloon catheter. Completion angiogram was performed following balloon angioplasty which revealed satisfactory radiographic results. The sheath and guidewire were next removed from the right groin. An AngioSeal closure device was applied in the right groin for hemostasis. The patient was taken up to ICU in stable condition. The patient tolerated the procedure well and suffered no complications. I was present throughout the entire procedure.

IMPRESSION:

1. Successful thrombolytic therapy with complete resolution of lower leg arterial thrombosis.

2. Intraluminal stenosis with thrombus in popliteal artery was successfully treated with percutaneous thrombectomy and balloon angioplasty.

TREATMENT DISPOSITION - The patient may be transferred to telemetry. He may be out of bed and ambulate today. Possible discharge to home tomorrow.

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PL.CL - Mesenteric stenting

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 REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Celiac artery stenosis, 2. Superior mesenteric artery stenosis, 3. Mesenteric ischemia

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous vascular access of common femoral artery under ultrasound guidance (CPT# 76937)

2. Abdominal aortogram, by serialography, including radiological supervision and interpretation (CPT# 75625)

3. Selective catheter placement in celiac artery for selective angiogram, and radiological supervision and interpretation (CPT# 36245 & 75726)

4. Selective catheter placement in superior mesenteric artery for selective angiogram, and radiological supervision and interpretation (CPT# 36246 & 75774)

5. Transcatheter stent placement in celiac artery, including radiological supervision and interpretation (initial vessel, CPT# 37236)

5. Transcatheter stent placement in superior mesenteric artery, including radiological supervision and interpretation (Add-on vessel, CPT# 37237)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been experiencing post-prandial abdominal pain. A recent CT angiogram of the abdomen revealed high grade stenosis of the celiac artery and superior mesenteric artery. Due to the patient's high grade mesenteric artery stenosis and mesenteric ischemic symptoms, the patient was therefore scheduled to undergo mesenteric artery angiographic evaluation with possible endovascular interventions. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to identify the mesenteric artery occlusive disease and to improve the mesenteric artery flow via endovascular intervention. The patient is also aware of the potential risks of the procedure, which include contrast-induced nephropathy, vessel perforation, arterial dissection, contrast-induced allergic reaction, bleeding, and wound infection. The overall risk of these complications is 1%. The patient has accepted these benefits and risks, and agreed to proceed with the planned procedure.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. The patient's right groin was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. The patient was given 1% lidocaine for local anesthesia. Using percutaneous technique, the right common femoral artery was accessed and a 6F introducer sheath was inserted. Next a guidewire and a diagnostic pigtail catheter were placed in the abdominal aorta and an aortogram was performed using a power injector. This identified a high grade stenosis of the celiac artery and superior mesenteric artery.

Next we selectively catheterized the celiac artery using a curve angled catheter, which was followed by angiogram of the celiac artery. This demonstrated a 90% ostial luminal stenosis of the celiac artery. We next placed a 7mm x 27mm balloon expandable EXPRESS stent in the celiac artery, and completion angiogram was performed which revealed successful stenting of the celiac artery with good radiographic results.

Next we selectively catheterized the superior mesenteric artery using a curve angled catheter, which was followed by angiogram of the superior mesenteric artery. This demonstrated a high grade ostial luminal stenosis of the superior mesenteric artery. We next placed a 7mm x 27mm balloon expandable EXPRESS stent in the superior mesenteric artery, and completion angiogram was performed which revealed successful stenting of the superior mesenteric artery with good radiographic results.

Next the catheter and sheath were removed from the groin. A closure device was applied in the groin following the sheath removal to achieve groin hemostasis. The patient tolerated the procedure well and suffered no complications. I was present throughout the entire procedure.

IMPRESSION:

1. High grade celiac artery stenosis which was successfully treated with balloon expandable stent placement.

2. High grade superior mesenteric artery stenosis which was successfully treated with balloon expandable stent placement.

TREATMENT DISPOSITION - The patient will be discharged to home.

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PL.CL - Permacath insertion (R. IJ)

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: End stage renal failure requiring hemodialysis

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous access of right jugular vein under ultrasound guidance (CPT# 76937)

2. Placement of tunneled dialysis Permacath in the right jugular vein (CPT# 36558)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 2 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who developed acute renal failure requiring hemodialysis. I was asked by Dr. \_\_\_\_ to place a tunneled Permacath catheter for hemodialysis access. Benefits and risks of the procedure were explained to the patient and patient's family who agreed to undergo the planned procedure.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. Appropriate time out was performed whereby the patient and site of surgery were identified. The patient's right neck was prepped sterilely and then draped in a standard fashion. The patient was given local anesthesia with 10 ml of 1% of lidocaine. Using a portable ultrasound unit, the jugular vein was visualized and accessed percutaneously. A guidewire was inserted in the vein, which was followed by dilator and peel away sheath placement into the vein. Next we made an inferior lateral counter incision using a scalpel approximately 5 cm away from the venous puncture site. A double lumen tunneled dialysis Permacath was inserted subcutaneously from the counter incision site and brought out through the venous puncture site. The Permacath was introduced into the vein via the peel-away sheath. The position of the catheter was placed in the vena cava which was confirmed by fluoroscopy. A 3-0 prolene suture was used to anchor the catheter to the skin site securely. Excellent blood flow was withdrawn from the catheter lumens without difficulty. High concentration of heparin solution was used to pack the Permacath catheter. Appropriate dressing was applied over the incision site. The patient tolerated the procedure well without complication.

TREATMENT DISPOSITION - The Permacath can be used for hemodialysis.

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PL.CL - Permacath removal + Jugular PTA

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. End stage renal failure requiring hemodialysis. 2. s/p < \_\_\_\_\_ right left \_\_\_\_ jugular vein permacath placement

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Catheter placement in the jugular vein (CPT# 36011)

2. Venography of jugular vein (CPT# 75820)

3. Venography of innominate vein (CPT# 75827)

4. Transluminal balloon angioplasty of innominate vein (initial vessel, CPT# 37248)

5. Transluminal balloon angioplasty of jugular vein (add-on vessel, CPT# 37249)

6. Removal of tunneled dialysis Permacath (CPT# 36589)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 0 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has end stage renal failure and has been receiving hemodialysis via a left arm AV fistula. The patient no longer requires the jugular vein tunneled dialysis Permacath. Due to recent history of dialysis difficulty related to the jugular vein permacath, the patient was scheduled to undergo jugular vein venography with possible balloon angioplasty. We also plan to remove the tunneled dialysis Permacath as the patient no longer require it for hemodialysis. Benefits and risks of the procedure were explained to the patient and patient's family who agreed with the planned treatment.

PROCEDURE IN DETAIL: The patient's < \_\_\_\_\_ right left \_\_\_\_> chest and neck regions were prepped sterilely and then draped in a standard fashion. The patient was given local anesthesia with 10 ml of 1% of lidocaine. The patient was also given intravenous sedation of 1m of versed. A hemostat was used to carefully open the skin site where the catheter exited. This loosened the cuffed portion of the catheter from the adjacent tissue. Next a 260cm Glidewire was inserted via the venous lumen of the permacath, and the guidewire was positioned in the inferior vena cava. Next with steady traction pressure, the catheter was removed from the left neck and left chest region while we maintained the guidewire access in the jugular vein. We next inserted a Terumo 45cm 7F guiding sheath over the guidewire and the catheter was positioned in the jugular vein. Contrast injection was performed via the side port of the guiding sheath catheter for jugular vein venography. Next the catheter was advanced in the left innominate vein. Contrast injection was performed via the side port of the guiding sheath catheter for innominate vein venography. This revealed a high grade stenosis in the jugular vein (60%) and right innominate vein (70%). Based on these findings, we placed a 10mm angioplasty balloon catheter in the jugular vein for balloon angioplasty. A total of 2 insufflations with 60 seconds of insufflation time was performed. We next placed a 10mm angioplasty balloon catheter in the innominate vein for balloon angioplasty. A total of 2 insufflations with 60 seconds of insufflation time was performed. The angioplasty balloon catheter was next removed. Completion angiogram was performed next which revealed successful radiographic result with minimal residual stenosis in the jugular vein (20%) and innominate vein (20%). The catheter and guidewire were next removed from the jugular vein. Manual pressure was applied in the left chest region for 20 minutes to achieve hemostasis. Appropriate dressing was applied over the incision site. The patient tolerated the procedure well without complication. I was present throughout the entire procedure.

TREATMENT DISPOSITION - The patient will be discharged to home, and return to my clinic for follow up in 2 weeks.

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PL.CL - Permacath removal

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. End stage renal failure requiring hemodialysis. 2. Infected jugular vein permacath

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Removal of jugular vein tunneled dialysis Permacath (CPT# 36589)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 0 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has end stage renal failure and has been receiving hemodialysis via a right jugular vein tunneled dialysis Permacath. I was asked by Dr. \_\_\_\_ to remove the permacath due to catheter infection. Benefits and risks of the procedure were explained to the patient and patient's family who agree with the planned procedure of catheter removal.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. The patient's < \_\_\_\_\_right left \_\_\_\_\_> chest and neck regions were prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. The patient was given 1% lidocaine for local anesthesia. A hemostat was used to carefully open the skin site where the catheter exited, which loosened the cuffed portion of the catheter from the adjacent tissue. Next with steady traction pressure, the catheter was removed from the right neck and right chest region. Manual pressure was applied in the right chest region for 20 minutes to achieve hemostasis. Appropriate dressing was applied over the incision site. The patient tolerated the procedure well without complication. I was present throughout the entire procedure.

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PL.CL - Permacath revision + SVC PTA

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. End stage renal failure requiring hemodialysis. 2. Right Permacath malfunction

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Removal of right jugular vein tunneled dialysis Permacath (CPT# 36589)

2. Catheter placement in the superior vena cava (CPT# 36010)

3. Angiogram of superior vena cava and innominate vein (CPT# 75827)

4. Balloon angioplasty of superior vena cava (initial vessel, CPT# 37248)

5. Balloon angioplasty of innominate vein (add-on vessel, CPT# 37249)

6. Placement of right jugular vein tunneled dialysis Permacath catheter (CPT# 36558)

PREOPERATIVE DIAGNOSIS: 1. End stage renal failure requiring hemodialysis. 2. Left Permacath malfunction

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Removal of left jugular vein tunneled dialysis Permacath (CPT# 36589)

2. Catheter placement in the superior vena cava (CPT# 36010)

3. Angiogram of superior vena cava and innominate vein (CPT# 75827)

4. Balloon angioplasty of superior vena cava (initial vessel, CPT# 37248)

5. Balloon angioplasty of innominate vein (add-on vessel, CPT# 37249)

6. Placement of left jugular vein tunneled dialysis Permacath catheter (CPT# 36558)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 2 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been receiving hemodialysis via a < \_\_\_\_ right left \_\_\_\_> jugular vein tunneled dialysis catheter. The patient recently developed catheter malfunction with catheter occlusion of the tunneled Permacath. I was asked to see this patient regarding the management of her permacath malfunction. I plan to perform permacath revision with possible central venous interventions which include angioplasty of central venous system. Benefits and risks of the procedure were explained to the patient and patient's family who agree with the planned procedure.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. The patient's < \_\_\_\_\_right left \_\_\_\_\_> chest and neck regions were prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. The patient was given 1% lidocaine for local anesthesia. We placed a guidewire in the venous lumen of the jugular vein tunneled permacath catheter. The permacath was next removed from the jugular vein. Next we inserted a 7F 45cm Terumo guiding sheath in the jugular vein over the guidewire. The catheter tip was positioned in the junction of superior vena cava and innominate vein. Contrast injection was performed for venography of the superior vena cava and innominate vein. This revealed a high grade (>80%) luminal narrowing in the superior vena cava and the innominate vein. Based on these findings, we placed a 12mm angioplasty balloon catheter in the jugular vein for balloon angioplasty. A total of 2 insufflations with 60 seconds of insufflation time was performed. We next placed a 12mm angioplasty balloon catheter in the innominate vein for balloon angioplasty. A total of 2 insufflations with 60 seconds of insufflation time was performed. The angioplasty balloon catheter was next removed. Completion angiogram was performed which revealed satisfactory angiographic results. Next the guiding sheath was removed over the guidewire. We inserted a double lumen tunneled dialysis permacath over the guidewire. The position of the catheter was placed in the superior vena cava which was confirmed by fluoroscopy. 3-0 prolene sutures were used to anchor the catheter to the skin site securely. Excellent blood flow was withdrawn from the catheter lumens without difficulty. High concentration of heparin solution was used to pack the Permacath catheter. Appropriate dressing was applied over the incision site. I was present throughout the entire procedure.

TREATMENT DISPOSITION: The Permacath may be used for hemodialysis.

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PL.CL - Prostatic artery embolization

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Prostatic cancer with s/p radiation therapy, 2) intractable hematuria

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous vascular access of common femoral artery under ultrasound guidance (CPT# 76937)

2. Abdominal aortogram with bilateral lower leg angiography, including radiological supervision and interpretation (CPT# 75630)

3. Selective catheter placement of the bilateral common iliac arteries with selective angiogram, including radiological supervision and interpretation (first order catheterization, CPT# 36245 & 75726)

4. Selective catheter placement of the bilateral inferior vesicle arteries with selective angiogram, including radiological supervision and interpretation (second order catheterization, CPT# 36246 & 75774)

5. Selective catheter placement of the bilateral prostatic arteries with selective angiogram, including radiological supervision and interpretation (third order catheterization, CPT# 36247 & 75774)

6. Embolization of bilateral prostatic arteries, including radiological supervision and interpretation (CPT# 37243 & 75894)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with a prostate cancer which has been treated with radiation therapy. He developed significant hematuria over the past several months. Due to his persistent and intractable hematuria, the patient is referred to us for prostatic artery embolization. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to identify the prostatic artery and occlude the artery with embolic particles which will improve his hematuria. The patient is also aware of the potential risks of the procedure, which include contrast-induced nephropathy, vessel perforation, arterial dissection, contrast-induced allergic reaction, bleeding, and wound infection. The overall risk of these complications is 1%. The patient has accepted these benefits and risks. The patient agreed to proceed with the planned procedure.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. The patient's right groin was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. The patient was given 1% lidocaine for local anesthesia. Using percutaneous technique, the right common femoral artery was accessed under ultrasound guidance, and a 6F introducer sheath was inserted. Next a guidewire and a selective catheter were placed in the abdominal aorta and an aortogram was performed with contrast injection. Next we selectively catheterized the left internal iliac artery followed by selective catheter placement in the prostatic artery using a Roberts catheter. Next selective catheterization of the inferior vesicle arteries was performed using a Renegade microcatheter. Selective angiogram of the superior branch and inferior branch of the prostatic artery was performed using 3 ml of Visipague contrast to identify the blood flow to the prostate. Next embolic particle using Embosphere with 500 uM in diameter was injected via the microcatheter for embolization. The syringe containing the microspheres was mixed with 50% of Visipaque contrast, and the mixture solution was slowly injected under fluoroscopic guidance. was A total of 10 ml of Embosphere was used to embolize the left prostatic artery. Completion angiogram was performed which demonstrated adequate flow stasis of the inferior vesicle artery. Next we removed the Roberts catheter and selective catheterized the right internal iliac artery. The right inferior vesicle artery was next catheterized using the Roberts catheter. Next selective catheterization of the right superior and inferior prostatic arteries were performed using a Renegade microcatheter. Selective angiogram of the superior branch and inferior branch of the prostatic artery was performed using 3 ml of Visipague contrast to identify the blood flow to the prostate. Next embolic particle using Embosphere with 500 uM in diameter was injected via the microcatheter for embolization. The syringe containing the microspheres was mixed with 50% of Visipaque contrast, and the mixture solution was slowly injected under fluoroscopic guidance. was A total of 10 ml of Embosphere was used to embolize the right inferior vesicle artery. Completion angiogram was performed which demonstrated adequate flow stasis of the inferior vesicle artery. Next the catheter and sheath were removed from the groin. A closure device was applied in the groin following the sheath removal to achieve groin hemostasis. The patient tolerated the procedure well and suffered no complications. I was present throughout the entire procedure.

IMPRESSION: Successful embolization of bilateral prostatic arteries using Embosphere embolic particles.

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PL.CL - Quinton catheter insertion

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: Acute renal failure requiring hemodialysis

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous access of right jugular vein under ultrasound guidance (CPT# 76937)

2. Placement of non-tunneled hemodialysis catheter in the right jugular vein (CPT# 36556)

1. Percutaneous access of left jugular vein under ultrasound guidance (CPT# 76937)

2. Placement of non-tunneled hemodialysis catheter in the left jugular vein (CPT# 36556)

1. Percutaneous access of right femoral vein under ultrasound guidance (CPT# 76937)

2. Placement of non-tunneled hemodialysis catheter in the right femoral vein (CPT# 36556)

1. Percutaneous access of left femoral vein under ultrasound guidance (CPT# 76937)

2. Placement of non-tunneled hemodialysis catheter in the left femoral vein (CPT# 36556)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 2 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who developed acute renal failure requiring urgent hemodialysis. I was asked by Dr. \_\_\_\_ to place a non-tunneled hemodialysis catheter so hemodialysis can be initiated immediately. Benefits and risks of the procedure were explained to the patient who agreed to undergo the planned procedure.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. Appropriate time out was performed whereby the patient and site of surgery were identified. The patient's < \_\_\_\_ right neck \_\_\_\_\_ left neck \_\_\_\_\_ right groin \_\_\_\_\_ left groin \_\_\_\_ > was prepped sterilely and then draped in a standard fashion. The patient was given local anesthesia with 10 ml of 1% of lidocaine. Using a portable ultrasound unit, the < \_\_\_\_ jugular femoral \_\_\_> vein was visualized and accessed percutaneously. A guidewire was inserted in the vein, which was followed by dilator placement. Next the dilator was removed, and a non-tunneled Trialysis hemodialysis catheter was inserted over the guidewire and placed in the vein. The tip of the catheter was positioned in the vena cava. The guidewire was next removed. Excellent flow of blood with excellent blood return was established from both catheter ports. Both lumens of the catheters were infused with heparinized solution. The catheter was sutured to the skin using 3-0 Nylon sutures. High concentration of heparin was used to pack the dialysis catheter ports. Appropriate dressing was applied over the catheter insertion site to secure the catheter. The patient tolerated the procedure well without complication.

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PL.CL - Renal artery embolization

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: < \_\_\_\_ Right Left \_\_\_\_> renal artery aneurysm

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous vascular access of common femoral artery under ultrasound guidance (CPT# 76937)

2. Abdominal aortogram with bilateral lower leg angiography, including radiological supervision and interpretation (CPT# 75630)

3. Selective bilateral renal artery catheter placement for selective bilateral renal artery angiogram, including radiological supervision and interpretation (CPT# 36252)

4. Embolization of renal artery aneurysm, including radiological supervision and interpretation (CPT# 37242)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

======= EMBOLIZATION FOR RENAL ARTERY ANEURYSM ========

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with a symptomatic < \_\_\_\_\_ right left \_\_\_\_> renal artery aneurysm with abdominal and flank pain. The patient was therefore scheduled to undergo renal artery angiographic evaluation with possible endovascular embolization. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to identify the renal artery aneurysm and exclude the renal artery aneurysm with coil embolization. The patient is also aware of the potential risks of the procedure, which include contrast-induced nephropathy, vessel perforation, arterial dissection, contrast-induced allergic reaction, bleeding, and wound infection. The overall risk of these complications is 1%. The patient has accepted these benefits and risks, and agreed to proceed with the planned procedure.

======= EMBOLIZATION FOR RENAL ARTERY BLEEDING/HEMATOMA ========

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with a symptomatic < \_\_\_\_\_ right left \_\_\_\_> renal artery hematoma which has expanded over the course of last week. A repeat CT scan today showed an enlarging perinephric hematoma with active extravasation. The patient was therefore scheduled to undergo renal artery angiographic evaluation with possible endovascular embolization. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to embolize the renal artery so the bleeding can be controlled. The patient is also aware of the potential risks of the procedure, which include contrast-induced nephropathy, vessel perforation, arterial dissection, contrast-induced allergic reaction, bleeding, and wound infection. The overall risk of these complications is 1%. The patient has accepted these benefits and risks, and agreed to proceed with the planned procedure.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. The patient's right groin was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. The patient was given 1% lidocaine for local anesthesia. Using percutaneous technique, the right common femoral artery was accessed under ultrasound guidance, and a 6F introducer sheath was inserted. Next a guidewire and a selective catheter were placed in the abdominal aorta and an aortogram was performed with contrast injection. Next we selectively catheterized the right renal artery with a catheter which was followed by selective renal artery angiogram. We then selectively catheterized the left renal artery with a catheter which was followed by selective renal artery angiogram.

======= EMBOLIZATION FOR RENAL ARTERY ANEURYSM ========

These angiographic evaluations revealed a large < \_\_\_\_\_\_ right left \_\_\_\_\_> renal artery aneurysm. We next advanced a guiding sheath in the renal artery. This was followed by microcatheter placement in the renal artery aneurysm. Contrast injection was performed to ensure the catheter was placed within the renal artery aneurysm. Next we deployed 12-mm microcoils in the renal artery aneurysm followed by 10-mm microcoils in the renal artery aneurysm. Completion angiogram was performed which revealed successful exclusion of the renal artery aneurysm. Next the catheter and sheath were removed from the groin. A closure device was applied in the groin following the sheath removal to achieve groin hemostasis. The patient tolerated the procedure well and suffered no complications. I was present throughout the entire procedure.

IMPRESSION:

1. Patent abdominal aorta with patent bilateral renal arteries without hemodynamically significant stenosis.

2. Successful coil embolization of renal artery aneurysm.

TREATMENT DISPOSITION - The patient will be discharged to home and followed up in my clinic in 2 weeks.

======= EMBOLIZATION FOR RENAL ARTERY BLEEDING/HEMATOMA ========

These angiographic evaluations revealed a large < \_\_\_\_\_\_ right left \_\_\_\_\_> renal << \_\_\_\_\_ hematoma vs. artery extravasation with bleeding \_\_\_\_>>. We next advanced a guiding sheath in the renal artery. This was followed by microcatheter placement in the renal artery. Next we deployed 12-mm microcoils in the renal artery aneurysm followed by 10-mm microcoils in the renal artery. Completion angiogram was performed which revealed successful exclusion of the renal artery flow. Next the catheter and sheath were removed from the groin. A closure device was applied in the groin following the sheath removal to achieve groin hemostasis. The patient tolerated the procedure well and suffered no complications. I was present throughout the entire procedure.

IMPRESSION: Successful renal artery embolization for hemorrhage control.

TREATMENT DISPOSITION – We will monitor the patient with post procedural analgesic control. The patient has a 20% risk of developing post-embolization renal infarction syndrome which will be managed with analgesics.

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PL.CL - Renal artery stenting

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right renal artery stenosis, 2. Renovascular hypertension

POSTOPERATIVE DIAGNOSIS: Same

1. Introduction of needle and catheter in right femoral artery (CPT# 36140)

2. Ultrasound guided right femoral artery access (CPT# 76937)

3. Catheter placement in abdominal aorta for aortogram (CPT# 36200)

4. Selective catheterization of bilateral renal artery for renal artery angiography (CPT# 36252)

5. Right renal artery stent placement (balloon expandable \_\_\_ mm x \_\_\_ mm stent) (CPT# 37236)

PREOPERATIVE DIAGNOSIS: 1. Left renal artery stenosis, 2. Renovascular hypertension

POSTOPERATIVE DIAGNOSIS: Same

1. Introduction of needle and catheter in right femoral artery (CPT# 36140)

2. Ultrasound guided right femoral artery access (CPT# 76937)

3. Catheter placement in abdominal aorta for aortogram (CPT# 36200)

4. Selective catheterization of bilateral renal artery for renal artery angiography (CPT# 36252)

5. Left renal artery stent placement (balloon expandable \_\_\_ mm x \_\_\_ mm stent) (CPT# 37236)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with renovascular hypertension due to high grade renal artery stenosis. The patient's renal artery stenosis was confirmed by a recent CT angiogram of abdomen. The patient was therefore scheduled to undergo renal artery angiographic evaluation with possible endovascular interventions. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to identify the renal artery occlusive disease and to improve the renal artery flow via endovascular intervention. The patient is also aware of the potential risks of the procedure, which include contrast-induced nephropathy, vessel perforation, arterial dissection, contrast-induced allergic reaction, bleeding, and wound infection. The overall risk of these complications is 1%. The patient has accepted these benefits and risks, and agreed to proceed with the planned procedure.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. Local anesthesia was administered in the right groin region. The patient's right groin was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. The patient was given 1% lidocaine for local anesthesia. Using percutaneous technique under ultrasound guidance, the right common femoral artery was accessed and a 6F introducer sheath was inserted. Next a guidewire and a diagnostic pigtail catheter were placed in the abdominal aorta and an aortogram was performed using a power injector. We selectively catheterized bilateral renal artery for selective bilateral renal artery angiogram. A high grade \_\_\_\_\_ right left \_\_\_\_\_\_ renal artery stenosis was identified. We next placed a \_\_\_\_ mm x \_\_\_\_mm balloon expandable stent in the renal artery, which was followed by balloon dilatation. Completion angiogram was performed which revealed successful stenting of the renal artery. Next the catheter and sheath were removed from the groin. A closure device was applied in the groin following the sheath removal to achieve groin hemostasis. The patient tolerated the procedure well and suffered no complications. I was present throughout the entire procedure.

IMPRESSION: Successful stenting and balloon angioplasty of the \_\_\_\_\_ right left \_\_\_\_\_\_ renal artery.

TREATMENT DISPOSITION - The patient will be discharged to home.

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PL.CL – Subclavian artery PTA

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right subclavian artery occlusion, 2. Right arm ischemia

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous access of right common femoral artery under ultrasound guidance (CPT# 76937)

2. Catheter placement in the thoracic aorta for aortogram and extracranial carotid artery angiogram (CPT# 36221)

3. Selective catheterization of right subclavian artery with selective angiogram (CPT# 36216 & 75710)

4. Selective catheterization of left subclavian artery with selective angiogram (CPT# 36215 & 75710)

5. Transluminal balloon angioplasty of right subclavian artery (CPT# 37246)

6. Transluminal balloon angioplasty of right axillary artery (CPT# 37247)

PREOPERATIVE DIAGNOSIS: 1. Left subclavian artery occlusion, 2. left arm ischemia

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous access of right common femoral artery under ultrasound guidance (CPT# 76937)

2. Catheter placement in the thoracic aorta for aortogram and extracranial carotid artery angiogram (CPT# 36221)

3. Selective catheterization of right subclavian artery with selective angiogram (CPT# 36216 & 75710)

4. Selective catheterization of left subclavian artery with selective angiogram (CPT# 36215 & 75710)

5. Transluminal balloon angioplasty of left subclavian artery (CPT# 37246)

6. Transluminal balloon angioplasty of left axillary artery (CPT# 37247)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 2 ml

BLOOD ADMINISTERED: None

IV Fluid: 200ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with right arm ischemia due to \_\_\_\_\_ right left \_\_\_\_ subclavian artery and axillary artery occlusion. Due to the upper extremity arterial ischemia, the patient was scheduled to undergo subclavian artery angiogram with intervention to improve the upper extremity arterial circulation. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to improve his right arm circulation and decrease his ischemic arm pain. The patient is also aware of the potential risks of the procedure, which include contrast-induced nephropathy, vessel perforation, arterial dissection, contrast-induced allergic reaction, bleeding, and wound infection. The overall risk of these complications is 1%. The patient has accepted these benefits and risks, and agreed to proceed with the planned procedure.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. Local anesthesia was administered in the right groin region. The patient's right groin was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. The patient was given 1% lidocaine for local anesthesia. Using percutaneous technique, the right common femoral artery was accessed and a 6F introducer sheath was inserted. Next a guidewire and a diagnostic pigtail catheter were placed in the ascending thoracic aorta and an aortogram was performed using a power injector. Next we placed a catheter for selective left subclavian artery catheterization, which was followed by left subclavian artery angiogram. We placed a catheter for selective right subclavian artery catheterization, which was followed by right subclavian artery angiogram. This confirmed a high grade 90% stenosis of the \_\_\_\_ right left \_\_\_\_\_ subclavian artery and axillary artery.

We placed a \_\_\_ mm balloon for balloon angioplasty of the subclavian artery. The balloon was insufflated to 10 atmospheric pressure for a total of one minute. Completion angiogram revealed successful radiographic result with residual stenosis of less than \_\_\_%.

We placed a \_\_\_ mm balloon for balloon angioplasty of the axillary artery. The balloon was insufflated to 10 atmospheric pressure for a total of one minute. Completion angiogram revealed successful radiographic result with residual stenosis of less than \_\_\_%.

Completion angiogram was performed which showed successful restoration of flow in the axillary and subclavian arteries. Next the catheter and sheath were removed from the arm. Manual pressure was applied in the right arm to achieve groin hemostasis. The patient tolerated the procedure well and suffered no complications. I was present throughout the entire procedure.

IMPRESSION: Successful balloon angioplasty of \_\_\_\_\_\_ right left \_\_\_\_\_\_\_ right subclavian artery.

TREATMENT DISPOSITION - The patient will be discharged to home and return for follow up in two weeks.

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PL.CL – Subclavian artery stenting (brachial approach)

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Left subclavian artery stenosis, 2. Left arm ischemia

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous access of left brachial artery under ultrasound guidance (CPT# 76937)

2. Catheter placement in the thoracic aorta for aortogram and extracranial carotid artery angiogram (CPT# 36221)

3. Selective catheterization of left subclavian artery with selective angiogram (CPT# 36140 & 75710-XU)

4. Percutaneous stent placement of left subclavian artery using balloon expandable stent (CPT# 37236)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 2 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with left subclavian artery stenosis. The patient reports symptoms including left arm fatigue and pain. Due to the symptomatic left subclavian artery stenosis, the patient was scheduled to undergo left subclavian artery stent placement. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to improve his left upper extremity arterial circulation. The patient is also aware of the potential risks of the procedure, which include contrast-induced nephropathy, vessel perforation, arterial dissection, contrast-induced allergic reaction, bleeding, and wound infection. The overall risk of these complications is 1%. The patient has accepted these benefits and risks, and agreed to proceed with the planned procedure.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. The patient's left arm was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. Local anesthesia was administered in the left antecubital region. Using ultrasound guidance, the left brachial artery was accessed and a 6F introducer sheath was inserted. Next a guidewire and a diagnostic pigtail catheter were placed in the ascending thoracic aorta and an aortogram was performed using a power injector. Next we placed a catheter in the left subclavian artery, which was followed by left subclavian artery angiogram. This confirmed a high grade 90% stenosis of the left subclavian artery. Next we deployed a \_\_\_\_ mm x \_\_\_\_ mm \_\_\_\_\_\_\_\_\_ balloon expandable stent across the left subclavian artery stenosis. Completion angiogram showed successful stent placement with 0% residual stenosis. Next the catheter and sheath were removed from the left arm. Manual pressure was applied in the left arm to achieve groin hemostasis. The patient tolerated the procedure well and suffered no complications. I was present throughout the entire procedure.

IMPRESSION: Successful left subclavian artery stent placement for high grade left subclavian artery stenosis.

TREATMENT DISPOSITION - The patient will be discharged to home and follow up in my office in 2 weeks.

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PL.CL – Subclavian artery stenting (femoral approach)

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Left subclavian artery stenosis, 2. Left arm ischemia

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous access of right common femoral artery under ultrasound guidance (CPT# 76937)

2. Catheter placement in the thoracic aorta for aortogram and extracranial carotid artery angiogram (CPT# 36221)

3. Selective catheterization of right subclavian artery with selective angiogram (CPT# 36216 & 75710)

4. Selective catheterization of left subclavian artery with selective angiogram (CPT# 36215 & 75710)

5. Percutaneous stent placement of left subclavian artery using balloon expandable stent (CPT# 37236)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 2 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with left subclavian artery stenosis. The patient reports symptoms including left arm fatigue and pain. Due to the symptomatic left subclavian artery stenosis, the patient was scheduled to undergo left subclavian artery stent placement. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to improve his left upper extremity arterial circulation. The patient is also aware of the potential risks of the procedure, which include contrast-induced nephropathy, vessel perforation, arterial dissection, contrast-induced allergic reaction, bleeding, and wound infection. The overall risk of these complications is 1%. The patient has accepted these benefits and risks, and agreed to proceed with the planned procedure.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. The patient's right groin was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. The patient was given 1% lidocaine for local anesthesia. Using ultrasound guidance, the right common femoral artery was accessed and a 6F introducer sheath was inserted. Next a guidewire and a diagnostic pigtail catheter were placed in the ascending thoracic aorta and an aortogram was performed using a power injector. Next we placed a catheter in the left subclavian artery, which was followed by left subclavian artery angiogram. We placed a catheter in the right subclavian artery, which was followed by right subclavian artery angiogram. This confirmed a high grade 90% stenosis of the \_\_\_\_ right left \_\_\_\_\_ subclavian artery. We placed a guidewire across the subclavian artery. Next we deployed a \_\_\_\_ mm x \_\_\_\_ mm Boston Scientific EXPRESS balloon expandable stent across the left subclavian artery stenosis. Completion angiogram showed successful stent placement with 0% residual stenosis. Next the catheter and sheath were removed from the groin. A closure device was applied in the groin following the sheath removal to achieve groin hemostasis. The patient tolerated the procedure well and suffered no complications. I was present throughout the entire procedure.

IMPRESSION: Successful left subclavian artery stent placement for high grade left subclavian artery stenosis.

TREATMENT DISPOSITION - The patient will be discharged to home and follow up in my office in 2 weeks.

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PL.CL – Subclavian vein PTA

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Occluded bilateral upper arm arteriovenous graft, 2. Central venous thrombosis, 3. Left subclavian vein stenosis

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous access of << \_\_ right vs. left \_\_\_ >> common femoral vein under ultrasound guidance (CPT# 76937)

2. Catheter placement in the superior vena cava for venography, with radiological supervision and interpretation (CPT# 36010 & 75827)

3. Selective catheterization of left subclavian vein for venography, with radiological supervision and interpretation (CPT# 36011 & 75820)

4. Selective catheterization of left axillary vein for venography, with radiological supervision and interpretation (CPT# 36012 & 75820)

5. Transluminal balloon angioplasty of left subclavian vein (CPT# 37248)

6. Transluminal balloon angioplasty of left axillary vein (CPT# 37249)

PREOPERATIVE DIAGNOSIS: 1. Occluded bilateral upper arm arteriovenous graft, 2. Central venous thrombosis, 3. Right subclavian vein stenosis

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous access of << \_\_ right vs. left \_\_\_ >> common femoral vein under ultrasound guidance (CPT# 76937)

2. Catheter placement in the superior vena cava for venography, with radiological supervision and interpretation (CPT# 36010 & 75827)

3. Selective catheterization of right subclavian vein for venography, with radiological supervision and interpretation (CPT# 36011 & 75820)

4. Selective catheterization of right axillary vein for venography, with radiological supervision and interpretation (CPT# 36012 & 75820)

5. Transluminal balloon angioplasty of right subclavian vein (CPT# 37248)

6. Transluminal balloon angioplasty of right axillary vein (CPT# 37249)

ANESTHESIA: MAC

SPECIMEN: None

ESTIMATED BLOOD LOSS: 2 ml

BLOOD ADMINISTERED: None

IV Fluid: 100ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with occluded arteriovenous grafts in \_\_\_\_\_ right vs. left vs. bilateral \_\_\_\_ upper extremities. The patient has had multiple AV graft thrombectomy procedures in the past. In an attempt to assess the patient upper extremity venous circulation, the patient was scheduled to under upper extremity venographic evaluation.

====== The patient has a prior history of subclavian venous stent placement. ======

I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to evaluate the upper extremity venous circulation with possible interventions to improve the venous flow. The patient is also aware of the potential risks of the procedure, which include contrast-induced nephropathy, vessel perforation, arterial dissection, contrast-induced allergic reaction, bleeding, and wound infection. The overall risk of these complications is 1%. The patient has accepted these benefits and risks and agreed to proceed with the planned procedure.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. Appropriate time out was performed whereby the patient and site of intervention were identified. The patient’s bilateral groins were prepped sterilely and draped in the standard fashion.. The patient was given 1% lidocaine for local anesthesia. Using percutaneous technique, the << \_\_\_ right vs. left \_\_\_ >> common femoral vein was accessed and a 6F introducer sheath was inserted. Next a 0.035” guidewire and a selective catheter was advanced to the superior vena cava. Contrast injection was performed for superior vena cavogram.

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We next placed a selective catheter in the left subclavian vein as well as left axillary vein for selective venography, which revealed 1. high grade stenosis of the subclavian vein with a \_\_\_\_ 70% in-stent stenosis, and 2. high grade stenosis of \_\_\_\_\_\_\_ 80% focal axillary vein branch with occluded axillary venous stent. 3. occluded basilic vein. Based on these findings, we performed balloon angioplasty of the left subclavian and axillary vein using a 6 mm by 10 cm angioplasty balloon. We placed the balloon across the stenotic segment of the axillary vein and insufflated the balloon to 8 mm atmospheric pressure for 20 seconds. We also placed the balloon across the stenotic segment of the subclavian vein and insufflated the balloon to 8 mm atmospheric pressure for 20 seconds. Completion angiogram was performed following balloon angioplasty.

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We next placed a selective catheter in the right subclavian vein as well as right axillary vein for selective venography, which revealed 1. high grade stenosis of the subclavian vein with a \_\_\_\_ 70% in-stent stenosis, and 2. high grade stenosis of \_\_\_\_\_\_\_ 80% focal axillary vein branch with occluded axillary venous stent. 3. occluded basilic vein. Based on these findings, we performed balloon angioplasty of the right subclavian and axillary vein using a 6 mm by 10 cm angioplasty balloon. We placed the balloon across the stenotic segment of the axillary vein and insufflated the balloon to 8 mm atmospheric pressure for 20 seconds. We also placed the balloon across the stenotic segment of the subclavian vein and insufflated the balloon to 8 mm atmospheric pressure for 20 seconds. Completion angiogram was performed following balloon angioplasty.

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Next the catheter and sheath were removed from the arm. Manual pressure was applied in the groin to achieve satisfactory hemostasis. The patient tolerated the procedure well and suffered no complications. I was present throughout the entire procedure.

FINDINGS OF THE UPPER EXTREMITY VENOGRAPHY:

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====== COPY FROM ABOVE =============

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TREATMENT DISPOSITION - The patient will be scheduled for upper extremity AV graft creation and permacath placement next week.

TREATMENT DISPOSITION - The patient will be discharged to home and return for follow up in two weeks.

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PL.CL - TEVAR (SCA covered)

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: 1. Descending thoracic aortic aneurysm, 2. Descending thoracic aortic dissection

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous access of right femoral artery with deployment of femoral artery closure device (CPT# 34713-RT)

2. Percutaneous access of left femoral artery with deployment of femoral artery closure device (CPT#34713-LT)

3. Endovascular aortic aneurysm repair using << \_\_\_ COOK ZENITH vs GORE TAG \_\_\_ >> thoracic stent graft for descending thoracic aortic aneurysm, with left subclavian artery coverage (CPT# 33880)

4. Supervision and interpretation of endovascular thoracic aortic aneurysm repair with subclavian artery coverage (CPT# 75956-26)

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5. Intravascular ultrasound evaluation (non-coronary) of abdominal aorta during therapeutic interventions (CPT# 37252)

6. Intravascular ultrasound evaluation (non-coronary) of thoracic aorta during therapeutic interventions (add-on vessel, CPT# 37253)

ANESTHESIA: General endotracheal anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 10 ml

BLOOD ADMINISTERED: 0 unit(s) PRBC transfusion

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old male patient who was recently diagnosed with a \_\_\_\_ cm thoracic aortic aneurysm as well as thoracic aortic dissection which were confirmed by CT scan of the chest. We plan to perform endovascular aortic aneurysm repair using aortic stent graft. I've discussed with the patient and family regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to reduce the risk of aneurysm rupture and aneurysm-related death. The patient is also aware of the potential risks and complications of the procedure, which include contrast allergy, contrast induced renal failure requiring hemodialysis, wound infection, bleeding, endograft limb thrombosis, lower leg ischemia, pneumonia, MI, stroke, spinal cord paralysis, and death. The patient is aware that the overall risk of these complications is 2%. The patient has accepted these benefits and risks of the procedure and agreed to proceed with the planned treatment.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. The patient was given general anesthesia and maintained throughout the entire procedure. The patient's abdomen and bilateral lower extremities were prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. Next we proceeded with ultrasound guided percutaneous access of the right groin. Under ultrasound visualization, we obtained percutaneous access in the right femoral artery, which was followed by the placement of a 7 French introducer sheath. We placed two percutaneous closure devices in the right femoral artery using the Perclose device, which was followed by sheath exchange in which we placed a large introducer sheath. Next under ultrasound visualization, we obtained percutaneous access in the left femoral artery which was followed by the placement of a 7 French introducer sheath. We placed two percutaneous closure devices in the left femoral artery using the Perclose device, which was followed by sheath exchange in which we placed an 18 French introducer sheath. Systemic heparin was given intravenously for anticoagulation. We next placed a stiff Amplatz guidewire via the right femoral artery sheath and a stiff Glidewire via the left femoral artery.

----------- IVUS -------------

We performed intravascular ultrasound examination of the abdominal aorta by positioning an intravascular ultrasound catheter in the aorta to determine the vessel diameter, as this was necessary to determine the appropriate size of the stent graft to be used. We performed intravascular ultrasound examination of the thoracic aorta by positioning an intravascular ultrasound catheter in the aorta to determine the vessel diameter, as this was necessary to determine the appropriate size of the stent graft to be used.

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A marker pigtail catheter was introduced via the left femoral guidewire so the pigtail catheter was advanced and positioned in the thoracic aorta. Using power injection, we performed thoracic aortogram using the marker pigtail catheter to identify the aortic arch vessel and the thoracic aortic aneurysm. The locations of the subclavian artery and thoracic aortic aneurysm were identified. Next we inserted a << \_\_\_ COOK ZENITH vs GORE TAG \_\_\_ >> thoracic endograft from the right groin sheath approach and positioned the device in the thoracic aortic arch. The device was next deployed distal to the left carotid artery covering the left subclavian artery. Next completion angiogram was performed which revealed successful exclusion of the thoracic aortic aneurysm. Bilateral percutaneous closure devices were deployed following the removal of bilateral femoral sheaths. Hemostasis was achieved satisfactorily. Flow was reestablished to the bilateral lower extremities, and protamine was given to reverse the heparin. Dermabond dressing was applied in bilateral groin which was followed by gauze dressing placement. The patient tolerated the procedure well without any complication, and she was taken to the recovery room in a stable condition. I was present throughout the entire operation.

SUPERVISION AND INTERPRETATION OF ENDOVASCULAR THORACIC AORTIC ANEURYSM REPAIR: Completion angiogram following endovascular aortic stent graft placement demonstrated successful exclusion of the thoracic aortic aneurysm without endoleak.

TREATMENT DISPOSITION: The patient will be admitted to the ICU for postoperative monitoring.

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PL.CL - TEVAR (SCA not covered)

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REPORT OF PROCEDURE

NAME: \_\_\_\_\_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_

DATE OF PROCEDURE: \_\_\_\_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: 1. Descending thoracic aortic aneurysm, 2. Descending thoracic aortic dissection

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Percutaneous access of right femoral artery with deployment of femoral artery closure device (CPT# 34713-RT)

2. Percutaneous access of left femoral artery with deployment of femoral artery closure device (CPT#34713-LT)

3. Endovascular aortic aneurysm repair using << \_\_\_ COOK ZENITH vs GORE TAG \_\_\_ >> thoracic stent graft for descending thoracic aortic aneurysm; not involving coverage of subclavian artery origin (CPT# 33881)

4. Supervision and interpretation of endovascular thoracic aortic aneurysm repair without subclavian artery coverage (CPT# 75957-26)

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5. Intravascular ultrasound evaluation (non-coronary) of abdominal aorta during therapeutic interventions (CPT# 37252)

6. Intravascular ultrasound evaluation (non-coronary) of thoracic aorta during therapeutic interventions (add-on vessel, CPT# 37253)

ANESTHESIA: General endotracheal anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 10 ml

BLOOD ADMINISTERED: 0 unit(s) PRBC transfusion

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old male patient who was recently diagnosed with a \_\_\_\_ cm thoracic aortic aneurysm as well as thoracic aortic dissection which were confirmed by CT scan of the chest. We plan to perform endovascular aortic aneurysm repair using aortic stent graft. I've discussed with the patient and family regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to reduce the risk of aneurysm rupture and aneurysm-related death. The patient is also aware of the potential risks and complications of the procedure, which include contrast allergy, contrast induced renal failure requiring hemodialysis, wound infection, bleeding, endograft limb thrombosis, lower leg ischemia, pneumonia, MI, stroke, spinal cord paralysis, and death. The patient is aware that the overall risk of these complications is 2%. The patient has accepted these benefits and risks of the procedure and agreed to proceed with the planned treatment.

PROCEDURE IN DETAIL: The patient was brought to the cath lab and placed on the cath lab table in the supine position. The patient was given general anesthesia and maintained throughout the entire procedure. The patient's abdomen and bilateral lower extremities were prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. Next we proceeded with ultrasound guided percutaneous access of the right groin. Under ultrasound visualization, we obtained percutaneous access in the right femoral artery, which was followed by the placement of a 7 French introducer sheath. We placed two percutaneous closure devices in the right femoral artery using the Perclose device, which was followed by sheath exchange in which we placed a large introducer sheath. Next under ultrasound visualization, we obtained percutaneous access in the left femoral artery which was followed by the placement of a 7 French introducer sheath. We placed two percutaneous closure devices in the left femoral artery using the Perclose device, which was followed by sheath exchange in which we placed an 18 French introducer sheath. Systemic heparin was given intravenously for anticoagulation. We next placed a stiff Amplatz guidewire via the right femoral artery sheath and a stiff Glidewire via the left femoral artery.

----------- IVUS -------------

We performed intravascular ultrasound examination of the abdominal aorta by positioning an intravascular ultrasound catheter in the aorta to determine the vessel diameter, as this was necessary to determine the appropriate size of the stent graft to be used. We performed intravascular ultrasound examination of the thoracic aorta by positioning an intravascular ultrasound catheter in the aorta to determine the vessel diameter, as this was necessary to determine the appropriate size of the stent graft to be used.

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A marker pigtail catheter was introduced via the left femoral guidewire so the pigtail catheter was advanced and positioned in the thoracic aorta. Using power injection, we performed thoracic aortogram using the marker pigtail catheter to identify the aortic arch vessel and the thoracic aortic aneurysm. The locations of the subclavian artery and thoracic aortic aneurysm were identified. Next we inserted a << \_\_\_ COOK ZENITH vs GORE TAG \_\_\_ >> thoracic endograft from the right groin sheath approach and positioned the device in the thoracic aortic arch. The device was next deployed distal to the left subclavian artery, which was not covered by the stent-graft. Next completion angiogram was performed which revealed successful exclusion of the thoracic aortic aneurysm. Bilateral percutaneous closure devices were deployed following the removal of bilateral femoral sheaths. Hemostasis was achieved satisfactorily. Flow was reestablished to the bilateral lower extremities, and protamine was given to reverse the heparin. Dermabond dressing was applied in bilateral groin which was followed by gauze dressing placement. The patient tolerated the procedure well without any complication, and she was taken to the recovery room in a stable condition. I was present throughout the entire operation.

SUPERVISION AND INTERPRETATION OF ENDOVASCULAR THORACIC AORTIC ANEURYSM REPAIR: Completion angiogram following endovascular aortic stent graft placement demonstrated successful exclusion of the thoracic aortic aneurysm without endoleak.

TREATMENT DISPOSITION: The patient will be admitted to the ICU for postoperative monitoring.

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Aortobifemoral Bypass ==================================================================

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: \_\_\_\_\_\_ , MD

PREOPERATIVE DIAGNOSIS: Aortic occlusion

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Aortobifemoral artery bypass using 14mm x 7mm Hemashield bifurcated graft (CPT# 35646)

2. Aortic endarterectomy (CPT# 35361)

3. Right common femoral endarterectomy (CPT# 35371)

4. Left common femoral endarterectomy (CPT# 35371)

5. Placement of On-Q pain pump in the abdominal wound (CPT# 11981)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 200 ml

BLOOD ADMINISTERED: None

IV FLUID: 1,300 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been experiencing ---- right , left , bilateral ----- lower extremity ischemic rest pain due to severe aortoiliac occlusive disease. Due to the severe aortoiliac occlusive disease, the patient was taken to the operating room to undergo an aortobifemoral artery bypass grafting procedure. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to improve his aortoiliac artery occlusive disease by means of an aortobifemoral artery bypass. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, bypass graft occlusion, compartment syndrome, nerve injury, pneumonia, renal failure, myocardiac infarction, spinal cord paralysis, graft infection, stroke, and death. The overall incidence of these risks and complications was 2%. The patient has accepted these benefits and risks and agreed to undergo the planned aortobifemoral artery bypass procedure.

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PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Following general anesthesia induction via orotracheal intubation, the patient was placed in a lateral decubitus position. The patient's abdomen and bilateral legs were prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made a right groin incision and continued the dissection using electrocautery. We identified the femoral sheath which was carefully opened. We isolated the common femoral artery, profunda femoral artery, and superficial femoral artery. Vessel loops were used to encircle these vessels. Next we made a left groin incision and continued the dissection using electrocautery. We identified the femoral sheath which was carefully opened. We isolated the common femoral artery, profunda femoral artery, and superficial femoral artery. Vessel loops were used to encircle these vessels. We next made an oblique incision in the left flank region of the abdomen. Dissection was carried down using electrocautery. We carefully opened the rectus sheath and entered the retroperitoneal space. Medial visceral rotation was performed in which the abdomen content was rotated medially. We next placed abdominal retractors in the abdomen to provide the exposure to the aorta. Abdominal aorta was isolated. Systemic heparin was given intravenously for anticoagulation. We placed proximal and distal clamps in the infrarenal aorta. The infrarenal abdominal aorta was carefully divided in half. Abdominal aortic endarterectomy was performed in which the occlusive aortic plaque was removed. Next we placed a bifurcated aortic Hemashield graft in which the aortic portion of the graft was connected to the infrarenal aorta in an end-to-end fashion using 3-0 prolene sutures. Upon the completion of the anastomotic reconstruction, clamps were released and adequate hemostasis was achieved. Next the right femoral graft was tunneled in the retroperitoneal fashion and brought out in the right groin incision. We next performed right femoral anastomotic reconstruction. This is done by placing vascular clamps in the common femoral artery, profunda femoral artery, and superficial femoral artery. An arteriotomy was opened using a #11 scalpel in the common femoral artery. We encountered a large occlusive femoral artery plaque which was removed for femoral artery endarterectomy. Next the femoral graft was trimmed to appropriate size and it was connected to the common femoral and profunda femoral arteries using 5-0 prolene sutures in an end-to-side fashion. Upon the completion of the anastomotic reconstruction, clamps were released and adequate hemostasis was achieved. Next the left femoral graft was tunneled in the retroperitoneal fashion and brought out in the left groin incision. We next performed left femoral anastomotic reconstruction. This is done by placing vascular clamps in the common femoral artery, profunda femoral artery, and superficial femoral artery. An arteriotomy was opened using a #11 scalpel in the common femoral artery. We encountered a large occlusive femoral artery plaque which was removed for femoral artery endarterectomy. Next the femoral graft was trimmed to appropriate size and it was connected to the common femoral and profunda femoral arteries using 5-0 prolene sutures in an end-to-side fashion. Upon the completion of the anastomotic reconstruction, clamps were released and adequate hemostasis was achieved. An On-Q pain pump was inserted in the subcutaneous fascia prior to the closure of the skin layer. The abdominal wound and groin wounds were irrigated with antibiotic solution. The abdominal fascia was closed using a looped PDS suture. Subcutaneous tissues were closed using 3-0 PDS sutures, and skin was next closed using staples. The right femoral sheath was closed using 3-0 PDS sutures and skin was closed using 4-0 Vicryl subcuticular sutures. The left femoral sheath was closed using 3-0 PDS sutures and skin was closed using 4-0 Vicryl subcuticular sutures. The patient remained clinically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition. I was present throughout the entire operation.

TREATMENT DISPOSITION - To ICU for postoperative recovery.

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right leg ischemia, 2. Right foot gangrene

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Right above knee amputation (CPT# 27590)

PREOPERATIVE DIAGNOSIS: 1. Left leg ischemia, 2. Left foot gangrene

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Left above knee amputation (CPT# 27590)

ANESTHESIA: General anesthesia

SPECIMEN: Amputated \_\_\_ lower leg

ESTIMATED BLOOD LOSS: 20 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who recently developed lower extremity foot gangrene due to arterial occlusion. Because of the severe foot gangrene as well as significant ischemic rest pain, the patient was taken to the operating room to undergo an above-the-knee amputation procedure. Benefits of the proposed procedure, including elimination of gangrenous foot and elimination of cause of ischemic rest pain were discussed with the patient's family. Potential risks and complications of the proposed procedures including hematoma formation, bleeding, wound infection, myocardial infarction, stroke, pneumonia, and phantom nerve pain were also discussed with the patient's family. I've informed the patient's family that the overall risk of these complications was 2%. The patient's family verbalized understanding and agreed to proceed.

PROCEDURE IN DETAIL: The patient was brought to the operating room and placed on the operating room table in the supine position. General anesthesia was administered through endotracheal intubation by the anesthesiologist. The patient's < \_\_\_\_ right left \_\_\_ > leg was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. Next a fish-mouth incision was made just above the knee level using a skin scalpel. Dissection was carried down through the subcutaneous tissue, fascia, and muscle compartments using an electrocautery along the line of incision. All the muscles were individually transected and visible bleeders ere cauterized. The femoral artery, femoral vein, and sciatic nerve were also identified and they were all doubly ligated and transected. The bone was cut with a battery-powered oscillating saw. The level of leg amputation was at the distal femur region. Next the remaining muscles in the posterior compartment were also transected. Electrocautery was used to achieve hemostasis in the fascial and muscle compartment. Adequate muscular bleeding was noted at the level of the amputation site. The fascia was closed with 2-0 Vicryl suture, and the skin was closed with 3-0 Nylon sutures. Pressure dressing was applied. The patient was sent to recovery room in good condition. I was present throughout the entire operation.

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PL.OR – Arm - repair of bleeding vessel

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right arm hematoma, 2. Right arm bleeding arteriovenous graft

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Repair of right arm arteriovenous graft bleeding vessel (CPT# 35206)

PREOPERATIVE DIAGNOSIS: 1. Left arm hematoma, 2. Left arm bleeding arteriovenous graft

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Repair of left arm arteriovenous graft bleeding vessel (CPT# 35206)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 100 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_\_ year old patient who has been diagnosed with left hematoma with bleeding. The patient was taken to the OR to undergo an operative exploration, hematoma evacuation, and repair of bleeding vessel. I've discussed with the patient's family regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to repair the bleeding vessel. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, artery occlusion, compartment syndrome, nerve injury, pneumonia, renal failure, myocardiac infarction, stroke, postoperative leg amputation, and death. The overall incidence of these risks and complications was 1%. The patient's family has accepted these benefits and risks and agreed to undergo the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Following general anesthesia induction via orotracheal intubation, the patient's < \_\_\_\_\_\_ right left \_\_\_\_\_ > arm was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. An area of bleeding vessel was identified in the mid-segment of the upper arm. Manual pressures were applied digitally both proximally and distally to the bleeding vessel site. Once hemostasis was achieved with digital pressure application, small skin incision was made where dissection was carried down to isolate the bleeding vessel site. A 5-0 prolene suture was placed in an interrupted fashion over the bleeding AV graft which successfully repaired the bleeding vessel. Manual pressures were released, and hemostasis was maintained satisfactorily. The skin was closed using a 4-0 monocryl suture in a subcuticular fashion. Dressing was applied in the standard fashion. The patient remained stable and was taken to the recovery room in a stable condition. The patient suffered no complications, and I was present throughout the entire procedure.

TREATMENT DISPOSITION - To PACU and surgical floor for postoperative care.

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PL.OR - Arm hematoma evacuation, repair of bleeding vessel

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right arm hematoma, 2. Right brachial artery bleeding with pseudoaneurysm

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Upper extremity exploration for postoperative hemorrhage (CPT# 35860)

2. Evacuation of right arm hematoma (CPT# 23930)

3. Repair of right brachial artery pseudoaneurysm (CPT# 35206)

PREOPERATIVE DIAGNOSIS: 1. Left arm hematoma, 2. Left brachial artery bleeding with pseudoaneurysm

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Upper extremity exploration for postoperative hemorrhage (CPT# 35860)

2. Evacuation of left arm hematoma (CPT# 23930)

3. Repair of left brachial artery pseudoaneurysm (CPT# 35206)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 100 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_\_ year old patient who has been diagnosed with left hematoma with bleeding. The patient was taken to the OR to undergo an operative exploration, hematoma evacuation, and repair of bleeding vessel. I've discussed with the patient's family regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to repair the bleeding vessel. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, artery occlusion, compartment syndrome, nerve injury, pneumonia, renal failure, myocardiac infarction, stroke, postoperative leg amputation, and death. The overall incidence of these risks and complications was 1%. The patient's family has accepted these benefits and risks and agreed to undergo the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Following general anesthesia induction via orotracheal intubation, the patient's < \_\_\_\_\_\_ right left \_\_\_\_\_ > arm was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made a longitudinal incision in the upper arm and continued the dissection using electrocautery. We encountered large amount of hematoma in the brachial compartment, which was evacuated. We next identified and isolated the bleeding vessel which was a segment of the brachial artery. A brachial artery pseudoaneurysm was identified and isolated. Following clamp placement of the bleeding vessel, the brachial artery pseudoaneurysm was opened and repaired using multiple 5-0 prolene sutures with interrupted fashion. Hemostasis was achieved once the arterial repair was completed. The wound was irrigated, and fascia was closed using a 3-0 PDS suture. The skin was closed using a 4-0 monocryl suture in a subcuticular fashion. Dressing was applied in the standard fashion. The patient remained stable and was taken to the recovery room in a stable condition. The patient suffered no complications, and I was present throughout the entire procedure.

TREATMENT DISPOSITION - To PACU and surgical floor for postoperative care.

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PL.OR - Arm wound debridement + wound vac

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PL.OR - Arm wound debridement + wound vac

REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. s/p left arm AV access creation, 2. Left arm wound dehiscence, 3. Left arm wound infection

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Left arm wound debridement (CPT# 11043)

2. Placement of left arm wound vac (CPT# 97606)

PREOPERATIVE DIAGNOSIS: 1. s/p right arm AV access creation, 2. Right arm wound dehiscence, 3. Right arm wound infection

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Right arm wound debridement (CPT# 11043)

2. Placement of right arm wound vac (CPT# 97606)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 100 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year old patient has been experiencing arm pain due to wound dehiscence and wound infection with fluid drainage. The patient was taken to the OR to undergo an operative exploration with wound debridement and wound vac placement. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to debride the wound followed by wound vac placement which will promote wound healing. The patient is also aware of the potential risks of the procedure, which include wound infection and bleeding. The overall incidence of these risks and complications was 1%. The patient has accepted these benefits and risks and agreed to undergo the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Following general anesthesia induction via orotracheal intubation, the patient's < \_\_\_\_\_ right left \_\_\_\_ > arm was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made a longitudinal incision over the upper arm wound site which was followed by wound exploration. We encountered infected tissues involving the skin, subcutaneous tissues, and muscle. Areas of tissue necrosis involving the skin, subcutaneous tissues, and muscles were sharply excised using electrocautery. The wound area was irrigated, and a wound vac sponge was next placed in the arm wound. The area of wound vac sponge coverage was 5cm by 10cm by 5cm. Next a standard wound vac dressing was placed in the incision wound area. Continual suctioning tube was connected to the wound vac. Dressing was applied in the standard fashion. The patient remained stable and was taken to the recovery room in a stable condition. The patient suffered no complications, and I was present throughout the entire procedure.

TREATMENT DISPOSITION - We will request wound care nurse to see for wound vac management.

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PL.OR – Arm wrist ganglion excision

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PL.OR – Arm wrist ganglion excision

REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right wrist pain, 2. Right wrist ganglion cyst

PREOPERATIVE DIAGNOSIS: 1. Left wrist pain, 2. Left wrist ganglion cyst

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Excision of right wrist ganglion cyst (CPT# 25111)

PROCEDURE: Excision of left wrist ganglion cyst (CPT# 25111)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been experiencing wrist pain due to a mass at the wrist level. Due to the wrist pain caused by the mass, the patient was therefore taken to the OR to undergo excision of the mass. The purpose of the procedure is to remove the mass and alleviate the arm pain. The patient also understands the risks and complications of this procedure which include hematoma, bleeding, and infection. The patient agrees with the planned procedure of mass excision.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's <<< right left > wrist was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a skin incision in the ventral aspect of the wrist. Dissection was carried down using electrocautery. We identified a 3cm by 3cm ganglion cyst attached to the multiple vascular network of venous plexus. Careful dissection was performed to ligated multiple venous and arterial branches of the ganglion cyst. The entire mass was excised without complication. The wound was irrigated using antibiotic solution. The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures, and skin closure was done using #4-0 Monocryl sutures. Standard gauze dressing was applied over the incision site. The patient remained hemodynamically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient will be discharged to home and return for follow up in two weeks.

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PL.OR – Arm hemangioma excision

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PL.OR – Arm hemangioma excision

REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right upper extremity hemangioma, 2. Right upper extremity pain

PREOPERATIVE DIAGNOSIS: 1. Left upper extremity hemangioma, 2. Left upper extremity pain

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Excision of right upper extremity hemangioma (CPT# 24076)

PROCEDURE: Excision of left upper extremity hemangioma (CPT# 24076)

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NOTE TO PL REGARDING CPT CODE FOR SOFT TISSUE TUMOR EXCISION:

21011 Excision, tumor, soft tissue of face or scalp, subcutaneous (<2cm)

21013 Excision, tumor, soft tissue of face or scalp, subfascial (eg, subgaleal, intramuscular) (<2cm)

21555 Excision, tumor, soft tissue of neck or anterior thorax, subcutaneous (<3cm)

21556 Excision, tumor, soft tissue of neck or anterior thorax, subfascial (eg. Intramuscular) (<5cm)

21557 Radical resection of tumor (eg, sarcoma), soft tissue of neck or anterior thorax (<5cm)

21930 Excision, tumor, soft tissue of back or flank, subcutaneous (<3cm)

21932 Excision, tumor, soft tissue of back or flank, subfascial (eg. Intramuscular) (<5cm)

21935 Radical resection of tumor (eg, sarcoma), soft tissue of back or flank (<5cm)

23075 Excision, tumor, soft tissue of shoulder area, subcutaneous (<3cm)

23076 Excision, tumor, soft tissue of shoulder area, subfascial (eg. Intramuscular) (<5cm)

23077 Radical resection of tumor (eg, sarcoma), soft tissue of shoulder area (<5cm)

24075 Excision, tumor, soft tissue of upper arm or elbow area, subcutaneous (<3cm)

24076 Excision, tumor, soft tissue of upper arm or elbow area, subfascial (eg. Intramuscular) (<5cm) 24077 Radical resection of tumor (eg, sarcoma), soft tissue of upper arm or elbow area, (<5cm)

25075 Excision, tumor, forearm and/or wrist area; subcutaneous (<3cm)

25076 Excision, tumor, forearm and/or wrist area; deep, subfascial (eg. Intramuscular) (<3cm)

25077 Radical resection of tumor (eg, sarcoma), soft tissue of forearm and/or wrist area (<3cm)

26115 Excision, tumor or vascular malformation, hand or finger; subcutaneous (<1.5cm)

26116 Excision, tumor or vascular malformation, hand or finger; deep, subfascial, intramuscular (<1.5cm) 26117 Radical resection of tumor (eg, malignant neoplasm), soft tissue of hand or finger (<3cm)

27047 Excision, tumor, soft tissue of pelvis and hip area, subcutaneous (<3m)

27048 Excision, tumor, soft tissue of pelvis and hip area, subfascial (eg. Intramuscular) (<5cm)

27049 Radical excision of tumor (eg. sarcoma) soft tissue of pelvis and hip area (<5cm)

27327 Excision, tumor, soft tissue of thigh or knee area, subcutaneous (<3cm)

27328 Excision, tumor, soft tissue of thigh or knee area, subfascial (eg. Intramuscular) (<5cm)

27615 Radical excision of tumor (eg. sarcoma) soft tissue of leg or ankle area (<5cm) …….. ($1,125)

27618 Excision, tumor, soft tissue of leg or ankle, subcutaneous (<3cm)

27619 Excision, tumor, soft tissue of leg or ankle area, subfascial (eg. Intramuscular) (<5cm)

28043 Excision, tumor, soft tissue of foot or toe, subcutaneous (<1.5cm)

28045 Excision, tumor, soft tissue of foot or toe area, subfascial (eg. Intramuscular) (<1.5cm)

28046 Radical excision of tumor (eg. sarcoma) soft tissue of foot or toe (<3cm)

22903 Excision of soft tissue tumor of abdominal wall

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been experiencing upper extremity pain due to an enlarging skin mass consistent with a hemangioma. Due to the painful symptom as well as lesion enlargement, the patient was therefore taken to the OR to undergo excision of the mass. The purpose of the procedure is to remove the mass and alleviate the arm pain. The patient also understands the risks and complications of this procedure which include hematoma, bleeding, and infection. The patient agrees with the planned procedure of mass excision.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's < right vs left > upper extremity was prepped sterilely and draped in a standard fashion. The region of the hemangioma in her wrist region was injected with local anesthetic using 10 mL of 1% lidocaine without epinephrine solution. Using a sharp scalpel, a transverse skin incision was made. Sharp dissection was performed using a Meztenbaum scissor. The hemangioma lesion was isolated circumferentially. Electrocautery was used to achieve hemostasis. The lesion extended to the fascia and intramuscular layer which was removed in its entirety. Extensive undermining was required in order to close the large defect caused by the hemangioma excision. After extensive undermining, the deepest layer was closed with 3-0 PDS, the more intermediate layer was closed with 3-0 PDS, and the most superficial layer was closed with 4-0 PDS suture, followed by treatment with Dermabond dressing tape placement. The patient remained hemodynamically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's

< right vs left >

upper extremity was prepped sterilely and draped in a standard fashion. The patient was given general anesthesia through orotracheal intubation. The region of the hemangioma in the

< wrist vs elbow vs shoulder vs upper arm >

was injected with local anesthetic using 10 mL of 1% lidocaine without epinephrine solution. Using a sharp scalpel, a transverse skin incision was made. Sharp dissection was performed using a Meztenbaum scissor. The hemangioma lesion was isolated circumferentially. Electrocautery was used to achieve hemostasis. The lesion was

< less than 3 cm vs less than 5 cm >

In size. The lesion extended to the fascia and intramuscular layer which was removed in its entirety. Extensive undermining was required in order to close the large defect caused by the hemangioma excision. After extensive undermining, the deepest layer was closed with 3-0 PDS, the more intermediate layer was closed with 3-0 PDS, and the most superficial layer was closed with 4-0 PDS suture, followed by treatment with Dermabond dressing tape placement. The patient remained hemodynamically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient will be discharged to home and return for follow up in two weeks.

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PL.OR - AVF (Basilic vein transposition. L)

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PL.OR - AVF (Basilic vein transposition. L)

REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. End-stage renal failure requiring hemodialysis. 2. s/p left brachiobasilic AV fistula creation

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Left AV fistula basilic vein transposition (CPT# 36819)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease. The patient has been under the care of his nephrologist Dr. \_\_\_\_\_. The patient previously underwent a first-staged brachiobasilic fistula creation, which now requires a second-staged basilic vein transposition procedure. The purpose of the procedure is to elevate the basilic vein which will enable the AV fistula to be cannulated for hemodialysis. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's < \_\_\_\_\_ right left \_\_\_\_\_\_> arm was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a skin incision in the upper region where side branches were located based on ultrasound evaluation. Dissection was carried down using electrocautery. We identified brachial sheath which was carefully opened. We next identified the basilic vein which was mobilized in its entirety. Multiple side branches of the basilic vein were ligated using 3-0 sutures. A total of four side branches were surgically ligated. The basilic vein was divided near the antecubital fossa. The basilic vein was transposed in the subcutaneous space using a tunneling device. Next the basilic vein was connected to the brachial artery near the antecubital fossa using 5-0 prolene sutures which was performed in a end-to-side fashions. Vascular clamps were removed upon the completion of the anastomotic reconstruction. The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures, and skin closure was done using #4-0 Monocryl sutures. Standard gauze dressing was applied over the incision site. The patient remained hemodynamically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient will be admitted overnight for post-operative pain control.

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PL.OR - AVF (brachiobasilic)

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PL.OR - AVF (brachiobasilic)

REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: End-stage renal failure requiring hemodialysis

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Left brachiobasilic AV fistula creation (CPT# 36821)

PROCEDURE: Right brachiobasilic AV fistula creation (CPT# 36821)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease. The patient has been under the care of nephrologist Dr. \_\_\_\_. The patient will require a new AVF creation for hemodialysis access. The patient has been evaluated by a venous duplex ultrasound of the upper extremity and is deemed a suitable candidate for hemodialysis via an AVF. The patient also understands that it takes at least six weeks for an AVF to mature following its creation before it can be accessed for hemodialysis. The patient understands the benefit and purpose of this procedure is to create an access site for hemodialysis. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's < \_\_\_\_ left right \_\_\_ > arm was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a skin incision in the antecubital fossa. Dissection was carried down using electrocautery. We identified the cephalic vein which was circumferentially isolated and encircled circumferentially with a vessel loop. We also identified the adjacent brachial artery which was dissected circumferentially and encircled with a vessel loop. The basilic vein was next divided in half and the distal segment of the vein was ligated using a 2-0 silk suture. The proximal segment of the basilic vein was flushed with a heparinized saline solution. Next we placed proximal and distal vascular clamps in the brachial artery in which a vertical arteriotomy was made using a #11 blade. The arteriotomy was next extended using a Potts scissor. The basilic vein was then connected to the adjacent brachial artery in an end-to-side fashion using a 6-0 prolene suture. Appropriate flushing was also performed at the completion of the vascular anastomosis. An end-to-side brachiobasilic AV fistula was performed without difficulty. Excellent thrills were noted in the AV fistula at the completion of the anastomotic reconstruction. At the end of the AV fistula reconstruction, the patient has a good radial and ulnar flow as evidenced by strong palpable pulses. The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures, and skin closure was done using #4-0 Monocryl sutures. Standard gauze dressing was applied over the incision site. The patient remained hemodynamically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient will be discharged to home and return for follow up in two weeks.

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PL.OR - AVF (brachiocephalic) (L) \*\*\*\*

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PL.OR - AVF (brachiocephalic) (L) \*\*\*\*

REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: End-stage renal failure requiring hemodialysis

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Left brachiocephalic AV fistula creation (CPT# 36821)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease. The patient has been under the care of nephrologist Dr. \_\_\_. The patient will require a new AVF creation for hemodialysis access. The patient has been evaluated by a venous duplex ultrasound of the upper extremity and is deemed a suitable candidate for hemodialysis via an AVF. The patient also understands that it takes at least six weeks for an AVF to mature following its creation before it can be accessed for hemodialysis. The patient understands the benefit and purpose of this procedure is to create an access site for hemodialysis. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's left arm was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a skin incision in the antecubital fossa. Dissection was carried down using electrocautery. We identified the cephalic vein which was circumferentially isolated and encircled circumferentially with a vessel loop. We also identified the adjacent brachial artery which was dissected circumferentially and encircled with a vessel loop. The cephalic vein was next divided in half and the distal segment of the vein was ligated using a 2-0 silk suture. The proximal segment of the cephalic vein was flushed with a heparinized saline solution. Next we placed proximal and distal vascular clamps in the brachial artery in which a vertical arteriotomy was made using a #11 blade. The arteriotomy was next extended using a Potts scissor. The cephalic vein was then connected to the adjacent brachial artery in an end-to-side fashion using a 6-0 prolene suture. Appropriate flushing was also performed at the completion of the vascular anastomosis. An end-to-side brachiocephalic AV fistula was performed without difficulty. Excellent thrills were noted in the AV fistula at the completion of the anastomotic reconstruction. At the end of the AV fistula reconstruction, the patient has a good radial and ulnar flow as evidenced by strong palpable pulses. The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures, and skin closure was done using #4-0 Monocryl sutures. Standard gauze dressing was applied over the incision site. The patient remained hemodynamically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient will be discharged to home and return for follow up in two weeks.

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PL.OR - AVF (cephalic vein transposition)

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PL.OR - AVF (cephalic vein transposition)

REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. End-stage renal failure requiring hemodialysis. 2. s/p brachiocephalic AV fistula creation

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: \_\_\_\_\_ Right Left \_\_\_\_\_ AV fistula cephalic vein transposition (CPT# 36818)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease, and is under the care of nephrologist Dr. \_\_\_\_\_. The patient previously underwent a first-staged brachiocephalic fistula creation, which now requires a second-staged cephalic vein transposition procedure. The purpose of the procedure is to elevate the cephalic vein which will enable the AV fistula to be cannulated for hemodialysis. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

PROCEDURE DETAILS - The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's < \_\_\_\_\_ left right \_\_\_\_\_> arm was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a skin incision in the upper region where side branches were located based on ultrasound evaluation. Dissection was carried down using electrocautery. We identified a deep lying cephalic vein in its entirety. The entire cephalic vein was mobilized and individual side branches were ligated using 3-0 silk sutures. A total of three side branches were surgically ligated. We proceeded with elevation of the cephalic vein by removing approximately 5mm layer of subcutaneous fat under the skin. A total of 7cm of cephalic vein was transposed to the subcutaneous layer of the skin. This is done be first dividing the cephalic vein proximally, and the cephalic vein was next tunneled in the subcutaneous tissue using a tunneling device. The cephalic vein was next reconnected to the brachial artery in an end-to-end fashion using a 5-0 prolene suture. Upon the completion of the anastomotic reconstruction, vascular clamps were removed and hemostasis was achieved. The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures, and skin closure was done using #4-0 Monocryl sutures. Standard gauze dressing was applied over the incision site. The patient remained hemodynamically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient will be admitted overnight for postoperative pain control.

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PL.OR - AVF (radiocephalic)

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PL.OR - AVF (radiocephalic)

REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: End-stage renal failure requiring hemodialysis

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Left radiocephalic AV fistula creation (CPT# 36821)

PROCEDURE: Right radiocephalic AV fistula creation (CPT# 36821)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease. The patient has been under the care of nephrologist Dr. \_\_\_. The patient will require a new AVF creation for hemodialysis access. The patient has been evaluated by a venous duplex ultrasound of the upper extremity and is deemed a suitable candidate for hemodialysis via an AVF. The patient also understands that it takes at least six weeks for an AVF to mature following its creation before it can be accessed for hemodialysis. The patient understands the benefit and purpose of this procedure is to create an access site for hemodialysis. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's < \_\_\_ left right \_\_\_\_\_ > arm was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a skin incision in the wrist area. Dissection was carried down using electrocautery. We identified the cephalic vein which was circumferentially isolated and encircled circumferentially with a vessel loop. We also identified the adjacent radial artery which was dissected circumferentially and encircled with a vessel loop. The cephalic vein was next divided in half and the distal segment of the vein was ligated using a 2-0 silk suture. The proximal segment of the cephalic vein was flushed with a heparinized saline solution. Next we placed proximal and distal vascular clamps in the radial artery in which a vertical arteriotomy was made using a #11 blade. The arteriotomy was next extended using a Potts scissor. The cephalic vein was then connected to the adjacent radial artery in an end-to-side fashion using a 6-0 prolene suture. Appropriate flushing was also performed at the completion of the vascular anastomosis. An end-to-side radiocephalic AV fistula was performed without difficulty. Excellent thrills were noted in the AV fistula at the completion of the anastomotic reconstruction. At the end of the AV fistula reconstruction, the patient has a good radial and ulnar flow as evidenced by strong palpable pulses. The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures, and skin closure was done using #4-0 Monocryl sutures. Standard gauze dressing was applied over the incision site. The patient remained hemodynamically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient will be discharged to home and return for follow up in two weeks.

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PL.OR - AVF ligation (L.arm)

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PL.OR - AVF ligation (L.arm)

REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. End-stage renal failures. 2. s/p renal transplant

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES: Left arm AV fistula ligation CPT# (37607)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

-------- INDICATION FOR S/P RENAL TRANSPLANT -------

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease, and the patient has been under the care of nephrologist Dr. \_\_\_. The patient has received a renal transplant and no longer requires hemodialysis. He reports that his left arm AV fistula has become painful in the past 6 months. Due to the painful symptoms of his AV fistula, the patient was therefore taken to the OR to undergo AV fistula ligation. The purpose of the procedure is to ligate the AV fistula which will reduce the AV fistula associated symptom. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

-------- INDICATION FOR ARM SWELLING -------

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease, and the patient has been under the care of nephrologist Dr. \_\_\_. The patient recently underwent an AV fistula creation, and has developed significant upper extremity swelling due to central venous obstruction. Due to the significant upper extremity swelling, the patient was therefore taken to the OR to undergo AV fistula ligation. The purpose of the procedure is to ligate the AV fistula which will reduce the upper extremity swelling symptom. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

procedure.

-------- INDICATION FOR STEAL SYNDROME -------

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease, and the patient has been under the care of nephrologist Dr. \_\_\_. The patient recently underwent an AV fistula creation, and developed significant upper extremity arterial steal syndrome. Therefore, the patient was therefore taken to the OR to undergo AV fistula ligation. The purpose of the procedure is to ligate the AV fistula which will reduce the upper extremity steal syndrome. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

-------- INDICATION FOR ACTIVE BLEEDING -------

INDICATIONS: This is a \_\_\_\_-old patient with end stage renal disease who developed active bleeding in \_\_\_\_ his/ her\_\_\_\_ dialysis access this morning. The patient has been under the care of nephrologist Dr. \_\_\_\_\_\_. The bleeding was temporarily controlled with pressure bandage. Due to severity of dialysis access hemorrhage, The patient was therefore taken to the OR to undergo AV fistula ligation. The purpose of the procedure is to control the bleeding by AV access ligation. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's < \_\_\_\_\_ right left \_\_\_\_\_\_> arm was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a skin incision in the left antecubital region. Dissection was carried down using electrocautery. We encountered the proximal segment of the brachiocephalic fistula, which was isolated and encircled using a vessel loop. Proximal and distal clamps were applied in the AV fistula, which was divided using a #11 scalpel. The proximal end and distal end of the AV fistula were individually oversewn using running 5-0 prolene sutures. Next clamps were released. Hemostasis was achieved using electrocautery. Antibiotic soaked irrigation fluid was used to irrigate the wound. The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures, and skin closure was done using #4-0 Monocryl sutures. Standard gauze dressing was applied over the incision site. The patient remained hemodynamically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient will be discharged to home and return for follow up in two weeks.

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PL.OR - AVF pseudoaneurysm repair with plication

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PL.OR - AVF pseudoaneurysm repair with plication

REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. End-stage renal failure requiring hemodialysis, 2. Left arm AV fistula pseudoaneurysm

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Open revision of left arm AV fistula with thrombectomy (CPT# 36833)

2. Repair of left arm AV fistula pseudoaneurysm with direct plication repair using bovine pericardial patch graft  (CPT# 35011)

3. Percutaneous access of right jugular vein under ultrasound guidance (CPT# 76937)

4. Placement of tunneled dialysis Permacath in the left jugular vein (CPT# 36558)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease, and the patient has been under the care of nephrologist Dr. \_\_\_. The patient developed a left arm AV fistula pseudoaneurysm which resulting in bleeding recently. Due to the concern for pseudoaneurysm rupture as well infected AV fistula pseudoaneurysm, the patient is scheduled to undergo an AV fistula revision, AV fistula pseudoaneurysm removal, and new AV graft creation. The purpose of the procedure is to remove the AV fistula pseudoaneurysm and also to create a hemodialysis access in the upper extremity so dialysis can be performed. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's < \_\_\_\_\_ right left \_\_\_\_\_\_> arm was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a longitudinal skin incision in the antecubital fossa. The incision encompassed the entire length of the AV fistula pseudoaneurysm. Dissection was carried down using electrocautery. We isolated the entire length of the AV fistula pseudoaneurysm which was 5 cm in length. The AV fistula pseudoaneurysm was controlled proximally and distally with vascular clamps. Next the AV fistula pseudoaneurysm was opened which we encountered moderate amount of thrombus. We next performed thrombectomy of the AV fistula using a #4 Fogarty balloon thrombectomy catheter. A large amount of thrombus was removed from the AV fistula. We performed partial excision of the AV fistula pseudoaneurysm by removing the aneurysmal portion of the fistula. Next we performed direct repair using a plication technique in which a bovine pericardial patch graft was used to repair the AV fistula pseudoaneurysm. A 5-0 prolene suture was used to repair the AV fistula pseudoaneurysm circumferentially using the bovine pericardial patch. Upon the completion of the anastomotic construction, clamps were released and satisfactory hemostasis was achieved in the anastomotic site. The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures, and skin closure was done using #4-0 Monocryl sutures. Standard gauze dressing was applied over the incision site.

----------- RIGHT JUGULAR VEIN PERMACATH PLACEMENT ------------

Next we turned our attention to the permacath placement. The patient's right jugular vein was prepped sterilely and then draped in a standard fashion. The patient was given local anesthesia with 10 ml of 1% of lidocaine. Using a portable ultrasound unit, the right jugular vein was visualized and accessed percutaneously. A 0.035 inch guidewire was inserted in the vein, which was followed by dilator and peel away sheath placement into the vein. Next we made an inferior lateral counter incision using a scalpel approximately 5 cm away from the venous puncture site. A double lumen tunneled dialysis Permacath was inserted subcutaneously from the counter incision site and brought out through the venous puncture site. The Permacath was introduced into the vein via the peel-away sheath. The position of the catheter was placed in the vena cava which was confirmed by fluoroscopy. A 3-0 prolene suture was used to anchor the catheter to the skin site securely. Excellent blood flow was withdrawn from the catheter lumens without difficulty. High concentration of heparin solution was used to pack the Permacath catheter.

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Appropriate dressing was applied over the incision site. The patient tolerated the procedure well without complication. The patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient will be discharged to home and follow up in my office in 2 weeks.

TREATMENT DISPOSITION - The patient will be admitted overnight for postoperative pain control.

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PL.OR - AVF pseudoaneurysm resection, AVG placement

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PL.OR - AVF pseudoaneurysm resection, AVG placement

REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. End-stage renal failure requiring hemodialysis, 2. Left arm AV fistula pseudoaneurysm

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Open revision of left arm AV fistula pseudoaneurysm with thrombectomy (CPT# 36833)

2. Excision of left arm AV fistula pseudoaneurysm (CPT# 35903)

3. Left brachioaxillary arteriovenous graft creation using bovine biological graft (CPT# 36830)

4. Percutaneous access of right jugular vein under ultrasound guidance (CPT# 76937)

5. Placement of tunneled dialysis Permacath in the right jugular vein (CPT# 36558)

4. Percutaneous access of left jugular vein under ultrasound guidance (CPT# 76937)

5. Placement of tunneled dialysis Permacath in the left jugular vein (CPT# 36558)

4. Percutaneous access of right femoral vein under ultrasound guidance (CPT# 76937)

5. Placement of tunneled dialysis Permacath in the right femoral vein (CPT# 36558)

4. Percutaneous access of left femoral vein under ultrasound guidance (CPT# 76937)

5. Placement of tunneled dialysis Permacath in the left femoral vein (CPT# 36558)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease, and the patient has been under the care of nephrologist Dr. \_\_\_. The patient developed a large 5cm x 14cm left arm AV fistula pseudoaneurysm which has become painful. Due to the concern for pseudoaneurysm rupture as well infected AV fistula pseudoaneurysm, the patient is scheduled to undergo an AV fistula revision, AV fistula pseudoaneurysm removal, and new AV graft creation. The purpose of the procedure is to remove the AV fistula pseudoaneurysm and also to create a hemodialysis access in the upper extremity so dialysis can be performed. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's < \_\_\_\_\_ right left \_\_\_\_\_\_> arm was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a longitudinal skin incision in the antecubital fossa. The incision encompassed the entire length of the AV fistula pseudoaneurysm. Dissection was carried down using electrocautery. We isolated the entire length of the AV fistula pseudoaneurysm which was 20cm in length. The AV fistula pseudoaneurysm was divided both proximally and distally. Due to the extensive thrombus burden encountered in the distal anastomosis, we performed thrombectomy of the AV fistula using a #4 Fogarty balloon thrombectomy catheter. A large amount of thrombus was removed from the AV fistula. Next the distal end of the cephalic vein was ligated. We next excised the entire segment of the AV fistula pseudoaneurysm. The proximal segment of the cephalic vein was transected and doubly ligated. We continued the dissection next and opened the brachial sheath and carefully identified which was encircled using vessel loops. Next we made a longitudinal incision in the axillary fossa. Dissection was carried down using electrocautery. We carefully opened the axillary sheath and mobilized the axillary vein. Vessel loops were used to encircle the axillary vein. Next we placed a bovine Artegraft 6mm x 50cm in size in the subcutaneous space using a tunneling device. Proximal vascular clamp and distal vascular clamp were applied in the brachial artery. A vertical arteriotomy was made using a #11 blade and extended using a Potts scissor. The graft was connected to the brachial artery in an end-to-side fashion using 5-0 prolene sutures. Upon the completion of the anastomotic construction, clamps were released and satisfactory hemostasis was achieved in the anastomotic site. Next proximal vascular clamp and distal vascular clamp were applied in the axillary vein. A vertical arteriotomy was made using a #11 blade and extended using a Potts scissor. The distal segment of the graft was connected to the axillary vein in an end-to-side fashion using a 6-0 prolene suture in a running fashion. Upon the completion of the anastomotic construction, clamps were released and satisfactory hemostasis was achieved in the anastomotic site. The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures, and skin closure was done using #4-0 Monocryl sutures. Standard gauze dressing was applied over the incision site.

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Next we turned our attention to the permacath placement. The patient’s

 <<< right vs. left neck >>>>

was prepped sterilely and then draped in a standard fashion. The patient was given local anesthesia with 10 ml of 1% of lidocaine. Using a portable ultrasound unit, the jugular vein was visualized and accessed percutaneously. A 0.035 inch guidewire was inserted in the vein, which was followed by dilator and peel away sheath placement into the vein. Next we made an inferior lateral counter incision using a scalpel approximately 5 cm away from the venous puncture site. A double lumen tunneled dialysis Permacath was inserted subcutaneously from the counter incision site and brought out through the venous puncture site. The Permacath was introduced into the vein via the peel-away sheath. The position of the catheter was placed in the vena cava which was confirmed by fluoroscopy. A 3-0 prolene suture was used to anchor the catheter to the skin site securely. Excellent blood flow was withdrawn from the catheter lumens without difficulty. High concentration of heparin solution was used to pack the Permacath catheter.

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Appropriate dressing was applied over the incision site. The patient tolerated the procedure well without complication. The patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient will be discharged to home and follow up in my office in 2 weeks.

TREATMENT DISPOSITION - The patient will be admitted overnight for postoperative pain control and hemodialysis per Dr. \_\_\_\_\_.

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PL.OR - AVF infected pseudoaneurysm resection

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PL.OR - AVF infected pseudoaneurysm resection

REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. End-stage renal failure requiring hemodialysis, 2. Left arm AV fistula pseudoaneurysm infection

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Open revision of left arm AV fistula pseudoaneurysm with thrombectomy (CPT# 36833)

2. Excision of left arm AV fistula pseudoaneurysm (CPT# 35903)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

-------- INDICATION FOR S/P RENAL TRANSPLANT -------

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease, and the patient has been under the care of nephrologist Dr. \_\_\_. The patient has received a renal transplant and no longer requires hemodialysis. He reports that his left arm AV fistula had become aneurysmal and painful in the past year. Due to the painful symptoms of his AV fistula, the patient was therefore taken to the OR to undergo AV fistula ligation and pseudoaneurysm resection. The purpose of the procedure is to resect the AV fistula pseudoaneurysm. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

-------- INDICATION FOR AVF INFECTION -------

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease, and the patient has been under the care of nephrologist Dr. \_\_\_. The patient developed a large 5cm x 14cm left arm AV fistula pseudoaneurysm which has become infected and painful. Due to the concern for pseudoaneurysm rupture as well infected AV fistula pseudoaneurysm, the patient is scheduled to undergo an AV fistula revision, and AV fistula pseudoaneurysm removal. The purpose of the procedure is to remove the AV fistula pseudoaneurysm. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's < \_\_\_\_\_ right left \_\_\_\_\_\_> arm was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a longitudinal skin incision in the antecubital fossa. The incision encompassed the entire length of the AV fistula pseudoaneurysm. Dissection was carried down using electrocautery. We isolated the entire length of the AV fistula pseudoaneurysm which was 20 cm in length. The AV fistula pseudoaneurysm was divided both proximally and distally. Due to the extensive thrombus burden encountered in the distal anastomosis, we performed thrombectomy of the AV fistula using a #4 Fogarty balloon thrombectomy catheter. A large amount of thrombus was removed from the AV fistula. We next excised the entire segment of the AV fistula pseudoaneurysm. The proximal segment of the AV fistula pseudoaneurysm was transected and doubly ligated. We continued the dissection next and opened the brachial sheath and carefully identified which was encircled using vessel loops. Next we made a longitudinal incision in the axillary fossa. Dissection was carried down using electrocautery. We carefully opened the axillary sheath and mobilized the distal segment of the AV fistula pseudoaneurysm, which was divided and ligated. The intervening segment of the AV fistula pseudoaneurysm was excised. The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures, and skin closure was done using #4-0 Monocryl sutures. Standard gauze dressing was applied over the incision site. The patient tolerated the procedure well without complication. The patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient can be discharged to home and follow up in my office in two weeks.

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PL.OR - AVF infected pseudoaneurysm resection & brachial artery bypass

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PL.OR - AVF infected pseudoaneurysm resection & brachial artery bypass

REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. End-stage renal failure requiring hemodialysis, 2. Left arm AV fistula pseudoaneurysm infection

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Open revision of left arm AV fistula pseudoaneurysm with thrombectomy (CPT# 36833)

2. Excision of left arm AV fistula pseudoaneurysm (CPT# 35903)

3. Left brachial artery bypass with bovine Artegraft (CPT# 36838)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease, and the patient has been under the care of nephrologist Dr. \_\_\_. The patient developed a large left arm AV fistula pseudoaneurysm which has become painful. Due to the concern for pseudoaneurysm rupture, the patient is scheduled to undergo an AV fistula pseudoaneurysm resection. The purpose of the procedure is to remove the AV fistula pseudoaneurysm. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's < \_\_\_\_\_ right left \_\_\_\_\_\_> arm was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a longitudinal skin incision in the antecubital fossa. The incision encompassed the entire length of the AV fistula pseudoaneurysm. Dissection was carried down using electrocautery. We isolated the entire length of the AV fistula pseudoaneurysm which was 20 cm in length. The AV fistula pseudoaneurysm was divided both proximally and distally. Due to the extensive thrombus burden encountered in the distal anastomosis, we performed thrombectomy of the AV fistula using a #4 Fogarty balloon thrombectomy catheter. A large amount of thrombus was removed from the AV fistula. We next excised the entire segment of the AV fistula pseudoaneurysm. The proximal segment of the AV fistula pseudoaneurysm was transected and doubly ligated. We continued the dissection next and opened the brachial sheath and carefully identified which was encircled using vessel loops. Next we made a longitudinal incision in the axillary fossa. Dissection was carried down using electrocautery. We carefully opened the axillary sheath and mobilized the distal segment of the AV fistula pseudoaneurysm, which was divided and ligated. The intervening segment of the AV fistula pseudoaneurysm was excised. Due to the aneurysmal degeneration of the intervening brachial artery, decision was made to excised the brachial artery aneurysm followed by brachio-brachial artery bypass. This is done by obtaining proximal and distal control of the brachial artery. Next the aneurysmal segment of the brachial artery was removed in their entirety. We placed a bovine Artegraft 6mm in diameter and connected the Artegraft to the proximal brachial artery in an end-to-end fashion using 5-0 prolene sutures. We next connected the Artegraft to the distal brachial artery in an end-to-end fashion using 5-0 prolene sutures. Upon the completion of the anastomotic construction, clamps were released, and satisfactory hemostasis was achieved in the anastomotic site The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures, and skin closure was done using #4-0 Monocryl sutures. Standard gauze dressing was applied over the incision site. The patient remained hemodynamically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition. The patient has palpable radial pulses at the completion of the procedure.

TREATMENT DISPOSITION - The patient will be discharged to home and follow up in my clinic in 2 weeks.

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PL.OR - AVG (Axillary-axillary graft - Bovine, L)

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PL.OR - AVG (Axillary-axillary graft - Bovine, L)

REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: End-stage renal failure requiring hemodialysis.

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Left axillary-axillary arteriovenous graft creation using bovine biological graft (CPT# 36830)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease, and the patient has been under the care of nephrologist Dr. \_\_\_. The patient is scheduled to undergo an AV graft creation for hemodialysis access. The purpose of the procedure is to create a hemodialysis access in the upper extremity so dialysis can be performed. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's left arm was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a longitudinal skin incision in the axillary fossa. Dissection was carried down using electrocautery. We opened the axillary sheath and carefully identified the axillary artery which was encircled using vessel loops. Next we mobilized the axillary vein. Vessel loops were used to encircle the axillary vein. Next we placed a bovine Artegraft 6mm x 50cm in size in the subcutaneous space using a tunneling device in a loop fashion in the upper arm. Proximal vascular clamp and distal vascular clamp were applied in the axillary artery. A vertical arteriotomy was made using a #11 blade and extended using a Potts scissor. The graft was connected to the axillary artery in an end-to-side fashion using 5-0 prolene sutures. Upon the completion of the anastomotic construction, clamps were released and satisfactory hemostasis was achieved in the anastomotic site. Next proximal vascular clamp and distal vascular clamp were applied in the axillary vein. A vertical arteriotomy was made using a #11 blade and extended using a Potts scissor. The distal segment of the graft was connected to the axillary vein in an end-to-side fashion using a 6-0 prolene suture in a running fashion. Upon the completion of the anastomotic construction, clamps were released and satisfactory hemostasis was achieved in the anastomotic site. The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures, and skin closure was done using #4-0 Monocryl sutures. Standard gauze dressing was applied over the incision site. The patient remained hemodynamically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient will be discharged to home and return for follow up in two weeks.

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PL.OR - AVG (Brachioaxillary graft - Bovine, L)

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PL.OR - AVG (Brachioaxillary graft - Bovine, L)

REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: End-stage renal failure requiring hemodialysis.

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Left brachioaxillary arteriovenous graft creation using bovine biological graft (CPT# 36830)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease, and the patient has been under the care of nephrologist Dr. \_\_\_. The patient is scheduled to undergo an AV graft creation for hemodialysis access. The purpose of the procedure is to create a hemodialysis access in the upper extremity so dialysis can be performed. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's left arm was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a longitudinal skin incision in the antecubital fossa. Dissection was carried down using electrocautery. We opened the brachial sheath and carefully identified the brachial artery which was encircled using vessel loops. Next we made a longitudinal incision in the axillary fossa. Dissection was carried down using electrocautery. We carefully opened the axillary sheath and mobilized the axillary vein. Vessel loops were used to encircle the axillary vein. Next we placed a bovine Artegraft 5mm x 50cm in size in the subcutaneous space using a tunneling device. Proximal vascular clamp and distal vascular clamp were applied in the brachial artery. A vertical arteriotomy was made using a #11 blade and extended using a Potts scissor. The graft was connected to the brachial artery in an end-to-side fashion using 5-0 prolene sutures. Upon the completion of the anastomotic construction, clamps were released and satisfactory hemostasis was achieved in the anastomotic site. Next proximal vascular clamp and distal vascular clamp were applied in the axillary vein. A vertical arteriotomy was made using a #11 blade and extended using a Potts scissor. The distal segment of the graft was connected to the axillary vein in an end-to-side fashion using a 6-0 prolene suture in a running fashion. Upon the completion of the anastomotic construction, clamps were released and satisfactory hemostasis was achieved in the anastomotic site. The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures, and skin closure was done using #4-0 Monocryl sutures. Standard gauze dressing was applied over the incision site. The patient remained hemodynamically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient will be discharged to home and return for follow up in two weeks.

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PL.OR - AVG (Axillary-axillary graft + Viabahn)

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PL.OR - AVG (Axillary-axillary graft + Viabahn)

REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: End-stage renal failure requiring hemodialysis.

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Left axillary-axillary arteriovenous graft creation using bovine biological graft (CPT# 36830)

2. Transcatheter stent placement of central dialysis segment (CPT# 36908)

1. Right axillary-axillary arteriovenous graft creation using bovine biological graft (CPT# 36830)

2. Transcatheter stent placement of central dialysis segment (CPT# 36908)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

----- NEW AVG INDICATION ------

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease, and the patient has been under the care of nephrologist Dr. \_\_\_. The patient is scheduled to undergo an AV graft creation for hemodialysis access. The purpose of the procedure is to create a hemodialysis access in the upper extremity so dialysis can be performed. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

----- AVG PSEUDOANEURYSM REVISION INDICATION ------

INDICATIONS: This is a \_\_ year-old patient who has been diagnosed with end stage renal disease which require hemodialysis. The patient also has been diagnosed with AV graft malfunction with pseudoaneurysm. The patient is scheduled to undergo AV graft revision with possible new AV graft creation. The purpose of the procedure is to create an upper extremity dialysis access with interposition grafting to allow long term dialysis access site. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's < \_\_\_\_\_ right left \_\_\_\_\_\_> arm was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a longitudinal skin incision in the axillary fossa. Dissection was carried down using electrocautery. We isolated the axillary artery which was controlled circumferentially using vessel loops. Next we isolated the adjacent axillary vein. Systemic IV heparin was given next. We then placed proximal and distal vascular clamps on axillary artery. An arteriotomy was made in the brachial artery using a #11 blade. A 6mm bovine carotid artery Artegraft was connected to the axillary artery in an end-to-side fashion using 5-0 prolene sutures. Next the Artegraft was tunneled in the upper am in a semi-circular fashion. Due to the pulsatile flow in the axillary vein, we suspect central venous stenosis in the subclavian vein. The axillary vein was accessed percutaneously using a Seldinger needle, which was followed by a 7F introducer sheath placement. Venography was performed in the central venous system which showed a high grade stenosis in the subclavian vein extending to the axillary vein. Decision was made to place a Viabahn stent-graft in the subclavian vein and axillary vein. We placed an 8 mm x 150 mm self expanding Viabahn nitinol stent in the axillary vein across the venous anastomosis. The proximal segment of the Viabahn stent was connected to a 6mm Artegraft. Upon the completion of the Viabahn anastomotic construction in the venous segment, clamps were released and satisfactory hemostasis was achieved in the anastomotic site satisfactorily. The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures, and skin closure was done using #4-0 Monocryl sutures. Standard gauze dressing was applied over the incision site. The patient remained hemodynamically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient will be discharged to home and return for follow up in two weeks.

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PL.OR - AVG (Brachioaxillary graft + Viabahn)

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PL.OR - AVG (Brachioaxillary graft + Viabahn)

REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: End-stage renal failure requiring hemodialysis.

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Left brachioaxillary arteriovenous graft creation using bovine biological graft (CPT# 36830)

2. Transcatheter stent placement (Viabahn Stent 8mm x 15cm) of central dialysis segment (CPT# 36908)

1. Right brachioaxillary arteriovenous graft creation using bovine biological graft (CPT# 36830)

2. Transcatheter stent placement (Viabahn Stent 8mm x 15cm) of central dialysis segment (CPT# 36908)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

----- NEW AVG INDICATION ------

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease, and the patient has been under the care of nephrologist Dr. \_\_\_. The patient is scheduled to undergo an AV graft creation for hemodialysis access. The purpose of the procedure is to create a hemodialysis access in the upper extremity so dialysis can be performed. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

----- AVG PSEUDOANEURYSM REVISION INDICATION ------

INDICATIONS: This is a \_\_ year-old patient who has been diagnosed with end stage renal disease which require hemodialysis. The patient also has been diagnosed with AV graft malfunction with pseudoaneurysm. The patient is scheduled to undergo AV graft revision with possible new AV graft creation. The purpose of the procedure is to create an upper extremity dialysis access with interposition grafting to allow long term dialysis access site. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's < \_\_\_\_\_ right left \_\_\_\_\_\_> arm was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a longitudinal skin incision in the antecubital fossa. Dissection was carried down using electrocautery. We isolated the proximal arterial segment of the brachial artery. Next we made a longitudinal incision in the axillary fossa. Dissection was carried down using electrocautery. We isolated the distal segment of the axillary vein. Proximal and distal vascular clamps were applied in the brachial artery. An arteriotomy was made in the brachial artery using a #11 blade. A 6mm bovine carotid artery Artegraft was connected to the brachial artery in an end-to-side fashion using 5-0 prolene sutures. Next the Artegraft was tunneled in the upper am in a semi-circular fashion. Due to the pulsatile flow in the axillary vein, we suspect central venous stenosis in the subclavian vein. The axillary vein was accessed percutaneously using a Seldinger needle, which was followed by a 7F introducer sheath placement. Venography was performed in the central venous system which showed a high grade stenosis in the subclavian vein extending to the axillary vein. Decision was made to place a Viabahn stent-graft in the subclavian vein and axillary vein. We placed an 8 mm x 150 mm self expanding Viabahn nitinol stent in the axillary vein across the venous anastomosis. The proximal segment of the Viabahn stent was connected to a 6mm Artegraft. Upon the completion of the Viabahn anastomotic construction in the venous segment, clamps were released and satisfactory hemostasis was achieved in the anastomotic site satisfactorily. The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures, and skin closure was done using #4-0 Monocryl sutures. Standard gauze dressing was applied over the incision site. The patient remained hemodynamically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient will be discharged to home and return for follow up in two weeks.

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PL.OR – AVG excision (infection) + wound vac

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PL.OR – AVG excision (infection) + wound vac

REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. End-stage renal failure requiring hemodialysis, 2. Left arm AV graft infection

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Excision of left arm AV graft pseudoaneurysm (CPT# 35903)

2. Wound vac placement in left arm (area of wound vac coverage: 10cm x 10cm x 5cm; CPT# 97606)

PREOPERATIVE DIAGNOSIS: 1. End-stage renal failure requiring hemodialysis, 2. Right arm AV graft infection

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Excision of right arm AV graft pseudoaneurysm (CPT# 35903)

2. Wound vac placement in right arm (area of wound vac coverage: 10cm x 10cm x 5cm; CPT# 97606)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease, and the patient has been under the care of nephrologist Dr. \_\_\_. The patient recently developed upper arm AV graft infection with sepsis, and the patient is scheduled to undergo an AV graft excision with possible wound vac placement. The purpose of the procedure is to remove the infected AV graft and remove the source of sepsis. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient’s < \_\_\_\_\_ right left \_\_\_\_\_\_> arm was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a longitudinal skin incision in the antecubital fossa. The incision encompassed the entire length of the AV graft segment. Dissection was carried down using electrocautery. We isolated the entire length of the AV graft which was 10cm in length. The AV graft was dissected free from the arterial and venous anastomosis. The graft was next excised and removed. The proximal and distal end of the vessels were oversewn using 5-0 prolene sutures. The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures. Due to the infected cavitary space in the antecubital wound, a wound vac sponge was next placed in the wound. The area of wound vac sponge coverage was 10cm by 10cm by 5cm. Next a standard wound vac dressing was placed in the right groin skin area. Continual suctioning tube was connected to the wound vac. Dressing was applied in the standard fashion. The patient remained stable and was taken to the recovery room in a stable condition. The patient suffered no complications, and I was present throughout the entire procedure.

TREATMENT DISPOSITION - The patient will return to the floor and continue with IV antibiotic therapy. We will request wound care nurse for wound vac management.

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PL.OR - AVG excision (L. femoral)

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PL.OR - AVG excision (L. femoral)

REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. End-stage renal failure requiring hemodialysis. 2. AV graft infection

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Excision of infected left femoral AV graft (CPT# 35903)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease, and the patient has been under the care of nephrologist Dr. \_\_\_. The patient recently developed AV graft infection in the left groin as evidenced by purulent fluid discharge. The patient was therefore taken to the OR to undergo excision of infected AV graft. The purpose of the procedure is to remove the infected graft. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's left groin was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a skin incision in the left femoral region. Dissection was carried down using electrocautery. We opened the femoral sheath and carefully identified the arterial and venous component of the prosthetic PTFE AV graft. The arterial component of the AV graft was clamped and divided. The proximal end of the graft was oversewn using 4-0 prolene sutures. The venous component of the AV graft was also clamped and divided. The proximal end of the graft was oversewn using 4-0 prolene sutures. The intervening portion of the graft was excised in its entirely. The wound was irrigated using antibiotic solution. The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures, and skin closure was done using #4-0 Monocryl sutures. Standard gauze dressing was applied over the incision site. The patient remained hemodynamically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient will be discharged to home and return for follow up in two weeks.

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PL.OR - AVG ligation (L.arm)

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PL.OR - AVG ligation (L.arm)

REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. End-stage renal failures. 2. Left arm swelling, 3. Subclavian vein occlusion

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Open revision of left arm AV graft with thrombectomy (CPT# 36833)

2. Left arm AV graft ligation (CPT# 37607)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease, and the patient has been under the care of nephrologist Dr. \_\_\_. The patient recently developed severe left arm swelling due to central venous occlusion. The patient is scheduled to undergo an AV graft thrombectomy with revision and possible ligation. The purpose of the procedure is to remove the AV graft thrombus and restore the AV access flow. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's left arm was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a longitudinal skin incision in the antecubital fossa. Dissection was carried down using electrocautery. We isolated the proximal arterial segment of the AV graft. A transverse incision was made in the AV graft, and we performed thrombectomy of the AV graft in the arterial segment using a #4 Fogarty balloon thrombectomy catheter. A large amount of thrombus was removed from the AV graft. Next we made a longitudinal incision in the axillary fossa. Dissection was carried down using electrocautery. We isolated the distal venous segment of the AV graft. A transverse incision was made in the AV graft, and we performed thrombectomy of the AV graft in the venous segment using a #4 Fogarty balloon thrombectomy catheter. A large amount of thrombus was removed from the venous segment of the AV graft. Vascular clamps were applied in the proximal and distal segment of the graft incision site for vascular control. The arterial incision in the AV graft was closed using a 5-0 prolene suture in a figure-of-eight fashion. Next the venous incision in the AV graft was closed using a 5-0 prolene suture in a figure-of-eight fashion. Upon the completion of the anastomotic site closure, clamps were released and satisfactory hemostasis was achieved in the anastomotic site. Due to the severity of the central venous occlusion, it is not feasible to proceed with further AV graft revision. Therefore a decision was made to ligate the AV graft to reduce the left arm swelling. The AV graft was therefore ligated using 2-0 silk suture near the arterial anastomosis. The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures, and skin closure was done using #4-0 Monocryl sutures. Standard gauze dressing was applied over the incision site. Appropriate dressing was applied over the incision site. The patient tolerated the procedure well without complication. The patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient will be discharged to home and return for follow up in two weeks.

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PL.OR - AVG pseudoaneurysm resection

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. End-stage renal failure requiring hemodialysis, 2. Left arm AV graft pseudoaneurysm

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Open revision of left arm AV graft pseudoaneurysm with thrombectomy (CPT# 36833)

2. Excision of left arm AV graft pseudoaneurysm (CPT# 35903)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease, and the patient has been under the care of nephrologist Dr. \_\_\_. The patient developed a large 5cm x 14cm left arm AV graft pseudoaneurysm which has become painful. Due to the concern for pseudoaneurysm rupture as well infected AV graft pseudoaneurysm, the patient is scheduled to undergo an AV graft revision, AV graft pseudoaneurysm removal, and new AV graft creation. The purpose of the procedure is to remove the AV graft pseudoaneurysm and also to create a hemodialysis access in the upper extremity so dialysis can be performed. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's left arm was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a longitudinal skin incision in the antecubital fossa. The incision encompassed the entire length of the AV graft pseudoaneurysm. Dissection was carried down using electrocautery. We isolated the entire length of the AV graft pseudoaneurysm which was 20cm in length. The AV graft pseudoaneurysm was divided both proximally and distally. Due to the extensive thrombus burden encountered in the distal anastomosis, we performed thrombectomy of the AV graft using a #4 Fogarty balloon thrombectomy catheter. A large amount of thrombus was removed from the AV graft. We next excised the entire segment of the AV graft pseudoaneurysm. The proximal segment of the AV graft pseudoaneurysm was transected and doubly ligated. We continued the dissection next and opened the brachial sheath and carefully identified which was encircled using vessel loops. Next we made a longitudinal incision in the axillary fossa. Dissection was carried down using electrocautery. We carefully opened the axillary sheath and mobilized the distal segment of the AV graft pseudoaneurysm, which was divided and ligated. The intervening segment of the AV graft pseudoaneurysm was excised. The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures, and skin closure was done using #4-0 Monocryl sutures. Standard gauze dressing was applied over the incision site. The patient tolerated the procedure well without complication. The patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient can be discharged to home and follow up in my office in two weeks.

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PL.OR - AVG pseudoaneurysm resection, AVG placement

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. End-stage renal failure requiring hemodialysis, 2. Left arm AV graft pseudoaneurysm

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Open revision of left arm AV graft pseudoaneurysm with thrombectomy (CPT# 36833)

2. Excision of left arm AV graft pseudoaneurysm (CPT# 35903)

3. Left brachioaxillary arteriovenous graft creation using bovine biological graft (CPT# 36830)

4. Percutaneous access of right jugular vein under ultrasound guidance (CPT# 76937)

5. Placement of tunneled dialysis Permacath in the right jugular vein (CPT# 36558)

4. Percutaneous access of left jugular vein under ultrasound guidance (CPT# 76937)

5. Placement of tunneled dialysis Permacath in the left jugular vein (CPT# 36558)

4. Percutaneous access of right femoral vein under ultrasound guidance (CPT# 76937)

5. Placement of tunneled dialysis Permacath in the right femoral vein (CPT# 36558)

4. Percutaneous access of left femoral vein under ultrasound guidance (CPT# 76937)

5. Placement of tunneled dialysis Permacath in the left femoral vein (CPT# 36558)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease, and the patient has been under the care of nephrologist Dr. \_\_\_. The patient recent developed a large

<< bleeding vs painful >>

left arm AV graft pseudoaneurysm. Due to the concern for pseudoaneurysm rupture as well infected AV graft pseudoaneurysm, the patient is scheduled to undergo an AV graft revision, AV graft pseudoaneurysm removal, and new AV graft creation. The purpose of the procedure is to remove the AV graft pseudoaneurysm and also to create a hemodialysis access in the upper extremity so dialysis can be performed. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient’s l

<< right vs left >>

arm was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a longitudinal skin incision in the antecubital fossa. The incision encompassed the entire length of the AV graft pseudoaneurysm. Dissection was carried down using electrocautery. We isolated the entire length of the AV graft pseudoaneurysm which was 20cm in length. The AV graft pseudoaneurysm was divided both proximally and distally. Due to the extensive thrombus burden encountered in the distal anastomosis, we performed thrombectomy of the AV graft using a #4 Fogarty balloon thrombectomy catheter. A large amount of thrombus was removed from the AV graft. Next the distal end of the cephalic vein was ligated. We next excised the entire segment of the AV graft pseudoaneurysm. The proximal segment of the cephalic vein was transected and doubly ligated. We continued the dissection next and opened the brachial sheath and carefully identified which was encircled using vessel loops. Next we made a longitudinal incision in the axillary fossa. Dissection was carried down using electrocautery. We carefully opened the axillary sheath and mobilized the axillary vein. Vessel loops were used to encircle the axillary vein. Next we placed a bovine Artegraft 6mm x 50cm in size in the subcutaneous space using a tunneling device. Proximal vascular clamp and distal vascular clamp were applied in the brachial artery. A vertical arteriotomy was made using a #11 blade and extended using a Potts scissor. The graft was connected to the brachial artery in an end-to-side fashion using 5-0 prolene sutures. Upon the completion of the anastomotic construction, clamps were released and satisfactory hemostasis was achieved in the anastomotic site. Next proximal vascular clamp and distal vascular clamp were applied in the axillary vein. A vertical arteriotomy was made using a #11 blade and extended using a Potts scissor. The distal segment of the graft was connected to the axillary vein in an end-to-side fashion using a 6-0 prolene suture in a running fashion. Upon the completion of the anastomotic construction, clamps were released and satisfactory hemostasis was achieved in the anastomotic site. The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures, and skin closure was done using #4-0 Monocryl sutures. Standard gauze dressing was applied over the incision site.

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Next we turned our attention to the permacath placement. The patient’s

 <<< right vs. left neck >>>>

was prepped sterilely and then draped in a standard fashion. The patient was given local anesthesia with 10 ml of 1% of lidocaine. Using a portable ultrasound unit, the jugular vein was visualized and accessed percutaneously. A 0.035 inch guidewire was inserted in the vein, which was followed by dilator and peel away sheath placement into the vein. Next we made an inferior lateral counter incision using a scalpel approximately 5 cm away from the venous puncture site. A double lumen tunneled dialysis Permacath was inserted subcutaneously from the counter incision site and brought out through the venous puncture site. The Permacath was introduced into the vein via the peel-away sheath. The position of the catheter was placed in the vena cava which was confirmed by fluoroscopy. A 3-0 prolene suture was used to anchor the catheter to the skin site securely. Excellent blood flow was withdrawn from the catheter lumens without difficulty. High concentration of heparin solution was used to pack the Permacath catheter.

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Appropriate dressing was applied over the incision site. The patient tolerated the procedure well without complication. The patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient will be discharged to home and follow up in my office in 2 weeks.

TREATMENT DISPOSITION - The patient will be admitted overnight for postoperative pain control and hemodialysis per Dr. \_\_\_\_\_.

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PL.OR – AVG thrombectomy & revision

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. End-stage renal failure requiring hemodialysis, 2. Left arm AV graft thrombosis

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Open revision of left arm AV graft with thrombectomy (CPT# 36833)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal disease, and the patient has been under the care of nephrologist Dr. \_\_\_. The patient recently developed AV graft thrombosis, and the patient is scheduled to undergo an AV graft thrombectomy with revision. The purpose of the procedure is to remove the AV graft thrombus and restore the AV access flow. I have informed the patient regarding potential risks and complications of this procedure, which include bleeding, hematoma, arterial steal syndrome, arm ischemia, infection, nerve pain, nerve injury, AV access thrombosis, pneumonia, myocardial infarction, stroke, and possible death. The overall risk of these complications is 2%. The patient verbalizes understanding and agrees with the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's left arm was prepped sterilely and draped in a standard fashion. A skin scalpel was used to make a longitudinal skin incision in the antecubital fossa. Dissection was carried down using electrocautery. We isolated the proximal arterial segment of the AV graft. A transverse incision was made in the AV graft, and we performed thrombectomy of the AV graft in the arterial segment using a #4 Fogarty balloon thrombectomy catheter. A large amount of thrombus was removed from the AV graft. Next we made a longitudinal incision in the axillary fossa. Dissection was carried down using electrocautery. We isolated the distal venous segment of the AV graft. A transverse incision was made in the AV graft, and we performed thrombectomy of the AV graft in the venous segment using a #4 Fogarty balloon thrombectomy catheter. A large amount of thrombus was removed from the venous segment of the AV graft. Vascular clamps were applied in the proximal and distal segment of the graft incision site for vascular control. The arterial incision in the AV graft was closed using a 5-0 prolene suture in a figure-of-eight fashion. Next the venous incision in the AV graft was closed using a 5-0 prolene suture in a figure-of-eight fashion. Upon the completion of the anastomotic site closure, clamps were released and satisfactory hemostasis was achieved in the anastomotic site. The wound was next irrigated, and the subcutaneous tissues were closed using #3-0 Vicryl sutures, and skin closure was done using #4-0 Monocryl sutures. Standard gauze dressing was applied over the incision site. Appropriate dressing was applied over the incision site. The patient tolerated the procedure well without complication. The patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient will be discharged to home and return to my clinic for follow up in two weeks.

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PL.OR – Axillobifemoral bypass

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: Aortic occlusion

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Axillobifemoral artery bypass using PTFE graft (CPT# 35654)

2. Right common femoral endarterectomy (CPT# 35371)

3. Left common femoral endarterectomy (CPT# 35371-XU)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 200 ml

BLOOD ADMINISTERED: None

IV FLUID: 1,300 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been experiencing < \_\_\_\_\_\_ right , left , bilateral \_\_\_\_\_> lower extremity ischemic rest pain due to severe aortoiliac occlusive disease. Due to the severe aortoiliac occlusive disease and the patient’s cardiac dysfunction, the patient was taken to the operating room to undergo an axillobifemoral artery bypass grafting procedure. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to improve his lower leg circulation by means of an axillobifemoral artery bypass. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, bypass graft occlusion, compartment syndrome, nerve injury, pneumonia, renal failure, myocardiac infarction, spinal cord paralysis, graft infection, stroke, and death. The overall incidence of these risks and complications was 2%. The patient has accepted these benefits and risks and agreed to undergo the planned bypass procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. The patient received general anesthesia induction via orotracheal intubation. The patient's axillary area and bilateral legs were prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made a right groin incision and continued the dissection using electrocautery. We identified the femoral sheath which was carefully opened. We isolated the common femoral artery, profunda femoral artery, and superficial femoral artery. Vessel loops were used to encircle these vessels. Next we made a left groin incision and continued the dissection using electrocautery. We identified the femoral sheath which was carefully opened. We isolated the common femoral artery, profunda femoral artery, and superficial femoral artery. Vessel loops were used to encircle these vessels. We next made an infraclavicular incision in the< \_\_\_\_\_ right left \_\_\_\_\_> upper chest region. Dissection was carried down using electrocautery. We carefully divided the pectoral sheath and opened the pectoral major muscle. We continued the dissection inferiorly and identified the axillary artery which was isolated using vessel loops. Systemic heparin was given intravenously for anticoagulation. We placed proximal and distal clamps in the axillary artery. A longitudinal incision was made in the axillary artery which was extended with a Potts scissor. An 8 mm PTFE graft was trimmed and connected to the axillary artery in an end-to-side fashion using 5-0 prolene sutures. Clamps were next released to ensure adequate hemostasis in the suture line. Next the PTFE graft was tunneled in the subcutaneous plane using a long tunneling device and the graft was brought out through the right femoral incision. We placed vascular clamps in the right common femoral artery, profunda femoral artery, and superficial femoral artery. A vertical arteriotomy was made using a #11 blade which was extended using a Potts scissor. We encountered a large amount of femoral artery plaque and performed femoral artery endarterectomy by removing the plaque from the common femoral artery and profunda femoral artery. An 8 mm PTFE graft was trimmed and connected to the femoral artery in an end-to-side fashion using 5-0 prolene sutures. Clamps were next released to ensure adequate hemostasis in the suture line. Next the PTFE graft was tunneled in the subcutaneous plane using a tunneling device and the graft was brought out through the left femoral incision. We then placed vascular clamps in the left common femoral artery, profunda femoral artery, and superficial femoral artery. A vertical arteriotomy was made using a #11 blade which was extended using a Potts scissor. We encountered a large amount of femoral artery plaque and performed femoral artery endarterectomy by removing the plaque from the common femoral artery and profunda femoral artery. An 8 mm PTFE graft was trimmed and connected to the femoral artery in an end-to-side fashion using 5-0 prolene sutures. Clamps were next released to ensure adequate hemostasis in the suture line. Next we placed two vascular clamp in the right PTFE graft. A vertical incision was made in the PTFE graft. We connected the distal axillary graft to the right femoro-femoral graft using 5-0 prolene sutures in an end-to-side fashion. Upon the completion of the anastomotic reconstruction, clamps were released and satisfactory hemostasis was achieved. The right femoral sheath was closed using 3-0 PDS sutures and the skin was closed using 4-0 Vicryl subcuticular sutures. The left femoral sheath was closed using 3-0 PDS sutures and the skin was closed using 4-0 Vicryl subcuticular sutures. Subcutaneous tissues were closed using 3-0 PDS sutures in the right pectoral wound, and the skin was closed using 4-0 Vicryl subcuticular sutures. The patient remained clinically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition. I was present throughout the entire operation.

TREATMENT DISPOSITION - To ICU for postoperative recovery.

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PL.OR – Axillounifemoral bypass

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: Aortic occlusion

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Right Axillofemoral artery bypass using PTFE graft (CPT# 35621)

2. Right common femoral endarterectomy (CPT# 35371)

1. Left Axillofemoral artery bypass using PTFE graft (CPT# 35621)

2. Left common femoral endarterectomy (CPT# 35371)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 200 ml

BLOOD ADMINISTERED: None

IV FLUID: 1,300 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been experiencing < \_\_\_\_\_\_ right , left , bilateral \_\_\_\_\_> lower extremity ischemic rest pain due to severe aortoiliac occlusive disease. Due to the severe aortoiliac occlusive disease and the patient’s cardiac dysfunction, the patient was taken to the operating room to undergo an axillobifemoral artery bypass grafting procedure. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to improve his lower leg circulation by means of an axillobifemoral artery bypass. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, bypass graft occlusion, compartment syndrome, nerve injury, pneumonia, renal failure, myocardiac infarction, spinal cord paralysis, graft infection, stroke, and death. The overall incidence of these risks and complications was 2%. The patient has accepted these benefits and risks and agreed to undergo the planned bypass procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. The patient received general anesthesia induction via orotracheal intubation. The patient's axillary area and bilateral legs were prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made a right groin incision and continued the dissection using electrocautery. We identified the femoral sheath which was carefully opened. We isolated the common femoral artery, profunda femoral artery, and superficial femoral artery. Vessel loops were used to encircle these vessels. We next made an infraclavicular incision in the< \_\_\_\_\_ right left \_\_\_\_\_> upper chest region. Dissection was carried down using electrocautery. We carefully divided the pectoral sheath and opened the pectoral major muscle. We continued the dissection inferiorly and identified the axillary artery which was isolated using vessel loops. Systemic heparin was given intravenously for anticoagulation. We placed proximal and distal clamps in the axillary artery. A longitudinal incision was made in the axillary artery which was extended with a Potts scissor. An 8 mm PTFE graft was trimmed and connected to the axillary artery in an end-to-side fashion using 5-0 prolene sutures. Clamps were next released to ensure adequate hemostasis in the suture line. Next the PTFE graft was tunneled in the subcutaneous plane using a long tunneling device and the graft was brought out through the right femoral incision. We placed vascular clamps in the right common femoral artery, profunda femoral artery, and superficial femoral artery. A vertical arteriotomy was made using a #11 blade which was extended using a Potts scissor. We encountered a large amount of femoral artery plaque and performed femoral artery endarterectomy by removing the plaque from the common femoral artery and profunda femoral artery. We connected the distal axillary graft to the right femoral artery in an end-to-side fashion using 5-0 prolene sutures. Upon the completion of the anastomotic reconstruction, clamps were released and satisfactory hemostasis was achieved. The right femoral sheath was closed using 3-0 PDS sutures and the skin was closed using 4-0 Vicryl subcuticular sutures. Subcutaneous tissues were closed using 3-0 PDS sutures in the right pectoral wound, and the skin was closed using 4-0 Vicryl subcuticular sutures. The patient remained clinically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition. I was present throughout the entire operation.

TREATMENT DISPOSITION - To ICU for postoperative recovery.

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PL.OR - BKA (guillotine)

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right leg ischemia, 2. Right foot gangrene

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Right leg guillotine below knee amputation (CPT# 27882)

PREOPERATIVE DIAGNOSIS: 1. Left leg ischemia, 2. Left foot gangrene

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Left leg guillotine below knee amputation (CPT# 27882)

ANESTHESIA: General anesthesia

SPECIMEN: Amputated \_\_\_ lower leg

ESTIMATED BLOOD LOSS: 20 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who recently developed lower extremity foot necrosis with gas gangrene due to arterial occlusion. Due to the severe infection with gas gangrene of the lower extremity, the patient was taken to the operation room for an urgent guillotine open below-the-knee amputation. This was necessary to the severe leg infection and significant purulent discharge. Benefits of the proposed procedure, including elimination of gangrenous foot and infectious source and elimination of cause of ischemic rest pain were discussed with the patient's family. Potential risks and complications of the proposed procedures including hematoma formation, bleeding, wound infection, myocardial infarction, stroke, pneumonia, and phantom nerve pain were also discussed with the patient's family. I've informed the patient's family that the overall risk of these complications was 2%. The patient verbalized understanding and agreed to proceed.

PROCEDURE IN DETAIL: The patient was brought to the operating room and placed on the operating room table in the supine position. General anesthesia was administered through endotracheal intubation by the anesthesiologist. The patient's < \_\_\_\_ right left \_\_\_\_ > leg was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. The right lower extremity was exsanguinated by gravity only, and tourniquet was raised to 350 mmHg. We then performed a circumferential incision approximately 15 cm below the tibial crest, down to the level of the tibia. The tibia and the fibula were isolated, stripped of the periosteum, transected with power saw. The knife was then used to complete the transection of the soft tissue. The peroneal, posterior tibial, anterior tibial neurovascular bundles were isolated and tied off. The nerves were put on stretch and transected to allow them to retract back into muscle tissue. Suture ties and straight ties were used to achieve hemostasis as well as electrocautery. Tourniquet was then taken down. Total tourniquet time was 24 minutes. Additional hemostasis was achieved with electrocautery. An Adaptic was placed over the open wound followed by Betadine-soaked gauze, sterile gauze, Kerlex and two Ace wraps. The patient tolerated the procedure well without any immediate complications. He was awakened from anesthesia and transferred back to the PACU. He left the operating room in good condition. I was present throughout the entire operation.

TREATMENT DISPOSITION – The patient will be scheduled for BKA revision in 2-3 days.

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PL.OR – BKA

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right leg ischemia, 2. Right foot gangrene

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Right below knee amputation (CPT# 27880)

PREOPERATIVE DIAGNOSIS: 1. Left leg ischemia, 2. Left foot gangrene

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Left below knee amputation (CPT# 27880)

ANESTHESIA: General anesthesia

SPECIMEN: Amputated \_\_\_ lower leg

ESTIMATED BLOOD LOSS: 20 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who recently developed lower extremity foot gangrene due to arterial occlusion. Because of the severe foot gangrene as well as significant ischemic rest pain, the patient was taken to the operating room to undergo a below-the-knee amputation procedure. Benefits of the proposed procedure, including elimination of gangrenous foot and infectious source and elimination of cause of ischemic rest pain were discussed with the patient's family. Potential risks and complications of the proposed procedures including hematoma formation, bleeding, wound infection, myocardial infarction, stroke, pneumonia, and phantom nerve pain were also discussed with the patient's family. I've informed the patient's family that the overall risk of these complications was 2%. The patient's family verbalized understanding and agreed to proceed.

PROCEDURE IN DETAIL: The patient was brought to the operating room and placed on the operating room table in the supine position. General anesthesia was administered through endotracheal intubation by the anesthesiologist. The patient's < \_\_\_\_ right left \_\_\_ > leg was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. A transverse incision made about the mid shaft of the tibial bone. A long posterior flap was created using a skin scalpel. The posterior skin flap incision was taken to the subcutaneous tissues with electrocautery. Further dissection was carried down using electrocautery to divide the underlying subcutaneous tissues, fascia, and muscle compartment. Superficial peroneal nerve was next identified, clamped, and cut. The anterior neurovascular bundle was also identified, clamped, and divided. The superficial compartment was next reflected posteriorly. Tibial nerve and tibial vessels were identified, clamped, and divided using 3-0 silk sutures. The tibial periosteum was elevated proximally along with the fibula. The tibia was then cut using an oscillating saw. It was beveled anteriorly and smoothed down with a rasp. The fibula was disarticulated from its origin. The peroneal bundle identified, clamped, and divided. The leg was then passed off of the field. Adequate bleeding from the tissues was noted, and hemostasis was obtained using electrocautery. Next gastrocnemius and soleus fascia were brought up and attached to the anterior fascia and periosteum with #1 Vicryl in an interrupted fashion. The remaining fascia was closed with #1 Vicryl. Subcutaneous tissues were then closed with 2-0 PDS sutures in interrupted fashion. Skin closed with 2-0 Nylon sutures. Xeroform gauze, 4 x 4, and a padded soft dressing were applied. A knee immobilizer was placed across the knee join. The patient was extubated and taken to recovery in stable condition. The patient tolerated the procedure well without any complications. I was present throughout the entire operation.

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PL.OR - Carotid body tumor

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: 1. Right carotid body tumor. 2. Dysphagia

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Excision of right carotid body tumor with excision of carotid artery (CPT# 60605)

PREOPERATIVE DIAGNOSIS: 1. Left carotid body tumor. 2. Dysphagia

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Excision of left carotid body tumor with excision of carotid artery (CPT# 60605)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with a large < \_\_\_ right left \_\_\_\_ > carotid body tumor which resulting in neck pain, dysphagia, and coughing symptoms. Because of the symptomatic carotid body tumor, operative treatment of carotid body tumor resection was discussed with the patient and family who agreed to proceed with the treatment plan. I've discussed with the patient regarding the benefits and risks of carotid body tumor excision. The patient is aware of the surgical excision will decompress the neck mass, improve the compressive symptoms., as well as reduce the risk of stroke. The patient is also aware of the risks of the operation which include neck hematoma, bleeding, stroke, and death. The overall risk of these risks and complications was 2%. The patient accepted these benefits and risks and has agreed to undergo the planned operation in an effort to reduce the patient's risk of stroke occurrence.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. The patient's < \_\_\_ right left \_\_\_\_ > neck was prepped sterilely and then draped in a standard fashion. The patient was given general anesthesia via orotracheal intubation by anesthesiology physician. Appropriate time out and site of surgery were identified and confirmed by all personnel in the operating room. Using an oblique incision in the neck, skin incision was made and dissection was carried down using electrocautery. We carefully opened the platysma muscle. The facial vein was next identified and divided. The jugular vein was next retracted laterally to provide exposure to the common carotid artery. We continued the dissection and isolated the common carotid artery. A large carotid body tumor was identified which encase the common carotid artery, internal carotid artery, and external carotid artery. We carefully removed the carotid body tumor from the carotid artery via subadventitial dissection using bipolar electrocautery. The carotid body tumor was dissected free from the common carotid artery and internal carotid artery. The tumor was densely adherent to the external carotid artery, and the tumor was dissected free from the internal carotid artery and the common carotid artery. Small densely adherent tumor was left in situ on the external carotid artery. A proximal and distal clamp was applied in the external carotid artery, and the vessel along with the adherent carotid body tumor was excise in its entirety. Hemostasis was achieved with electrocautery. The wound was irrigated and the platysma muscle was closed using #3-0 Vicryl and #4-0 Vicryl subcuticular sutures were used to close the skin. The patient remained neurologically stable throughout the entire operation. The patient suffered no neurologic complications, and the patient was taken to the recovery room in stable condition. I was present throughout the entire operation.

TREATMENT DISPOSITION: The patient will be admitted to ICU for postoperative monitoring.

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PL.OR - CEA

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: 1. Right high-grade carotid artery stenosis. 2. Right hemispheric stroke

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Right carotid artery endarterectomy (CPT# 35301)

PREOPERATIVE DIAGNOSIS: 1. Left high-grade carotid artery stenosis. 2. Left hemispheric stroke

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Left carotid artery endarterectomy (CPT# 35301)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with a high grade < \_\_\_ right left \_\_\_\_ > carotid artery stenosis. The findings of the carotid artery occlusive disease were also confirmed by carotid duplex ultrasound as well as CT scan. Because of the patient's high grade carotid artery occlusive disease which is associated with a stroke risk of 14% per year, operative treatment of carotid endarterectomy was discussed with the patient who agreed to proceed with the treatment plan. I've discussed with the patient regarding the benefits and risks of carotid endarterectomy. The patient is aware of the surgical benefit which will reduce patient's risk of stroke to less than 1%. The patient is also aware of the risks of the operation which include neck hematoma, bleeding, stroke, and death. The overall risk of these risks and complications was 2%. The patient accepted these benefits and risks and has agreed to undergo the planned operation in an effort to reduce the patient's risk of stroke occurrence.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. The patient's < \_\_\_ right left \_\_\_\_ > neck was prepped sterilely and then draped in a standard fashion. The patient was given general anesthesia via orotracheal intubation by anesthesiology physician. Appropriate time out and site of surgery were identified and confirmed by all personnel in the operating room. Using an oblique incision in the neck, skin incision was made and dissection was carried down using electrocautery. We carefully opened the platysma muscle. The facial vein was next identified and divided. The jugular vein was next retracted laterally to provide exposure to the common carotid artery. We continued the dissection and isolated the common carotid artery. We also isolated the external carotid artery and the internal carotid artery. Circumferential control was obtained in the internal carotid artery, external carotid artery, and the common carotid artery. Vessel loops were used to encircle these vessels. At this point, heparin was given in which we placed a vascular clamp on the common carotid artery, external carotid artery, and internal carotid artery. We proceeded with a vertical incision in the common carotid artery which was extended into the internal carotid artery. A carotid shunt was inserted in the common carotid artery and internal carotid artery. The shunt was maintained throughout the entire operation. Carotid plaque was identified in the carotid bulb which involved the common carotid artery, internal carotid artery, and external artery. The carotid plaque was removed in its entirety from the common carotid artery, external carotid artery, and internal carotid artery. Distal edge of the plaque was removed with excellent visualization. Appropriate saline flush of the carotid intima was performed to ensure all plaque materials were removed completely. The carotid plaque was removed using a vertical eversion technique. Following that, the carotid arteriotomy was closed with a bovine pericardial patch using a #6-0 prolene suture in a running fashion. Prior to completion of the carotid arteriotomy closure, appropriate flushing was performed, and clamps were removed once the arteriotomy closure was completed. The wound was irrigated, and the platysma muscle was closed using #3-0 Vicryl and #4-0 Vicryl subcuticular sutures were used to close the skin. The patient remained neurologically stable throughout the entire operation. The patient suffered no neurologic complications, and the patient was taken to the recovery room in stable condition. I was present throughout the entire operation.

TREATMENT DISPOSITION: The patient will be admitted to ICU for postoperative monitoring.

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PL.OR – Carotid exploration (s/p CEA with neck hematoma)

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: 1. Right neck hematoma, 2. Status post right carotid endarterectomy

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Right neck exploration with neck hematoma evacuation (CPT# 35800)

2. Repair of carotid artery for bleeding control with interrupted suture placement (CPT# 35201)

 PREOPERATIVE DIAGNOSIS: 1. Left neck hematoma, 2. Status post left carotid endarterectomy

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Left neck exploration with neck hematoma evacuation (CPT# 35800)

2. Repair of carotid artery for bleeding control with interrupted suture placement (CPT# 35201)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who underwent carotid endarterectomy earlier today with uneventful operative course. However, the patient developed neck hematoma postoperatively. Due to the expansion of the neck hematoma as well as concerns for airway compromise, the patient was taken back to the operating room to undergo neck exploration, hematoma evacuation, and possible repair of the carotid artery. I have discussed with the patient regarding the need for this urgent neck exploration. The patient is aware of the benefit of the treatment which is to evacuate the neck hematoma and repair potential bleeding vessel. The patient is also aware of the risks of the operation which include neck hematoma, bleeding, stroke, and death. The overall risk of these risks and complications was 2%. The patient accepted these benefits and risks and has agreed to undergo the planned operation in an effort to reduce the patient's risk of stroke occurrence.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. The patient's < \_\_\_ right left \_\_\_\_ > neck was prepped sterilely and then draped in a standard fashion. The patient was given general anesthesia via orotracheal intubation by anesthesiology physician. Appropriate time out and site of surgery were identified and confirmed by all personnel in the operating room. Using an oblique incision in the neck, skin incision was reopened with a scalpel. We reopened the fascia and entered the surgical cavity from the recent endarterectomy site. Next we evacuated approximately 30 ml of hematoma from the neck wound. Further evaluation revealed a small bleeding site along the carotid artery endarterectomy suture line. This area was repair with 5-0 prolene sutures in an interrupted fashions. Wound was next irrigated with saline fluid. The platysma muscle was closed using #3-0 Vicryl and #4-0 Vicryl subcuticular sutures were used to close the skin. The patient remained neurologically stable throughout the entire operation. The patient suffered no neurologic complications, and the patient was taken to the recovery room in stable condition. I was present throughout the entire operation.

TREATMENT DISPOSITION: The patient will be admitted to ICU for postoperative monitoring. We will keep the patient intubated this evening with sedation for blood pressure control. We will consider possible weaning the ventilatory support and extubation in the morning.

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PL.OR – Finger amputation

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right finger gangrene (middle finger and little finger). 2. Right finger ischemic pain

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Right middle finger amputation (CPT# 26951)
2. Right little finger amputation (CPT# 26951-XS)

PREOPERATIVE DIAGNOSIS: 1. Left finger gangrene (middle finger and little finger). 2. Left finger ischemic pain

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Left middle finger amputation (CPT# 26951)
2. Left little finger amputation (CPT# 26951-XS)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ -year-old patient who has been experiencing right finger gangrene with worsening of ischemic pain. The patient developed septic shock due to COVID pneumonia in 2021 during which he required mechanical ventilation for more than 4 weeks and also required a prolonged course of pressor support. As the result, he developed multiple gangrene of his bilateral fingers and feet. He recently underwent left leg below knee amputation due to foot gangrene. Due the worsening of his right finger gangrene, he is scheduled to undergo right finger amputation of the middle and little fingers.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's << right vs left >> hand was prepped sterilely and draped in a standard fashion. The area of the finger amputation was identified and marked. General anesthesia was given via orotracheal intubation by the anesthesiologist. We proceeded first with amputation of the middle finger. Using a sharp scalpel, an elliptical incision was made at the base of proximal phalanx of the middle finger. Dissection was carried down through the skin and subcutaneous tissue using electrocautery. The tendon and cartilages attaching to the proximal phalanx were carefully divided. The medial and lateral neurovascular bundle were isolated and neuroctomies were performed around the base of the proximal phalanx. The distal phalanx was removed from the metacarpal joint. The cartilage of the metacarpal was removed using a rongeur plier. Hemostasis was achieved using electrocautery. The wound was copiously irrigated. Subcutaneous tissue was closed using 3-0 PDS sutures, and skin layer was closed using 3-0 nylon sutures in an interrupted fashion. Next we turned our attention to the little finger amputation. Using a sharp scalpel, an elliptical incision was made at the base of proximal phalanx of the little finger. Dissection was carried down through the skin and subcutaneous tissue using electrocautery. The tendon and cartilages attaching to the proximal phalanx were carefully divided. The medial and lateral neurovascular bundle were isolated and neuroctomies were performed around the base of the proximal phalanx. The distal phalanx was removed from the metacarpal joint. The cartilage of the metacarpal was removed using a rongeur plier. Hemostasis was achieved using electrocautery. The wound was copiously irrigated. Subcutaneous tissue was closed using 3-0 PDS sutures, and skin layer was closed using 3-0 nylon sutures in an interrupted fashion. Dressing was applied in the standard fashion. The patient was extubated and remained hemodynamically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient will return to the floor and possibly be discharged to home tomorrow. The patient is instructed to follow up in my clinic in two weeks.

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PL.OR – Leg AV malformation/hemangioma excision

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right lower extremity arteriovenous malformation with hemangioma, 2. Right lower extremity pain

PREOPERATIVE DIAGNOSIS: 1. Left lower extremity arteriovenous malformation with hemangioma, 2. Left lower extremity pain

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE:

Excision of right lower extremity hemangioma (leg/ankle area, subfascial, intramuscular region; <5cm) (CPT# 27619)

Excision of right lower extremity hemangioma (thigh/knee area, subfascial, intramuscular region; <5cm) (CPT# 27328)

Excision of right lower extremity hemangioma (pelvis/hip area, subfascial, intramuscular region; <5cm) (CPT# 27048)

Excision of right lower extremity hemangioma (foot/toe area, subfascial, intramuscular region; <5cm) (CPT#28045)

Excision of left lower extremity hemangioma (leg/ankle area, subfascial, intramuscular region; <5cm) (CPT# 27619)

Excision of left lower extremity hemangioma (thigh/knee area, subfascial, intramuscular region; <5cm) (CPT# 27328)

Excision of left lower extremity hemangioma (pelvis/hip area, subfascial, intramuscular region; <5cm) (CPT# 27048)

Excision of left lower extremity hemangioma (foot/toe area, subfascial, intramuscular region; <5cm) (CPT#28045)

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NOTE TO PL REGARDING CPT CODE FOR SOFT TISSUE TUMOR EXCISION:

21011 Excision, tumor, soft tissue of face or scalp, subcutaneous (<2cm)

21013 Excision, tumor, soft tissue of face or scalp, subfascial (eg, subgaleal, intramuscular) (<2cm)

21555 Excision, tumor, soft tissue of neck or anterior thorax, subcutaneous (<3cm)

21556 Excision, tumor, soft tissue of neck or anterior thorax, subfascial (eg. Intramuscular) (<5cm)

21557 Radical resection of tumor (eg, sarcoma), soft tissue of neck or anterior thorax (<5cm)

21930 Excision, tumor, soft tissue of back or flank, subcutaneous (<3cm)

21932 Excision, tumor, soft tissue of back or flank, subfascial (eg. Intramuscular) (<5cm)

21935 Radical resection of tumor (eg, sarcoma), soft tissue of back or flank (<5cm)

23075 Excision, tumor, soft tissue of shoulder area, subcutaneous (<3cm)

23076 Excision, tumor, soft tissue of shoulder area, subfascial (eg. Intramuscular) (<5cm)

23077 Radical resection of tumor (eg, sarcoma), soft tissue of shoulder area (<5cm)

24075 Excision, tumor, soft tissue of upper arm or elbow area, subcutaneous (<3cm) … ($366)

24076 Excision, tumor, soft tissue of upper arm or elbow area, subfascial (eg. Intramuscular) (<5cm) … ($603)

24077 Radical resection of tumor (eg, sarcoma), soft tissue of upper arm or elbow area, (<5cm)

25075 Excision, tumor, forearm and/or wrist area; subcutaneous (<3cm) … ($352)

25076 Excision, tumor, forearm and/or wrist area; deep, subfascial (eg. Intramuscular) (<3cm) … ($578)

25077 Radical resection of tumor (eg, sarcoma), soft tissue of forearm and/or wrist area (<3cm) … ($971)

26115 Excision, tumor or vascular malformation, hand or finger; subcutaneous (<1.5cm) … ($373)

26116 Excision, tumor or vascular malformation, hand or finger; deep, subfascial, intramuscular (<1.5cm) … ($588)

26117 Radical resection of tumor (eg, malignant neoplasm), soft tissue of hand or finger (<3cm) … ($588)

27047 Excision, tumor, soft tissue of pelvis and hip area, subcutaneous (<3m) … ($399)

27048 Excision, tumor, soft tissue of pelvis and hip area, subfascial (eg. Intramuscular) (<5cm) … ($671)

27049 Radical excision of tumor (eg. sarcoma) soft tissue of pelvis and hip area (<5cm) … ($1,459)

27327 Excision, tumor, soft tissue of thigh or knee area, subcutaneous (<3cm) … ($348)

27328 Excision, tumor, soft tissue of thigh or knee area, subfascial (eg. Intramuscular) (<5cm) … ($688)

27615 Radical excision of tumor (eg. sarcoma) soft tissue of leg or ankle area (<5cm) ... ($1,125)

27618 Excision, tumor, soft tissue of leg or ankle, subcutaneous (<3cm) … ($342)

27619 Excision, tumor, soft tissue of leg or ankle area, subfascial (eg. Intramuscular) (<5cm) … ($514)

28043 Excision, tumor, soft tissue of foot or toe, subcutaneous (<1.5cm) … ($295)

28045 Excision, tumor, soft tissue of foot or toe area, subfascial (eg. Intramuscular) (<1.5cm) … ($390)

28046 Radical excision of tumor (eg. sarcoma) soft tissue of foot or toe (<3cm) … ($802)

22903 Excision of soft tissue tumor of abdominal wall … ($482)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been experiencing lower extremity pain due to an enlarging skin mass consistent with a hemangioma. Due to the painful symptom as well as lesion enlargement, the patient was therefore taken to the operating room to undergo excision of the mass. The purpose of the procedure is to remove the mass and alleviate the lower extremity swelling and pain. The patient also understands the risks and complications of this procedure which include hematoma, bleeding, and infection. The patient agrees with the planned procedure of mass excision.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position.

Appropriate time out was performed in which all nursing and surgical personnel concurred with the surgical plan. The patient's < right vs left > lower extremity was prepped sterilely and draped in a standard fashion. The area of the hemangioma located in the < pelvis vs. thigh vs. knee vs. ankle vs. foot > was identified.

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General anesthesia was given via orotracheal intubation.

The region of the hemangioma was injected with local anesthetic using 10 mL of 1% lidocaine without epinephrine solution.

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Using a sharp scalpel, an elliptical incision was made around the area of the hemangioma which was approximately 4cm by 5cm in size. The hemangioma lesion was carefully isolated using both blunt dissection and electrocautery dissection. The area of the hemangioma was isolated and excised. Areas of the bleeding vessels were oversewn using 5-0 prolene sutures in a running locking fashion. Electrocautery was used to achieve hemostasis. The lesion extended to the fascia and intramuscular layer which was removed in its entirety. Extensive undermining was required in order to close the large defect caused by the hemangioma excision. After extensive undermining, the deepest layer was closed with 3-0 PDS, the more intermediate layer was closed with 3-0 PDS, and the most superficial layer was closed with 4-0 PDS suture, followed by treatment with Dermabond dressing tape placement. The patient remained hemodynamically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition.

TREATMENT DISPOSITION - The patient will be discharged to home and return for follow up in two weeks.

 TREATMENT DISPOSITION - The patient will return to the floor and possibly be discharged to home tomorrow. The patient is instructed to follow up in my clinic in two weeks.

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PL.OR - Leg (fem. art repair + rect. muscle flap + wound vac.)

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right femoral artery pseudoaneurysm, 2. Right femoral artery infection

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Repair of right femoral artery pseudoaneurysm (CPT# 35226)

2. Right groin debridement (CPT# 11043)

3. Right groin rotational muscle flap using rectus femoris muscle (CPT# 15738)

4. Placement of right groin wound vac (area of wound vac coverage: 10cm x 10cm x 5cm; CPT# 97606)

PREOPERATIVE DIAGNOSIS: 1. Left femoral artery pseudoaneurysm, 2. Left femoral artery infection

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Repair of left femoral artery pseudoaneurysm (CPT# 35226)

2. Left groin debridement (CPT# 11043)

3. Left groin rotational muscle flap using rectus femoris muscle (CPT# 15738)

4. Placement of left groin wound vac (area of wound vac coverage: 10cm x 10cm x 5cm; CPT# 97606)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 100 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year old patient has been experiencing groin pain and swelling, and the patient has been diagnosed with a femoral artery pseudoaneurysm based on a recent CT scan. Clinical exam showed erythematous groin with skin blisters and excoriation, which were suggestive of an infected femoral artery pseudoaneurysm. The patient was taken to the OR to undergo an operative exploration and femoral artery pseudoaneurysm repair. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to repair the femoral artery aneurysm which will prevent rupture. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, artery occlusion, compartment syndrome, nerve injury, pneumonia, renal failure, myocardiac infarction, stroke, postoperative leg amputation, and death. The overall incidence of these risks and complications was 1%. The patient has accepted these benefits and risks and agreed to undergo the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Following general anesthesia induction via orotracheal intubation, the patient's < \_\_\_\_\_ right left \_\_\_\_ > leg was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made an oblique groin incision and continued the dissection using electrocautery. We encountered large amount of infected tissues involving the skin, subcutaneous tissues, and muscle. Areas of tissue necrosis involving the skin, subcutaneous tissues, and groin muscles were sharply excised using electrocautery. We next identified and isolated the common femoral, profunda femoral, and superficial femoral arteries. A large femoral pseudoaneurysm was identified and isolated. Following clamp placement of the common femoral artery, profunda femoral artery, and superficial femoral artery, we opened the femoral artery pseudoaneurysm. The femoral artery defect where the pseudoaneurysm originated was repaired using multiple 5-0 prolene sutures with interrupted fashion. Hemostasis was achieved once femoral artery repair was completed. Due to the extensive soft tissue infection and large groin cavity, we decided to perform right groin rotational muscle flap using rectus femoris muscle. A vertical incision was made in the distal thigh just above the patellar ligament. Dissection was carried down using electrocautery. We identified and isolated the ligament of the rectus femoris muscle which was attached to the patella. The ligament was next detached. The rectus femoris muscle was carefully mobilized anteriorly. The rectus femoris muscle was next rotated anteriorly and brought out in the groin wound. The muscle flap was next used to cover the femoral artery and the groin cavity. The distal thigh wound was irrigated, and fascia was closed using a 3-0 PDS suture. A wound vac sponge was next placed in the groin wound. The area of wound vac sponge coverage was 10cm by 10cm by 5cm. Next a standard wound vac dressing was placed in the right groin skin area. Continual suctioning tube was connected to the wound vac. Dressing was applied in the standard fashion. The patient remained stable and was taken to the recovery room in a stable condition. The patient suffered no complications, and I was present throughout the entire procedure.

TREATMENT DISPOSITION – We’ll request wound care nurse to see for wound vac management.

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PL.OR - Leg (infect. graft removal + fem-fem bypass + rect. femoris muscle flap)

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right femoral artery pseudoaneurysm, 2. Right femoral artery infection

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Excision of right femoral infected graft (Viabahn stent-graft, CPT# 35903)

2. Right groin debridement (CPT# 11043)

3. Right femoro-femoral artery bypass using bovine carotid artery Artegraft (CPT# 35661)

4. Right groin rotational muscle flap using rectus femoris muscle (CPT# 15738)

5. Placement of right groin wound vac (area of wound vac coverage: 10cm x 10cm x 5cm; CPT# 97606)

PREOPERATIVE DIAGNOSIS: 1. Left femoral artery pseudoaneurysm, 2. Left femoral artery infection

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Excision of left femoral infected graft (Viabahn stent-graft, CPT# 35903)

2. Left groin debridement (CPT# 11043)

3. Left femoro-femoral artery bypass using bovine carotid artery Artegraft (CPT# 35661)

4. Left groin rotational muscle flap using rectus femoris muscle (CPT# 15738)

5. Placement of left groin wound vac (area of wound vac coverage: 10cm x 10cm x 5cm; CPT# 97606)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 1000 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year old patient has been experiencing groin pain and bleeding. The patient previously has had right femoral AV graft creation which was ligated due to infection. Her clinical exam showed erythematous groin with skin blisters and excoriation, which were suggestive of an infected femoral artery graft with pseudoaneurysm. The patient was taken to the OR to undergo an operative exploration and femoral artery pseudoaneurysm repair. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to repair the femoral artery aneurysm which will prevent rupture. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, artery occlusion, compartment syndrome, nerve injury, pneumonia, renal failure, myocardiac infarction, stroke, postoperative leg amputation, and death. The overall incidence of these risks and complications was 1%. The patient has accepted these benefits and risks and agreed to undergo the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Following general anesthesia induction via orotracheal intubation, the patient's < \_\_\_\_\_ right left \_\_\_\_ > leg was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made an oblique groin incision and continued the dissection using electrocautery. We first isolated the common femoral artery which was encircled circumferentially with vessel loop. Vascular clamp was placed in the common femoral artery for proximal control. Next we continued our dissection into the pseudoaneurysm. We encountered large amount of infected tissues surrounding the pseudoaneurysm involving the skin, subcutaneous tissues, and muscle. Areas of tissue necrosis involving the skin, subcutaneous tissues, and groin muscles were sharply excised using electrocautery. We next identified and isolated the profunda femoral, and superficial femoral arteries. A large femoral pseudoaneurysm was identified and isolated. Following distal clamp placement in the superficial femoral artery and profunda femoral artery, we removed the infected femoral graft and infected Viabahn stent-graft. The infected portion of the femoral artery was removed. A femoro-femoral artery bypass was performed using a 6 mm bovine carotid artery Artegraft. This was done using a 5-0 prolene suture to create an end-to-end anastomosis in the common femoral artery encompassing the profunda femoral artery origin. The graft was next trimmed appropriately and connected to the superficial femoral artery in an end-to-end fashion. Hemostasis was achieved once femoral artery bypass was completed. Due to the extensive soft tissue infection and large groin cavity, we decided to perform right groin rotational muscle flap using rectus femoris muscle. A vertical incision was made in the distal thigh just above the patellar ligament. Dissection was carried down using electrocautery. We identified and isolated the ligament of the rectus femoris muscle which was attached to the patella. The ligament was next detached. The rectus femoris muscle was carefully mobilized anteriorly. The rectus femoris muscle was next rotated anteriorly and brought out in the groin wound. The muscle flap was next used to cover the femoral artery and the groin cavity. The distal thigh wound was irrigated, and fascia was closed using a 3-0 PDS suture.

------WOUND VAC PLACEMENT ------------------

A wound vac sponge was next placed in the groin wound. The area of wound vac sponge coverage was 10cm by 10cm by 5cm. Next a standard wound vac dressing was placed in the right groin skin area. Continual suctioning tube was connected to the wound vac.

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Dressing was applied in the standard fashion. Skin closure was achieved using nylon interrupted sutures. The patient remained stable and was taken to the recovery room in a stable condition. The patient suffered no complications, and I was present throughout the entire procedure.

(WOUND VAC PLACEMENT)

TREATMENT DISPOSITION – We will request wound care nurse to see for wound vac management.

(NO WOUND VAC PLACEMENT)

TREATMENT DISPOSITION – The patient will return to floor and continue with IV antibiotic and local wound care.

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PL.OR - Leg (fem. art. repair + hematoma evac)

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right femoral artery hematoma, 2. Right femoral artery bleeding with pseudoaneurysm

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Repair of right femoral artery pseudoaneurysm (CPT# 35226)

2. Evacuation of right groin hematoma (CPT# 27301)

PREOPERATIVE DIAGNOSIS: 1. Left femoral artery hematoma, 2. Left femoral artery bleeding with pseudoaneurysm

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Repair of left femoral artery pseudoaneurysm (CPT# 35226)

2. Evacuation of left groin hematoma (CPT# 27301)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 100 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_\_ year old patient who has been diagnosed with groin hematoma. The patient underwent CT scan which revealed evidence of femoral artery contrast extravasation with femoral artery pseudoaneurysm. The patient was taken to the OR to undergo an operative exploration and femoral artery pseudoaneurysm repair. I've discussed with the patient's family regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to repair the femoral artery aneurysm which will prevent rupture. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, artery occlusion, compartment syndrome, nerve injury, pneumonia, renal failure, myocardiac infarction, stroke, postoperative leg amputation, and death. The overall incidence of these risks and complications was 1%. The patient's family has accepted these benefits and risks and agreed to undergo the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Following general anesthesia induction via orotracheal intubation, the patient's < \_\_\_\_\_\_ right left \_\_\_\_\_ > leg was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made an oblique groin incision and continued the dissection using electrocautery. We encountered large amount of hematoma in the right medial thigh compartment, which was evacuated. We next identified and isolated the common femoral, profunda femoral, and superficial femoral arteries. A large femoral pseudoaneurysm was identified and isolated. Following clamp placement of the common femoral artery, profunda femoral artery, and superficial femoral artery, we opened the femoral artery pseudoaneurysm. The femoral artery defect where the pseudoaneurysm originated was repaired using multiple 5-0 prolene sutures with interrupted fashion. Hemostasis was achieved once femoral artery repair was completed. The thigh wound was irrigated, and fascia was closed using a 3-0 PDS suture. The skin was closed using a 4-0 monocryl suture in a subcuticular fashion. Dressing was applied in the standard fashion. The patient remained stable and was taken to the recovery room in a stable condition. The patient suffered no complications, and I was present throughout the entire procedure.

TREATMENT DISPOSITION - To ICU for postoperative care.

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PL.OR - Leg (fem. art. thrombectomy + fasciotomy)

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right femoral artery thrombosis, 2. Right leg compartment syndrome

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Right femoral artery thrombectomy using Fogarty thrombectomy balloon catheter (CPT# 34201)

2. Right lower leg calf four-compartment fasciotomy (CPT# 27602)

PREOPERATIVE DIAGNOSIS: 1. Left femoral artery thrombosis, 2. Left leg compartment syndrome

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Left femoral artery thrombectomy using Fogarty thrombectomy balloon catheter (CPT# 34201)

2. Left lower leg calf four-compartment fasciotomy (CPT# 27602)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 100 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_\_ year old patient who has been diagnosed with lower leg arterial thrombosis. The patient also developed compartment syndrome. The patient was taken to the OR to undergo an operative exploration with femoral artery thrombectomy and fasciotomy. I've discussed with the patient's family regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to remove the femoral artery thrombus which will restore the lower leg arterial circulation. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, artery occlusion, nerve injury, pneumonia, renal failure, myocardiac infarction, stroke, postoperative leg amputation, and death. The overall incidence of these risks and complications was 1%. The patient's family has accepted these benefits and risks and agreed to undergo the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Following general anesthesia induction via orotracheal intubation, the patient's < \_\_\_\_\_\_ right left \_\_\_\_\_ > leg was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made an oblique groin incision and continued the dissection using electrocautery. We isolated the femoral artery circumferentially. Next proximal vascular clamp and distal vascular clamps were applied in the femoral artery for vascular control. A transvere arteriotomy was made using #11 scalpel. A No. 3 Fogarty embolectomy balloon was inserted in the femoral artery for thromboembolectomy. We removed a large amount of thrombus from the lower leg arterial circulation. Multiple passages of the balloon was performed into the popliteal and tibial arteries for embolectomy. Once we were satisfied with the brisk back bleeding, the arteriotomy was closed using 5-0 prolene sutures. The skin and fascia were closed using PDS sutures. Next we turned our attention to the fasciotomy procedure. A longitudinal skin incision was made in the medial as well as the lateral portion of the calf. Dissection was carried down using electrocautery. We carefully opened the fascia surrounding all four calf compartment including the anterior compartment, lateral compartment, superficial posterior compartment, and deep posterior compartment. Electrocautery was used to achieve hemostasis. Next Kerlex dressing was used to wrap the fasciotomy site which was followed by Ace bandage. Dressing was applied in the standard fashion. The patient remained stable and was taken to the recovery room in a stable condition. The patient suffered no complications, and I was present throughout the entire procedure.

TREATMENT DISPOSITION - To ICU for postoperative care.

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PL.OR - Leg (iliac art. Repair intraop injury)

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right iliac artery injury with intraoperative bleeding. 2. Ovarian cancer

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES: Repair of right iliac artery injury with primary repair (CPT# 35226)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 100 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_\_ year old patient who has been diagnosed with a large pelvic mass due to ovarian mass. The patient underwent exploratory laparotomy with tumor resection by Dr. Alan Schlaerth. During the tumor resection procedure, significant intraoperative bleeding was encountered due to right iliac artery injury. I was asked to participate in the operation urgently to repair the right iliac artery injury.

PROCEDURE IN DETAIL: The patient’s abdomen was already opened in exploratory laparotomy. The pelvic tumor has already been resected by Dr. Alan Schlaerth. Further inspection of the pelvic revealed a 3mm injury in the right common iliac artery. Proximal and distal clamps were applied in the right common iliac artery. The injured segment of the iliac artery was repaired primarily using 5-0 prolene suture in a figure-of-eight fashion. Hemostasis was achieved once the iliac artery repair was completed. Clamps were next removed and the lower leg arterial circulation was restored. At this point, Dr. Schlaerth continued with the remainder portion of the tumor resection operation. The patient remained stable throughout the procedure. She was taken to the ICU at the completion of the procedure.

TREATMENT DISPOSITION - To ICU for postoperative care.

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PL.OR - Leg (peroneal nerve decompression)

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: Garfield Medical Center (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: < \_\_\_\_ Right Left \_\_\_\_ > peroneal nerve entrapment syndrome

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: < \_\_\_\_ Right Left \_\_\_\_ > Peroneal nerve decompression with neurolysis and neuroplasty (CPT# 64708)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year old patient who has been diagnosed with peroneal nerve entrapment syndrome of the lower extremity with symptoms including leg pain and sensory deficit along the dorsum of the foot. The patient was taken to the OR to undergo an operative decompression of the peroneal nerve. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to release the peroneal nerve and decompress the entrapped peroneal nerve. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, nerve injury, and leg pain. The overall incidence of these risks and complications was 1%. The patient has accepted these benefits and risks and agreed to undergo the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Following general anesthesia induction via orotracheal intubation, the patient's <\_\_\_\_\_\_ right left \_\_\_\_\_\_ > leg was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made a 3 cm skin incision along the lateral portion of the fibular head. Dissection was carried down using electrocautery. Subcutaneous fat and tissues were carefully dissected away using blunt dissection. The deep peroneal fascia was identified and carefully opened. This exposed the common peroneal nerve underneath the fascia. Next using finger dissection, the space beneath the peroneal longus muscle was carefully opened. The common peroneal nerve travels underneath the peroneal longus muscle was released. We next performed a fasciotomy of the superficial fascia of the muscle belly, and then retracted the muscle anteriorly and medially. Next we performed neurolysis of the nerve distally. The entrapped nerve was completely decompressed. Subcutaneous tissues were closed using 3-0 PDS sutures. The skin was closed using a 4-0 monocryl suture in a subcuticular fashion. Dermabond was applied over the incision site in the usual fashion. Dressing was applied in the standard fashion. The patient remained stable and was taken to the recovery room in a stable condition. The patient suffered no complications, and I was present throughout the entire procedure.

TREATMENT DISPOSITION - The patient will be discharged to home and return for follow up in my office in 2 weeks.

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PL.OR - Leg bypass (fem-AK-pop)

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: 1. Right leg ischemia, 2. Right foot gangrene, 3. Right femoral artery occlusion

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Right femoral artery to above-knee popliteal artery bypass using < \_\_\_\_ GORE PTFE prosthetic graft | bovine carotid artery graft (Artegraft) \_\_\_ > (CPT# 35656)

2. Right common femoral artery endarterectomy (CPT# 35371)

PREOPERATIVE DIAGNOSIS: 1. Left leg ischemia, 2. Left foot gangrene, 3. Left femoral artery occlusion

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Left femoral artery to above-knee popliteal artery bypass using < \_\_\_\_ GORE PTFE prosthetic graft | bovine carotid artery graft (Artegraft) \_\_\_ > (CPT# 35656)

2. Left common femoral artery endarterectomy (CPT# 35371)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 50 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year old patient who has been experiencing lower extremity arterial ischemia with symptoms including toe gangrene and ischemic rest pain. The patient was scheduled to undergo a leg bypass operation to improve the leg arterial circulation. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to improve the lower leg arterial circulation. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, bypass graft occlusion, compartment syndrome, nerve injury, pneumonia, renal failure, myocardiac infarction, stroke, postoperative leg amputation, and death. The overall incidence of these risks and complications was 1%. The patient has accepted these benefits and risks and agreed to undergo the planned lower leg bypass procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Following general anesthesia induction via orotracheal intubation, the patient's < \_\_\_\_ right left \_\_\_\_ > leg was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made a groin incision and continued the dissection using electrocautery. We identified and isolated the common femoral, profunda femoral, and superficial femoral arteries. A distal incision was made in the distal thigh portion of the popliteal fossa just above the knee. Dissection was carried down using electrocautery. We open the popliteal compartment fascia and isolated the popliteal artery. The popliteal artery was controlled circumferentially using vessel loops. Next systemic heparin was next given intravenously. Vascular clamps were next placed in the proximal and distal segments of the common femoral artery. An arteriotomy was opened in the femoral artery using a #11 blade, which was extended using a Potts scissor. We encountered a circumferential common femoral artery plaque which was removed for common femoral artery endarterectomy. Once the common femoral artery endarterectomy was completed, a 6 mm

< \_\_\_\_ GORE PTFE prosthetic graft | bovine carotid artery graft (Artegraft) \_\_\_ >

was next connected to the femoral artery in an end-to-side fashion using a 5-0 Prolene sutures. Next the bypass graft was tunneled in a subfascial space and brought out in the distal incision site where popliteal artery was exposed above the knee. The popliteal artery was next controlled with both proximal and distal vascular clamps. An arteriotomy was next opened in the artery using #11 blade. Next the distal end of the bypass graft was connected to the popliteal artery in an end-to-side fashion using a 6-0 prolene suture. Upon the completion of the end-to-side anastomotic reconstruction, the clamps were released, and excellent blood flow was noted in the femoro-popliteal artery bypass graft. The wound was irrigated, and fascia was closed using a 3-0 PDS suture. The skin was closed using a 4-0 monocryl suture in a subcuticular fashion. Dermabond was applied over the incision site in the usual fashion. The patient tolerated the procedure well without any complication. I was present throughout the entire operation.

TREATMENT DISPOSITION - The patient will be admitted to ICU for postoperative care. The patient may undergo podiatric debridement vs. amputation procedure per podiatric surgeon Dr. \_\_\_\_\_.

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PL.OR - Leg bypass (fem-AT)

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: 1. Right leg ischemia, 2. Right femoral artery occlusion, 3. Right toe gangrene

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Right common femoral artery to anterior tibial artery bypass using < \_\_\_\_\_\_ GORE PTFE prosthetic graft | bovine carotid artery graft (Artegraft) \_\_\_\_\_\_ > (CPT# 35666)

2. Right common femoral artery endarterectomy (CPT# 35371)

3. Creation of distal anastomotic vein patch using bovine pericardial patch (CPT# 35685)

PREOPERATIVE DIAGNOSIS: 1. Left leg ischemia, 2. Left femoral artery occlusion, 3. Left toe gangrene

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Left common femoral artery to anterior tibial artery bypass using < \_\_\_\_\_\_ GORE PTFE prosthetic graft | bovine carotid artery graft (Artegraft) \_\_\_\_\_\_ > (CPT# 35666)

2. Left common femoral artery endarterectomy (CPT# 35371)

3. Creation of distal anastomotic vein patch using bovine pericardial patch (CPT# 35685)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 100 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year old patient who has been experiencing lower extremity arterial ischemia with symptoms including toe gangrene and ischemic rest pain. The patient was scheduled to undergo a leg bypass operation to improve the leg arterial circulation. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to improve the lower leg arterial circulation. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, bypass graft occlusion, compartment syndrome, nerve injury, pneumonia, renal failure, myocardiac infarction, stroke, postoperative leg amputation, and death. The overall incidence of these risks and complications was 1%. The patient has accepted these benefits and risks and agreed to undergo the planned lower leg bypass procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Following general anesthesia induction via orotracheal intubation, the patient's < \_\_\_\_ right left \_\_\_\_ > leg was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made a right groin incision and continued the dissection using electrocautery. We identified and isolated the common femoral, profunda femoral, and superficial femoral arteries. A distal incision was made in the mid portion of the lateral calf. Dissection was carried down using electrocautery. We opened the anterior tibial compartment fascia and isolated the anterior tibial artery in its proximal segment. Vessel loops were used to isolate the anterior tibial artery. Next systemic heparin was next given intravenously. Vascular clamps were next placed in the proximal and distal segments of the common femoral artery. An arteriotomy was opened in the femoral artery using a #11 blade, which was extended using a Potts scissor. We encountered a circumferential common femoral artery plaque which was removed for common femoral artery endarterectomy. Once the common femoral artery endarterectomy was completed, a 6 mm

< \_\_\_\_\_\_ GORE PTFE prosthetic graft | bovine carotid artery graft (Artegraft) \_\_\_\_\_\_ >

was next connected to the femoral artery in an end-to-side fashion using a 5-0 Prolene sutures. Next the prosthetic graft was tunneled in a subfascial space and brought out in the distal incision site where anterior tibial artery was exposed. The anterior tibial artery was next controlled with a sterile tourniquet. An arteriotomy was next opened in the anterior tibial artery using #11 blade. We created a vein patch in the distal anastomosis using a bovine pericardial patch which was connected to the anterior tibial artery using 6-0 prolene suture. Next the distal end of the bypass graft was connected to the anterior tibial artery in an end-to-side fashion using a 6-0 prolene suture. Upon the completion of the end-to-side anastomotic reconstruction, the tourniquet was released, and excellent blood flow was noted in the femoro-anterior tibial artery bypass graft. The wound was irrigated, and fascia was closed using a 3-0 PDS suture. The skin was closed using a 4-0 monocryl suture in a subcuticular fashion. Dermabond was applied over the incision site in the usual fashion. The patient tolerated the procedure well without any complication. I was present throughout the entire operation.

TREATMENT DISPOSITION - The patient will be admitted to ICU for postoperative care. The patient may undergo podiatric debridement vs. amputation procedure per podiatric surgeon Dr. \_\_\_\_\_.

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PL.OR - Leg bypass (fem-BK-pop)

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: 1. Right leg ischemia, 2. Right foot gangrene, 3. Right femoral artery occlusion

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Right femoral artery to below -knee popliteal artery bypass using < \_\_\_\_ GORE PTFE prosthetic graft | bovine carotid artery graft (Artegraft) \_\_\_ > (CPT# 35656)

2. Right common femoral artery endarterectomy (CPT# 35371)

PREOPERATIVE DIAGNOSIS: 1. Left leg ischemia, 2. Left foot gangrene, 3. Left femoral artery occlusion

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Left femoral artery to below -knee popliteal artery bypass using < \_\_\_\_ GORE PTFE prosthetic graft | bovine carotid artery graft (Artegraft) \_\_\_ > (CPT# 35656)

2. Left common femoral artery endarterectomy (CPT# 35371)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 50 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year old patient who has been experiencing lower extremity arterial ischemia with symptoms including toe gangrene and ischemic rest pain. The patient was scheduled to undergo a leg bypass operation to improve the leg arterial circulation. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to improve the lower leg arterial circulation. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, bypass graft occlusion, compartment syndrome, nerve injury, pneumonia, renal failure, myocardiac infarction, stroke, postoperative leg amputation, and death. The overall incidence of these risks and complications was 1%. The patient has accepted these benefits and risks and agreed to undergo the planned lower leg bypass procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Following general anesthesia induction via orotracheal intubation, the patient's < \_\_\_\_ right left \_\_\_\_ > leg was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made a groin incision and continued the dissection using electrocautery. We identified and isolated the common femoral, profunda femoral, and superficial femoral arteries. A distal incision was made in the mid portion of the popliteal fossa just below the knee. Dissection was carried down using electrocautery. We open the popliteal compartment fascia and isolated the popliteal artery. The popliteal artery was controlled circumferentially using vessel loops. Next systemic heparin was next given intravenously. Vascular clamps were next placed in the proximal and distal segments of the common femoral artery. An arteriotomy was opened in the femoral artery using a #11 blade, which was extended using a Potts scissor. We encountered a circumferential common femoral artery plaque which was removed for common femoral artery endarterectomy. Once the common femoral artery endarterectomy was completed, a 6 mm

< \_\_\_\_ GORE PTFE prosthetic graft | bovine carotid artery graft (Artegraft) \_\_\_ >

was next connected to the femoral artery in an end-to-side fashion using a 5-0 Prolene sutures. Next the bypass graft was tunneled in a subfascial space and brought out in the distal incision site where popliteal artery was exposed below the knee. The popliteal artery was next controlled with both proximal and distal vascular clamps. An arteriotomy was next opened in the artery using #11 blade. Next the distal end of the bypass graft was connected to the popliteal artery in an end-to-side fashion using a 6-0 prolene suture. Upon the completion of the end-to-side anastomotic reconstruction, the clamps were released and excellent blood flow was noted in the femoro-popliteal artery bypass graft. The wound was irrigated, and fascia was closed using a 3-0 PDS suture. The skin was closed using a 4-0 monocryl suture in a subcuticular fashion. Dermabond was applied over the incision site in the usual fashion. The patient tolerated the procedure well without any complication. I was present throughout the entire operation.

TREATMENT DISPOSITION - The patient will be admitted to ICU for postoperative care. The patient may undergo podiatric debridement vs. amputation procedure per podiatric surgeon Dr. \_\_\_\_\_.

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PL.OR – Leg bypass (fem-fem)

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: Aortic occlusion

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Femoro-femoral artery bypass (right-to-left) using PTFE graft (CPT# 35661)

1. Femoro-femoral artery bypass (left-to-right) using PTFE graft (CPT# 35661)

2. Right common femoral endarterectomy (CPT# 35371)

3. Left common femoral endarterectomy (CPT# 35371-XU)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 200 ml

BLOOD ADMINISTERED: None

IV FLUID: 1,300 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been experiencing < \_\_\_\_\_\_ right , left \_\_\_\_> lower extremity ischemic rest pain due to severe aortoiliac occlusive disease. Due to the severe aortoiliac occlusive disease and the patient’s cardiac dysfunction, the patient was taken to the operating room to undergo a << right to left , left to right > > femorofemoral artery bypass grafting procedure. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to improve his lower leg circulation by means of an axillobifemoral artery bypass. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, bypass graft occlusion, compartment syndrome, nerve injury, pneumonia, renal failure, myocardiac infarction, spinal cord paralysis, graft infection, stroke, and death. The overall incidence of these risks and complications was 2%. The patient has accepted these benefits and risks and agreed to undergo the planned bypass procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. The patient received general anesthesia induction via orotracheal intubation. The patient's bilateral legs were prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made a right groin incision and continued the dissection using electrocautery. We identified the femoral sheath which was carefully opened. We isolated the common femoral artery, profunda femoral artery, and superficial femoral artery. Vessel loops were used to encircle these vessels. Next we made a left groin incision and continued the dissection using electrocautery. We identified the femoral sheath which was carefully opened. We isolated the common femoral artery, profunda femoral artery, and superficial femoral artery. Vessel loops were used to encircle these vessels. We placed vascular clamps in the right common femoral artery, profunda femoral artery, and superficial femoral artery. A vertical arteriotomy was made using a #11 blade which was extended using a Potts scissor. We encountered a large amount of femoral artery plaque and performed femoral artery endarterectomy by removing the plaque from the common femoral artery and profunda femoral artery. An 8 mm PTFE graft was trimmed and connected to the femoral artery in an end-to-side fashion using 5-0 prolene sutures. Clamps were next released to ensure adequate hemostasis in the suture line. Next the PTFE graft was tunneled in the subcutaneous plane using a tunneling device and the graft was brought out through the left femoral incision. We then placed vascular clamps in the left common femoral artery, profunda femoral artery, and superficial femoral artery. A vertical arteriotomy was made using a #11 blade which was extended using a Potts scissor. We encountered a large amount of femoral artery plaque and performed femoral artery endarterectomy by removing the plaque from the common femoral artery and profunda femoral artery. An 8 mm PTFE graft was trimmed and connected to the femoral artery in an end-to-side fashion using 5-0 prolene sutures. Clamps were next released to ensure adequate hemostasis in the suture line. The right femoral sheath was closed using 3-0 PDS sutures and the skin was closed using 4-0 Vicryl subcuticular sutures. The left femoral sheath was closed using 3-0 PDS sutures and the skin was closed using 4-0 Vicryl subcuticular sutures. Subcutaneous tissues were closed using 3-0 PDS sutures in the right pectoral wound, and the skin was closed using 4-0 Vicryl subcuticular sutures. The patient remained clinically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition. I was present throughout the entire operation.

TREATMENT DISPOSITION - The patient will be admitted to ICU for postoperative monitoring.

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PL.OR - Leg bypass (fem-peroneal)

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: 1. Right leg ischemia, 2. Right femoral artery occlusion, 3. Right toe gangrene

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Right common femoral artery to peroneal artery bypass using 6mm < \_\_\_\_ GORE PTFE prosthetic graft | bovine carotid artery graft (Artegraft) \_\_\_ > (CPT# 35666)

2. Right common femoral artery endarterectomy (CPT# 35371)

3. Creation of distal anastomotic vein patch using bovine pericardial patch (CPT# 35685)

4. Partial resection of fibula bone (CPT# 27641)

PREOPERATIVE DIAGNOSIS: 1. Left leg ischemia, 2. Left femoral artery occlusion, 3. Left toe gangrene

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Left common femoral artery to peroneal artery bypass using 6mm < \_\_\_\_ GORE PTFE prosthetic graft | bovine carotid artery graft (Artegraft) \_\_\_ > (CPT# 35666)

2. Right common femoral artery endarterectomy (CPT# 35371)

3. Creation of distal anastomotic vein patch using bovine pericardial patch (CPT# 35685)

4. Partial resection of fibula bone (CPT# 27641)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 100 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year old patient who has been experiencing lower extremity arterial ischemia with symptoms including toe gangrene and ischemic rest pain. The patient was scheduled to undergo a leg bypass operation to improve the leg arterial circulation. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to improve the lower leg arterial circulation. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, bypass graft occlusion, compartment syndrome, nerve injury, pneumonia, renal failure, myocardiac infarction, stroke, postoperative leg amputation, and death. The overall incidence of these risks and complications was 1%. The patient has accepted these benefits and risks and agreed to undergo the planned lower leg bypass procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Following general anesthesia induction via orotracheal intubation, the patient's < \_\_\_\_ right left \_\_\_\_ > leg was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made a right groin incision and continued the dissection using electrocautery. We identified and isolated the common femoral, profunda femoral, and superficial femoral arteries. A distal incision was made in the mid portion of the lateral calf. Dissection was carried down using electrocautery. We open the lateral calf compartment fascia and isolated the fibula bone. Using a bone cutter, we removed 10 cm of the fibula in the middle section of the bone which enabled a direct exposure toot the peroneal artery. We continued the dissection medially and identified the peroneal artery. Vessel loops were used to isolate the peroneal artery. Next systemic heparin was next given intravenously. Vascular clamps were next placed in the proximal and distal segments of the common femoral artery. An arteriotomy was opened in the femoral artery using a #11 blade, which was extended using a Potts scissor. We encountered a circumferential common femoral artery plaque which was removed for common femoral artery endarterectomy. Once the common femoral artery endarterectomy was completed, a 6 mm

< \_\_\_\_\_\_ GORE PTFE prosthetic graft | bovine carotid artery graft (Artegraft) \_\_\_\_\_\_ >

was next connected to the femoral artery in an end-to-side fashion using a 5-0 Prolene sutures. Next the bypass graft was tunneled in a subfascial space and brought out in the distal incision site where peroneal artery was exposed. The peroneal artery was next controlled with a sterile tourniquet. An arteriotomy was next opened in the peroneal artery using #11 blade. We created a vein patch in the distal anastomosis using a bovine pericardial patch which was connected to the peroneal artery using 6-0 prolene suture. Next the distal end of the bypass graft was connected to the peroneal artery in an end-to-side fashion using a 6-0 prolene suture. Upon the completion of the end-to-side anastomotic reconstruction, the tourniquet was released and excellent blood flow was noted in the femoro-peroneal artery bypass graft. The wound was irrigated, and fascia was closed using a 3-0 PDS suture. The skin was closed using a 4-0 monocryl suture in a subcuticular fashion. Dermabond was applied over the incision site in the usual fashion. The patient tolerated the procedure well without any complication. I was present throughout the entire operation.

TREATMENT DISPOSITION - The patient will be admitted to ICU for postoperative care. The patient may undergo podiatric debridement vs. amputation procedure per podiatric surgeon Dr. \_\_\_\_\_.

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PL.OR - Leg bypass (fem-PT in-situ bypass)

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: 1. Right leg ischemia, 2. Right femoral artery occlusion, 3. Right toe gangrene

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Right common femoral artery to posterior tibial artery with in-situ saphenous vein graft bypass (CPT# 35585)

2. Right common femoral artery endarterectomy (CPT# 35371)

PREOPERATIVE DIAGNOSIS: 1. Left leg ischemia, 2. Left femoral artery occlusion, 3. Left toe gangrene

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Left common femoral artery to posterior tibial artery with in-situ saphenous vein graft bypass (CPT# 35585)

2. Left common femoral artery endarterectomy (CPT# 35371)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 100 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_\_ year old patient who has been experiencing lower extremity arterial ischemia with symptoms including toe gangrene and ischemic rest pain. The patient developed wound necrosis due to severe femoral artery occlusive disease. The patient was scheduled to undergo a leg bypass operation to improve the leg arterial circulation. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to improve the lower leg arterial circulation. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, bypass graft occlusion, compartment syndrome, nerve injury, pneumonia, renal failure, myocardiac infarction, stroke, postoperative leg amputation, and death. The overall incidence of these risks and complications was 1%. The patient has accepted these benefits and risks and agreed to undergo the planned lower leg bypass procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Following general anesthesia induction via orotracheal intubation, the patient’s << \_\_\_\_\_ right vs left \_\_\_\_\_ >> leg was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made a right groin incision and continued the dissection using electrocautery. We identified and isolated the common femoral, profunda femoral, and superficial femoral arteries. A distal incision was made in the mid portion of the medial calf. Dissection was carried down using electrocautery. We opened the posterior tibial compartment fascia and isolated the posterior tibial artery in its proximal segment. Vessel loops were used to isolate the posterior tibial artery. Next we dissected and isolated the saphenous vein graft near the saphenofemoral junction. The saphenous vein graft was divided in half at the saphenofemoral junction. Next systemic heparin was next given intravenously. Vascular clamps were next placed in the proximal and distal segments of the common femoral artery. An arteriotomy was opened in the femoral artery using a #11 blade, which was extended using a Potts scissor. We encountered a circumferential common femoral artery plaque which was removed for common femoral artery endarterectomy. Once the common femoral artery endarterectomy was completed, the saphenous vein graft was connected to the common femoral artery in an end-to-side fashion to create an in-situ bypass graft. Next we divided the distal saphenous vein graft near the ankle region. A LeMaitre valvulotome device was inserted in the saphenous vein graft in a retrograde fashion whereby all the venous valves were opened. Pulsatile arterial flow was noted in the saphenous vein graft. The posterior tibial artery was next controlled with a sterile tourniquet. An arteriotomy was next opened in the posterior tibial artery using #11 blade. The saphenous vein graft was connected to the posterior tibial artery in an end-to-side fashion using a 7-0 prolene suture. Upon the completion of the end-to-side anastomotic reconstruction, the tourniquet was released and excellent blood flow was noted in the femoro-posterior tibial artery bypass graft. The wound was irrigated, and fascia was closed using a 3-0 PDS suture. The skin was closed using a 4-0 monocryl suture in a subcuticular fashion. Dermabond was applied over the incision site in the usual fashion. The patient tolerated the procedure well without any complication. He was taken to the recovery room in a stable condition. I was present throughout the entire operation.

TREATMENT DISPOSITION - The patient will be admitted to ICU for postoperative care.

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PL.OR - Leg bypass (fem-PT Artegraft bypass)

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: 1. Right leg ischemia, 2. Right femoral artery occlusion, 3. Right toe gangrene

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Right common femoral artery to posterior tibial artery bypass using < \_\_\_\_\_\_ GORE PTFE prosthetic graft | bovine carotid artery graft (Artegraft) \_\_\_\_\_\_ > (CPT# 35666)

2. Right common femoral artery endarterectomy (CPT# 35371)

3. Creation of distal anastomotic vein patch using bovine pericardial patch (CPT# 35685)

PREOPERATIVE DIAGNOSIS: 1. Left leg ischemia, 2. Left femoral artery occlusion, 3. Left toe gangrene

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Left common femoral artery to posterior tibial artery bypass using < \_\_\_\_\_\_ GORE PTFE prosthetic graft | bovine carotid artery graft (Artegraft) \_\_\_\_\_\_ > (CPT# 35666)

2. Left common femoral artery endarterectomy (CPT# 35371)

3. Creation of distal anastomotic vein patch using bovine pericardial patch (CPT# 35685)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 100 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year old patient who has been experiencing lower extremity arterial ischemia with symptoms including toe gangrene and ischemic rest pain. The patient was scheduled to undergo a leg bypass operation to improve the leg arterial circulation. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to improve the lower leg arterial circulation. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, bypass graft occlusion, compartment syndrome, nerve injury, pneumonia, renal failure, myocardiac infarction, stroke, postoperative leg amputation, and death. The overall incidence of these risks and complications was 1%. The patient has accepted these benefits and risks and agreed to undergo the planned lower leg bypass procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Following general anesthesia induction via orotracheal intubation, the patient's < \_\_\_\_ right left \_\_\_\_ > leg was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made a right groin incision and continued the dissection using electrocautery. We identified and isolated the common femoral, profunda femoral, and superficial femoral arteries. A distal incision was made in the mid portion of the medial calf. Dissection was carried down using electrocautery. We opened the posterior tibial compartment fascia and isolated the posterior tibial artery in its proximal segment. Vessel loops were used to isolate the peroneal artery. Next systemic heparin was next given intravenously. Vascular clamps were next placed in the proximal and distal segments of the common femoral artery. An arteriotomy was opened in the femoral artery using a #11 blade, which was extended using a Potts scissor. We encountered a circumferential common femoral artery plaque which was removed for common femoral artery endarterectomy. Once the common femoral artery endarterectomy was completed, a 6 mm

< \_\_\_\_\_\_ GORE PTFE prosthetic graft | bovine carotid artery graft (Artegraft) \_\_\_\_\_\_ >

was next connected to the femoral artery in an end-to-side fashion using a 5-0 Prolene sutures. Next the prosthetic graft was tunneled in a subfascial space and brought out in the distal incision site where posterior tibial artery was exposed. The posterior tibial artery was next controlled with a sterile tourniquet. An arteriotomy was next opened in the posterior tibial artery using #11 blade. We created a vein patch in the distal anastomosis using a bovine pericardial patch which was connected to the posterior tibial artery using 6-0 prolene suture. Next the distal end of the bypass graft was connected to the posterior tibial artery in an end-to-side fashion using a 6-0 prolene suture. Upon the completion of the end-to-side anastomotic reconstruction, the tourniquet was released and excellent blood flow was noted in the femoro-posterior tibial artery bypass graft. The wound was irrigated, and fascia was closed using a 3-0 PDS suture. The skin was closed using a 4-0 monocryl suture in a subcuticular fashion. Dermabond was applied over the incision site in the usual fashion. The patient tolerated the procedure well without any complication. I was present throughout the entire operation.

TREATMENT DISPOSITION - The patient will be admitted to ICU for postoperative care. The patient may undergo podiatric debridement vs. amputation procedure per podiatric surgeon Dr. \_\_\_\_\_.

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PL.OR – Leg bypass (ilio-fem)

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: 1. Right iliac artery occlusion. 2. Right leg ischemic rest pain

PREOPERATIVE DIAGNOSIS: 1. Left iliac artery occlusion. 2. Left leg ischemic rest pain

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Ilio-femoral artery bypass (right-to-left) using PTFE graft (CPT# 35665)

1. Ilio-femoral artery bypass (left-to-right) using PTFE graft (CPT# 35665)

2. Right common femoral endarterectomy (CPT# 35371)

3. Left common femoral endarterectomy (CPT# 35371-XU)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 200 ml

BLOOD ADMINISTERED: None

IV FLUID: 1,300 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been experiencing < \_\_\_\_\_\_ right , left \_\_\_\_> lower extremity ischemic rest pain due to severe aortoiliac occlusive disease. Due to the severe aortoiliac occlusive disease and the patient’s cardiac dysfunction, the patient was taken to the operating room to undergo a << right to left , left to right > > iliofemoral artery bypass grafting procedure. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to improve his lower leg circulation by means of an axillobifemoral artery bypass. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, bypass graft occlusion, compartment syndrome, nerve injury, pneumonia, renal failure, myocardiac infarction, spinal cord paralysis, graft infection, stroke, and death. The overall incidence of these risks and complications was 2%. The patient has accepted these benefits and risks and agreed to undergo the planned bypass procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. The patient received general anesthesia induction via orotracheal intubation. The patient's bilateral legs were prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified.

------- << RIGHT TO LEFT ILIOFEMORAL BYPASS >> --------

We made a right groin incision and continued the dissection using electrocautery. We identified the femoral sheath which was carefully opened. We isolated the common femoral artery, profunda femoral artery, and superficial femoral artery. Vessel loops were used to encircle these vessels. The groin incision was extended proximally to isolate the iliac artery. Next we made a left groin incision and continued the dissection using electrocautery. We identified the femoral sheath which was carefully opened. We isolated the common femoral artery, profunda femoral artery, and superficial femoral artery. Vessel loops were used to encircle these vessels. We placed vascular clamps in the right iliac artery and common femoral artery. A vertical arteriotomy was made in the iliac artery extending to the femoral artery using a #11 blade which was extended using a Potts scissor. We encountered a large amount of femoral artery plaque and performed femoral artery endarterectomy by removing the plaque from the common femoral artery. An 8 mm PTFE graft was trimmed and connected to the iliac artery in an end-to-side fashion using 5-0 prolene sutures. Clamps were next released to ensure adequate hemostasis in the suture line. Next the PTFE graft was tunneled in the subcutaneous plane using a tunneling device and the graft was brought out through the left femoral incision. We then placed vascular clamps in the left common femoral artery, profunda femoral artery, and superficial femoral artery. A vertical arteriotomy was made using a #11 blade which was extended using a Potts scissor. We encountered a large amount of femoral artery plaque and performed femoral artery endarterectomy by removing the plaque from the common femoral artery and profunda femoral artery. An 8 mm PTFE graft was trimmed and connected to the femoral artery in an end-to-side fashion using 5-0 prolene sutures. Clamps were next released to ensure adequate hemostasis in the suture line. The right femoral sheath was closed using 3-0 PDS sutures and the skin was closed using 4-0 Vicryl subcuticular sutures. The left femoral sheath was closed using 3-0 PDS sutures and the skin was closed using 4-0 Vicryl subcuticular sutures. Subcutaneous tissues were closed using 3-0 PDS sutures in the right pectoral wound, and the skin was closed using 4-0 Vicryl subcuticular sutures. The patient remained clinically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition. I was present throughout the entire operation.

------- << LEFT TO RIGHT ILIOFEMORAL BYPASS >> --------

We made a left groin incision and continued the dissection using electrocautery. We identified the femoral sheath which was carefully opened. We isolated the common femoral artery, profunda femoral artery, and superficial femoral artery. Vessel loops were used to encircle these vessels. The groin incision was extended proximally to isolate the iliac artery. Next we made a right groin incision and continued the dissection using electrocautery. We identified the femoral sheath which was carefully opened. We isolated the common femoral artery, profunda femoral artery, and superficial femoral artery. Vessel loops were used to encircle these vessels. We placed vascular clamps in the left iliac artery and common femoral artery. A vertical arteriotomy was made in the iliac artery extending to the femoral artery using a #11 blade which was extended using a Potts scissor. We encountered a large amount of femoral artery plaque and performed femoral artery endarterectomy by removing the plaque from the common femoral artery. An 8 mm PTFE graft was trimmed and connected to the iliac artery in an end-to-side fashion using 5-0 prolene sutures. Clamps were next released to ensure adequate hemostasis in the suture line. Next the PTFE graft was tunneled in the subcutaneous plane using a tunneling device and the graft was brought out through the right femoral incision. We then placed vascular clamps in the right common femoral artery, profunda femoral artery, and superficial femoral artery. A vertical arteriotomy was made using a #11 blade which was extended using a Potts scissor. We encountered a large amount of femoral artery plaque and performed femoral artery endarterectomy by removing the plaque from the common femoral artery and profunda femoral artery. An 8 mm PTFE graft was trimmed and connected to the femoral artery in an end-to-side fashion using 5-0 prolene sutures. Clamps were next released to ensure adequate hemostasis in the suture line. The right femoral sheath was closed using 3-0 PDS sutures and the skin was closed using 4-0 Vicryl subcuticular sutures. The left femoral sheath was closed using 3-0 PDS sutures and the skin was closed using 4-0 Vicryl subcuticular sutures. Subcutaneous tissues were closed using 3-0 PDS sutures in the right pectoral wound, and the skin was closed using 4-0 Vicryl subcuticular sutures. The patient remained clinically stable throughout the entire operation. The patient suffered no complications, and the patient was taken to the recovery room in stable condition. I was present throughout the entire operation.

TREATMENT DISPOSITION - The patient will be admitted to ICU for postoperative monitoring.

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PL.OR - Leg embolectomy (popliteal)

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: 1. Right leg ischemia, 2. Right popliteal artery occlusion, 3. Right toe gangrene

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Right leg thromboembolectomy using Fogarty balloon of the popliteal artery, peroneal artery, anterior tibial artery, and posterior tibial artery (CPT# 34203)

2. Creation of distal vein patch using bovine pericardial patch (CPT# 35685)

PREOPERATIVE DIAGNOSIS: 1. Left leg ischemia, 2. Left popliteal artery occlusion, 3. Left toe gangrene

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Left leg thromboembolectomy using Fogarty balloon of the popliteal artery, peroneal artery, anterior tibial artery, and posterior tibial artery (CPT# 34203)

2. Creation of distal vein patch using bovine pericardial patch (CPT# 35685)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 100 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year old patient who has been experiencing lower extremity arterial ischemia with symptoms including toe gangrene and ischemic rest pain. The patient recently underwent lower leg angiogram which revealed popliteal and tibial artery occlusion due to thromboembolism. The patient is scheduled for thromboembolectomy procedure. I have discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to improve the lower leg arterial circulation by removing the arterial embolism. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, bypass graft occlusion, compartment syndrome, nerve injury, pneumonia, renal failure, myocardiac infarction, stroke, postoperative leg amputation, and death. The overall incidence of these risks and complications was 1%. The patient has accepted these benefits and risks and agreed to undergo the planned lower leg bypass procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Following general anesthesia induction via orotracheal intubation, the patient's < \_\_\_\_ right left \_\_\_\_ > leg was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made a longitudinal incision in the medial portion of the calf, and continued the dissection using electrocautery. We identified and isolated the popliteal artery, anterior tibial artery, peroneal artery, and posterior tibial artery. Vessel loops were placed circumferentially around these vessels for vascular control. Next systemic heparin was given, and clamps were applied in these vessels. A longitudinal arteriotomy was made using a #11 blade in the popliteal artery which was extended to the tibioperoneal trunk. A #3 and #4 Fogarty balloon was used for thromboembolectomy which was carried out in the popliteal artery, anterior tibial artery, peroneal artery, and posterior tibial artery. Multiple thromboemboli were removed from these vessels. Once the thromboembolism was successfully removed, we used a bovine pericardial patch to close the arteriotomy. This is dong using a 5-0 prolene suture to create a vein patch in the popliteal artery. Upon the completion of the vein patch reconstruction, the clamps were was released and excellent blood flow was noted in the tibial arteries. The wound was irrigated, and fascia was closed using a 3-0 PDS suture. The skin was closed using a 4-0 monocryl suture in a subcuticular fashion. Dermabond was applied over the incision site in the usual fashion. The patient tolerated the procedure well without any complication. I was present throughout the entire operation.

TREATMENT DISPOSITION - The patient will be admitted to ICU for postoperative care. The patient may undergo podiatric debridement vs. amputation procedure per podiatric surgeon Dr. \_\_\_\_\_.

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PL.OR - Leg popliteal Baker cyst removal

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

ASSISTANT: Mathew Cheung, DO

PREOPERATIVE DIAGNOSIS: 1. Right leg pain, 2. Right popliteal artery ganglion cyst

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Right leg popliteal artery exploration (CPT# 35741)

2. Open excision of ganglion cyst of right popliteal artery (CPT# 27347)

PREOPERATIVE DIAGNOSIS: 1. Left leg pain, 2. Left popliteal artery ganglion cyst

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Left leg popliteal artery exploration (CPT# 35741)

2. Open excision of ganglion cyst of left popliteal artery (CPT# 27347)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 100 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year old patient who has been experiencing lower extremity pain symptoms including paresthesia, swelling, and foot numbness. The patient recently underwent lower leg ultrasound evaluation which showed a large symptomatic ganglion Bakers cyst which arises from the popliteal artery. The patient is scheduled for popliteal artery exploration and excision of the ganglion cyst of the popliteal artery. I have discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to remove the ganglion cyst with open excision. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, popliteal artery occlusion, compartment syndrome, nerve injury, pneumonia, renal failure, myocardiac infarction, stroke, postoperative leg amputation, and death. The overall incidence of these risks and complications was 1%. The patient has accepted these benefits and risks and agreed to undergo the planned lower leg bypass procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Following general anesthesia induction via orotracheal intubation, the patient was placed in a prone position. The < \_\_\_\_ right left \_\_\_\_ > leg was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made a curvilinear incision in the popliteal fossa, and continued the dissection using electrocautery. We identified and isolated the popliteal artery which was explored in its entire length within the popliteal space. The extra-articular portion of the ganglion cyst was identified which was dissected free from the attachment site. The ganglion Baker’s cyst was next removed in its entirety and sent to pathology for specimen analysis. Hemostasis was achieved satisfactorily using electrocautery. The wound was irrigated, and fascia was closed using a 3-0 PDS suture. The skin was closed using a 4-0 monocryl suture in a subcuticular fashion. Dermabond was applied over the incision site in the usual fashion. The patient tolerated the procedure well without any complication. I was present throughout the entire operation.

TREATMENT DISPOSITION - The patient will be discharged to home and return to my office for follow up in 2 weeks.

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PL.OR - Leg hematoma evac + wound vac

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. s/p right leg bypass, 2. Right leg hematoma

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Lower extremity exploration for postoperative hemorrhage (CPT# 35860)

2. Right thigh hematoma evacuation (CPT# 27301)

3. Right groin rotational muscle flap using sartorius muscle (CPT# 15738)

4. Placement of right leg wound vac (area of wound vac coverage: 10cm x 10cm x 5cm; CPT# 97606)

PREOPERATIVE DIAGNOSIS: 1. s/p left leg bypass, 2. Left leg hematoma

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Lower extremity exploration for postoperative hemorrhage (CPT# 35860)

2. Left thigh hematoma evacuation (CPT# 27301)

3 Left groin rotational muscle flap using sartorius muscle (CPT# 15738)

4. Placement of left leg wound vac (area of wound vac coverage: 10cm x 10cm x 5cm; CPT# 97606)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 100 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year old patient has been experiencing lower leg ischemia who recently underwent lower leg bypass grafting procedure. The patient developed a large hematoma over the incision site. The patient was taken to the OR to undergo an operative exploration with hematoma evaluation and wound vac placement. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to evacuate the hematoma and wound vac placement which will promote wound healing. The patient is also aware of the potential risks of the procedure, which include wound infection and bleeding. The overall incidence of these risks and complications was 1%. The patient has accepted these benefits and risks and agreed to undergo the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Following general anesthesia induction via orotracheal intubation, the patient's < \_\_\_\_\_ right left \_\_\_\_ > leg was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made a longitudinal incision over the lower leg hematoma site which was followed by wound exploration. We encountered a large amount of hematoma over 200 ml in volume which was evacuated. Pulsed lavage using antibiotic irrigation solution was performed to washout the wound. Due to the large cavitary space created by the hematoma, we decided to perform sartorius muscle rotation flap to cover the space as well as to protected the bypass graft. This is done by mobilizing the sartorius muscle circumferentially and detaching the sartorious tendon from anterior superior iliac spine. Next the muscle was rotated medially and attached to the femoral sheath using 2-0 vicryl suture to cover the bypass graft. The wound area was irrigated, and a wound vac sponge was next placed in the groin wound. The area of wound vac sponge coverage was 10cm by 10cm by 5cm. Next a standard wound vac dressing was placed in the right groin skin area. Continual suctioning tube was connected to the wound vac. Dressing was applied in the standard fashion. The patient remained stable and was taken to the recovery room in a stable condition. The patient suffered no complications, and I was present throughout the entire procedure.

TREATMENT DISPOSITION: We will request wound care nurse to see for wound vac management.

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PL.OR - Leg wound debridement + wound vac

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. s/p right leg bypass, 2. Right leg wound dehiscence, 3. Right leg wound infection

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Right leg wound debridement (CPT# 11043)

2. Placement of right leg wound vac (area of wound vac coverage: 5cm x 10cm x 5cm; CPT# 97606)

PREOPERATIVE DIAGNOSIS: 1. s/p left leg bypass, 2. Left leg wound dehiscence, 3. Left leg wound infection

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Left leg wound debridement (CPT# 11043)

2. Placement of left leg wound vac (area of wound vac coverage: 5cm x 10cm x 5cm; CPT# 97606)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 100 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year old patient has been experiencing lower leg pain and swelling, and the patient recently underwent lower leg bypass grafting procedure. The patient developed wound infection over the incision site. The patient was taken to the OR to undergo an operative exploration with wound debridement and wound vac placement. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to debride the wound followed by wound vac placement which will promote wound healing. The patient is also aware of the potential risks of the procedure, which include wound infection and bleeding. The overall incidence of these risks and complications was 1%. The patient has accepted these benefits and risks and agreed to undergo the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Following general anesthesia induction via orotracheal intubation, the patient's < \_\_\_\_\_ right left \_\_\_\_ > leg was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made a longitudinal incision over the lower leg wound site which was followed by wound exploration. We encountered moderate amount of infected tissues involving the skin, subcutaneous tissues, and muscle. Areas of tissue necrosis involving the skin, subcutaneous tissues, and groin muscles were sharply excised using electrocautery. The wound area was irrigated, and a wound vac sponge was next placed in the groin wound. The area of wound vac sponge coverage was 5cm by 10cm by 5cm. Next a standard wound vac dressing was placed in the right groin skin area. Continual suctioning tube was connected to the wound vac. Dressing was applied in the standard fashion. The patient remained stable and was taken to the recovery room in a stable condition. The patient suffered no complications, and I was present throughout the entire procedure.

TREATMENT DISPOSITION – We’ll request wound care nurse to see for wound vac management.

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PL.OR - Leg wound debridement + muscle flap + wound vac

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right leg amputation site wound infection with dehiscence. 2 Right femoral artery atherosclerotic disease

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Lower extremity exploration for postoperative hemorrhage (CPT# 35860)

2. Right thigh hematoma evacuation (CPT# 27301)

Right leg wound excisional debridement (CPT# 11043)

Right leg rotational muscle flap using gracilis muscle (CPT# 15738)

Placement of right leg wound vac (area of wound vac coverage: 10cm x 10cm x 5cm; CPT# 97606)

PREOPERATIVE DIAGNOSIS: 1. Left leg amputation site wound infection with dehiscence. 2 Left femoral artery atherosclerotic disease

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

Left leg wound excisional debridement (CPT# 11043)

Left leg rotational muscle flap using gracilis muscle (CPT# 15738)

Placement of left leg wound vac (area of wound vac coverage: 10cm x 10cm x 5cm; CPT# 97606)

ANESTHESIA: General anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 100 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year old patient who previously underwent right leg amputation procedure due to lower extremity gangrene. The patient developed acute onset of pain with purulent discharge from the amputation incision site. Due to the pain associated with wound infection with wound dehiscence, the patient was taken to the OR to undergo an operative exploration and wound debridement with possible wound vac placement. I've discussed with the patient regarding the benefits and risks of the procedure. The patient is aware of the benefits of the planned procedure which is to washout the wound to decrease wound infection and promote wound healing. The patient is also aware of the potential risks of the procedure, which include wound infection, bleeding, artery occlusion, compartment syndrome, nerve injury, pneumonia, renal failure, myocardiac infarction, stroke, postoperative leg amputation, and death. The overall incidence of these risks and complications was 1%. The patient has accepted these benefits and risks and agreed to undergo the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the table in the supine position. Following general anesthesia induction via orotracheal intubation, the patient's < \_\_\_\_\_ right left \_\_\_\_ > leg was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. We made a longitudinal incision along the previously made incision area. Further dissection was made using the electrocautery to open the fascia. We encountered large amount of infected tissues involving the skin, subcutaneous tissues, and muscle. Areas of tissue necrosis involving the skin, subcutaneous tissues, and groin muscles were sharply excised using electrocautery. The wound cavity was thoroughly irrigated with antibiotic solution.

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Due to the extensive soft tissue infection and large wound cavity, we decided to perform right leg gracilis rotational muscle flap to cover the exposed femur. The distal segment of the gracilis muscle was carefully mobilized and rotated medially and anchored to the medial portion of the femur periosteum using 2-0 PDS sutures. This rotational muscle flap was next used to cover the femur as well as the ligated femoral artery.

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The distal thigh wound was irrigated, and fascia was closed using a 3-0 PDS suture. A wound vac sponge was next placed in the groin wound. The area of wound vac sponge coverage was 10cm by 10cm by 5cm. Next a standard wound vac dressing was placed in the right groin skin area. Continual suctioning tube was connected to the wound vac. Dressing was applied in the standard fashion. The patient remained stable and was taken to the recovery room in a stable condition. The patient suffered no complications, and I was present throughout the entire procedure.

TREATMENT DISPOSITION – We will request wound care nurse to see for outpatient wound vac management.

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PL.OR - PD catheter insertion

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: End stage renal failure

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Laparoscopic peritoneal dialysis catheter placement (CPT# 49324)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who recently was diagnosed with end stage renal failure. The patient is scheduled for laparoscopic peritoneal dialysis catheter insertion. Benefits of the procedure were discussed with the patient, which include peritoneal dialysis catheter insertion to enable home peritoneal dialysis. Potential risks and complications of the proposed procedures including bowel injury, catheter occlusion, catheter migration, bleeding, wound infection, and catheter malfunction were also discussed with the patient and patient's family. I've informed the patient that the overall risk of these complications was 1%. The patient verbalized understanding and agreed to proceed.

PROCEDURE IN DETAIL: The patient was brought to the operating room and placed on the operating room table in the supine position. General anesthesia was administered through endotracheal intubation by the anesthesiologist. The patient's abdomen was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. A small incision was made in the left upper quadrant of the abdomen. A 5mm trocar was inserted in the abdominal cavity under laparoscopic camera visualization. We next placed a 12mm trocar in the periumbilical region. Gas insufflation was established to maintain adequate pneumoperitoneum. Next we inserted a peritoneal dialysis catheter with the support of a stiff guidewire which was inserted via the 12mm trocar. Under direct visualization, the catheter was positioned in the pelvis. The catheter was tunneled subcutaneously and brought out in a separate incision site in the right lower quadrant of the abdomen. Next trocars were removed and the abdominal fascia was closed using 3-0 PDS sutures. Skin layer was closed using 4-0 monocryl sutures. Saline flush was infused in the catheter and clear fluid was aspirated from the catheter without difficulty. Dressing was applied in the usual fashion. The patient was extubated and taken to recovery in stable condition. The patient tolerated the procedure well without any complications. I was present throughout the entire operation.

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PL.OR - PD catheter removal

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. End stage renal failure, 2. Peritoneal dialysis catheter infection

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Removal of peritoneal dialysis catheter (CPT# 49422)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who recently was diagnosed with end stage renal failure who has been receiving home peritoneal dialysis. The patient recently develop peritoneal catheter infection with abdominal pain. We plan to remove the peritoneal dialysis catheter under general anesthesia. Benefits of the procedure were discussed with the patient, which include peritoneal dialysis catheter removal for infection control. Potential risks and complications of the proposed procedures including bowel injury, catheter occlusion, bleeding, wound infection, and bladder injury were also discussed with the patient and patient's family. I've informed the patient that the overall risk of these complications was 1%. The patient verbalized understanding and agreed to proceed.

PROCEDURE IN DETAIL: The patient was brought to the operating room and placed on the operating room table in the supine position. General anesthesia was administered through endotracheal intubation by the anesthesiologist. The patient's abdomen was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. A small incision was made in the left upper quadrant of the abdomen over the catheter exit site. Dissection was carried down using electrocautery. The catheter was isolated and removed from the abdominal cavity. The abdominal fascia was closed using 3-0 PDS sutures. Skin layer was closed using 4-0 monocryl sutures. Dressing was applied in the usual fashion. The patient was extubated and taken to recovery in stable condition. The patient tolerated the procedure well without any complications. I was present throughout the entire operation.

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PL.OR - PD catheter replacement

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. End stage renal failure; 2. malfunctioned peritoneal dialysis catheter

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Diagnostic laparoscopy (CPT# 49320)

2. Laparoscopic lysis of adhesion (CPT# 44180)

3. Removal of peritoneal dialysis catheter (CPT# 49422)

4. Laparoscopic peritoneal dialysis catheter placement (CPT# 49324)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with end stage renal failure and has been receiving peritoneal dialysis at home. The peritoneal dialysis catheter in the patient recently malfunctioned and the patient is scheduled for diagnostic laparoscopic examination with possible peritoneal catheter revision or replacement. Benefits of the procedure were discussed with the patient, which include identification of possible cause of the peritoneal dialysis catheter malfunction and correct the cause of catheter malfunction, which will enable to the patient to continue with peritoneal dialysis at home. Potential risks and complications of the proposed procedures including bowel injury, catheter occlusion, catheter migration, bleeding, wound infection, and catheter malfunction were also discussed with the patient and patient's family. I've informed the patient that the overall risk of these complications was 1%. The patient verbalized understanding and agreed to proceed.

PROCEDURE IN DETAIL: The patient was brought to the operating room and placed on the operating room table in the supine position. General anesthesia was administered through endotracheal intubation by the anesthesiologist. The patient's abdomen was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. A small incision was made in the left upper quadrant of the abdomen. A 5mm trocar was inserted in the abdominal cavity under laparoscopic camera visualization. Gas insufflation was established to maintain adequate pneumoperitoneum. The entire peritoneal cavity was carefully inspected under laparoscopic guidance. We identified the cause of the catheter malfunction which was due to significant omentum encasing the catheter. A significant degree of peritoneal adhesions was encountered, and laparoscopic lysis of adhesions was performed. Individual adhesions attaching intestinal loops were carefully removed to created a intraabdominal space for peritoneal dialysis. Due to the significant degree of omentum wrapping around the previous catheter, it was determined that the malfunctioned catheter should be removed followed by a placement of a new catheter. A small incision was made in the left upper quadrant of the abdomen over the catheter exit site. Dissection was carried down using electrocautery. The catheter was isolated and removed from the abdominal cavity. We next placed a 12mm trocar in the periumbilical region. Next we inserted a peritoneal dialysis catheter with the support of a stiff guidewire which was inserted via the 12mm trocar. Under direct visualization, the catheter was positioned in the pelvis. The catheter was tunneled subcutaneously and brought out in a separate incision site in the right lower quadrant of the abdomen. Next trocars were removed and the abdominal fascia was closed using 3-0 PDS sutures. Skin layer was closed using 4-0 monocryl sutures. Saline flush was infused in the catheter and clear fluid was aspirated from the catheter without difficulty. Dressing was applied in the usual fashion. The patient was extubated and taken to recovery in stable condition. The patient tolerated the procedure well without any complications. I was present throughout the entire operation.

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PL.OR – Diagnostic laparoscopy (No PD catheter placement due to adhesion)

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: End stage renal failure

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Diagnostic laparoscopy under general anesthesia (CPT# 49320)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 5 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who recently was diagnosed with end stage renal failure. The patient is scheduled for laparoscopic peritoneal dialysis catheter insertion. Benefits of the procedure were discussed with the patient, which include peritoneal dialysis catheter insertion to enable home peritoneal dialysis. Potential risks and complications of the proposed procedures including bowel injury, catheter occlusion, catheter migration, bleeding, wound infection, and catheter malfunction were also discussed with the patient and patient's family. I've informed the patient that the overall risk of these complications was 1%. The patient verbalized understanding and agreed to proceed.

PROCEDURE IN DETAIL: The patient was brought to the operating room and placed on the operating room table in the supine position. General anesthesia was administered through endotracheal intubation by the anesthesiologist. The patient's abdomen was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. A small incision was made in the left upper quadrant of the abdomen. A 5mm trocar was inserted in the abdominal cavity under laparoscopic camera visualization. We encountered significant amount of peritoneal adhesion as well as omentum. A second trocar was inserted in the right upper quadrant of the abdominal cavity for further inspection. This also revealed significant amount of intraabdominal adhesion. Given the extensive amount of abdominal adhesion, it was determined that laparoscopic peritoneal dialysis catheter placement will not be successful. The procedure was terminated at this point as both trocars and laparoscopic camera were removed from the abdominal cavity. The skin incision site was closed using 4-0 monocryl sutures. Dressing was applied in the usual fashion. The patient was extubated and taken to recovery in stable condition. The patient tolerated the procedure well without any complications. I was present throughout the entire operation.

TREATMENT DISPOSITION: We will discuss with patient regarding hemodialysis access creation vs. open peritoneal dialysis catheter insertion with possible lysis of adhesion and omentectomy. If the patient wishes to pursue open abdominal approach, we’ll refer the patient to general surgeon for consultation.

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PL.OR - Portacath insertion

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: \_\_\_\_\_

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Ultrasound guided venous access of jugular vein (CPT# 76937)

2. Placement of Porta-Cath in the jugular vein (CPT# 36561)

ANESTHESIA: Local anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 2 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with \_\_\_\_\_. The patient is scheduled to undergo Porta-Cath placement for chemotherapy treatment. Benefits and risks of the procedure were explained to the patient who agreed to undergo the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the operating room table on a supine position. The patient was given general anesthesia via endotracheal intubation. The patient's < \_\_\_\_ right left \_\_\_\_ > chest and neck regions were prepped sterilely and then draped in a standard fashion. Using a portable ultrasound system, the jugular vein was visualized and accessed percutaneously. A 0.035" guidewire was inserted in the vein, which was followed by dilator and peel away sheath placement into the jugular vein. Next the Porta-Cath catheter was inserted in the jugular vein using the peel away introducer sheath. The catheter was next tunneled subcutaneously to an infraclavicular region. Next we made a transverse incision in the infraclavicular area and created a 3cm by 3cm subcutaneous space. A low-profile Porta-Cath was inserted in the subcutaneous space which was anchored to the myofascial tissue using 2-0 prolene sutures. The catheter was next connected to the Porta-Cath and securely anchored together using the attachment connected. Excellent blood flow was withdrawn from the Porta-Cath without difficulty. Subcutaneous tissues were closed using 3-0 PDS sutures and skin was closed using 4-0 monocryl sutures. High concentration of heparin solution was used to pack the Porta-Cath port. Appropriate dressing was applied over the incision site. The patient tolerated the procedure well without complication.

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PL.OR - Portacath removal

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: \_\_\_\_\_\_\_

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Porta-Cath removal (CPT# 36590)

ANESTHESIA: General anesthesia

SPECIMEN: None

ESTIMATED BLOOD LOSS: 2 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who had a Porta-Cath placement previously which the patient no longer needs it. The patient was scheduled to undergo Porta-Cath removal procedure. Benefits and risks of the procedure were explained to the patient who agreed to undergo the planned procedure.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the operating room table on a supine position. The patient was given general anesthesia via endotracheal intubation. The patient's < \_\_\_\_ right left \_\_\_\_ > chest and neck regions were prepped sterilely and then draped in a standard fashion. We made a transverse incision in the infraclavicular region over the site of Porta-Cath. Dissection was carried out using electrocautery. We identified the Porta-Cath in the subcutaneous pocket. The port and the indwelling catheter were isolated. The anchoring sutures were removed and detached from the Porta-Cath. The catheter was removed from the subclavian vein, and the Porta-Cath was removed from the patient. The wound was irrigated using saline solution. Subcutaneous tissue was closed using 3-0 PDS sutures and the skin was next closed using 4-0 monocryl sutures. Dressing was applied in the standard fashion. High concentration of heparin was used to pack the Porta-Cath. Appropriate dressing was applied over the catheter insertion site to secure the catheter. The patient tolerated the procedure well without complication.

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PL.OR - RFA (GSV) + Trivex

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right leg varicose veins with complications (ICD-10 Code: I83.899), 2. Right lower extremity chronic venous insufficiency with venous hypertension (ICD-10 Code: I87.319)

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Ultrasound guided venous access of right great saphenous vein (CPT# 76937)

2. Radiofrequency ablation of right great saphenous vein (CPT# 36475)

3. Stab phlebectomy of right lower leg varicose veins with TRIVEX system (with removal of more than 20 varicose vein segments/incisions) (CPT# 37766)

PREOPERATIVE DIAGNOSIS: 1. Left leg varicose veins with complications (ICD-10 Code: I83.899), 2. Left lower extremity chronic venous insufficiency with venous hypertension (ICD-10 Code: I87.319)

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Ultrasound guided venous access of left great saphenous vein (CPT# 76937)

2. Radiofrequency ablation of left great saphenous vein (CPT# 36475)

3. Stab phlebectomy of left lower leg varicose veins with TRIVEX system (with removal of more than 20 varicose vein segments/incisions) (CPT# 37766)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 10 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with lower leg symptomatic chronic venous insufficiency with varicose veins over the past 12 months. The patient's symptoms have progressively worsened with more pain and swelling. The patient reports leg symptoms including swelling, burning sensation, refractory dependent edema, stasis dermatitis, and leg pain which is characterized as dull aching and constant in nature. These leg symptoms have impaired the patient's ability to ambulate or exercise regularly. The patient’s leg symptoms have failed to improve following a 3-month trial of conservative therapy which include compression stocking therapy, daily exercise program, periodic leg elevation, weight loss counseling, avoidance of prolonged immobility, and home physical therapy. The patient remains symptomatic following a 3-month course of conservative treatment with symptoms including severe pain and burning sensation in the lower extremity which impairs mobility, stasis dermatitis, and recurrent dependent edema. A preoperative venous duplex ultrasound of this patient demonstrated the presence of saphenous vein reflux of the lower extremity with greater saphenous vein diameter of 11 mm, and a venous reflux time greater than 2 seconds. Additionally, venous duplex ultrasound showed absence of venous aneurysm in the affect region of varicose veins, absence of venous thrombosis or venous tortuosity, and absence of significant peripheral arterial disease. Based on these considerations, the patient is scheduled to undergo saphenous vein radiofrequency ablation of the lower extremity. The purpose of the proposed operation is to eliminate the saphenous venous reflux which will decrease the lower leg swelling and pain. This will also decrease the potential risk of post-thrombotic syndrome, thrombophlebitis, and venous thrombosis. The risks and complications of the procedure include wound infection, wound bleeding, superficial cutaneous and sural nerve injury, deep vein thrombosis, thrombophlebitis, and pulmonary embolism. The overall incidence of these risks is 2%. I have discussed in detail regarding the benefits and risks of the procedure to the patient who agreed to proceed.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the operating room table on a supine position. The patient was given general anesthesia via endotracheal intubation. The patient’s

<< right vs left >>

leg was prepped sterilely and then draped in a standard fashion. We first proceed with saphenous vein ablation in which we obtained percutaneous access of the saphenous vein at the level of the knee using ultrasound guidance. A 7F introducer sheath was next inserted in the saphenous vein. Next we injected copious amount of tumescent anesthetic fluid subcutaneously along the entire course of the saphenous vein. A radiofrequency saphenous vein ablation catheter (VNUS device) was delivered through the 7F introducer sheath and positioned near the level of the saphenofemoral junction. Ultrasound examination was performed which confirmed the catheter was placed in a satisfactory position. The radiofrequency catheter was activated and the entire length of the saphenous vein was successfully ablated. The radiofrequency catheter and introducer sheath were next removed. Pressure was applied at the insertion site to achieve hemostasis. We next turned our attention to the stab phlebectomy procedure. Using an endoscopic saphenous vein removal system or TRIVEX system, we make multiple incisions along the medial and lateral portions of the leg in which varicose veins were removed using the endoscopic varicose vein removal system. Multiple incisions and counter-incisions were made to allow successful endoscopic varicose vein removal system to remove all the visible varicose veins. Tumescent anesthetic fluid was also delivered subcutaneously as varicose veins were removed. The total number of varicose veins removed was greater than 20 segments. Following successful removal of the varicose veins via stab phlebectomy, standard compression dressing using ABD pads, Kerlex dressing, and Coban dressing were applied in the lower leg circumferentially. The patient remained stable throughout the entire operation. The patient was taken to the recovery room in stable condition. The patient suffered no complications. I was present throughout the entire operation.

TREATMENT DISPOSITION: The patient will be discharged to home and follow up in my clinic in 2 days for dressing change.

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PL.OR - RFA (GSV)

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right leg varicose veins, 2. Right lower extremity chronic venous insufficiency

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE:

1. Ultrasound guided venous access of right great saphenous vein (CPT# 76937)

2. Radiofrequency ablation of right great saphenous vein (CPT# 36475)

PREOPERATIVE DIAGNOSIS: 1. Left leg varicose veins, 2. Left lower extremity chronic venous insufficiency

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE:

1. Ultrasound guided venous access of left great saphenous vein (CPT# 76937)

2. Radiofrequency ablation of left great saphenous vein (CPT# 36475)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 3 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with lower leg symptomatic chronic venous insufficiency with varicose veins over the past 12 months. The patient's symptoms have progressively worsened with more pain and swelling. The patient reports leg symptoms including swelling, burning sensation, refractory dependent edema, stasis dermatitis, and leg pain which is characterized as dull aching and constant in nature. These leg symptoms have impaired the patient's ability to ambulate or exercise regularly. The patient’s leg symptoms have failed to improve following a 3-month trial of conservative therapy which include compression stocking therapy, daily exercise program, periodic leg elevation, weight loss counseling, avoidance of prolonged immobility, and home physical therapy. A preoperative venous duplex ultrasound of this patient demonstrated the presence of saphenous vein reflux of the lower extremity with greater saphenous vein diameter of 14 mm, and a venous reflux time greater than 2 seconds. Additionally, venous duplex ultrasound showed absence of venous aneurysm in the affect region of varicose veins, absence of venous thrombosis or venous tortuosity, and absence of significant peripheral arterial disease. Based on these considerations, the patient is scheduled to undergo saphenous vein radiofrequency ablation of the lower extremity. The purpose of the proposed operation is to eliminate the saphenous venous reflux which will decrease the lower leg swelling and pain. This will also decrease the potential risk of post-thrombotic syndrome, thrombophlebitis, and venous thrombosis. The risks and complications of the procedure include wound infection, wound bleeding, superficial cutaneous and sural nerve injury, deep vein thrombosis, thrombophlebitis, and pulmonary embolism. The overall incidence of these risks is 2%. I have discussed in detail regarding the benefits and risks of the procedure to the patient who agreed to proceed.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the operating room table on a supine position. The patient was given general anesthesia via endotracheal intubation. The patient's < \_\_\_\_ right left \_\_\_\_\_ > leg was prepped sterilely and then draped in a standard fashion. We first proceed with saphenous vein ablation in which we obtained percutaneous access of the saphenous vein at the level of the knee using ultrasound guidance. A 7F introducer sheath was next inserted in the saphenous vein. Next we injected copious amount of tumescent anesthetic fluid subcutaneously along the entire course of the saphenous vein. A radiofrequency saphenous vein ablation catheter (VNUS device) was delivered through the 7F introducer sheath and positioned near the level of the saphenofemoral junction. Ultrasound examination was performed which confirmed the catheter was placed in a satisfactory position. The radiofrequency catheter was activated and the entire length of the saphenous vein was successfully ablated. The radiofrequency catheter and introducer sheath were next removed. Pressure was applied at the insertion site to achieve hemostasis. Next standard compression dressing using ABD pads, Kerlex dressing, and Coban dressing were applied in the lower leg circumferentially. The patient remained stable throughout the entire operation. The patient was taken to the recovery room in stable condition. The patient suffered no complications. I was present throughout the entire operation.

TREATMENT DISPOSITION: The patient will be discharged to home and follow up in my clinic in 2 days for dressing change.

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PL.OR - RFA (GSV, PV) + Trivex

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right leg varicose veins, 2. Right lower extremity chronic venous insufficiency

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Ultrasound guided venous access of right great saphenous vein (CPT# 76937)

2. Radiofrequency ablation of right great saphenous vein (CPT# 36475)

3. Radiofrequency ablation of right perforator veins (CPT# 36476)

4. Stab phlebectomy of right lower leg varicose veins with TRIVEX system (with removal of more than 20 varicose vein segments/incisions) (CPT# 37766)

PREOPERATIVE DIAGNOSIS: 1. Left leg varicose veins, 2. Left lower extremity chronic venous insufficiency

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Ultrasound guided venous access of left great saphenous vein (CPT# 76937)

2. Radiofrequency ablation of left great saphenous vein (CPT# 36475)

3. Radiofrequency ablation of left perforator veins (CPT# 36476)

4. Stab phlebectomy of left lower leg varicose veins with TRIVEX system (with removal of more than 20 varicose vein segments/incisions) (CPT# 37766)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 10 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with lower leg symptomatic chronic venous insufficiency with varicose veins over the past 12 months. The patient's symptoms have progressively worsened with more pain and swelling. The patient reports leg symptoms including swelling, burning sensation, refractory dependent edema, stasis dermatitis, and leg pain which is characterized as dull aching and constant in nature. These leg symptoms have impaired the patient's ability to ambulate or exercise regularly. The patient’s leg symptoms have failed to improve following a 3-month trial of conservative therapy which include compression stocking therapy, daily exercise program, periodic leg elevation, weight loss counseling, avoidance of prolonged immobility, and home physical therapy. A preoperative venous duplex ultrasound of this patient demonstrated the presence of saphenous vein reflux of the lower extremity with greater saphenous vein diameter of 14 mm, and a venous reflux time greater than 2 seconds. Additionally, venous duplex ultrasound showed absence of venous aneurysm in the affect region of varicose veins, absence of venous thrombosis or venous tortuosity, and absence of significant peripheral arterial disease. Based on these considerations, the patient is scheduled to undergo saphenous vein radiofrequency ablation of the lower extremity. The purpose of the proposed operation is to eliminate the saphenous venous reflux which will decrease the lower leg swelling and pain. This will also decrease the potential risk of post-thrombotic syndrome, thrombophlebitis, and venous thrombosis. The risks and complications of the procedure include wound infection, wound bleeding, superficial cutaneous and sural nerve injury, deep vein thrombosis, thrombophlebitis, and pulmonary embolism. The overall incidence of these risks is 2%. I have discussed in detail regarding the benefits and risks of the procedure to the patient who agreed to proceed.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the operating room table on a supine position. The patient was given general anesthesia via endotracheal intubation. The patient's < \_\_\_\_ right left \_\_\_\_ > leg was prepped sterilely and then draped in a standard fashion. We first proceed with saphenous vein ablation in which we obtained percutaneous access of the saphenous vein at the level of the knee using ultrasound guidance. A 7F introducer sheath was next inserted in the saphenous vein. Next we injected copious amount of tumescent anesthetic fluid subcutaneously along the entire course of the saphenous vein. A radiofrequency saphenous vein ablation catheter (VNUS device) was delivered through the 7F introducer sheath and positioned near the level of the saphenofemoral junction. Ultrasound examination was performed which confirmed the catheter was placed in a satisfactory position. The radiofrequency catheter was activated and the entire length of the saphenous vein was successfully ablated. The radiofrequency catheter and introducer sheath were next removed. Pressure was applied at the insertion site to achieve hemostasis. We next turned our attention to the perforator vein ablation procedure. Using ultrasound guidance, we visualized incompetent perforator veins above the venous stasis ulcer region. We placed a perforator vein radiofrequency ablation catheter under ultrasound guidance. The position of the catheter was confirmed in the incompetent perforator vein. Tumescent anesthetic fluid with 1% lidocaine solution was injected around the perforator vein. The radiofrequency catheter was next activated and the incompetent perforator vein was ablated. A total of 2 incompetent perforator veins were ablated. The total ablation time was 8 minutes. We next turned our attention to the stab phlebectomy procedure. Using an endoscopic saphenous vein removal system or TRIVEX system, we make multiple incisions along the medial and lateral portions of the leg in which varicose veins were removed using the endoscopic varicose vein removal system. Multiple incisions and counter-incisions were made to allow successful endoscopic varicose vein removal system to remove all the visible varicose veins. Tumescent anesthetic fluid was also delivered subcutaneously as varicose veins were removed. The total number of varicose veins removed was greater than 20 segments. Following successful removal of the varicose veins via stab phlebectomy, standard compression dressing using ABD pads, Kerlex dressing, and Coban dressing were applied in the lower leg circumferentially. The patient remained stable throughout the entire operation. The patient was taken to the recovery room in stable condition. The patient suffered no complications. I was present throughout the entire operation.

TREATMENT DISPOSITION: The patient will be discharged to home and follow up in my clinic in 2 days for dressing change.

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PL.OR - RFA (GSV, SSV) + Trivex

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right leg varicose veins, 2. Right lower extremity chronic venous insufficiency

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Ultrasound guided venous access of right great saphenous vein (CPT# 76937)

2. Radiofrequency ablation of right great saphenous vein (CPT# 36475)

3. Radiofrequency ablation of right small saphenous vein (CPT# 36476)

4. Stab phlebectomy of right lower leg varicose veins with TRIVEX system (with removal of more than 20 varicose vein segments/incisions) (CPT# 37766)

PREOPERATIVE DIAGNOSIS: 1. Left leg varicose veins, 2. Left lower extremity chronic venous insufficiency

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Ultrasound guided venous access of left great saphenous vein (CPT# 76937)

2. Radiofrequency ablation of left great saphenous vein (CPT# 36475)

3. Radiofrequency ablation of left small saphenous vein (CPT# 36476)

4. Stab phlebectomy of left lower leg varicose veins with TRIVEX system (with removal of more than 20 varicose vein segments/incisions) (CPT# 37766)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 10 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with lower leg symptomatic chronic venous insufficiency with varicose veins over the past 12 months. The patient's symptoms have progressively worsened with more pain and swelling. The patient reports leg symptoms including swelling, burning sensation, refractory dependent edema, stasis dermatitis, and leg pain which is characterized as dull aching and constant in nature. These leg symptoms have impaired the patient's ability to ambulate or exercise regularly. The patient’s leg symptoms have failed to improve following a 3-month trial of conservative therapy which include compression stocking therapy, daily exercise program, periodic leg elevation, weight loss counseling, avoidance of prolonged immobility, and home physical therapy. A preoperative venous duplex ultrasound of this patient demonstrated the presence of saphenous vein reflux of the lower extremity with greater saphenous vein diameter of 14 mm, and a venous reflux time greater than 2 seconds. Additionally, venous duplex ultrasound showed absence of venous aneurysm in the affect region of varicose veins, absence of venous thrombosis or venous tortuosity, and absence of significant peripheral arterial disease. Based on these considerations, the patient is scheduled to undergo saphenous vein radiofrequency ablation of the lower extremity. The purpose of the proposed operation is to eliminate the saphenous venous reflux which will decrease the lower leg swelling and pain. This will also decrease the potential risk of post-thrombotic syndrome, thrombophlebitis, and venous thrombosis. The risks and complications of the procedure include wound infection, wound bleeding, superficial cutaneous and sural nerve injury, deep vein thrombosis, thrombophlebitis, and pulmonary embolism. The overall incidence of these risks is 2%. I have discussed in detail regarding the benefits and risks of the procedure to the patient who agreed to proceed.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the operating room table on a supine position. The patient was given general anesthesia via endotracheal intubation. The patient's < \_\_\_\_ right left \_\_\_\_ > leg was prepped sterilely and then draped in a standard fashion. We first proceed with saphenous vein ablation in which we obtained percutaneous access of the saphenous vein at the level of the knee using ultrasound guidance. A 7F introducer sheath was next inserted in the saphenous vein. Next we injected copious amount of tumescent anesthetic fluid subcutaneously along the entire course of the saphenous vein. A radiofrequency saphenous vein ablation catheter (VNUS device) was delivered through the 7F introducer sheath and positioned near the level of the saphenofemoral junction. Ultrasound examination was performed which confirmed the catheter was placed in a satisfactory position. The radiofrequency catheter was activated and the entire length of the saphenous vein was successfully ablated. The radiofrequency catheter and introducer sheath were next removed. Pressure was applied at the insertion site to achieve hemostasis. We next turned our attention to the small saphenous vein ablation procedure. Using ultrasound guidance, we visualized incompetent small saphenous vein below the popliteal fossa. We obtained percutaneous access of the small saphenous vein at the level of the popliteal fossa using ultrasound guidance. A 7F introducer sheath was next inserted in the small saphenous vein. Next we injected copious amount of tumescent anesthetic fluid subcutaneously along the entire course of the saphenous vein. A radiofrequency saphenous vein ablation catheter (VNUS device) was delivered through the 7F introducer sheath and positioned near the level of the saphenopopliteal junction. Ultrasound examination was performed which confirmed the catheter was placed in a satisfactory position. The radiofrequency catheter was activated and the entire length of the small saphenous vein was successfully ablated. The radiofrequency catheter and introducer sheath were next removed. Pressure was applied at the insertion site to achieve hemostasis. We next turned our attention to the stab phlebectomy procedure. Using an endoscopic saphenous vein removal system or TRIVEX system, we make multiple incisions along the medial and lateral portions of the leg in which varicose veins were removed using the endoscopic varicose vein removal system. Multiple incisions and counter-incisions were made to allow successful endoscopic varicose vein removal system to remove all the visible varicose veins. Tumescent anesthetic fluid was also delivered subcutaneously as varicose veins were removed. The total number of varicose veins removed was greater than 20 segments. Following successful removal of the varicose veins via stab phlebectomy, standard compression dressing using ABD pads, Kerlex dressing, and Coban dressing were applied in the lower leg circumferentially. The patient remained stable throughout the entire operation. The patient was taken to the recovery room in stable condition. The patient suffered no complications. I was present throughout the entire operation.

TREATMENT DISPOSITION: The patient will be discharged to home and follow up in my clinic in 2 days for dressing change.

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PL.OR - RFA (GSV, SSV, PV) + Trivex ==================================================================

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right leg varicose veins, 2. Right lower extremity chronic venous insufficiency

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Ultrasound guided venous access of right great saphenous vein (CPT# 76937)

2. Radiofrequency ablation of right great saphenous vein (CPT# 36475)

3. Radiofrequency ablation of right small saphenous vein (CPT# 36476)

4. Radiofrequency ablation of right perforator veins (CPT# 36476)

5. Stab phlebectomy of right lower leg varicose veins with TRIVEX system (with removal of more than 20 varicose vein segments/incisions) (CPT# 37766)

PREOPERATIVE DIAGNOSIS: 1. Left leg varicose veins, 2. Left lower extremity chronic venous insufficiency

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Ultrasound guided venous access of left great saphenous vein (CPT# 76937)

2. Radiofrequency ablation of left great saphenous vein (CPT# 36475)

3. Radiofrequency ablation of left small saphenous vein (CPT# 36476)

4. Radiofrequency ablation of left perforator veins (CPT# 36476)

5. Stab phlebectomy of left lower leg varicose veins with TRIVEX system (with removal of more than 20 varicose vein segments/incisions) (CPT# 37766)

ANESTHESIA: general anesthesia

SPECIMEN: none

ESTIMATED BLOOD LOSS: 10 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with lower leg symptomatic chronic venous insufficiency with varicose veins over the past 12 months. The patient's symptoms have progressively worsened with more pain and swelling. The patient reports leg symptoms including swelling, burning sensation, refractory dependent edema, stasis dermatitis, and leg pain which is characterized as dull aching and constant in nature. These leg symptoms have impaired the patient's ability to ambulate or exercise regularly. The patient’s leg symptoms have failed to improve following a 3-month trial of conservative therapy which include compression stocking therapy, daily exercise program, periodic leg elevation, weight loss counseling, avoidance of prolonged immobility, and home physical therapy. A preoperative venous duplex ultrasound of this patient demonstrated the presence of saphenous vein reflux of the lower extremity with greater saphenous vein diameter of 14 mm, and a venous reflux time greater than 2 seconds. Additionally, venous duplex ultrasound showed absence of venous aneurysm in the affect region of varicose veins, absence of venous thrombosis or venous tortuosity, and absence of significant peripheral arterial disease. Based on these considerations, the patient is scheduled to undergo saphenous vein radiofrequency ablation of the lower extremity. The purpose of the proposed operation is to eliminate the saphenous venous reflux which will decrease the lower leg swelling and pain. This will also decrease the potential risk of post-thrombotic syndrome, thrombophlebitis, and venous thrombosis. The risks and complications of the procedure include wound infection, wound bleeding, superficial cutaneous and sural nerve injury, deep vein thrombosis, thrombophlebitis, and pulmonary embolism. The overall incidence of these risks is 2%. I have discussed in detail regarding the benefits and risks of the procedure to the patient who agreed to proceed.

PROCEDURE IN DETAIL: The patient was taken to the operating room and placed on the operating room table on a supine position. The patient was given general anesthesia via endotracheal intubation. The patient's < \_\_\_\_ right left \_\_\_\_ > leg was prepped sterilely and then draped in a standard fashion. We first proceed with saphenous vein ablation in which we obtained percutaneous access of the saphenous vein at the level of the knee using ultrasound guidance. A 7F introducer sheath was next inserted in the saphenous vein. Next we injected copious amount of tumescent anesthetic fluid subcutaneously along the entire course of the saphenous vein. A radiofrequency saphenous vein ablation catheter (VNUS device) was delivered through the 7F introducer sheath and positioned near the level of the saphenofemoral junction. Ultrasound examination was performed which confirmed the catheter was placed in a satisfactory position. The radiofrequency catheter was activated and the entire length of the saphenous vein was successfully ablated. The radiofrequency catheter and introducer sheath were next removed. Pressure was applied at the insertion site to achieve hemostasis. We next turned our attention to the small saphenous vein ablation procedure. Using ultrasound guidance, we visualized incompetent small saphenous vein below the popliteal fossa. We obtained percutaneous access of the small saphenous vein at the level of the popliteal fossa using ultrasound guidance. A 7F introducer sheath was next inserted in the small saphenous vein. Next we injected copious amount of tumescent anesthetic fluid subcutaneously along the entire course of the saphenous vein. A radiofrequency saphenous vein ablation catheter (VNUS device) was delivered through the 7F introducer sheath and positioned near the level of the saphenopopliteal junction. Ultrasound examination was performed which confirmed the catheter was placed in a satisfactory position. The radiofrequency catheter was activated and the entire length of the small saphenous vein was successfully ablated. The radiofrequency catheter and introducer sheath were next removed. Pressure was applied at the insertion site to achieve hemostasis. We next turned our attention to the perforator vein ablation procedure. Using ultrasound guidance, we visualized incompetent perforator veins above the venous stasis ulcer region. We placed a perforator vein radiofrequency ablation catheter under ultrasound guidance. The position of the catheter was confirmed in the incompetent perforator vein. Tumescent anesthetic fluid with 1% lidocaine solution was injected around the perforator vein. The radiofrequency catheter was next activated and the incompetent perforator vein was ablated. A total of 2 incompetent perforator veins were ablated. The total ablation time was 8 minutes. We next turned our attention to the stab phlebectomy procedure. Using an endoscopic saphenous vein removal system or TRIVEX system, we make multiple incisions along the medial and lateral portions of the leg in which varicose veins were removed using the endoscopic varicose vein removal system. Multiple incisions and counter-incisions were made to allow successful endoscopic varicose vein removal system to remove all the visible varicose veins. Tumescent anesthetic fluid was also delivered subcutaneously as varicose veins were removed. The total number of varicose veins removed was greater than 20 segments. Following successful removal of the varicose veins via stab phlebectomy, standard compression dressing using ABD pads, Kerlex dressing, and Coban dressing were applied in the lower leg circumferentially. The patient remained stable throughout the entire operation. The patient was taken to the recovery room in stable condition. The patient suffered no complications. I was present throughout the entire operation.

TREATMENT DISPOSITION: The patient will be discharged to home and follow up in my clinic in 2 days for dressing change.

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PL.OR – TEMPORAL ARTERY BIOPSY

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right sided headache, 2. rule out temporal arteritis

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Right temporal artery biopsy (CPT# 37609)

PREOPERATIVE DIAGNOSIS: 1. Left sided headache, 2. rule out temporal arteritis

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURE: Left temporal artery biopsy (CPT# 37609)

ANESTHESIA: Sedation anesthesia

SPECIMEN: temporal artery

ESTIMATED BLOOD LOSS: 3 ml

BLOOD ADMINISTERED: None

IV FLUID: 100 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been experiencing severe headache in recent months. Based on the clinical symptoms, a clinical suspicion of temporal arteritis was raised. The patient was scheduled to undergo temporal artery biopsy to determine the cause of the headache. The purpose of the operation is to remove a segment of the temporal artery to determine the cause of the headache as well as to determine the presence of temporal arteritis. Potential risks and complications of the proposed procedures including incisional infection, bleeding, incisional pain, wound dehiscence, and facial nerve injury were discussed with the patient. I've informed the patient that the overall risk of these complications was 1%. The patient verbalizes understanding and agrees to proceed.

PROCEDURE IN DETAIL: The patient was brought to the operating room and placed on the operating room table in the supine position. Intravenous sedation was administered by the staff anesthesiologist. The patient's < \_\_\_\_ right left \_\_\_\_ > temporal region was prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. Local anesthetic agent with 3 cc of 1.0% lidocaine was injected lateral to the temporal artery. An incision through the dermis was made directly over the artery with a No. 15 scalpel blade. Using blunt tipped dissecting scissors along with skin hooks to separate the edges of the incision, dissection through the adipose to uncover the superficial temporal fascia was performed. The fascia was grasped with forceps a few millimeters lateral to the artery to expose the temporal artery. A 3 cm segment of the temporal artery was dissected free, and the artery was isolated in its entirely. A 3-0 silk suture was used to ligate the temporal artery both proximally and distally. The temporal artery was divided and sent for specimen analysis. Hemostasis was achieved using electrocautery. The fascia was next closed using 3-0 PDS sutures, and the skin was closed using a 4-0 monocryl suture in a subcuticular fashion. Dressing was placed in the usual fashion. The patient was taken to recovery in stable condition. The patient tolerated the procedure well without any complications. I was present throughout the entire operation.

-------- RETURN TO FLOOR -----------

TREATMENT DISPOSITION – The patient will return to the floor for routine postoperative recovery.

-------- DISCHARGE TO HOME -----------

TREATMENT DISPOSITION – The patient will be discharged to home and instructed to return to my office for follow up in two weeks.

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PL.OR - TOS

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REPORT OF OPERATIVE PROCEDURE

NAME: \_\_\_\_

FACILITY: \_\_\_\_\_\_\_\_\_ (Operating Room)

DATE OF PROCEDURE: \_\_\_\_

SURGEON: Peter Lin, MD

PREOPERATIVE DIAGNOSIS: 1. Right thoracic outlet syndrome, 2. Right arm pain

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Right first rib resection (CPT# 27882)

2. Anterior scalenectomy (CPT# 21705)

3. Brachial plexus neurolysis and neuroplasty (CPT# 64713)

4. Release of pectoralis minor muscle tendon (CPT# 24341)

PREOPERATIVE DIAGNOSIS: 1. Left thoracic outlet syndrome, 2. Left arm pain

POSTOPERATIVE DIAGNOSIS: Same

PROCEDURES:

1. Left first rib resection (CPT# 27882)

2. Anterior scalenectomy (CPT# 21705)

3. Brachial plexus neurolysis and neuroplasty (CPT# 64713)

4. Release of pectoralis minor muscle tendon (CPT# 24341)

ANESTHESIA: General anesthesia

SPECIMEN: First rib, anterior scalene muscle

ESTIMATED BLOOD LOSS: 20 ml

BLOOD ADMINISTERED: None

IV FLUID: 200 ml

DRAIN / TUBE PLACED: None

COMPLICATIONS: None

CONDITION: Stable

INDICATIONS: This is a \_\_\_ year-old patient who has been diagnosed with < \_\_\_\_\_ right left \_\_\_\_> thoracic outlet syndrome with symptoms including upper extremity pain and swelling. Due to the neurovascular compression caused by the first rib in the thoracic outlet region, the patient is taken to the operation room to undergo surgical removal of the first rib and scalenectomy. The purpose of the operation is to remove the first rib and decompress the thoracic outlet region which will alleviate the symptoms of thoracic outlet syndrome. Potential risks and complications of the proposed procedures including hematoma formation, bleeding, wound infection, nerve injury, venous injury, and pneumothorax were also discussed with the patient. I've informed the patient that the overall risk of these complications was 1%. The patient verbalizes understanding and agrees to proceed.

PROCEDURE IN DETAIL: The patient was brought to the operating room and placed on the operating room table in the supine position. General anesthesia was administered through endotracheal intubation by the anesthesiologist. The patient's < \_\_\_\_ right left \_\_\_\_ > neck and chest wall region were prepped sterilely and draped in the standard fashion. Appropriate time out was performed whereby the patient and site of surgery were identified. A transverse incision was made parallel in the supraclavicular fossa using a skin scalpel. The incision was extended from the sternocleidomastoid muscle to the anterior border of the trapezius. The platysma muscle was next encountered which was divided using electrocautery. After platysma muscle was opened, we identified the underlying scalene fat pad which was mobilized from medial to lateral fashion. Next we identified the anterior scalene muscle and phrenic nerve. The phrenic nerve was encircled and protected using a vessel loop. Next using blunt dissection, we isolated the entire anterior scalene muscle which was removed in its entirely using electrocautery. The muscle was sent to pathology for specimen analysis. Next subclavian artery and brachial plexus were identified. Neurolysis of the brachial plexus was performed in which all of the fibroinflammatory tissues attached to the brachial plexus were carefully removed from the entire segment of the brachial plexus. The removal of all fibroinflammatory tissues from the brachial plexus completed the neurolysis with brachial plexus neuroplasty portion of the procedure. Next we turned our attention to the first rib resection portion of the procedure. We identified the middle scalene muscle lying lateral to the brachial plexus. The middle scalene muscle was carefully divided using electrocautery. The long thoracic nerve was identified and preserved throughout the entire operation. We next identified the lateral segment of the first rib. The first rib was located beneath the divided middle scalene muscle. Using a periosteal elevator, we separated the ligamentous attachment from the first rib in its anterior and posterior segments. Next we divided the first rib using a bone cutter from its proximal and distal segment. The first rib was sent to pathology for specimen analysis. Electrocautery was used to achieve hemostasis from adjacent muscle tissues. Next saline solution was used to fill the operative field. A Valsalva maneuver was performed by the anesthesia service and we identified no evidence of air leak from the lung. A Jackson-Pratt drain was placed in the wound. A 3-0 PDS suture was used to close the platysma muscle, and skin layer was closed using a 4-0 monocryl suture in a subcuticular fashion.

Next we made a 2cm incision anterior to the acromial process. Incision was carried down using electrocautery. We identified the pectoralis major muscle which was carefully split open. Underneath the pectoralis major, we identified the tendon of pectoralis minor muscle as it attached to the acromial process. Using electrocautery, we divided the tendon of the pectoralis minor tendon which decompressed the space under which the brachial plexus passes through. The fascia was next closed using 3-0 PDS sutures, and the skin was closed using a 4-0 monocryl suture in a subcuticular fashion.

Dressing was placed in the usual fashion. The patient was extubated and taken to recovery in stable condition. The patient tolerated the procedure well without any complications. I was present throughout the entire operation.

TREATMENT DISPOSITION – The patient will be admitted to telemetry for observation and postoperative pain management.

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===== CPT CODES ======

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36821 AV anastomosis, direct, any site (eg. Cimino)

36830 AV graft - nonautogenous PTFE graft (other than direct)

36818 AV anastomosis, cephalic vein transposition

36819 AV anatomosis; basilic vein transposition

36820 AV anastomosis; open by forearm vein transposition

36838 Distal revasc & interval ligation (DRIL) for steal syndrome

36832 Open revision AV shunt (AVF/AVG) without thrombectomy

36833 Open revision AV shunt (AVF/AVG) with thrombectomy

36831 Thrombectomy AVF or AVG without revision

37607 Ligation or banding of angioaccess AV fistula

35903 Excision of infected prosthetic graft in extremity

23930 I & D - deep abscess or hematoma or upper arm/elbow

35011 Repair of aneurysm - Excision (partial or complete) and graft insertion for aneurysm, pseudoaneurysm, or associated occlusive disease

CPT Code PD DIALYSIS CATHETER SURGERY

49418 Percutaneous insertion of tunneled intraperitoneal catheter under image guidance

49320 Diagnostic laparoscopy

49324 Laparoscopic insertion of intraperitoneal dialysis catheter

49422 Removal of tunneled introperitoneal catheter

49325 Laparoscopic revision of intraperitoneal dialysis catheter

49326 Laparoscopic omentopexy, add-on

CPT Code OPEN AORTIC ANEURYSM SURGERY

33875 Repair thoracic aortic graft

33877 Repair thoracoabdominal aortic aneurysm

35001 Repair of aneurysm - carotid, subclavian artery, neck incision

35011 Repair of aneurysm - Excision (partial or complete) and graft insertion for aneurysm, pseudoaneurysm, or associated occlusive disease

35021 Repair of aneurysm - innominate, subclavian, thoracic incision

35081 Repair of aneurysm - abdominal aorta

35082 Repair of aneurysm - ruptured, abdominal aorta

35091 Repair of aneurysm - abdominal aorta involving visceral vessels

35102 Repair of aneurysm - abdominal aorta involving iliacs

35103 Repair of aneurysm - ruptured, abdominal aorta involving iliacs

35131 Repair of aneurysm - iliac artery (common, hypogastric, external)

35141 Repair of aneurysm - common femoral artery (profunda, femoris, SFA)

35151 Repair of aneurysm - popliteal artery

35697 Reimplantation, visceral artery to AAA prosthesis, each artery

CPT Code EMBOLECTOMY/THROMBECTOMY/GRAFT EXCISION

34001 Embolectomy/Thrombectomy - carotid, subclavian, innominate artery by neck incision

34101 Embolectomy/Thrombectomy - axillary, brachial, innominate, subclavian artery, by arm incision

34151 Embolectomy/Thrombectomy - renal, celiac, mesentery, aortoiliac artery by abdominal incision

34201 Embolectomy/Thrombectomy - femoropoliteal, aortoiliac artery, by leg incision

34203 Embolectomy/Thrombectomy - popliteal-tibio-peroneal artery by leg incision

34401 Thrombectomy, direct or with catheter; vena cava, iliac vein, by abdominal incision

34421 Thrombectomy, direct or with catheter; vena cava, iliac, fempopliteal vein, by leg incision

34451 Thrombectomy, direct or with catheter; vena cava, iliac vein, femopop vein, by abdominal and leg incision

34490 Thrombectomy, direct or with catheter; axillary and subclavian vein, by arm incision

35875 Thrombectomy of arterial or venous graft (other than hemodialysis graft or fistula)

35876 Thrombectomy of arterial or venous graft (other than hemodialysis graft or fistula) with revision

35881 Revision, lower extremity arterial bypass with w/o thrombectomy, w vein patch angioplasty

35879 Revision, lower extremity arterial bypass with w/o thrombectomy, w segmental vein interposition

35901 Excision of infected graft - neck

35903 Excision of infected graft - extremity

35905 Excision of infected graft - thorax

35907 Excision of infected graft - abdomen

34502 Reconstruction of vena cava, any method

37619 Open surgical ligation of IVC

27602 Decompression fasciotomy, leg; anterior and posterior compartments

34520 Cross-over vein graft to venous system

CPT Code REPAIR/EXPLORATION OF BLOOD VESSELS

35190 Repair acquired or traumatic arteriovenous fistula; extremities

35201 Repair blood vessel - direct neck, w/ w/o patch (other than fistula)

35206 Repair blood vessel - upper extremity

35226 Repair blood vessel - lower extremity

35256 Repair blood vessel with vein graft - lower extremity

35721 Exploration of femoral artery (no repair)

35741 Exploration of popliteal artery (no repair)

35800 Exploration - postop. hemorrhage, thrombosis, infection - Neck

35840 Exploration - postop. hemorrhage, thrombosis, infection - Abdomen

35860 Exploration - postop. hemorrhage, thrombosis, infection - Extremity

CPT Code ENDARTERECTOMY

35301 Carotid Endarterectomy

35390 Re-operation - CEA (> one month from original CEA)

60600 Excision of carotid body tumor; without excision of carotid artery

60605 Excision of carotid body tumor; with excision of carotid artery

35694 Arterial transposition/reimplantation-subclavian to carotid artery

35695 Arterial transposition/reimplantation-carotid to subclavian artery

35361 Endarterectomy +/- patch combined aortoiliac

35341 Endarterectomy +/- patch mesenteric, celiac, renal

35355 Endarterectomy +/- patch iliofemoral

35371 Endarterectomy +/- patch common femoral

35372 Endarterectomy +/- patch deep (profunda) femoral

CPT Code BYPASS SURGERY

35500 Harvest of arm vein, one segment

35522 Bypass graft, with vein; axillary-brachial

35525 Bypass graft, with vein; brachial-brachial

35572 Harvest of femoropopliteal vein

35700 Re-operation - fem-pop bypass graft

35501 Vein bypass graft - carotid

35556 Vein bypass graft - femoral-popliteal

35566 Vein bypass graft - fem - distal

35571 Vein bypass graft - popliteal-tibieal,-peroneal artery

35525 Vein bypass graft - brachial-brachial upper extremity

35583 In-situ vein bypass - femoral -popliteal

35585 In-situ vein bypass - fem - distal

35587 In-situ vein bypass - popliteal-tibial, or-peroneal artery

27641 Partial excision of fibula bone

35656 Prosthetic bypass graft - femoral - popliteal

35666 Prosthetic bypass graft - fem - distal

35606 Prosthetic bypass graft - carotid-subclavian

35621 Prosthetic bypass graft - axillary-femoral

35623 Prosthetic bypass graft - axillary-popliteal or-tibial

35631 Prosthetic bypass graft - aortoceliac, aortomesenteric, aortorenal

35646 Prosthetic bypass graft - aortofemoral or bifemoral

35654 Prosthetic bypass graft - axillary-bi femoral

35661 Prosthetic bypass graft - femoral-femoral

35665 Prosthetic bypass graft - iliofemoral

35685 Placement of vein patch or cuff at distal anastomosisof bypass graft

35686 Creation of AV during lower extremity bypass

27590 Amputation - AKA

27596 Re-amputation - AKA

27880 Amputation - BKA

27882 Amputation - BKA - Guillotine

27886 Re-amputation - BKA

27598 Amputation - TKA with knee disarticulation

28805 Amputation - foot - TMA

28810 Amputation - metatarsal with toe, single

28820 Amputation - toe, metatarsophalangeal joint

CPT Code DEBRIDEMENT / INCISION & DRAINAGE / FASCIOTOMY / WOUND VAC

11042 Debridement - skin & subcut. tissue (excisional, <20 sq.cm.)

11043 Debridement -skin, subcutaneous tissue & muscle (excisional, <20 sq.cm.)

27602 Decompression fasciotomy, leg; anterior and posterior compartments

23930 Incision and Drainage - deep abscess, or hematoma - upper arm or elbow area

27301 Incision and Drainage - deep abscess, infected bursa, or hematoma - thigh/knee region

27603 Incision and Drainage - deep abscess, infected bursa, or hematoma - leg or ankle

28001 Incision and drainage bursa - foot

28002 Incision and drainage below fascia - foot - single bursal space

97605 Wound vac (< or = 50 cm area)

97606 Wound vac (> 50 cm area)

15738 Muscle flap, local, lower extremity

11981 Insertion of non-biodegradable drug delivery implant (antibiotic bead placement)

11982 removal of non-biodegradable drug delivery implant (antibiotic bead removal)

11983 removal with re-insertion of non-biodegradable drug delivery implant (antibiotic bead replacement)

CPT Code THORACIC OUTLET SYNDROME

21615 Excision first and/or cervical rib

21616 Excision first and/or cervical rib+sympathectomy

64713 Neuroplasty, brachial plexus

21705 Division of anterior scalene muscle

64818 Sympathectomy, lumbar

64802 Sympathectomy, cervical

24341 Pectoralis muscle tendon release and repair

36821 AV anastomosis, direct, any site (eg. Cimino type)

CPT Code ANTERIOR SPINE INSTRUMENTATION

22556 Anterior interbody arthrodesis - thoracic

22558 Anterior interbody arthrodesis - lumbar

22585 Anterior interbody arthrodesis (earch add space)

22855 Removal of anterior instrumentation/spine fixation device

22845 Anterior instrumentation: 2-3 vert segments

22846 Anterior instrumentation: 4-7 vert segments

49000 Abdominal laparotomy

39560 Release of median arcuate ligament

64818 Neurolysis of celiac plexus

CPT Code MISCELLANEOUS PROCEDURE

37609 Temporal artery biopsy or ligation

64708 Neuroplasty, major periphral nerve (arm or leg, open), Peroneal nerve decompression with neurolysis/neuroplasty

25111 Ganglion cyst removal, or ganglionectomy (primary), of the wrist, finger, or sole of the foot.

25112 Ganglion cyst removal, or ganglionectomy (recurrent), of the wrist, finger, or sole of the foot.

27347 Open excision of extraarticular portion of ganglion cyst of the popliteal artery

CPT Code EXCISION OF SOFT TISSUE TUMOR

21011 Excision, tumor, soft tissue of face or scalp, subcutaneous (<2cm)

21013 Excision, tumor, soft tissue of face or scalp, subfascial (eg, subgaleal, intramuscular) (<2cm)

21550 Biopsy, soft tissue of neck of thorax

21555 Excision, tumor, soft tissue of neck or anterior thorax, subcutaneous (<3cm)

21556 Excision, tumor, soft tissue of neck or anterior thorax, subfascial (eg. Intramuscular) (<5cm)

21557 Radical resection of tumor (eg, sarcoma), soft tissue of neck or anterior thorax (<5cm)

21920 Biopsy, soft tissue of back or flank, superficial

21930 Excision, tumor, soft tissue of back or flank, subcutaneous (<3cm)

21932 Excision, tumor, soft tissue of back or flank, subfascial (eg. Intramuscular) (<5cm)

21935 Radical resection of tumor (eg, sarcoma), soft tissue of back or flank (<5cm)

23065 Biopsy, soft tissue of shoulder area, superficial

23075 Excision, tumor, soft tissue of shoulder area, subcutaneous (<3cm)

23076 Excision, tumor, soft tissue of shoulder area, subfascial (eg. Intramuscular) (<5cm)

23077 Radical resection of tumor (eg, sarcoma), soft tissue of shoulder area (<5cm)

24065 Biopsy, soft tissue of upper arm or elbow area, superficial

24075 Excision, tumor, soft tissue of upper arm or elbow area, subcutaneous (<3cm)

24076 Excision, tumor, soft tissue of upper arm or elbow area, subfascial (eg. Intramuscular) (<5cm)

24077 Radical resection of tumor (eg, sarcoma), soft tissue of upper arm or elbow area, (<5cm)

25065 Biopsy, soft tissue of forearm and/or wrist area, superficial

25075 Excision, tumor, forearm and/or wrist area; subcutaneous (<3cm)

25076 Excision, tumor, forearm and/or wrist area; deep, subfascial (eg. Intramuscular) (<3cm)

25077 Radical resection of tumor (eg, sarcoma), soft tissue of forearm and/or wrist area (<3cm)

25111 Removal of wrist ganglion cyst (wrist tendon lesion)

26115 Excision, tumor or vascular malformation, hand or finger; subcutaneous (<1.5cm)

26116 Excision, tumor or vascular malformation, hand or finger; deep, subfascial, intramuscular (<1.5cm)

26117 Radical resection of tumor (eg, malignant neoplasm), soft tissue of hand or finger (<3cm)

27047 Excision, tumor, soft tissue of pelvis and hip area, subcutaneous (<3m)

27048 Excision, tumor, soft tissue of pelvis and hip area, subfascial (eg. Intramuscular) (<5cm)

27049 Radical excision of tumor (eg. sarcoma) soft tissue of pelvis and hip area (<5cm)

27323 Biopsy, soft tissue of thigh or knee area; superficial

27327 Excision, tumor, soft tissue of thigh or knee area, subcutaneous (<3cm)

27328 Excision, tumor, soft tissue of thigh or knee area, subfascial (eg. Intramuscular) (<5cm)

27613 Biopsy, soft tissue of leg or ankle; superficial

27615 Radical excision of tumor (eg. sarcoma) soft tissue of leg or ankle area (<5cm)

27618 Excision, tumor, soft tissue of leg or ankle, subcutaneous (<3cm)

27619 Excision, tumor, soft tissue of leg or ankle area, subfascial (eg. Intramuscular) (<5cm)

28043 Excision, tumor, soft tissue of foot or toe, subcutaneous (<1.5cm)

28045 Excision, tumor, soft tissue of foot or toe area, subfascial (eg. Intramuscular) (<1.5cm)

28046 Radical excision of tumor (eg. sarcoma) soft tissue of foot or toe (<3cm)

22903 Excision of soft tissue tumor of abdominal wall