Learning objectives:

Chief Complaint: 82 yo female with acute CVA with edema and craniectomy, acute zoster and pneumothorax

Upon completion of this exercise, the student should be able to show proficiency in the following learning objectives:

Student is able to recognize potential post embolic stroke complications.

Student is able to identify the role of subcutaneous emphysema in pneumothorax.

Student recognizes the physical exam findings consistent with herpes zoster.

Student is able to identify the proper treatment for herpes zoster.

Student is aware of appropriate protection in the post craniectomy patient with physical therapy.

Student is able to weigh risk versus benefit of anticoagulation in the post embolic stroke patient.

Student is able to identify methods for preserving skull flap after craniectomy.

Student is able to discuss potential pharmacological treatment for cerebral edema.

Student is able to differentiate alkaline phosphatase from transaminases when determining liver etiologies.

Student is able to identify medications most likely involved with transaminitis.

Learning objectives:

Chief Complaint: 75 yo male with ARDS COVID-19

Upon completion of this exercise, the student should be able to show proficiency in the following learning objectives:

Student is able to discuss similarities and differences between influenza and COVID-19.

Student is able to recognize typical presentation of viral pneumonia on chest x-ray.

Student is able to recognize and explain etiology of air bronchograms on a chest x-ray.

Student is able to recognize respiratory acidosis and contrast and compare uncompensated, compensating in compensated sin areas.

Student is able to discuss the evolving rolls of different therapeutics in COVID-19.

Student is able to recognize Hallmark signs of pre-renal failure in a septic hypotensive patient.

Student is able to recognize acute tubular necrosis as the most likely scenario in uncorrected pre-renal failure.

Student is able to identify the role of lactulose in hepatic encephalopathy.

Student is able to identify asterixis as an exam finding in a patient with hepatic encephalopathy.

Student understands the necessity to renally dose medications in stage 3 or 4 kidney failure.

Learning objectives:

Chief Complaint: 52 yo male with H1N1 and viscous perforation, STEMI and Atrial fibrillation with RVR

Upon completion of this exercise, the student should be able to show proficiency in the following learning objectives:

Student is able to discuss H1N1 as a particularly virulent form of influenza A.

Student is able to identify appropriate treatment of ST-elevation myocardial infarction.

Student is able to recognize series potential side effects of amiodarone treatment.

Student is able to recognize presenting signs of acute perforation of viscus.

Student is able to identify the laboratory presentation of high output ostomy.

Student is able to discuss presentation of critical illness polyneuropathy.

Student is able to recognize the difference between transthoracic and transesophageal echocardiogram and identification of thrombus in atrial fibrillation.

Student is able to identify the role of atrial fibrillation in acute ischemic bowel.

Student is able to identify proper indications for total parenteral nutrition.

Student understands the necessity of regular laboratory monitoring while patient is on total parenteral nutrition.

Learning objectives:

Chief Complaint: 78 yo male with Myelodysplastic syndrome, pneumonia, melena, and bladder cancer

Upon completion of this exercise, the student should be able to show proficiency in the following learning objectives:

Student understands transfusion of different blood products.

Student can recognize myelodysplastic syndrome with or without pancytopenia.

Student can list medications which should be avoided in myelodysplastic syndrome with severe anemia and thrombocytopenia.

Student can identify definitive diagnostic study for myelodysplastic syndrome.

Student can identify risk factors of bladder cancer.

Student can recognize signs of acute urinary obstruction.

Student understands emergent treatment of urinary obstruction.

Student can differentiate post renal failure from pre-renal failure.

Student can differentiate appropriate placement of a Dobbhoff verses a standard nasogastric tube.

Student can identify proper laboratory to confirm proteinuria and a contaminated sample with concerns of renal failure.

Learning objectives:

Chief Complaint: 72 yo male with acute endocarditis, acute GI bleed, Hx of EtOH abuse

Upon completion of this exercise, the student should be able to show proficiency in the following learning objectives:

Student is able to list differentials for hypercoagulable state.

Student is able to recognize the etiologies of avascular necrosis.

Student recognizes important effects of long-term steroids.

Student is able to list the most important steps in treatment of acute exacerbation of COPD.

Student can recognize the causes of endocarditis.

Student can recognize the causes of acute vs. subacute endocarditis.

Student is able to list the first steps of treatment of acute COPD exacerbation.

Student understands the role of FFP in warfarin overdose.

Student recognizes the contraindications to anticoagulation.

Student is able to identify the presentation of mitral regurgitation.

Learning objectives:

Chief Complaint: 57 yo male with ARDS from Influenza A H1N1

Upon completion of this exercise, the student should be able to show proficiency in the following learning objectives:

Student is able to identify the pattern of influenza pneumonia on a chest x-ray.

Student as able to identify similarities and differences between Influenza and bacterial pneumonias.

Student is able to understand the indication and application of VV and VA ECMO.

Student is able to identify acute respiratory acidosis on an arterial blood gas.

Student is able to identify compensatory mechanisms in respiratory acidosis.

Student is able to identify potential etiologies for persistent hypokalemia in a patient with IV fluid.

Student is able to identify the relationship between potassium and magnesium in refractory hypokalemia.

Student is able to identify the relationship between calcium and albumin levels in relation to corrected serum calcium.

Student is able to recognize acute reactive hyperglycemia due to IV steroid use.

Student is able to identify the appropriate antibiotic treatment for MRSA pneumonia.

Student is able to identify the acute tissue damage associated with Staph pneumonia.

Learning objectives:

Chief Complaint: 48 yo male fall from ladder with basilar skull fracture, ICH and pneumothorax

Upon completion of this exercise, the student should be able to show proficiency in the following learning objectives:

Student is able to recognize complications post cast application with fracture.

Student is able to identify signs of underlying mental status in patients with AMS.

Student understands the etiologies of fever not related to infection.

Student understands the role of heparin therapy.

Student understands the etiology of HIT.

Student is able to identify HIT as well as diagnostic and treatment protocols.

Student can recognize cerebral edema on a CT of the brain.

Student realizes the importance of rapid treatment tension pneumothorax.

Student is able to identify etiologies of intrinsic renal failure in rhabdomyolysis.

Student is able to identify and manage dry gangrene.

Learning objectives:

Chief Complaint: 72 yo male with hypercarbia and hepatic encephalopathy

Upon completion of this exercise, the student should be able to show proficiency in the following learning objectives:

Student is able to recognize the triad of Wernicke's encephalopathy.

Student is able to develop a robust differential diagnosis in the patient with altered mental state.

Student is able to identify proper order of the administration of glucose and thiamine for patient with ETOH intoxication.

Student is able to identify classic findings on chest x-ray of COPD.

Student is able to identify hypercarbia on an arterial blood gas.

Student is able to recognize altered mental state due to hypercarbia.

Student understands treatment protocol for hypercarbia.

Student is able to recognize findings with hepatic encephalopathy.

Student understands that hypothyroidism can mimic other altered mental states.

Student is able to identify laboratory findings in acute hepatic failure.

Learning objectives:

Chief Complaint: 80 yo female with pericardial tamponade after pacer placement

Upon completion of this exercise, the student should be able to show proficiency in the following learning objectives:

Student is able to recognize cardinal signs of pericardial tamponade.

Student is able to recognize presentation on chest x-ray of pericardial tamponade.

Student is able to recognize the presentation on EKG of pericardial tamponade.

Student is able to recognize the pathognomonic finding on echocardiogram of pericardial tamponade.

Student understands the role of Kcentra in apixaban overdose.

Student is able to differentiate between urinary colonization and urinary infection.

Student is able to recognize the importance of squamous or epithelial cells in a urinalysis.

Student is able to calculate a Cockcroft Gault creatinine clearance.

Student recognizes the natural decline in kidney function related to age.

Student understands the necessity to renally dose medications in stage 3 or 4 kidney failure.

Learning objectives:

Chief Complaint: 68 yo female with acute pancreatitis after ERCP, anemia and multiple myeloma

Upon completion of this exercise, the student should be able to show proficiency in the following learning objectives:

Student is able to recognize the risk factors of ERCP.

Student is able to recognize presentation on chest x-ray of pleural effusion.

Student is able to recognize the presentation of acute pancreatitis.

Student is able to list the most appropriate first steps in the treatment of acute pancreatitis.

Student understands the multiple sources of high alkaline phosphatase.

Student understands the differentials of a high reticulocyte count.

Student is able to recognize the importance of the emergence of Candida auris.

Student is able to understand the boney manifestations of multiple myeloma.

Student recognizes the significance of transaminases.

Student understands the importance of reviewing radiology images themselves.

Learning objectives:

Chief Complaint: 77 yo female with acute onset SOB, prior pneumonia, asthma history

Upon completion of this exercise, the student should be able to show proficiency in the following learning objectives:

List differentials for acute shortness of breath.

Recognize the etiologies of asthma exacerbation.

Recognize important effects of beta blockers.

List the most important steps in treatment of emergent dyspnea.

Recognize the causes of reactive hyperglycemia.

Recognize the causes of reactive hypertension.

List the first steps in working up hyponatremia.

Understand the role of urine and serum osmolality in sodium disorder.

Recognize the importance of medication reconciliation.

List etiologies of atrial fibrillation.

Learning objectives:

Chief Complaint: 77 yo male with vertigo, stroke, and atrial fibrillation

Upon completion of this exercise, the student should be able to show proficiency in the following learning objectives:

Student is able to recognize the important signs of central vertigo.

Student is able to develop a robust differential diagnosis in the patient vertigo.

Student is able to identify the symptoms of vertebral artery insufficiency.

Student is able to identify structures associated with coordination of movement.

Student is able to identify exams for diagnosis of BPPV.

Student is able to recognize treatment options for peripheral vertigos.

Student understands the redundancy of perfusion to the brain from the major vessels.

Student is able to recognize risk factors with anticoagulation.

Student is able to identify medications which are notorious for orthostasis.

Student is able to understand the indication for a bubble study.