ABDOMINAL PAIN **09/13/2022**	
Follow Assessment, General Procedures Protocol	

EMR	• Assess and support ABCs
	• Position of comfort
	  • Supine if:
	  • Trauma
	  • Hypotension
	  • Syncope
	• NPO
	• Monitor vital signs
	• Oxygen indicated for:
	  • Unstable vitals
	  • Severity of pain
	  • Suspected GI bleed

EMT	• 12-lead – **See CARDIAC-ECG/12 Lead Procedure**
A-EMT	• IV – NS with standard tubing • Titrate fluid to patient's needs – **See Shock Protocol**
EMT-I/ PARAMEDIC	• Cardiac monitoring • Pain management – **See Pain Management Protocol**

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ACUTE ADRENAL INSUFFICIENCY PROTOCOL 02/02/2021

Follow Assessment, General Procedures Protocol

- Acute adrenal insufficiency (crisis) can occur in the following settings:
  - During neonatal period (undiagnosed adrenal insufficiency)
  - In patients with known, pre-existing adrenal insufficiency (e.g., Addison's disease)
  - In patients who are chronically steroid dependent (i.e., taking steroids daily, long-term, for any number of medical conditions)
  - Adrenal crisis can be triggered by any acute stressor (e.g., trauma or illness), as well as by abrupt cessation of steroid use (for any reason).
- Signs/symptoms of adrenal crisis: Altered mental status, seizures; generalized weakness, hypotension, hypoglycemia, hyperkalemia.
- Notify hospital you are transporting known/suspected adrenal crisis patient
- Emergency transport for: ALOC, hypotension, hypoglycemia, suspected hyperkalemia.

Acute adrenal crisis is an immediately ***life-threatening*** emergency, and must be treated aggressively

EMR	• PMH, Take thorough history of patient's steroid use/dependence. Determine if the patient is on oral hydrocortisone. • Assess and support ABC's • Oxygen therapy, as needed • Monitor vitals
EMT	• Check blood glucose • If blood glucose is <60: administer glucose solution orally if the patient is awake and able to protect own airway • Obtain 12 lead ECG; if time permitted. – **See CARDIAC-ECG/12-Lead procedure**

A-EMT	• If blood glucose < 60 and the patient is unable to protect own airway :
	  • Initiate IV
	  • Dextrose
	• IO as indicated for patient condition – **See EZ-IO/IO infusion**
	• Fluid Bolus 500 cc NS (or 20cc/kg for peds); repeat if hypotensive with standard tubing
	• Do Not Delay Transport

EMT-I	• Continuous Cardiac Monitoring for ECG Changes - **See CARDIAC-ECG/12-Lead procedure**
PARAMEDIC	In patients with known/suspected adrenal crisis: • Consider Methylprednisolone/Solu-medrol, after **MD Consult.** • May administer patient's own steroid medicine if available **MD Consult** Treat ECG findings of hyperkalemia - **See Hyperkalemia Protocol**.

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ACUTE NAUSEA AND VOMITING
09/13/2022

Follow Assessment, General Procedures Protocol

Every effort should be made to transport patients that:

- Have been vomiting > 6 hours
- Show significant signs of dehydration (e.g. tachycardia, hypotension)
- Significant abdominal pain
- Patients at the extremes of age <5 or >55
- Patients with cardiac history
- Patients with a chronic medical condition are especially vulnerable to serious problems associated with prolonged vomiting.

Use caution with these patients that have a cloth mask placed over the nose and mouth or Oxygen delivery device for COVID-19 precautions, especially those that tie in place. Consider replacing with a surgical mask that is easily removed.

EMR/EMT	• Assess and support ABCs • Position of comfort • Monitor vital signs • Administer oxygen if indicated • Use caution when using a mask
EMT	• Consider obtaining 12 Lead - **See CARDIAC- ECG/12 Lead** • Check CBG
A-EMT	• IV – NS with standard tubing • Fluid challenge, titrate fluid to patient's needs– **See Shock Protocol**
EMT-I	• Ondansetron
PARAMEDIC	• Prochlorperazine - Compazine • Promethazine - Phenergan

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ALLERGIC REACTION/ANAPHYLAXIS (SYSTEMIC) 05/03/2016

Follow Assessment, General Procedures Protocol

- In less severe systemic allergic reactions or in situations where epinephrine may have more risk than benefit, patients may receive diphenhydramine/benadryl without epinephrine.

- Patients with venomous snakebites should be taken to Riverbend hospital.

EMR	• Assess and support ABCs • Oxygen therapy – Assist ventilations as necessary. –**See AIRWAY - Oxygen Therapy Procedure** • Position of comfort • Attempt to position patient supine unless respiratory distress predominates • Monitor vital signs • Treat for Shock - **See Shock Protocol** • Epinephrine 1:1000 (Auto Injection Device only)
EMT	• Epinephrine 1:1000 IM
A-EMT	• IV – NS with standard tubing or saline lock • IO if indicated for shock and no IV access – **See EZ-IO/IO Infusion** • Consider albuterol/atrovent • Fluid challenge, titrate fluid to patient's needs– **See Shock Protocol**
EMT-I	• Diphenhydramine/Benadryl IM/IV/PO
PARAMEDIC	• If vascular collapse, consider epinephrine 1:10,000 IV/IO • Methylprednisolone/Solu-medrol

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ASSESSMENT/GENERAL PROTOCOL
09/13/2022

Priorities in patient care always start with the basic life support procedures such as airway maintenance, CPR and stopping life threatening blood loss. In the following protocols, most care is done by standing order within your scope of practice. No procedure may be done that is outside the scope of practice of the individual EMS provider. Some treatment protocols require a **MD Order** prior to implementation**.**

To obtain an **MD Order** for care not specified in the protocols:

- Contact an emergency department physician by phone or radio.
  - **RiverBend Hospital – (541) 222-1581**
  - **McKenzie Willamette Hospital – (541) 726-4470**
  - **University District Hospital – (541) 686-7341**
  - **Peace Harbor Hospital (541) 997-1076**
- Contact a private physician.

In the event that an emergency department physician cannot be contacted for urgent orders refer to the protocols and give the care you judge necessary.

PARAMEDICS GIVING ORDERS TO INITIAL UNITS ON SCENE: If the request appears reasonable a paramedic is authorized to give the order. If in doubt, the paramedic should attempt to consult with On-line Medical Control prior to giving the order to on-scene personnel. The Paramedic is expected to be familiar with Central Lane County Protocols and Oregon Scope of Practice for all levels of EMS personnel.

SPECIAL PATIENTS/PLAN OF CARE: If there are identified patients that need a specific protocol written for their medical condition/circumstance, a Plan of Care will be written by the Supervising Physician and kept on file at the EMS Agency and if appropriate, the patient will also receive a copy.

UNIVERSAL TREATMENT GUIDELINES: The following should be done for every patient:

- Scene Safety
- Trauma Scene MARCHH Assessment
- Physical Exam
- History Assessment
- Follow appropriate patient treatment protocol if applicable

ASSESSMENT/GENERAL PROTOCOL 09/13/2022	
SCENE SAFETY	Identify potential threats/hazards to the safety of the: • EMS personnel • Patients • By-standers Wear appropriate PPE based on the dispatch information and the actual conditions found on scene.
TRAUMA SCENE ASSESSMENT	
MECHANISM OF INJURY	1. What forces and energies led to the victims' injuries? 2. Position of automobiles, weapons, etc. 3. Potential speed of vehicles 4. Could a medical problem be the cause of the trauma? 5. Number of patients, critical, intermediate and delayed – **See TRAUMA - Field Triage Score/Triage Procedure** 6. Need for additional resources, i.e. medic units, fire apparatus, police, or utilities.
PHYSICAL EXAMINATION	
PRIMARY SURVEY	• Assess for life threatening injuries. • Use MARCCH Assessment for major trauma mechanisms – **See TRAUMA - Bleeding and Hemorrhage Control & Major Trauma Assessment & Treatment priorities** • **A**irway **B**reathing, **C**irculation. • **D**isability - cervical spine stabilization (if appropriate Spinal immobilization – **See TRAUMA - Spine Trauma;** • Glasgow Coma Score (GCS); • **E**xpose/environment.

SECONDARY SURVEY	The Secondary Survey is performed only after the Primary Survey is completed, all life- threatening injuries have been identified and treated, and resuscitation initiated. ○ Head to toe evaluation of the patient, determine chief complaint. Determine **DCAP-BTLS** (Deformity, Contusions, Abrasions, Penetrations, Burns, Tenderness, Lacerations, Swelling). ○ Obtain a complete set of vital signs including blood pressure, pulse rate with quality, ventilation rate (including breath sounds), skin color, and temperature. ○ Monitor SpO_2, ECG (including 12 lead) if appropriate, $ETCO_2$ and obtain CBG reading if appropriate ○ Obtain pain severity scale including **PQRST** (Precipitation, Quality, Radiation, Severity, Time) ○ Complete neuro assessment •
HISTORY ASSESSMENT	
	1. Establish why help was requested (again, try to identify a chief complaint) 2. Obtain **SAMPLE** History • **S**ymptoms • **A**llergies • **M**edication • **P**ast Medical History • **L**ast Meal • **E**vent leading up to the 911 call

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BEHAVIORAL EMERGENCIES
02/01/2022

- EMS Personnel should consider their safety:
  - Request law enforcement as needed
  - Check the patient for weapons prior to transport
  - If combative (threat to self or others) consider use of restraints or sedation– **See Physical Restraint /Chemical Sedation Procedure**
- Follow Assessment, General Procedures Protocol
- Some behavioral emergencies are life threatening and can be caused by medical conditions such as:
  - Hypoglycemia – Low CBG
  - Excited Delirium –
    - Behavior Components: abrupt onset, confusion and bizarre behavior, hallucinations and paranoia, violent behavior, super-human strength/insensitivity to pain
    - Physical components: Hyperthermia (undressing common, diaphoresis), presence/evidence of stimulant drugs, psychiatric disease

EMR	• Access and support ABCs • Look for possible overdose or self-injury • If suspicion of hypoglycemia, the patient is cooperative and has no difficulty swallowing, administer oral glucose. • If suspicion of excited delirium, be cautious of airway compromise.
EMT	• Check CBG, if <60, the patient is cooperative and has no difficulty swallowing and is cooperative, administer oral glucose.
A-EMT	• IV – NS with standard tubing or saline lock, TKO • Dextrose
EMT-I	• Cardiac monitor if tolerated – **See CARDIAC - ECG/12-lead**

PARAMEDIC	• Psychosis without threat:
	  • Olanzapine
	• Agitation without threat:
	  • Midazolam
	• Threat to self and/or others requiring chemical restraint – **See Physical Restraint /Chemical Sedation Procedure**

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CARDIAC ARREST CARE AFTER ROSC - ADULT
02/02/2021

- Follow Assessment, General Procedures Protocol
- Consider Reversible Causes

-Hypovolemia	-Tension pneumothorax
-Hypoxia	-Tamponade, cardiac
-Hydrogen ion (acidosis)	-Toxins
-Hypo/Hyperkalemia	-Thrombosis, coronary
-Hypothermia	-Thrombosis, pulmonary

EMR	• Assess and support ABCs • Monitor Vital Signs • Maintain O_2 saturation of ≥ 94% • Ventilate at a rate of 10-12 breaths per minute for adults
EMT	• Supraglottic Airway Placement **- AIRWAY– SGA** • Quantitative waveform capnography - **See AIRWAY – Capnography/EtCO$_2$** • Obtain 12 lead **– See CARDIAC - ECG/12Lead** • Activate STEMI if appropriate.
A-EMT/EMT-I	• Treat hypotension if B/P < 90 • IV with standard tubing. • IO if indicated and no IV Access **– See EZ-IO/IO Infusion** • Administer 1-2 liters of NS while monitoring lung sounds.
PARAMEDIC	• Consider dopamine if appropriate. • Consider norepinephrine if appropriate. • Consider transcutaneous pacing if appropriate. • Calcium chloride or gluconate (suspected hyperkalemia). • Sodium bicarbonate (suspected hyperkalemia).

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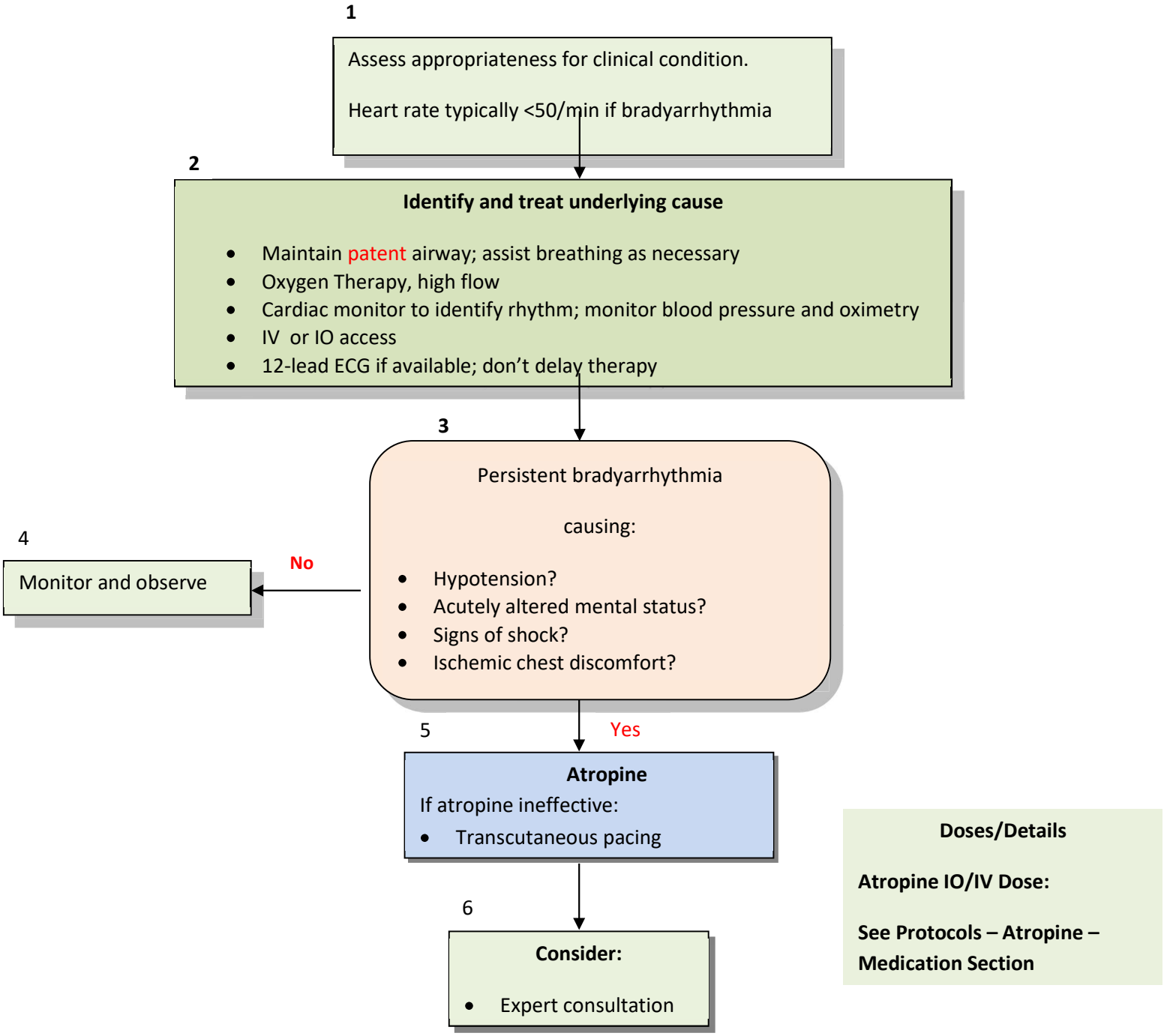
CARDIAC BRADYARRHYTHMIA
09/13/2022

Follow Assessment, General Procedures Protocol

- Adult, typically <50 with signs of compromise
- Pediatric, pre-puberty, typically <60 with signs of poor perfusion despite adequate oxygenation and ventilation.

EMR	• Assess and support ABC's • Oxygen therapy, high flow. • Position of comfort • CPR if indicated per AHA guidelines
EMT	• Obtain 12 lead ECG - **See CARDIAC-ECG/12 Lead Procedure**
A-EMT	• IV – NS with standard tubing or saline lock TKO • IO as indicated for shock and no IV access – **See EZ-IO/IO Infusion procedure** • Fluid bolus, treat for shock – **See Shock Protocol**
EMT-I	• Cardiac monitoring - **See CARDIAC-ECG/12 Lead Procedure** • Atropine (for hypotension, acutely altered mental status, signs of shock, ischemic chest discomfort, or acute heart failure)
PARAMEDIC	• Epinephrine (Pediatric) • Transcutaneous pacing • Consider **MD Consult**

Adult Bradycardia
(With Pulse)



CARDIAC CHEST PAIN
09/13/2022

Follow Assessment, General Procedures Protocol

EMR	• Assess and support ABC's • Administer oxygen, high flow – **See AIRWAY - Oxygen Therapy Procedure** • Position of comfort
EMT	• Obtain 12 lead ECG - **See CARDIAC-ECG/12 Lead Procedure** • Aspirin • Nitroglycerin (Assist patient with their own prescription)
A-EMT	• IV – NS with standard tubing or saline lock TKO • IO as indicated for shock and no IV access -**See EZ-IO/IO Infusion Procedure** • Nitroglycerin
EMT-I/ PARAMEDIC	• Cardiac monitoring - **See CARDIAC-ECG/12 Lead Procedure** • Pain management – **See Pain Management Protocol**

STEMI/CATH ALERT CRITERIA

- Chest pain or suspected cardiac discomfort,
- (and) No LBBB;
- (and) 1 mm ST elevation in 2 anatomically adjacent leads
- (or) ECG printout consistent with acute STEMI

High Suspicion Criteria:
- Greater than 2mm elevation in two or more adjacent leads
- No DNR

ACTIVATION

- Use Pulsara for Activation or Call receiving hospital and provide following information:
- Patient Name, DOB, weight, expected ETA
- Deliver 12 lead to ED staff
- Consider a 2nd IV
- Transport with defib pads anterior/posterior position
- RiverBend (541) 222-1581
- McKenzie Willamette (541) 726-4470

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CARDIAC PULSELESS ARREST
09/13/2022

Follow Assessment, General Procedures Protocol

- If the patient has a ROSC - **See Cardiac Arrest Care After ROSC Protocol**

EMR	• Quality CPR
	  • Push hard and fast. Allow complete chest recoil.
	  • Minimize interruptions in compressions
	  • Rotate compressor every 2 min
	• Assess and support ABCs
	• Attach an AED and follow voice prompts **– See CARDIAC-Defibrillation procedure**
	• Oxygen – Ventilation

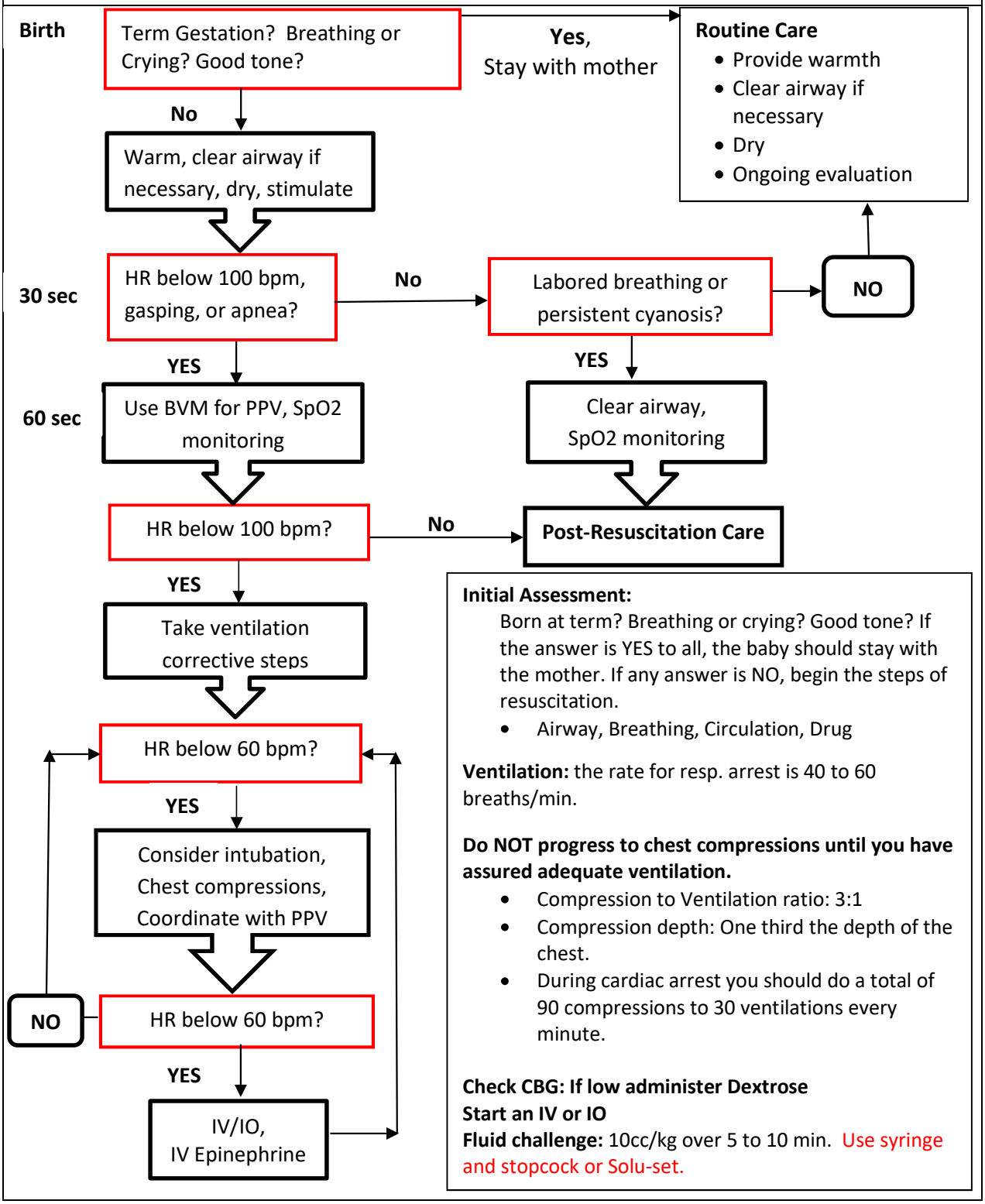
EMT	• Supraglottic Airway Placement **- See AIRWAY-SGA** • Quantitative waveform capnography **– See AIRWAY-Capnography/ETCO$_2$ procedure** • If ETCO$_2$ <10mm Hg. Attempt to improve CPR quality

A-EMT	• IV- NS with standard tubing
	• IO if indicated for shock and no IV access – **See EZ-IO Infusion**
	• Fluid challenge
	  • 20cc/kg 1 month and older
	  • 10cc/kg over 5-10 minutes for neonate
	• D50%
	• Naloxzone

EMT-I	• Manual Defibrillation **– See CARDIAC-Defibrillation Procedure** • Epinephrine • Amiodarone
PARAMEDIC	• Intubation • Needle chest decompression (Suspected Tension Pneumothorax) – **See AIRWAY-Pleural Chest Decompression Procedure** • Magnesium sulfate (Torsades de Pointes) • Sodium bicarbonate (suspected hyperkalemia) • Calcium chloride or gluconate (suspected hyperkalemia)

CARDIAC PULSELESS ARREST
09/13/2022

NEONATAL PATIENT: From birth to 1 month old



Initial Assessment:
Born at term? Breathing or crying? Good tone? If the answer is YES to all, the baby should stay with the mother. If any answer is NO, begin the steps of resuscitation.

- Airway, Breathing, Circulation, Drug

Ventilation: the rate for resp. arrest is 40 to 60 breaths/min.

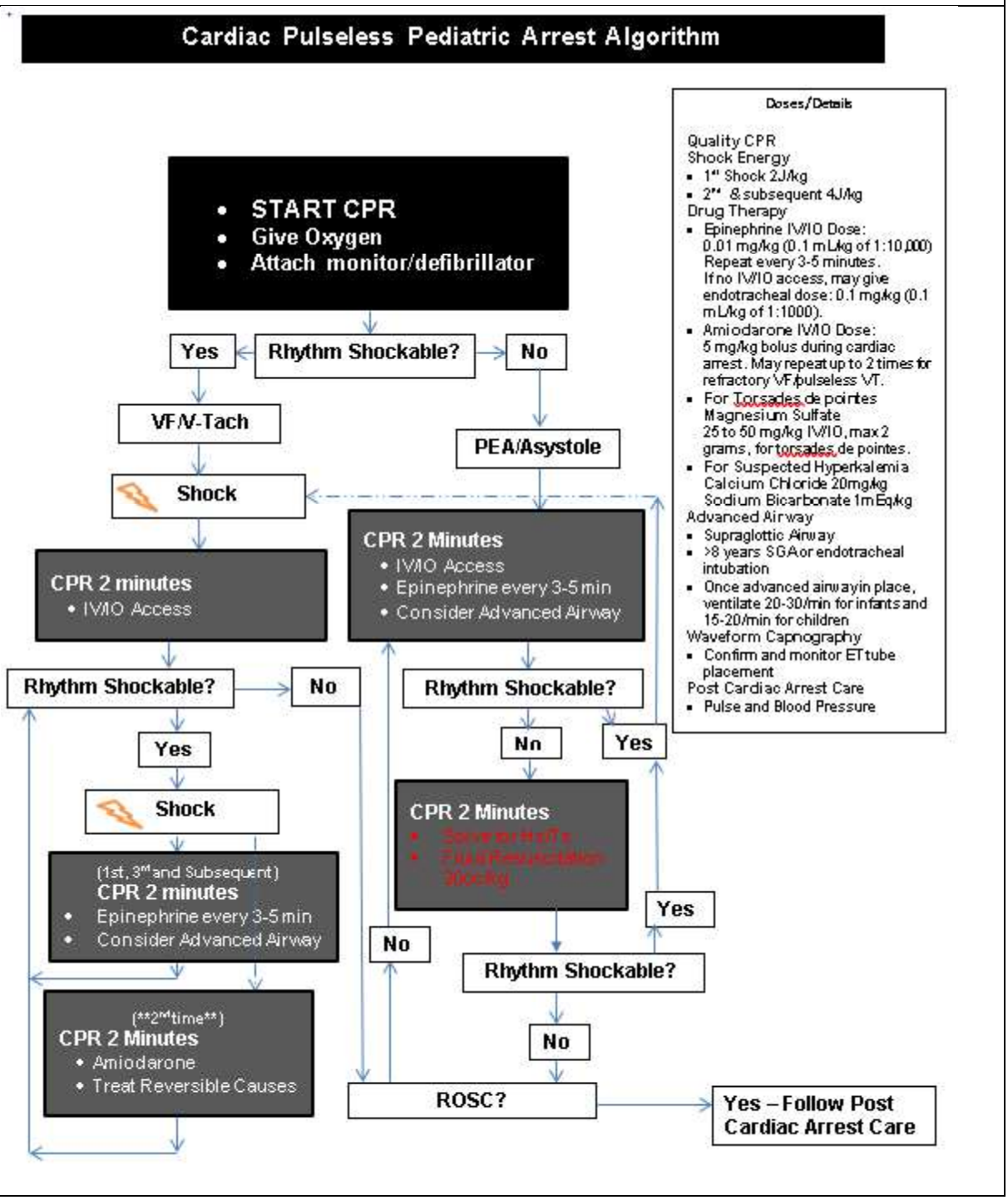
Do NOT progress to chest compressions until you have assured adequate ventilation.

- Compression to Ventilation ratio: 3:1
- Compression depth: One third the depth of the chest.
- During cardiac arrest you should do a total of 90 compressions to 30 ventilations every minute.

Check CBG: If low administer Dextrose
Start an IV or IO
Fluid challenge: 10cc/kg over 5 to 10 min. Use syringe and stopcock or Solu-set.

CARDIAC PULSELESS ARREST
09/13/2022

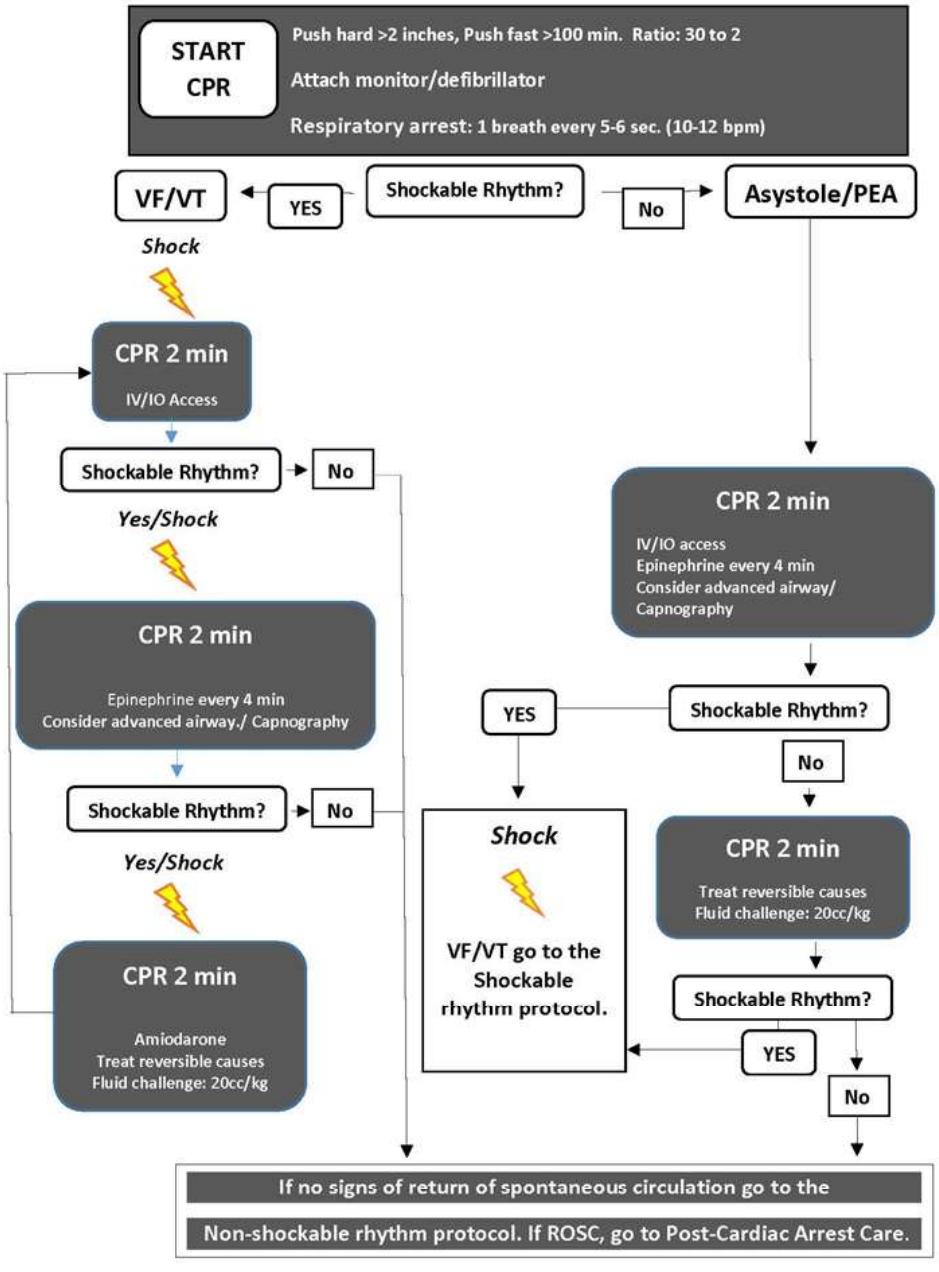
PEDIATRIC PATIENT: From 1 month to the onset of puberty



CARDIAC PULSELESS ARREST

09/13/2022

ADULT PATIENT: For patients, past puberty, in cardiac arrest from susepcted respiratory arrest or arrest from a non-cardiac origin.



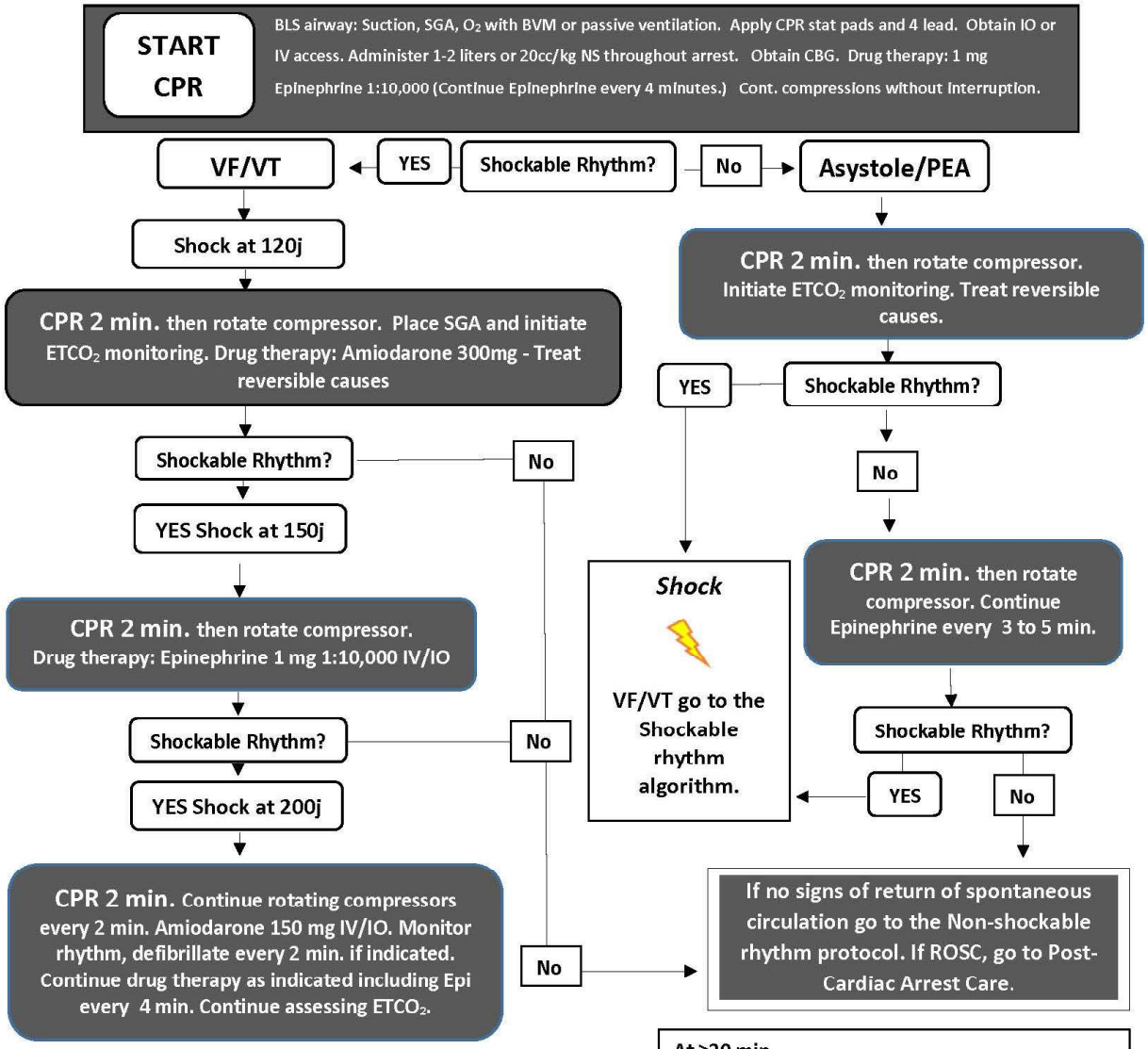
CARDIAC PULSELESS ARREST

09/13/2022

CARDIO CEREBRAL RESUSITATION: For adult patients in sudden cardiac arrest.

- Not intended for patients suffering cardiac arrest due to primary respiratory failure or other non-cardiac etiologies.

CCR SEQUENCED FLOW CHART



Drug Therapy for:

- **Torsades:** Mag sulfate, 1.0 to 2.0 grams IV/IO. TCA OD: Sodium bicarb, 1mEq/kg IV/IO
- **Hyperkalemia:** Calcium chloride, 1gm or; Calcium gluconate 3mg. Sodium bicarb, 1 mEq/kg IV/IO.
- **Narcotic OD:** Narcan, 0.5-2mg IV/IO.
- **Hypoglycemia:** Dextrose, 25g IV/IO.

At ≥20 min.

- If $ETCO_2$ > 10mm Hg, continue CCR on scene.
- If $ETCO_2$ < 10 mm Hg, terminate resuscitation efforts.
- If in refractory V-Fib, consider new CPR stat pad placement.
- If ROSC, transport patient to hospital continuing post resuscitation care.

CARDIAC PULSELESS ARREST
09/13/2022

CCR SEQUENCED FLOW CHART	
Scene Time	Action
00:00	Initiate chest compressions (**Continue compressions without interruption throughout arrest.**)
	BLS Airway: Suction, SGA, O_2 with BVM or Passive Ventilation
	Apply CPR stat pads and 4 lead
	Obtain IO or IV access. Administer 1-2 liters NS throughout arrest.
	Obtain CBG
	Drug therapy: 1 mg of epinephrine 1:10,000 (Continue epinephrine every 4 min. throughout arrest.)
02:00	Check rhythm, If indicated, defibrillate at 120 J
	Rotate compressor, continue compressions
	Consider placing ETT if SGA is ineffective, Initiate $ETCO_2$ monitoring
	Drug therapy: **VF or pulseless VT**: Amiodorone 300mg **Asystole or PEA**: None **Torsades:** Mag sulfate,1.0 to 2.0 grams IV/IO **TCA OD:** Sodium bicarb, 1mEq/kg IV/IO **Hyperkalemia**: Calcium chloride, 1gm or; Calcium gluconate 3gm Sodium bicarb, 1 mEq/kg IV/IO
	Treat reversible causes
04:00	Check rhythm
	If indicated, defibrillate at 150 J
	Rotate compressor, continue compressions
	Drug therapy: **VF or pulseless VT**: Epinephrine, 1 mg of 1:10,000 IV/IO **Asystole or PEA:** Epinephrine, 1 mg of 1:10,000 IV/IO **Narcotic OD:** Narcan, 0.5 – 2.0 mg IV/IO **Hypoglycemia:** Dextrose, 25g IV/IO
06:00	Check rhythm
	If indicated, defibrillate at 200J
	Rotate compressor, continue compressions
	Drug therapy: **VF or pulseless VT:** Amiodorone, 150 mg IO/ IV
08:00 to 20:00	Continue uninterrupted compressions. Continue rotating compressors every 2 min.
	Monitor rhythm, defibrillate every 2 minutes if indicated
	Continue drug therapy as indicated. Continue epinephrine every 4 min.
	Continue assessing $ETCO_2$
20:00 +	If $ETCO_2$ > 10mm Hg, continue CCR on scene
	If $ETCO_2$ < 10mm Hg, terminate resuscitation efforts
	If in refractory V-Fib Consider new CPR stat pad placement
	If ROSC, transport patient to hospital continuing post resuscitation care.

CARDIAC TACHYARRHYTHMIA WITH A PULSE
09/13/2022

Follow Assessment, General Procedures Protocol
- If rhythm is sinus tachycardia consider treatable causes.
- Most tachyarrhythmias do not need treatment unless > 150.

EMR	• Assess and support ABC's • Oxygen therapy, high flow. –**See AIRWAY - Oxygen Therapy Procedure** • Position of comfort • Monitor vitals
EMT	• Obtain 12 lead ECG; don't delay therapy -**See CARDIAC-ECG/12 Lead Procedure**
A-EMT	• IV – NS with standard tubing or saline lock TKO • IO as indicated for shock and no IV access – **See EZ-IO/IO Infusion Procedure** • Give fluid challenge unless contraindicated- **See Shock Protocol**
EMT-I	• Cardiac monitoring - **See CARDIAC-ECG/12 Lead Procedure**
PARAMEDIC 	• Vagal maneuvers • Synchronized cardioversion **– See CARDIAC – Cardioversion Procedure** • Adenosine • Amiodarone • Diltiazem • Consider MD consultation

Cardiac Tachycardia

(With Pulse)

1

Assess appropriateness for clinical condition.

Heart rate typically ≥150/min - if tachyarrhythmia

2

Identify and treat underlying cause

- Maintain patent airway; assist breathing as necessary
- Oxygen Therapy
- 12 lead to identify rhythm; monitor

3

Persistent tachyarrhythmia

causing:

- Hypotension?
- Acutely altered mental status?
- Signs of shock?
- Ischemic chest discomfort?
- Acute heart failure?

Yes

4

Synchronized cardioversion

- Consider sedation
- If regular narrow complex, consider adenosine

No

5

Wide QRS?

≥0.12 second

Yes

6

- IV access
- Consider antiarrhythmic infusion
- Consider expert consultation

No

7

- IV access
- Vagal maneuvers
- Adenosine (if regular)
- B-blocker or calcium channel blocker
- Consider expert consultation

Doses/Details

Synchronized Cardioversion

Recommended doses:

- Initial @ 100 J
- Second @ 120 J
- Third @ 150 J
- Fourth and subsequent @ 200 J

Adenosine IV Dose: See Protocols-Adenosine

Antiarrhythmic Infusions for Stable Wide-QRS Tachycardia

Amiodarone IV dose:

See Protocols – Amiodarone

Diltiazem/Cardizem IV dose:

See Protocols – Diltiazem/Cardizem

Accelerated A-Fib >130:

Diltiazem/Cardizem* IV dose:

See Protocols – Diltiazem/Cardizem

***Contraindicated in WPW**

CO POISONING
09/13/2022

Follow Assessment, General Procedures Protocol

Due to similarities in symptoms between CO poisoning and viral illness, gastroenteritis, ACS, and a variety of other medical conditions consider CO poisoning in patients that have been exposed to any process involving incomplete combustion including but not limited to:

- Vehicle exhaust
- Heating appliances
- Fireplaces
- Cigarette smoke
- BBQ grills
- Smoke from a fire

Clinical Signs & Symptoms associated with CO Poisoning and correlated COHb levels:

Severity	COHb Level	Signs & Symptoms
Mild	<15-20%	Headache, N/V, dizziness, blurred vision.
Moderate	21-40%	Confusion, syncope, chest pain dyspnea, weakness, tachycardia, tachypnea, rhabdomyolysis
Severe	41-59%	Palpitations, dysrhythmias, hypotension, myocardial ischemia, cardiac arrest, respiratory arrest, pulmonary edema, seizures, coma
Fatal	60+%	Death

EMR	• Protect medical personnel, patient, and bystanders from exposure • Determine duration of exposure • Assess and support ABCs • CO-Oximetry (if available) – reevaluate and document SpCO levels throughout treatment • Apply high flow Oxygen- **See AIRWAY – Oxygen Administration** • Continuously monitor and document vitals
EMT	• Check CBG if altered mental status is present • SGA if patient is unresponsive with compromised airway- **See AIRWAY-SGA** • 12-lead ECG – don't delay therapy or needed treatments
A-EMT	• IV – NS with standard tubing or saline lock • IO as indicated for shock and no IV access – **See EZ-IO/IO Infusion Procedure**

CO POISONING 09/13/2022	
	• Treat hypotension as indicated – **See Shock Protocol** • Treat hypoglycemia/hyperglycemia as indicated – **See Diabetic Emergencies protocol**
EMT-I	• Monitor and document cardiac rhythm -**See CARDIAC-ECG/12 Lead Procedure**
PARAMEDIC	• Endotracheal intubation as indicated – **See AIRWAY-Intubation** • Treat seizure activity as indicated – **See Seizure Protocol**
SPECIAL CONSIDERATIONS	• Known or suspected CO Poisoning patients should receive high flow oxygen regardless of SpO2 readings. • Due to vague and common symptoms, physical assessment is of limited value. Inhalation injury or burn should always alert the EMS provider of possible CO exposure. • Pregnancy: Fetal hemoglobin has a high affinity for CO thus a fetus may be more susceptible to toxic effects than the mother. Pregnant patients with CO poisoning need aggressive prehospital oxygen treatment. • Cherry red skin is a late sign of CO poisoning. • For closed space smoke/fire exposure consider Cyanide Poisoning – **See Cyanide Antidote: Cyanokit Protocol**

COVID19-INFECTIOUS PATIENTS 09/13/2022

Follow Assessment, General Procedures Protocol and the **PPE decision tree guide**

- After obtaining information that confirms respiratory symptoms at the location and placing surgical mask on patient ascertain a COVID-19 specific history.
- Signs and symptoms which would lead to high index of suspicions include: **(Any of these require appropriate PPE)**
    - Contact with a person who has tested positive for COVID
    - Hypoxia with no distress
    - Flu-like symptoms
    - Dry non-productive cough
    - Fever >99.9F or subjective fever
    - Anosmia (loss of smell) prior to other symptoms developing
- Obtain SpO_2 and temperature (Consider pts use of Antipyretics such as: NSAIDs, ASA, Acetaminophen)

EMR	• Assess and support ABC's • If patient is stable, have them come outside to open air • If patient cannot come outside open doors and windows to promote airflow • Oxygen therapy if necessary **-Refer to Aerosol Generating Procedures (AGP) best practices reference guide** • Oral suction if necessary – **See AIRWAY – Suctioning Procedure** • COPD patients, maintain $Sp0_2$ of 90-95% **-See Respiratory Emergencies** • Nasal Cannula/NRB- Preferred for hypoxia with no distress **-See AGP best practices**

EMT	• Metered Dose Inhaler (MDI) or nebulized albuterol (With **AGP best practices reference Guide**)
	• Albuterol / Atrovent
	• Tracheal suctioning if necessary – **See AIRWAY- Suctioning Procedure**
	• Consider if patient is expected to deteriorate:
	  • CPAP (if indicated) – **See AIRWAY- CPAP Procedure**
	  • CPAP device with exhalation filter capacity i.e. Emergent PortO2Vent CPAP with Filter
	  • Supraglottic airway with use of HEPA filter**– See Airway SGA Procedure** (With **AGP best practices reference Guide**)

A-EMT	• IV – NS with standard tubing or saline lock TKO. • IV therapy for **hypotensive** (<90 systolic) patients (500ml bolus repeat 1 time, max. 1 L) Reassess LS every 500ml • IO as indicated for shock and no IV access – **See EZ-IO/IO Infusion Procedure**
EMT-I	• Cardiac monitoring - **See CARDIAC-ECG/12 Lead Procedure**

COVID19-INFECTIOUS PATIENTS 09/13/2022	

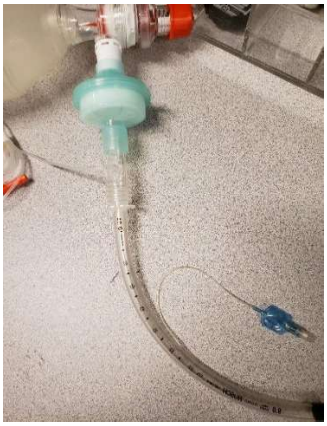
PARAMEDIC	• Acetaminophen- For controlling symptoms if patient does not have their own. (Provide patient with enough so they can follow up the following day with MD/PCP) – **See Acetaminophen**
	• Dopamine or Nor-epinephrine for hypotension not responsive to 1L NaCl bolus or wet lung sounds. **-See Dopamine or Nor-epinephrine**
	• For controlling agitation to permit use of nebulizer mask or CPAP when patient will not tolerate otherwise consider interventional analgesia **-See Pain Management Protocol**
	• **Sepsis Alert** if patient meets criteria.
	• Depending on the cause of the respiratory distress, consider:
	  • Endotracheal Intubation with HEPA Filter between $ETCO_2$ and BVM.
	  • RSI **– See Airway RSI Procedure**(Standard medical RSI medications)

Airway Management	Airway management interventions in order of least exposure to most exposure to the Healthcare Provider: • Nasal Cannula with Surgical mask • The patient uses their Rescue Inhaler with no upper limit. • NRB with Surgical mask • Nebulizer mask with surgical mask • CPAP with Filter i.e. Emergent PortO2vent (yellow CPAP kit) • Handheld Nebulizer **(Must stop ambulance and open doors to allow for adequate airflow)** • Endotracheal Intubation/Supraglottic airway **-AGP Guide**
Special Practices	• Limit infusion fluid volume to 1 L NaCl; • No administration of steroids/Methylprednisolone/Solu-Medrol; • Consider early intubation for patients that do not respond to CPAP. • When the patient requests to stay at home, follow **the Patient Transport Determination Guide** criteria; • Seal off the cab from the back of the ambulance with plastic and tape or close the divider between the cab and patient compartment. • All personnel transporting should have on appropriate PPE • Early notification to the hospital of flu-like symptoms via Pulsara if available. • The tech should remain in ambulance with the patient until the hospital staff has been contacted and is ready to receive the patient. • Consider sending in the driver to contact the ED. • Gurney Linens will be left in the patient's room after transfer • The gurney will be taken out to the gurney decon area using the shortest route, where it will then be cleaned.

COVID19-INFECTIOUS PATIENTS 09/13/2022	
	• PPE will be maintained by the transporting personnel until the ambulance and gurney are both decontaminated. • Document the PPE used by crew members as per department policy.

Aerosol Generating Procedure (AGP) Best Practices Guide

Device	Protective Measure
High Flow O_2 delivered by a Non-rebreather mask	Place a surgical mask over the exhalation ports of the mask to limit aerosolized droplet spread.
Nasal Cannula	Place a surgical mask over the cannula, mouth and nose.
Emergent CPAP Circuit (The Yellow Bag)	Device comes with filter to attach to the exhalation port.
Suction	Crew should have N95, face shield and gown in place
Intubation	When possible, video laryngoscopy is preferred. Avoid direct laryngoscopy.
Supraglottic Airway (igel)	If used with a BVM a filter should be in place between the $ETCO_2$ and the BVM.
ETT	If used with a BVM, a filter should be in place between the $ETCO_2$ and BVM.
Use of BVM	A filter should be in place between the mask and the BVM
Nebulizer Mask	Use of a nebulizer mask is best practice with a surgical mask over the exhalation ports.
Handheld Nebulizer (HHN)	This procedure should only be done in an open environment where there is good airflow around the patient. A filter must be attached to the end of the exhalation tube. This is not recommended to be done in the medic unit. If it is necessary to administer HHN in the back of the medic, the crews must stop in a safe location, open the doors, turn on the exhaust fan, and administer the nebulizer.





CVA (Cerebral Vascular Accident)
02/05/2019

Follow Assessment, General Procedures Protocol
Specific Precautions

- The most important predictor of impending ischemic stroke is a TIA. Patients with TIA's should be transported for evaluation.
- Patients should be evaluated as follows:
    - Complete a C-STAT exam, if positive, the patient should be made a "C-STAT **Positive** Stroke Alert." (See Neurologic Assessment Protocol)
    - If C-STAT negative, the patient may still be a Stroke Alert. **When giving report, state "C-STAT Negative".** Complete the following neurologic assessments: level of consciousness (GCS); Cranial Nerve Assessment; Cerebral Function (Cincinnati Stroke Scale); Cerebellar Function (finger to nose, heel to shin). (See Neurologic Assessment Protocol)
- Patient should have head of bed elevated approx. 30° to prevent aspiration.
- Seizures are a potential complication of acute stroke. Seizures may be un-witnessed and focal neurological deficits may be due to seizure or postictal state.
- Treat hypotension aggressively to promote cerebral perfusion
- Whenever possible a family member should accompany the patient to the hospital. At a minimum, the name of the witness and a cellular phone number should be obtained.
- Determine if patient is taking a blood thinner and notify the receiving physician.

Patients that have stroke symptoms onset within 24 hours that are C-STAT positive should be taken to an ELVO capable center and by-pass the closest hospital. These patients should be made a C-STAT Positive Stroke Alert.

Patients that have stroke symptoms, onset less than 6 hours that are C-STAT negative should be taken to the closest emergency department. These patients will be made a C-STAT Negative Stroke Alert.

Transport all stroke alerts emergently. If possible, Stroke Alerts should be called in by phone and need to include: Name, age, DOB and last seen well time in military time or Pulsara Alert.

CVA (Cerebral Vascular Accident) 02/05/2019	
EMR	• Assess and support ABCs • Oxygen therapy, as needed • Ventilate at normal tidal volume and assist ventilations at a rate of 12-14 breaths/minute for adults. Do not hyperventilate. • Manage $ETCO_2$ - **See AIRWAY - Capnography/ $ETCO_2$ Procedure** • Monitor vitals
EMT	• Check blood glucose • Obtain 12 lead ECG; if time permitted. – **See CARDIAC-ECG/12 Lead Procedure**
A-EMT	• IV – NS with standard tubing or saline lock (using a catheter ≥ 20g. inserted proximal to wrist); Do Not Delay Transport • Titrate fluids to vitals
EMT-I	• Monitor cardiac rhythm - **See CARDIAC-ECG/12 Lead Procedure**
PARAMEDIC	• Patients are subject to respiratory depression and vomiting. • Consider intubation - **See AIRWAY – RSI Procedure** • Signs of increased intracranial pressure may be mitigated some by increasing ventilation rate. - **See AIRWAY - Capnography/$ETCO_2$ Procedure**

DIABETIC EMERGENCIES **03/02/2021**	
Follow Assessment, General Procedures Protocol	
EMR	• Assess and support ABC's • Oxygen as needed. • Monitor vitals • If suspicion of hypoglycemia, the patient is cooperative and has no difficulty swallowing, administer oral glucose.
EMT 	• Check CBG • If blood glucose is <60: administer glucose solution orally if the patient is awake and able to protect own airway • If blood glucose reads "high" or is >300 and the patient is refusing transport request **an MD Consult**. • If patient is an insulin dependent diabetic who refuses transport after treatment and has had a full return to consciousness, have patient sign a refusal. Document repeated Blood Glucose Level and vital signs, mental status and absence of other complaints. Recommend that patient eat a meal and contact his/her personal MD to report the incident. • If patient is on oral diabetic medication, every effort should be made to transport, including physician consult if needed.

A-EMT/EMT-I
PARAMEDIC
	• Initiate IV (with diminished or unconsciousness)
	  • If blood glucose <60 and the patient is unable to protect own airway:
	  • Dextrose
	  • Glucagon IM (if IV is unobtainable)
	  • If blood glucose is high and patient is suspected of DKA administer IV fluid bolus at 20ml/kg

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DROWNING/FATAL AND NONFATAL
01/07/2020

Follow Assessment, General Procedures Protocol
Specific Information:

- Drowning is defined as “the process of experiencing respiratory impairment due to submersion or immersion in liquid.”
- The term Drowning encompasses a wide spectrum of presentations from relatively mild symptoms to those in which the patient experiences respiratory or cardiac arrest or dies. This includes patients who survive the event and those who die.
- Most drowning patients have copious oral secretions, do not delay oxygenation, ventilate aggressively.
- All drownings where a patient is experiencing any subsequent symptoms including wet lung sounds, severe cough, frothy sputum, depressed mentation, or hypotension should be transported.
- Persons without formal water rescue training should only attempt rescues from a safe location
- Consideration for continuing resuscitation beyond 30 minutes should be given to all patients of cold water drowning who are hypothermic. Patients in severe hypothermia need in hospital treatment, consider transport of these patient with ongoing resuscitation efforts.

EMR	• Assess and support ABC’s – Airway and Oxygenation should take priority over, but not replace, other treatments
	• C-spine precautions as indicated, stabilize neck prior to removing from water, when possible, if known diving accident or obvious signs of trauma
	• Oxygen-**See Oxygen**.
	• Monitor vitals
	• Aggressively treat for hypothermia - **See Hypothermia Emergencies Protocol**
	• If in Respiratory or Cardiac Arrest:
	  • Follow BLS guidelines
	  • Deliver ventilation and oxygenation as soon as possible with BVM and attached PEEP , airway and oxygenation should be prioritized over other therapies including electrical therapy
	  • If ROSC is achieved Treat hypothermia- **See Hypothermia Emergencies Protocol**
	  • For indications to withhold/discontinue resuscitation - **See Death in the Field Protocol**

EMT	• Obtain 12 lead ECG, if able • Monitor for pulmonary edema • If in Respiratory or Cardiac Arrest:

	• Supraglottic Airway as indicated – **See AIRWAY – SGA Procedure** **NOTE: SGA failures are more common in drowning patients. Monitor for gastric distension or air leaks and if present consider removing SGA and return to BVM use until a paramedic is able to attempt intubation.
A-EMT / EMT-I	• IV – NS with standard tubing or saline lock, TKO or fluids as needed to treat hypotension • IO as indicated if no IV access • If in Respiratory or Cardiac Arrest • Follow ACLS Guidelines, refer to Cardiac Pulseless Arrest Protocol: Adult patients in cardiac arrest from suspected respiratory arrest
PARAMEDIC	• Consider NG tube if vomiting and pronounced abdominal distention noted – See Airway Gastric Decompression • If in Respiratory or Cardiac Arrest: • Consider ETT Intubation if SGA is not effective – SGA may be difficult to maintain in the drowning patient due to pulmonary injury and leak pressures of certain devices.

HYPERKALEMIA
02/02/2021

1. Follow Assessment, General Procedures Protocol
2. Signs of hyperkalemia: Peaked T waves, lowered P wave amplitude, prolonged P-R interval, second degree AV blocks, and widened QRS complexes.
3. Causes of Hyperkalemia:
   - Renal failure/insufficiency (acute or chronic)
   - Addison's Disease (Adrenal Insufficiency)
   - Sepsis/DKA (acidosis)
   - Severe Dehydration
   - Transplant rejection
   - Rhabdomyolysis
   - Muscular dystrophy patients
   - Paraplegia/quadriplegia patients
   - Crush injuries
   - Serious burns (onset after several hours)
   - Angiotensin-converting enzyme (ACE) inhibitors
   - Excessive use of potassium supplements
4. Documented hyperkalemia from physician's office and EKG changes (peaked T-waves and QRS widening.)

EMR	• Assess and support ABC's • Oxygen
EMT	• Obtain 12 lead ECG - **See CARDIAC-ECG/12 Lead Procedure**
A-EMT	• IV – NS with standard tubing or saline lock TKO • IO access as indicated for shock, patient needs, and no IV access **– See EZ-IO/IO Infusion Procedure** • Administer 1 liter of NS unless contraindicated
EMT-I	Cardiac Monitoring - **See CARDIAC-ECG/12 Lead Procedure**
PARAMEDIC	• Calcium chloride or gluconate (contraindicated if suspected digitalis toxicity) • Sodium bicarbonate • Albuterol

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HYPERTENSIVE EMERGENCIES
09/13/2022

Follow Assessment, General Procedures Protocol
Specific Information

- Patients with symptomatic hypertension (e.g. vision disturbance, headache, chest pain, ataxia, or any acute neurological change) should be transported to the hospital.
- Symptomatic pregnancy induced hypertension (PIH), transport patient to the hospital and be prepared for seizures.
- Rapid onset of symptoms (coma, hemiparesis) often indicates intracranial hemorrhage or cerebral infarction.

EMR/EMT	• Assess and support ABC's. • Oxygen therapy • Elevate head of bed 15-20 degrees if possible • Monitor vitals and level of consciousness every 5 min
EMT	• Obtain 12 lead ECG if possible - **See CARDIAC-ECG/12 Lead Procedure**
A-EMT	• IV – NS with standard tubing or saline lock TKO • IO as indicated for patient condition **– See EZ-IO/IO Infusion Procedure**
EMT-I / PARAMEDIC	• Cardiac monitoring - **See CARDIAC-ECG/12 Lead Procedure**

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HYPERTHERMIA EMERGENCIES
02/02/2021

Follow Assessment, General Procedures Protocol

- Differentiate from heat cramps (abdominal or leg) or heat exhaustion (hypovolemia or gradual onset) but be aware that heat exhaustion can progress to heat stroke.
- Heat stroke is accompanied by changes in mental status (generally >104ºF 40ºC) and may present with hot red dry skin.
- Wet sheets over patient without good air flow will tend to increase temperature. Water must evaporate to provide cooling.
- Definitive cooling will need hospital treatment, but early cooling improves chance of good outcome.

EMR	• Assess and support ABC's • Oxygen therapy • Begin cooling immediately. Remove clothing, cool with wet sheets, or sponging, mist patient with water and place ice packs in groin and axilla while maintaining good ambient air flow. • Monitor vitals, to include frequent core temperature assessments.
EMT	• Check blood glucose • Obtain 12 lead ECG if possible **– See CARDIAC-ECG/12 Lead Procedure**
A-EMT	• IV – NS with standard tubing or saline lock • IO as indicated for shock and no IV access **– See EZ-IO/IO Infusion Procedure** • Give a fluid bolus of 1 L NS to adult patients, 20 cc/kg NS pediatric patients not to exceed 1 L (do not use warmed fluid) • If CBG <60 administer dextrose
EMT-I	• Cardiac monitoring **– See CARDIAC-ECG/12 Lead Procedure**
PARAMEDIC	• Midazolam/Versed (for continuous seizures) - **See Midazolam/Versed**

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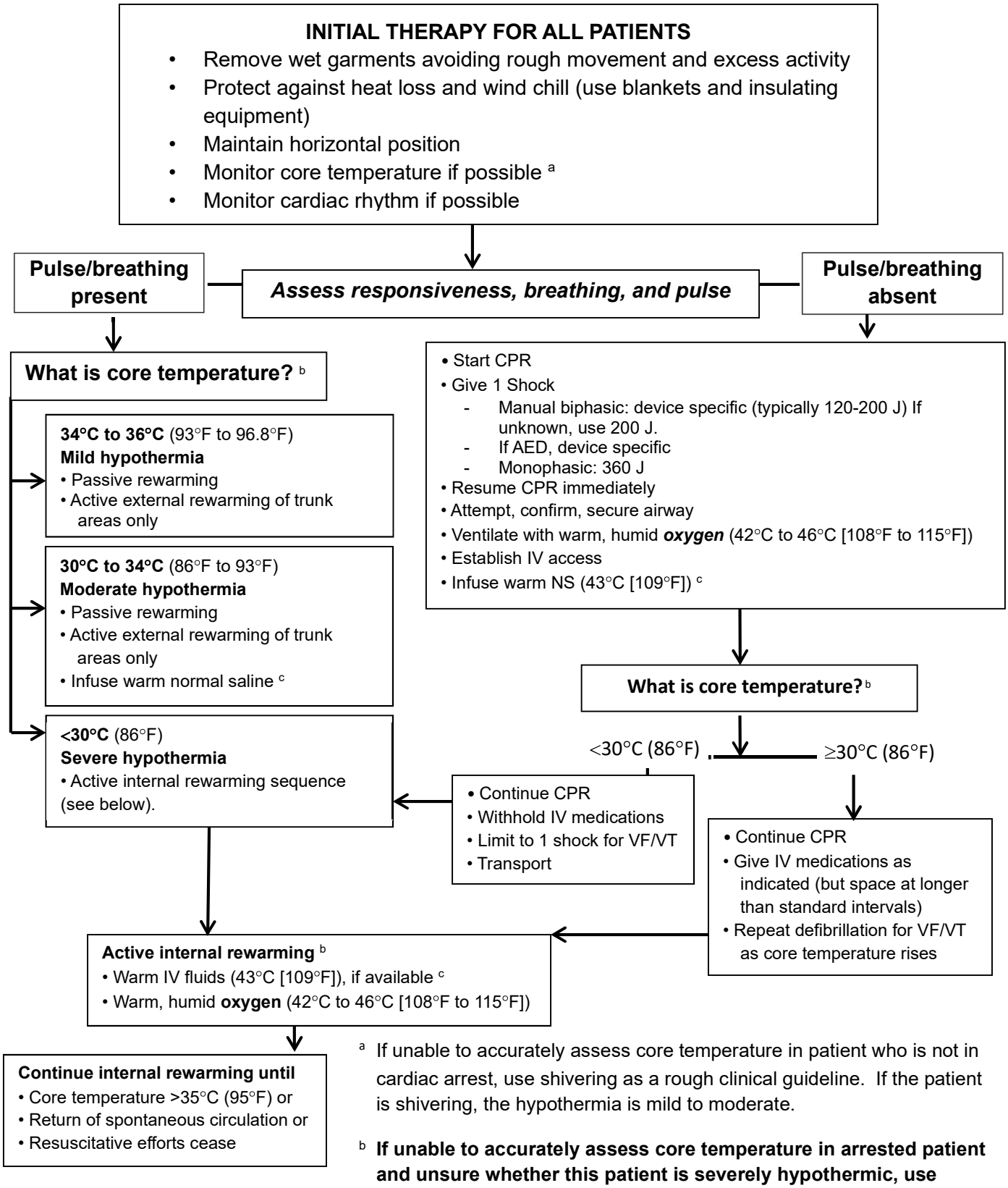
HYPOTHERMIA EMERGENCIES
09/13/2022

Follow Assessment, General Procedures Protocol

- Consider hypothermia with elderly patients, unhoused, and drug/alcohol use.
- Shivering generally occurs between 90-98° F (32-37° C), but may be absent or minimal below this.
- Severe hypothermia is currently defined in ACLS guidelines as core temperature below 86°F (30°C).
- Handle patients gently, the patient should not be allowed to ambulate as manipulations can worsen hypothermia and precipitate lethal cardiac arrhythmias.
- Consult MD for therapies or direction of care when unclear about degree of hypothermia.
- See attached ACLS severe hypothermia algorithm.

EMR	• Remove/protect from environment • Remove wet clothing • Protect against heat loss and wind chill • Maintain horizontal position • Assess and support ABC's • Monitor vitals, to include frequent core temperature assessments • Oxygen therapy. (Heated preferred) – • Assist ventilations as needed • Begin warming immediately, use caution with the application of hot packs – **See Hypothermia Protocol Algorithm** • Administer liquid oral glucose for treatment of possible hypoglycemia if indicated.
EMT	• Check blood glucose. • If blood glucose is <60: administer glucose solution orally if the patient is awake and able to protect own airway. • Obtain 12 lead ECG if able. **See CARDIAC-ECG/12 Lead Procedure**
A-EMT / EMT-I	• IV – NS with standard tubing/saline lock. Use warmed solution if possible (109°F 43°C) 500 ml bolus, then reduce rate to 1 L/hr. • IO as indicated for shock and no IV access – **See EZ-IO/IO Infusion** • Consider additional 500 ml bolus if hypotensive, unless contraindicated by onset of pulmonary edema • If patient is hypoglycemic administer Dextrose.
PARAMEDIC 	• Avoid intubation if possible • **MD Order** prior to any cardiac meds

Algorithm for Treatment of Severe Hypothermia



[a] If unable to accurately assess core temperature in patient who is not in cardiac arrest, use shivering as a rough clinical guideline. If the patient is shivering, the hypothermia is mild to moderate.

[b] **If unable to accurately assess core temperature in arrested patient and unsure whether this patient is severely hypothermic, use routine ACLS guidelines.**

[c] If hypoglycemic, add 50g dextrose to 1000 cc NS

INTOXICATED PATIENT
09/13/2022

Follow Assessment, General Procedures Protocol
Specific Information

- No patient that appears intoxicated with a GCS <14 should be left in the field. Transport (or arrange appropriate alternative transport) if indicated for patient safety.
- Any patient being considered for release/refusal must be able to repeat risk of refusal given to them in a manner that reflects understanding, and to ambulate with a steady gait.
- Intoxicated/alcohol abuse patients are at high risk for comorbid conditions such as trauma, subdural hematoma, GI bleeding, pancreatitis. Abnormal vital signs and altered LOC must be fully accounted for. Generally, patients who are intoxicated or who have a history of alcohol abuse who have abnormal VS or LOC should be transported for evaluation.
- Signs of alcohol withdrawal may present as tachycardia, hypertension, severe tremulousness, acute delirium/agitation (altered mental status with visual hallucinations in a known/suspected alcoholic).

EMR	• Assess and support ABC's • C-spine precautions as indicated **– See TRAUMA - Spine Trauma Protocol** • Oxygen therapy • Vital signs (abnormal vital signs can signal alcohol withdrawal, occult trauma/bleeding) • Level of consciousness: (GCS <14 cannot be left safely in the field). **– See GCS Procedure** • Administer liquid oral glucose for treatment of suspected hypoglycemia • Treat the underlying chief complaint as you would for a non-intoxicated patient
EMT	• Check CBG, if <60: administer liquid oral glucose for treatment of suspected hypoglycemia if the patient is awake and able to protect own airway. • Obtain 12 lead ECG if able - **See CARDIAC-ECG/12 Lead Procedure**
A-EMT / EMT-I	• IV – NS with standard tubing or saline lock TKO • IO access if unable to obtain IV access with signs of shock **– See EZ-IO/IO Infusion Procedure**
PARAMEDIC	• Intoxicated patients are high risk patients. If in doubt, transport. • Midazolam for signs of withdrawal, as per protocol.

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LESS LETHAL MUNITIONS CARE
02/02/2021

Follow Assessment, General Procedures Protocol

EMR/EMT **AEMT/EMT-I** **PARAMEDIC**	**Pepper Spray** (Oleoresin Capsicum, "OC Spray") **& Tear Gas** (o-Chlorobenzylidene Malononitrile, "CS Gas") Specific Physical Findings: Extreme burning of the eyes, nose, and congestion due to increased mucous production, Increased tear production, Spasmodic contraction and involuntary closing of the eyes, immediate respiratory inflammation, cough, shortness of breath, gagging, retching and burning sensation to the skin. These effects usually subside in 30-40 minutes; however, the severity and duration of these symptoms are dependent on concentration of chemical in the spray. **Treatment:** • Irrigate affected areas with water or NS. • Physical exam must include assessment for trauma to the eye, lung sounds, and vital signs including pulse oximetry. • If the patient continues to experience pain and it can be determined that the pain is secondary to the capsicum spray, the eyes should be numbed with Proparacaine • Transport patient if there is indication of eye trauma, respiratory distress, or other priority symptoms. **Special Considerations and Precautions:** • Be aware of cross contamination dangers when treating these patients. • Use appropriate body substance isolation (BSI) precautions when dealing with contaminated patients. Always wear gloves and eye protection when irrigating contaminated patients. • There may be serious complications seen in patients who have cardiac, asthma, or COPD history. • Care should be taken in the treatment of the elderly who are exposed to this substance, with transport to a hospital for evaluation encouraged.

LESS LETHAL MUNITIONS CARE 02/02/2021	
	Taser Dart - Two darts are shot that lodge in a person's skin or clothing. Once implanted an electrical charge is applied through the darts (less than 2 joules). This overrides the voluntary nervous system and prevents coordinated action, disabling the person who was tased. **Treatment:** • Pull skin around taser probe taut and pull probe straight out. • Discard probe into sharps container. • Provide wound care. Clean site with antiseptic solution, apply antibiotic ointment (if available.) Educate patient to seek medical care if signs of infection (redness, swelling, fever, or drainage) occur. • If the dart has penetrated the eye or become embedded in sensitive tissue such as the neck, face, and groin, do not attempt to remove it. Make sure the taser is shut off, immobilize object, cut the wire right above the dart, and transport the patient. **Special Considerations:** • The taser has no effects on heart rhythm or implanted pacemakers. • The taser does not damage nervous tissue.
	Kinetic Impact Munitions - These munitions, by definition, use kinetic energy as the means of transferring an incapacitating force in the form of a ballistic impact. **Treatment:** • Patient treatment is based on the area of impact, type of injury seen, and the patient complaint. **Special Considerations and Precautions:** • Some types of kinetic impact munitions may contain OC or other chemical agents. Patients struck with these will require care for both the kinetic impact munition and the chemical agent. • Use appropriate BSI precautions when dealing with contaminated patients. Always wear gloves and eye protection when irrigating contaminated patients.

OBSTETRIC EMERGENCIES
05/03/2022

Follow Assessment, General Procedures Protocol

For any obstetrical complication in the field, medics should call the ED at RiverBend hospital. If the physician recommends contacting the STORK Line the number is (541) 222-3911. If no answer, contact OB Charge Nurse (541) 222-3888.

EMR/EMT	• Assess and support ABC's
	• If not pushing or bleeding, place in left lateral position
	NORMAL DELIVERY
	• Use clean or sterile technique
	• Guide and control, but do not prevent or hurry delivery
	• After delivery of head:
	  • Check to see if umbilical cord is looped around infant's neck - if so, remove from around the neck/head
	  • Only if necessary, suction mouth, then nose (NOT throat) with bulb syringe
	• Complete delivery:
	  • Keep infant level with perineum
	• Dry infant off and wrap in warm, dry, clean blanket.
	• Clamp cord in two places approximately 4"-6" from infant, cut cord between clamps. Wait 30 seconds after birth to cut and clamp.
	• Check vitals
	• If multiple deliveries expected, do not allow nursing until all deliveries completed.
	• Record APGAR at 1 and 5 minutes.
	  • If APGAR is very low immediately after delivery, DON'T WAIT until a 1 minute APGAR to begin resuscitation.
	  • If pink, crying, and good tone (APGAR >8) then, place on mother's abdomen, cover warmly. Allow to nurse.
	• If excessive bleeding occurs after delivery, massage fundus until firm and put baby to breast.
	CORD PROLAPSE
	• Insert gloved hand in vagina; gently elevate presenting body part to relieve pressure on cord.
	• Place mother in knee/chest position and transport immediately.

OBSTETRIC EMERGENCIES 05/03/2022	
	BREECH/LIMB PRESENTATION • Transport immediately, with mother in left lateral recumbent position. **SHOULDER DYSTOCIA (head out but baby not delivering)** • Place padding under pelvis to raise pelvis ~1-2 inches. Position mother flat on her back and pull her knees up to her chest. • If baby does not deliver, apply suprapubic pressure • **Consult MD** for further maneuvers.
A-EMT / EMT-I	• Fundal massage for postpartum bleeding • IV – NS with Standard Tubing, titrate to patient needs • IO as indicated for shock and unable to obtain IV **– See EZ-IO/IO Infusion Procedure**
PARAMEDIC	• Oxytocin administered postpartum • TXA for hemorrhage • Magnesium for eclamptic seizure

APGAR SCORE			
	0 points	1 point	2 points
Appearance	Blue	Blue Extremities	Pink
Pulse	Absent	<100	>100
Grimace	Unresponsive	Some	Vigorous
Activity	Flaccid	Some Tone	Active
Respiration	Absent	Slow, Irregular	Strong Cry

PAIN MANAGEMENT
05/03/2022

Follow Assessment, General Procedures Protocol

- The single most reliable indicator of the existence/intensity of acute pain is the patient's self-report.
- Most people who suffer pain show it, either by verbal complaint or nonverbal behaviors.

For adults and children >7 years old, the pain scale of 0-10 should be used. The intensity should be asked (0=no pain – 10=worst pain ever).

For pediatric patients, pain should be assessed by either the FLACC behavioral pain scale (<3 years), the Baker-Wong Face Scale (3-7 years) or the Visual Analog Scale (>7 years)

In most cases, pain will not be reduced to the level of zero or no pain. Pain should be managed on an individual basis appropriate for the presentation of the patient.

Analgesia for Acute Pain onset - Consider administering analgesic medication in the management of any acutely painful condition relating to either trauma or medical causes.

Interventional Analgesia - Interventional analgesia is administered to patients when there is an expectation that the intervention that is done to the patient will cause a great amount of pain.

EMR/EMT	• Assess and support ABCs • Position of comfort • Monitor vital signs • Splint injured extremity
A-EMT	• IV – NS with standard tubing or saline lock • IO if indicated for shock and no IV access – **See EZ-IO/IO Infusion** • If patient is hypotensive administer fluid challenge, titrate fluid to patient's needs– **See Shock Protocol**
EMT-I	• If hypotensive - **contact MD for pain medication orders** • Ketorolac/Toradol • Fentanyl – Use 1st line for abdominal pain • Morphine
PARAMEDIC	• Hydromorphone

	• Proparacaine for eye pain associated with burn, abrasion, or foreign body. • Midazolam used concomitant with opioid • Ketamine – traumatic injury not controlled by opioid pain medication.

POISONING/ OD
09/13/2022

Follow Assessment, General Procedures Protocol

Poison/Overdose information:

RIVERBEND – (541) 222-1581
McKENZIE-WILLAMETTE – (541) 726-4470
OREGON POISON CENTER - 1-(800)-222-1222

Specific Precautions:

- Inhalation poisoning is particularly dangerous to rescuers. Recognize an environment with continuing contamination and extricate rapidly by properly trained and equipped personnel.
- If possible, contact receiving hospital en route to scene of a known exposure/ingestion so they can obtain information for you on toxicity, symptoms, treatment, etc. **ORDER FOR CHARCOAL MUST BE OBTAINED FROM MD AT RECEIVING HOSPITAL.**
- Signs of organophosphate poisoning include S.L.U.D.G.E. - If this is suspected, protect yourself from exposure. Pulmonary edema and bradycardia are common.

EMR	**External Contamination:** • Protect medical personnel • Remove contaminated clothing. • Flush contaminated skin and eyes with copious amounts of water. **Ingestion** • Assess and support ABC's • Oxygen therapy – • Monitor and document vitals throughout treatment and transport. • If patient is poorly responsive and has respiratory depression, administer Naloxone HCL (Narcan).
EMT	• Check CBG • Consider Activated Charcoal in conscious, alert patients if ingestion occurred within the 1 hour by **MD Order**. • Obtain 12 lead ECG; don't delay therapy or needed treatments. - **See CARDIAC-ECG/12 Lead Procedure**
A-EMT	• IV – NS with standard tubing or saline lock if indicated • IO as indicated for shock and no IV access **– See EZ-IO/IO Infusion Procedure**
EMT-I	• Monitor and document cardiac rhythm. - **See CARDIAC-ECG/12 Lead Procedure**

POISONING/ OD 09/13/2022	
PARAMEDIC	**Tricyclic antidepressant overdose:** • Hyperventilate if possible • Treat hypotension, as indicated, with fluid challenge. • Monitor for wide QRS or arrhythmia, if present, administer sodium bicarbonate IV push. **Calcium channel blocker overdose:** • Consider calcium chloride IV for symptomatic bradycardia/ hypotension **Beta blocker overdose: MD order** • Consider *glucagon IV for symptomatic bradycardia or hypotension. *Medic Units typically do not carry enough glucagon to treat an adult patient with serious beta blocker overdose. Consider supportive treatment with IV fluids and dopamine or norepinephrine. **Cholinergic poisoning:** • If cholinergic poisoning (e.g. organophosphate poisoning) has occurred and patient is critical with "S.L.U.D.G.E." symptoms: Administer Atropine. Repeat dose every 2-3 minutes until secretions have substantially decreased. If HR > 120 **consult with MD** prior to use. • Administer Pralidoxime Chloride if indicated

RESPIRATORY EMERGENCIES 09/13/2022	
Follow Assessment, General Procedures Protocol • Obtain an SpO_2 reading before and with oxygen administration. • Obtain CO measurement if appropriate. • Capnography/$ETCO_2$ monitoring can be very effective in measuring the effectiveness of ventilations in perfusing patients and response to therapies. **See AIRWAY - Capnography/$EtCO_2$ Procedure**	
EMR	• Assess and support ABC's • Oxygen therapy, high • Oral suction if necessary – **See AIRWAY-Suctioning Procedure** • If foreign body obstruction, follow AHA guidelines. • Place patient in upright position or position of comfort, unless other findings or mechanism of injury contraindicate this. • COPD patients, O_2 flow to maintain $Sp0_2$ of 90-95%. • If croup suspected consider moving child to humid environment or outside to cool moist air. • Epinephrine (Auto Injection Device only for Anaphylaxis)

EMT	• Tracheal Suctioning if necessary – **See AIRWAY-Suctioning Procedure**
	• Obtain 12 lead ECG; don't delay therapy. - **See CARDIAC-ECG/12 Lead Procedure**
	• Consider:
	  • Albuterol
	  • Ipratropium/Atrovent
	  • CPAP (if indicated) – **See AIRWAY-CPAP Procedure**
	  • Epinephrine 1:1000 IM (Anaphylaxis)
	  • SGA **– See AIRWAY-SGA Procedure**

A-EMT	• IV – NS with standard tubing or saline lock TKO. • IO as indicated for shock and no IV access – **See EZ-IO/IO Infusion Procedure** • Withhold IV for pediatric respiratory distress unless needed for resuscitation.
EMT-I	• Cardiac monitoring - **See CARDIAC-ECG/12 Lead Procedure**

PARAMEDIC	• If possible meconium aspiration, consider meconium suctioning – **See AIRWAY-Suctioning Procedure**
	• If suspected pneumothorax - **See AIRWAY-Pleural Chest Decompression Procedure**
	• Depending on the cause of the respiratory distress, consider:
	  • Methylprednisolone
	  • Nitroglycerin
	  • Epinephrine
	  • Endotracheal Intubation

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SEIZURES
09/13/2022

Follow Assessment, General Procedures Protocol

- Transport of all children with seizures is recommended. If the guardian refuses, **MD consult is required.**
- All first-time seizures should be transported
- If adult patient has a known seizure disorder and is now alert and refuses transport, document vital signs and absence of other complaints and have patient sign a refusal.
- If new onset seizure and the patient is in the third trimester of pregnancy or within 6 weeks post-delivery, consider eclampsia as a possible cause of the seizure. In this case consider the use of magnesium as treatment. If unsuccessful, consider Midazolam/Versed.

EMR	• Assess and support ABCs; nasopharyngeal (NPA) airways may be useful. **NOTE:** Do not force anything between the teeth. • Oxygen – **See Oxygen** • Suction as needed. **– See AIRWAY-Suctioning Procedure** • Lateral recumbent position if possible but maintain spinal precautions if appropriate. • Protect patient, restrain only if needed to prevent injury. • Monitor airway and vitals closely. • Administer liquid oral glucose for treatment of possible hypoglycemia if indicated. • If a patient is febrile, remove clothing and consider cooling with tepid water until temperature is down to 101° F. Do not cool to the point of shivering, as the body activity will increase in temperature.
EMT	• Check CBG. If < 60 and patient is awake and able to protect their own airway, administer liquid oral glucose. • Consider obtaining 12 Lead if patient is over the age of 40 and does not have history of seizure. - **See CARDIAC-ECG/12 Lead Procedure**
A-EMT / EMT-I	• IV – NS with standard tubing if possible. • IO as indicated for shock and no IV access **– See EZ-IO/IO Infusion Procedure** • If CBG <60 administer dextrose

SEIZURES 09/13/2022	
PARAMEDIC	If the patient is seizing on arrival, or has continuous seizing known to have lasted more than 2 minutes: • Midazolam. The IV route is preferred when easily accessible. If no easy IV access, as in pediatric cases, immediate IM, or IO use is indicated. – **See Midazolam/Versed** • Magnesium Sulfate for eclamptic seizures – **See Magnesium Sulfate** • Contact Medical Control to obtain order for additional midazolam/versed if seizure activity continues and/or to notify them in the event a patient has continuous seizing.

SEPSIS
09/13/2022

Follow Assessment, General Procedures Protocol

Sepsis is a rapidly progressing, life threatening, treatable condition caused by systemic infection. Early recognition and aggressive treatment is essential for patient survival.

Sepsis is defined by the presence of TWO or MORE of the following criteria for Systemic Inflammatory Response Syndrome (SIRS), in a patient with KNOWN or SUSPECTED infection:

- Temp > 38 º C (100.4 º F) or < 36 º C (96.8 º F)
- RR > 20/min
- HR >100/min

Severe Sepsis may manifest with any of the following signs of end-organ dysfunction and/or metabolic acidosis:

- Altered mental status
- Hypotension
- Hypoxia
- Elevated serum lactate
- Decreased $ETCO_2$

SEPSIS ALERT:

- The purpose of the SEPSIS ALERT is to provide the ED with notification in order to facilitate rapid assessment of the suspected sepsis patient.
- Code 1 or Code 3 transport determined by paramedic judgement based on the condition of the patient.
- A SEPSIS ALERT will be instituted by Pulsara or radio for patients meeting the following two criteria:
  1. Suspected infection
  2. Two or more of the following:
     - Temp > 38 º C (100.4 º F) or < 36 º C (96.8 º F)
     - RR >20
     - HR >100
     - Altered mental status

SPECIAL CONSIDERATIONS

- $ETCO_2 \leq 25$ mmHg or lactate > 4mMol
- Immunosuppressed Patients, i.e. Chemotherapy

SEPSIS **09/13/2022**	
EMR	• Assess and support ABC's • Obtain complete vital signs every 5-10 minutes with lung sounds once fluids are running. • Oxygen therapy, high flow
EMT	• Supraglottic airway - **See AIRWAY-SGA Procedure** • Quantitative waveform capnography – **See AIRWAY - Capnography/ETCO$_2$ Procedure.** • Obtain 12 lead ECG – **See CARDIAC-ECG/12 Lead Procedure**
A-EMT	• IV – multiple if possible • IO as indicated for shock and no IV access Peds <6 y.o. **– See EZ-IO/IO Infusion Procedure** • Adult - Bolus NS in 500cc increments up to 30cc/kg total. Reassess lung sounds between each 500 cc bolus. • Peds – Bolus NS 20cc/kg, may repeat x1 if needed.
EMT-I	• Monitor Cardiac Rhythm. **– See CARDIAC-ECG/12 Lead Procedure** • IO access as indicated for shock, patient needs, and no IV access **– See EZ-IO/IO Infusion Procedure**
PARAMEDIC	• For Adults - If hypotension refractory to 30cc/kg total bolus consider dopamine or norepinephrine per protocol • Initiate SEPSIS ALERT using Pulsara or radio report. • Defer Intubation when possible as this may worsen patient's hemodynamic/metabolic status.

SHOCK **09/13/2022**	
Hypotension and shock result from volume, pump or rate problems.	
EMR/EMT	• Assess and support ABCs. • Place patient in supine position. • C-Spine precautions if indicated. • Oxygen therapy, high flow; assist ventilations as needed. • Control hemorrhage, if present. • Take measures to avoid heat loss. • Transport immediately. • Monitor vital signs and level of consciousness during transport.

A-EMT	• Start IV of NS using standard tubing.
	• Start second IV if time permits.
	Do not delay transport to start IVs.
	• IO as indicated for shock and no IV access, do not delay transport. **– See EZ-IO/IO Infusion Procedure**
	• Give 500 ml rapidly as possible; reassess patient frequently. Repeat fluid bolus, contraindicated if signs of fluid overload/pulmonary edema.
	• For shock secondary to traumatic blood loss consider permissive hypotension.
	  • Indications for fluid resuscitation in trauma
	  • Systolic Blood Pressure (SBP) <80
	  • Mental Status GCS ≤13
	  • Initiate resuscitation = 250cc bolus, may repeat once. Consult MD for persistent SBP <80.

EMT-I	• Cardiac monitoring - **See CARDIAC-ECG/12 Lead Procedure** • Evaluate and treat dysrhythmias
PARAMEDIC	• Consider dopamine if suspected cardiogenic shock • Consider Nor-Epinephrine for obstructive, cardiogenic, and distributive shock that is not hypovolemic in nature. • Consider tension pneumothorax • Consider the use of TXA if hemorrhagic shock is suspected in trauma patients with mechanism and injury occurred < 3 hours. – **See Tranexamic Acid/TXA**

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SYNCOPE
09/13/2022

Follow Assessment, General Procedures Protocol

- Patients over the age of 40 with syncope, even though apparently normal, should be encouraged to be transported.
- Any patient with unexplained syncope should be transported to the hospital.
- Any patient with syncope that is suspect of being cardiac in origin should be transported.
- Orthostatic vital signs should be checked and documented.

EMR	• Assess and support ABCs • Oxygen therapy as needed • Lateral recumbent position if possible (maintain spinal precautions if appropriate). • Administer liquid oral glucose for treatment of possible hypoglycemia if patient awake and able to protect airway. • Monitor airway and vital signs closely
EMT	• Obtain 12 lead ECG - **See CARDIAC-ECG/12 Lead Procedure** • Check CBG, if <60: administer liquid oral glucose if the patient is awake and able to protect airway
A-EMT	• IV – NS with standard tubing or saline lock TKO or titrate fluid to patient's needs – **See Shock Protocol** • IO as indicated for shock and no IV access **– See EZ-IO/IO Infusion Procedure**
EMT-I/ PARAMEDIC	• Cardiac monitoring - **See CARDIAC-ECG/12 Lead Procedure**

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TRAUMA - TRAUMA (ACTIVATION)
09/13/2022 [EMR, EMT, A-EMT, EMT-I, PARAMEDIC]

It is mandatory for a patient to be entered into the Trauma System in ATAB 3 (Lane, Douglas and Coos Counties) when they have been involved in a trauma incident **and** meet **any** one of the following criteria in Step 1 through Step 3.

The EMS Provider should report the exact reason for patient entry to the Trauma Center and document the incident fully, including the reason for Trauma System entry.

Measure Vital Signs and Level of Consciousness

Step 1: Physiological Criteria

Glasgow Coma Scale	≤13; or
Systolic blood pressure	<90; or
Respiratory rate	<10 or > 29 (< 20 in infant < one year); or
	Need for ventilatory support

YES

Take to trauma center. Steps 1 and 2 attempt to identify the most seriously injured patients. These patients should be transported to the highest level of care within the region

NO

Assess anatomy of injury

Step 2: Anatomical Criteria

- All penetrating injuries to head, neck, torso and extremities proximal to elbow and knee
- Chest wall instability or deformity (e.g. Flail chest); or
- Two or more proximal long-bone fractures; or
- Crushed, de-gloved, or mangled extremity; or
- Amputation proximal to wrist and ankles; or
- Suspected pelvic fracture; or
- Open or depressed skull fracture; or
- Motor or sensory deficit

YES

Take to trauma center. Steps 1 and 2 attempt to identify the most seriously injured patients. These patients should be transported to the highest level of care within the region.

NO

Assess mechanism of injury and evidence of high-energy impact

Go to Step 3, next page

TRAUMA - TRAUMA (ACTIVATION)
09/13/2022 [EMR, EMT, A-EMT, EMT-I, PARAMEDIC]

Step 3: Mechanism of Injury

Falls
- Adults: > 20 ft. (one story is equal to 10 ft.); or
- Children: > 10 ft. or 2-3 times the height of the child; or

High-Risk Auto Crash
- Intrusion, including roof > 12" into passenger compartment; or > 18" anywhere on vehicle; or
- Ejection (partial or complete) from automobile; or
- Death in same passenger compartment; or
- Vehicle telemetry data consistent with high risk of injury; or

Auto vs Pedestrian/Bicyclist Thrown, Run Over, or with significant (>20 mph) impact; or
Motorcycle or ATV Crash > 20 mph

YES

Take to trauma center. Transport these patients to the highest level of care within the region. In a MPS, consider transporting lower acuity patients to other trauma capable hospitals.

NO

Assess special patient or system considerations

Step 4: Special Populations (Comorbidities)

Age
- Older Adults: Risk of injury or death increases after age 55; or
- SBP < 110 might represent shock after 65 years; or
- Low impact mechanisms (e.g. ground level falls) may result in severe injuries; or
- Children: Should be triaged preferentially to pediatric-capable trauma centers; or

Anticoagulation and Bleeding Disorders
- Patients with head injury are at high risk for rapid deterioration; or

Burns
- Without other trauma mechanism: Triage to burn facility; or
- With trauma mechanism: Triage to trauma center; or

Pregnancy > 20 Weeks; or

EMS Provider Judgment

YES

Take to trauma center. These patients should be transported to a trauma center within the region. Consider consultation with Medical Control.

NO

Transport according to protocol

TRAUMA-TRAUMA (ACTIVATION) **09/13/2022** [EMR, EMT, A-EMT, EMT-I, PARAMEDIC]	
COMMUNICATIONS	It is essential that early radio communications be established between the Trauma Center (TC) and the scene. The medic in charge of patient care is responsible for ensuring the communication occurs. 1. When advising of a Trauma Activation ideally over the HEAR radio, the crew must request to speak to the Charge Nurse and a Physician at the TC. 2. The following information shall be provided; • Unit number, and priority of transport • Location of the incident • Number of patients • Age and sex of the patient(s) • **Trauma System entry criteria including a brief description of <u>major</u> injuries. (Be as specific as possible)** • Patient(s) vital signs, specify if **not taken** or **not present** • Approximate ETA of patient(s) to Trauma Center Communications from the Trauma Center or Medical Control to EMS Providers in the field: 1. The Trauma Center will inform the EMS Provider if more information is needed. 2. The Trauma Center will inform the EMS Provider if the destination trauma center is unable to receive the patient(s). In the event of a Multiple Patient Scene (MPS) or an Mass Casualty Incident (MCI), the incident commander should notify the hospital of the following: 1. The scene location; 2. The mechanism of injury; 3. An estimate on the numbers of patients including the number of: Critical, Intermediate and Delayed as triaged by use of the Field Triage Score **– See TRAUMA-Field Triage Score/Triage Procedure** 4. Approximate ETA of patients arriving at hospital.

TRAUMA-TRAUMA (ACTIVATION) 09/13/2022 [EMR, EMT, A-EMT, EMT-I, PARAMEDIC]	
TRANSPORT PROTOCOL	All trauma system entry patients should be transported to a Trauma Center unless the medics are unable to establish and maintain an airway, then, the nearest hospital is appropriate to obtain definitive airway control.
TRAUMA CENTER DESIGNATION	All trauma system entry patients that meet criteria in Step 1 & 2 should be transported to the highest level trauma center unless advised by Medical Control and the expected scene and transport time to a Level II facility is greater than 30 minutes and the Level III hospital is closer. Patients meeting criteria in Step 3, take to a trauma center**.** Transport of these patients should be to the highest level of care within the region. In a MPS, consider transporting lower acuity patients meeting criteria in Step 3 to a level III trauma capable hospital. Patients meeting criteria in Step 4, take to a trauma center. These patients should be transported to either a level II or level III trauma center within the region. Consider consultation with Medical Control.
MODE OF TRANSPORT	Communication between the lead medic and the Incident Commander is highly encouraged regarding the decision to request air transport. Helicopter transport should be considered in any one of the following cases: 1. The patient will benefit from rapid transport or critical care transport; or 2. Patient is a trauma activation; or 3. Multiple patient scene; or 4. The use of air transport will reduce transport time by 20 minutes. Always continue ground response to the scene even if there is certainty that the helicopter will be able to transport and that air transport will save transport time.

TRAUMA-TRAUMA (ACTIVATION) 09/13/2022 [EMR, EMT, A-EMT, EMT-I, PARAMEDIC]	
PATIENT EVALUATION	Treatment priority should be approached in this order: 1. Control of hemorrhage 2. Airway maintenance (including control of the cervical spine); If unable to establish and maintain an adequate airway, the patient should be transported to the nearest hospital to obtain definitive airway control. 3. Breathing; 4. Control of circulation; 5. Treatment of shock; **- See Shock Protocol** 6. Splinting of fractures **– See TRAUMA - Splinting Procedure** 7. Neurological examinations; 8. Detailed patient assessment.
SCENE TIME	After gaining access to the patient, scene time should not exceed ten (10) minutes for any patient who is entered into the trauma system. Plan to start IVs and initiate other care once en route to the Trauma Center.

EMR/EMT	• Assess for life threatening injuries – **See TRAUMA - Bleeding and Hemorrhage Control Protocol**
	• Support ABCs
	• Spinal immobilization – **See TRAUMA-Spine Trauma Procedure**
	• Primary Survey
	• Monitor vital signs every 5 minutes minimum
	• Oxygen indicated for:
	  • Unstable vitals
	  • Mechanism of injury
	• Perform neurological examination including GCS Score and Secondary Survey **– See GCS Procedure**
	• **Notify Trauma Center of trauma patient with trauma entry criteria that the patient met.**
	• Keep patient warm to avoid hypothermia

A-EMT	• IV – NS with standard tubing • IO as indicated for shock and no IV access Peds <6 y.o, do not delay transport. **– See EZ-IO/IO Infusion Procedure** • Titrate fluid to patient's needs – **See Shock Protocol**

TRAUMA-TRAUMA (ACTIVATION) 09/13/2022 [EMR, EMT, A-EMT, EMT-I, PARAMEDIC]	
EMT-I	• IO Access**– See EZ-IO/IO Infusion Procedure** • Advanced airway management as indicated. **See Respiratory Distress Protocol;** • Pain management – **See Acute Pain Management Protocol** • Initiate cardiac monitor, SaO_2, $ETCO_2$
PARAMEDIC	• Provide emergency advanced airway access - **See AIRWAY-RSI, and possibly Cricothyrotomy Procedures** • Treat life threats including: decompression of tension pneumothorax – **See AIRWAY - Decompression of Tension Pneumothorax Procedure** • For patients that need severe pain control, consider the use of Ketamine, i.e. patients with amputation, burns, wound packing or tourniquet placement. **– See Ketamine** • **TXA for hemorrhage shock**

TRAUMA- BLEEDING AND EXTERNAL HEMORRHAGE CONTROL 05/04/2021

Follow Assessment, General Procedures Protocol

- Early recognition and control of external bleeding is essential to patient outcome.
- Place tourniquet(s) without delay, painful when applied effectively, ensure bleeding remains controlled post application.
- Minimize scene time.

EMR

Control bleeding with:

DIRECT PRESSURE:

- MARCHH Assessment, stop bleed with direct pressure then tent & cut clothing at bleed.
- If effective, dress wounds
- If direct pressure ineffective or impractical and hemorrhage not controlled, apply tourniquet or hemostatic dressing.

TOURNIQUET (extremity wounds)

- Commercially made tourniquet preferred. Apply per manufacturer instructions using steps below.
- Ensure placed 2-3 inches proximal to the wound. Upper extremity placement should be proximal to elbow. Do not place over knee or elbow.
  - If extent of wound cannot be fully assessed, place as proximal on the limb as possible “high and tight”.
- Tighten tourniquet until hemorrhage stops and~~/or~~ distal pulses in affected extremity disappear.
  - Place second tourniquet adjacent to initial tourniquet if hemorrhage not controlled. Lower extremities probable.
- Secure tourniquet(s).
- Note time of placement, maintain clear visibility of tourniquet.

WOUND PACKING (wounds not amenable to tourniquet placement e.g. groin, axilla, neck, junctional or proximal extremity injury, not for torso).

- Maintain direct pressure
- Place gauze directly to bleeding source in combination with direct pressure. Maintenance of mechanical pressure is key.
- Aggressively, completely fill the wound bowl.
- Place remaining gauze on top of wound site. Apply pressure dressing to maintain direct pressure on injury site.

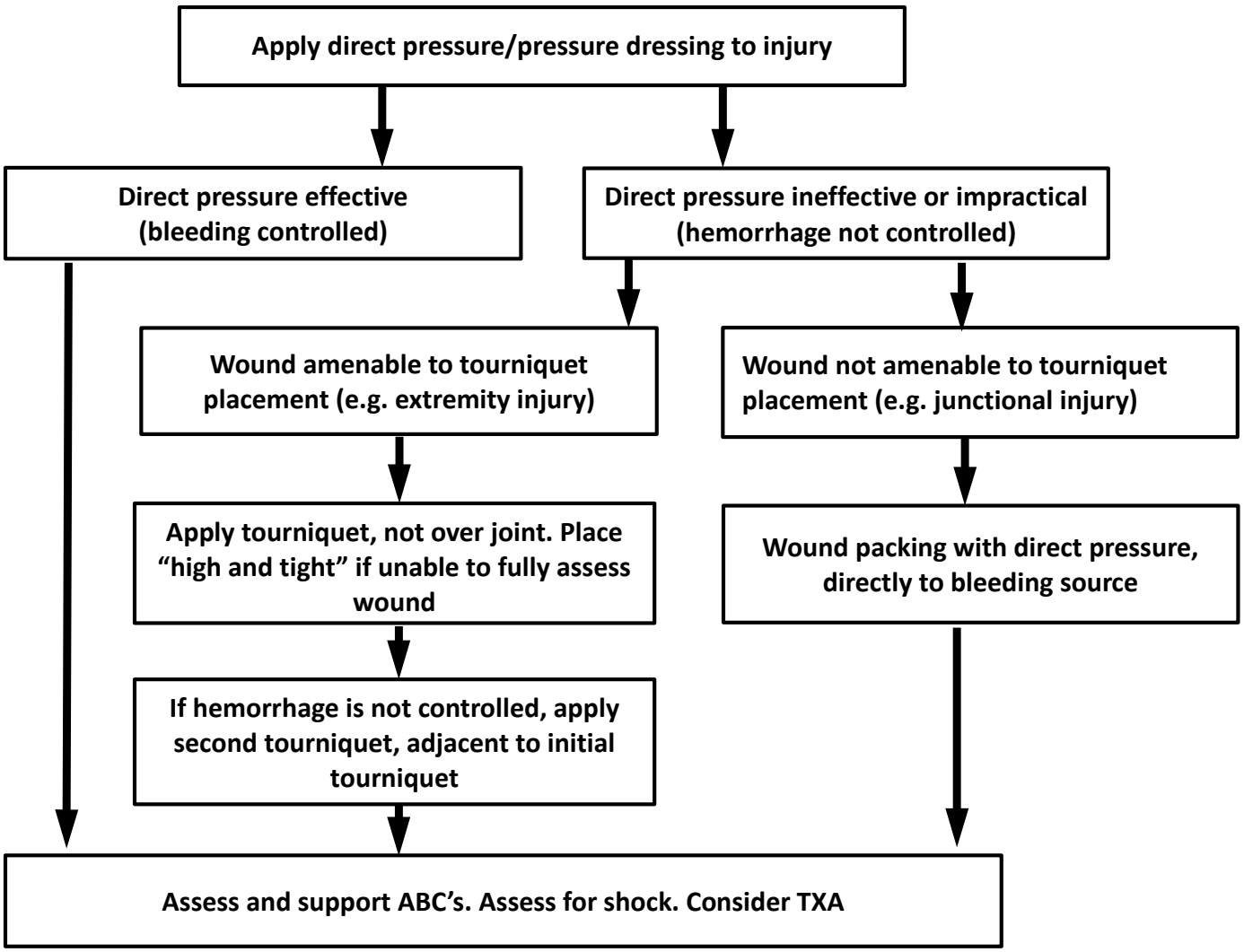
WOUND PACKING WITH HEMOSTATIC AGENT

- Apply agent per manufacturer instructions.

HEMODIALYSIS (access site disruption)

- Apply direct pressure (directly at the site of disruption).
- If ineffective, and other means of hemorrhage control are unsuccessful, apply tourniquet.

TRAUMA- BLEEDING AND EXTERNAL HEMORRHAGE CONTROL 05/04/2021	
EMR Continued	Assess and support ABC's Splint suspected/obvious fractures **– See Splinting Protocol** Routinely reassess placed hemorrhage control devices and controlled hemorrhage.
EMT	Same as EMR
A-EMT	• IV – NS with standard tubing or saline lock • IO as indicated for shock and no IV access **– See EZ-IO/IO Infusion** • Follow Permissive Hypotension Guidelines – **See Shock Protocol**
EMT-I	• Pain management – **See Acute Pain Management Protocol**
PARAMEDIC	• If tourniquet was applied prior to paramedic arrival it is appropriate to gradually release while applying direct pressure (and pressure points as necessary). If bleeding becomes uncontrolled, reapply tourniquet. • Consider the use of TXA - **See Tranexamic acid/TXA**



TRAUMA - BURNS
09/13/2022

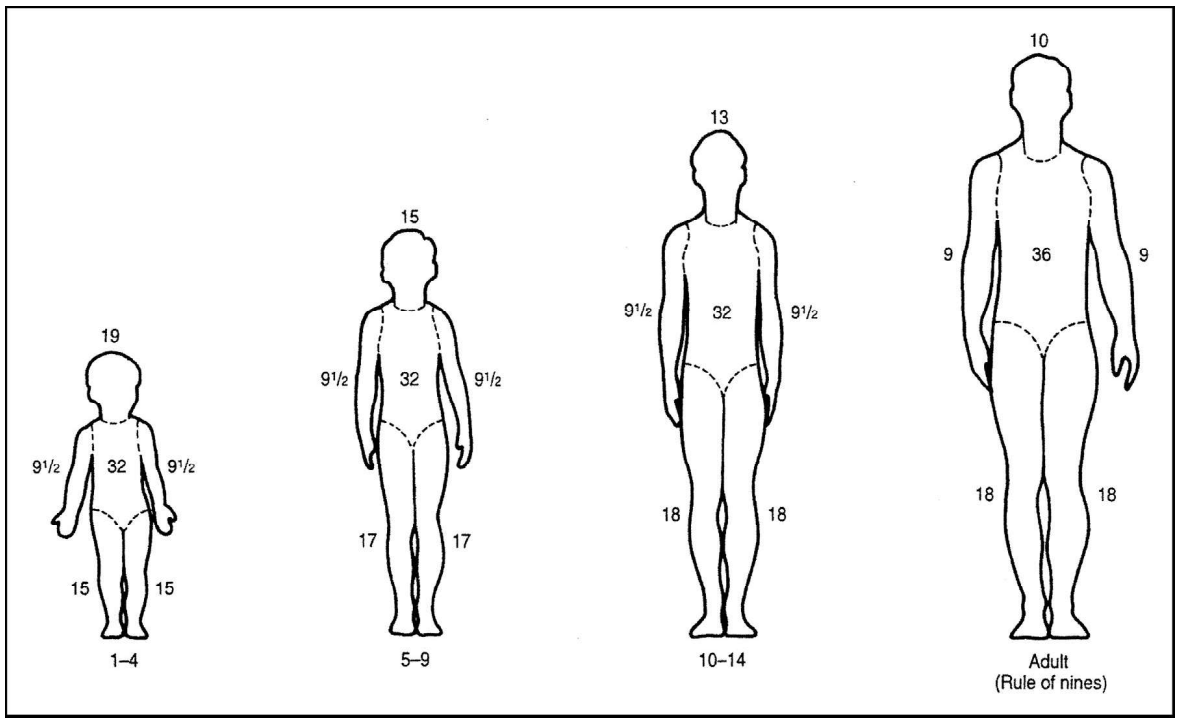
- Follow Assessment, General Procedures Protocol

EMR/EMT	• Be sure all burning has stopped and remove any smoldering clothing
	• Assess and support ABC's
	• Oxygen therapy, high flow.
	• Bandage:
	  • Small burns (<5% BSA) – moist clean towels or sheets.
	  • Moderate to severe burns – dry clean dressing or burn sheet.
	• Keep patient warm.
	• Remove all rings, bracelets, or other constricting items.
	• Estimate Burn Surface Area (BSA)
	  • Palm Method (the patient's palm)
	  • Rule of 9's
	• Chemical burns:
	  • Consider Hazmat activation or consultation.
	  • Use proper PPE to avoid cross contamination.
	  • Remove chemical from body flush with copious amounts of water.
	  • Brush dry chemicals off prior to flushing.
	• Electrical burns:
	  • Apply sterile dressing to entrance and exit wounds.
	  • Consider spinal precautions.

A-EMT	• IV – NS with standard tubing
	• IO if indicated for shock and no IV access – **See EZ-IO/IO Infusion Procedure**
	• Fluid Resuscitation
	  • For burns >20% Follow the Oregon Burn Center Guidelines
	  • 14yrs & Older – 500ml/hr
	  • 6-13 years – 250ml/hr
	  • 5 year or younger – 125 ml/hr

EMT-I	• Cardiac monitoring – **See CARDIAC-ECG/12 Lead Procedure** • Pain management – **See Pain Management Protocol**
PARAMEDIC	• Consider early intubation with suspected airway involvement – **See AIRWAY-RSI Procedure**

TRAUMA - BURNS 09/13/2022	
	• For closed space smoke/fire exposure, consider CO and cyanide poisoning • Cyanokit • For burns involving the eye – consider proparacaine and use of a Morgan eye lens.



TRAUMA- CHEST INJURIES 02/02/2021	
Follow Assessment, General Procedures Protocol • Scene time should be minimized in trauma patients – treat en route if possible	
EMR	• MARCHH Assessment and support ABC's. • C-spine precautions as indicated (all major trauma should be fully immobilized) • Oxygen therapy, high flow. Assist ventilations as needed. • For open chest wound: cover with occlusive dressing taped on three sides. The patient must be observed closely for signs of a developing tension pneumothorax. If this occurs try lifting the edge of the occlusive dressing. • Stabilize large flail segments with tape dressing, or hand. • Impaled objects should be left in-place and stabilized. • Monitor vitals. • Check the back for unseen injuries • Remove all clothing route. • Protect from hypothermia. -See Trauma-Major Trauma Assessment & Treatment Priorities.
EMT	• Obtain 12 lead ECG if able - **See CARDIAC - ECG/12 Lead**
A-EMT	• IV – two large bore NS with standard tubing • IO as indicated for shock and no IV access – **See EZ-IO/IO Infusion & Permissive Hypotension Guidelines**
EMT-I	• Monitor cardiac rhythm **-See CARDIAC-ECG/12 Lead Procedure** • Pain management – **See Acute Pain Management Protocol**
PARAMEDIC	• Assess for signs of tension pneumothorax and treat as indicated by standing order. - **See AIRWAY - Pleural Decompression**. • A trauma patient who has recently coded and does not meet death in the field criteria warrants bilateral needle chest decompression by standing order.

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TRAUMA- GROUND LEVEL FALL
09/02/2020

Ground level fall is the number one cause of mortality due to trauma in Lane County. Patients that have fallen in the past two weeks have a 40% increase in mortality.

With the intent to reduce the risk of ground level fall morbidity and mortality the following assessments will be made for each person who suffers a ground level fall, even if the patient reports that they are not injured:

- Physical Exam with Primary and Secondary Survey
- History Assessment
- Special Considerations

A lift assist is a task and implies that the person needing assistance did not suffer a fall as the reason for dispatch.

PHYSICAL EXAMINATION

PRIMARY SURVEY	Airway and cervical spine stabilization (if appropriate), breathing, circulation, disability and Glasgow coma score, expose/environment.
SECONDARY SURVEY	The Secondary Survey is performed 1. Head to toe evaluation of the patient, determine chief complaint. 2. Evaluate the patient for: • Mechanism of injury • The position of the patient on arrival. • Distance and time of fall. 3. Obtain a complete set of vital signs including; blood pressure, pulse rate and quality, ventilation rate (including breath sounds), skin color and temperature. • Rule out sepsis • Medication side effects, i.e. beta blockers, etc. • Stand patient and assess for lightheadedness or orthostatic symptoms 4. Monitor; SpO_2, ECG (including 12 lead) if appropriate, $ETCO_2$ and obtain CBG reading if appropriate 5. Obtain pain severity scale including **PQRST** (Precipitation, Quality, Radiation, Severity, Time) 6. Complete a cognitive and neuro assessment. 7. If no injury/illness found, verify patient can safely self-

TRAUMA- GROUND LEVEL FALL
09/02/2020

ambulate/transfer
- failure to thrive
- lack of in-home assistance
- continued safety to leave at home

SPECIAL CONSIDERATIONS

1. Advise of mitigation or remove risk on scene by removing trip hazards.
2. Consider follow-up with PCP or arranging an appointment for the patient.
3. Home Health/Community resources referral
   - Need for ambulatory assistive devices
   - Follow-up in home assessment
4. Treatment and transport by family/common carrier
5. Is the patient safe to be left at home or in the facility?
   - Yes - Treatment and release at scene
   - No - Treatment and transport by EMS - Online medical control assistance.
6. If the patient needs a referral for Aging and Disability Resource Connection (ADRC) complete a referral (855)673-2372.
7. If the patient is living independently or in a care facility, and they need a higher level of care, contact Adult Protective Services. (541) 682-4038.
8. If the patient is on hospice, contact the hospice provider for further direction.
9. Regardless of living situation, if the patient is alert and oriented to Person, Place, Time and Event and is refusing to be transported, it is their right to be left. In this situation, the patient should sign the refusal form and an appropriate ePCR should be completed. Contact Medical Control for further guidance.

TRAUMA- HEAD TRAUMA
12/07/2021

- Restlessness can be a sign of serious head injury. Cerebral anoxia is the most frequent cause of death in head injury.
- The most important information you provide for the E.D. physician is changes in the patient's level of consciousness.
- Isolated head trauma as a result of significant mechanism/force should be immobilized in C-Collar for transport. (May not require use of LBB)

**Concussion is a mild traumatic brain injury and may be caused either by direct blow to the head, face, neck or elsewhere on the body with a sudden acceleration or deceleration force transmitted to the head. Any bump or blow to the head should be suspect of possibly causing a concussion. Signs and Symptoms of a concussion include:

- Amnesia: retrograde (events before the injury)
  anterograde (events after the injury)
- Loss of consciousness
- Appears dazed or stunned
- Is confused about events
- Answers questions slowly
- Repeats questions
- Forgetful of recent information
- Nausea or vomiting

Patients who are experiencing concussion symptoms should be transported to the hospital. If the patient declines transport, the patient should be encouraged to seek medical evaluation and should be advised of risk of Second Impact Syndrome (SIS).

**Second Impact Syndrome is a serious life-threatening condition that may occur in patients that have a second head injury before signs and symptoms of the first head injury has resolved. This second head injury can occur minutes, days or weeks after the initial head injury.

EMR/EMT	• MARCHH assessment & support ABC's with manual spine care • Assess patient for spinal immobilization • Oxygen therapy. • Calculate baseline GCS **– See GCS Procedure** • Stop bleeding with direct pressure. If it looks like CSF, put a dressing over it and do not apply pressure unless bleeding is excessive. • Frequently reassess vitals and level of consciousness • Ventilate at normal tidal volume and assist ventilations at a rate of 12-14 breaths/minute for adults. Do not hyperventilate. • Manage $ETCO_2$ **– See AIRWAY-Capnography/$ETCO_2$**.

TRAUMA- HEAD TRAUMA 12/07/2021	
	• Evaluate Tympanic Membrane for all blast/pressure mechanisms with Otoscope. **– See Tympanic Membrane Examination with Otoscope Procedure**
A-EMT / EMT-I	• IV – NS with standard tubing or saline lock, titrate to patient's needs • IO as indicated for shock and no IV access **– See EZ-IO/IO Infusion Procedure** • With suspected increased ICP, maintain systolic BP ≥90.
PARAMEDIC	• Seizure activity – **See Seizure Protocol** • Intubate if signs of significant head injury, i.e. pooled secretions, GCS <9. **– See AIRWAY-RSI Procedure** • Signs of increased intracranial pressure may be mitigated some by increasing ventilation rate. **See Capnography/ETCO$_2$.** • **TXA** with isolated traumatic brain injury with GCS ≤12– **See TXA**

TRAUMA- ORTHOPEDIC INJURIES / EXTREMITY TRAUMA / CRUSH INJURY 03/02/2021	
Follow Assessment, General Procedures Protocol	
EMR	• Immobilize C-Spine if indicated • MARCHH Assessment and support ABC's • Control hemorrhage **- See TRAUMA -Bleeding and External Hemorrhage Control Protocol** • Oxygen therapy, if indicated • Apply sterile dressings to open fractures • Splint suspected/obvious fractures **– See TRAUMA-Splinting Procedure** • Remove rings, bracelets, and other constricting items on injured extremities • Consult with medical control if no palpable pulses **AMPUTATIONS** • Stump: Sterile dressing, control hemorrhage-**See TRAUMA-Bleeding and External Hemorrhage Control Protocol** • Severed Part: Wrap in gauze/4x4, wrap in plastic (keep dry), place on ice If delay in transport, consider sending amputated part ahead. • Partial amputation: Sterile dressing, splint in anatomical position. Avoid torsion and angulation**.**
EMT	• Obtain 12 Lead ECG, if able. (Indicated for Crush Injury) - **See CARDIAC-ECG/12 Lead Procedure**
A-EMT	• IV – NS with standard tubing or saline lock • IO as indicated for shock and no IV access **– See EZ-IO/IO Infusion Procedure** • Titrate fluid to vital signs and signs of shock – **See Shock Protocol**
EMT-I	• Pain management – **See Acute Pain Management Protocol**
PARAMEDIC	**PATELLA DISLOCATION:** • Identify the lateral location of the patella. Simultaneously straighten the knee while applying forward pressure under the patella with thumb and fingers. • If unsuccessful, splint in place and ice **– See TRAUMA - Splinting Procedure** • If successful reduction is made, patient should be transported for x-ray and further evaluation

TRAUMA- ORTHOPEDIC INJURIES / EXTREMITY TRAUMA / CRUSH INJURY 03/02/2021	
PARAMEDIC	**CRUSH INJURY** **2 Liter Bolus followed by 500cc/hr infusion (clear lungs)** • Place tourniquets preferably 2-3 inches proximally on crushed limb just prior to release. • Monitor for Hyperkalemia (Peaked T waves and QRS widening) - **See Hyperkalemia Protocol** • Treat pain aggressively if blood pressure permits – **See Acute Pain Management Protocol** • Rocuronium if RSI is necessary

UNCONSCIOUS/UNKNOWN 09/13/2022	
Follow Assessment, General Procedures Protocol	
EMR	• Assess and support ABCs • C-Spine precautions if indicated or suspected **– See TRAUMA-Spine Trauma Procedure** • Oxygen therapy, high flow, assist ventilations as needed • Monitor airway and vitals closely • Lateral recumbent position if possible (maintain spinal precautions if appropriate) • Administer liquid oral glucose for treatment of suspected hypoglycemia if patient is able to self-administer. • Naloxone
EMT	• Check blood glucose, if <60: administer liquid oral glucose for treatment of suspected hypoglycemia if the patient is awake and able to protect own airway. • Consider the need for SGA **– See AIRWAY-SGA Procedure** • Obtain 12 lead - **See CARDIAC-ECG/12 Lead Procedure**

A-EMT	• IV – NS with standard tubing or saline lock, titrate to patient's needs – **See Shock Protocol**
	• IO as indicated for shock and no IV access **– See EZ-IO/IO Infusion Procedure**
	• If blood glucose is <60, consider:
	  • Dextrose IV/IO
	  • Glucagon

EMT-I	• Cardiac monitoring - **See CARDIAC-ECG/12 Lead Procedure**
PARAMEDIC	• Consider the need for intubation **– See AIRWAY- RSI Procedure**

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VAGINAL BLEEDING
02/02/2021

Follow Assessment, General Procedures Protocol
Specific Precautions:

- Always consider pregnancy as a cause of vaginal bleeding. – **See Obstetric Emergencies Protocol**
- Most postpartum bleeding will occur immediately after, to within 24 hours after, delivery. Do not massage uterus or administer oxytocin (Pitocin®) immediately post-delivery unless placenta has delivered or you receive MD order.
- Consider transport to a hospital with a NICU if possible pre-term delivery

EMR/EMT	• Assess and support ABC's • Oxygen therapy, high flow • Position of comfort • Monitor vital signs • Treat for Shock - **See Shock Protocol**
A-EMT / EMT-I	• IV – NS with standard tubing or saline lock • IO as indicated for shock and no IV access**– See EZ-IO/IO Infusion Procedure** • Titrate fluids to patients needs
PARAMEDIC 	• Pitocin (postpartum bleeding) **MD order**

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