



Traumatic Arrest

History

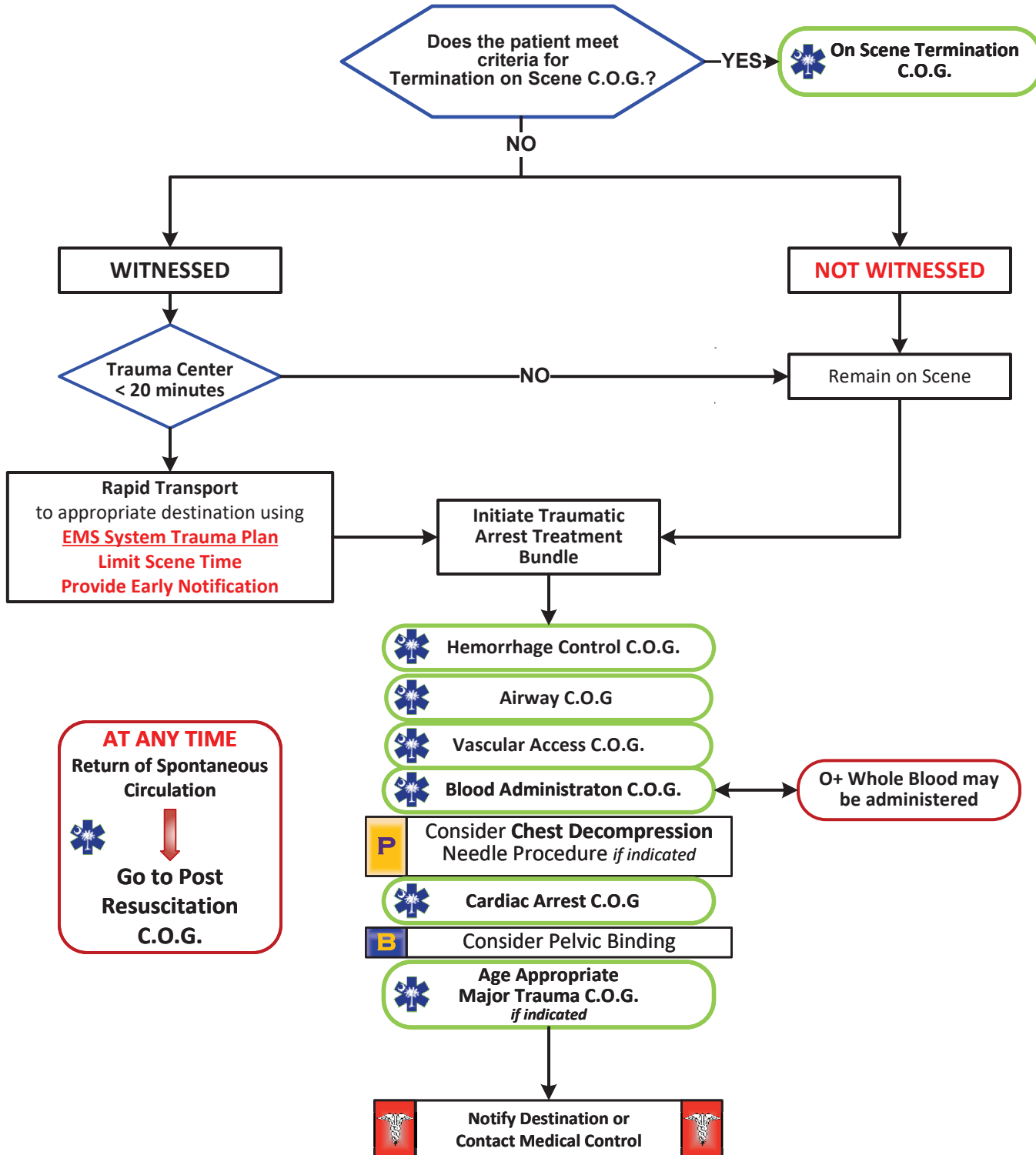
- Traumatic Injury

Signs and Symptoms

- Unresponsive
- Pulseless
- Apneic
- No electrical activity on EKG
- Ventricular fibrillation/ventricular tachycardia
- No auscultated heart tones

Differential (Life threatening)

- **Medical/trauma**
- Hypoxia/pulmonary
- Potassium (hypo/hyper)
- Drug overdose
- Acidosis
- Hypothermia
- Device error/artifact





Traumatic Arrest

REVISED TRAUMA SCORE			
RTS	GCS	SBP	RR
		(mmHg)	Breaths/min
4	13-15	> 89	10-29
3	9-12	76-89	>29
2	6-8	50-75	6-9
1	4-5	1-49	1-5
0	3	0	0
RTS Formula			
$(0.9368)(GCS) + (0.7326)(SBP) + (0.2908)(RR) = RTS$			

Glasgow Coma Scale			
ADULT GLASGOW COMA SCALE		PEDIATRIC GLASGOW COMA SCALE	
	SCORE		SCORE
EYE OPENING (4)		EYE OPENING (4)	
Spontaneous	4	Spontaneous	4
To Speech	3	To Speech	3
To Pain	2	To Pain	2
None	1	None	1
BEST MOTOR RESPONSE (6)		BEST MOTOR RESPONSE (6)	
Obeys Commands	6	Spontaneous Movement	6
Localizes Pain	5	Withdraws to Touch	5
Withdraws from Pain	4	Withdraws from Pain	4
Abnormal Flexion	3	Abnormal Flexion	3
Abnormal Extension	2	Abnormal Extension	2
None	1	None	1
VERBAL RESPONSE (5)		VERBAL REESPONSE (5)	
Oriented	5	Coos, Babbles	5
Confused	4	Irritable Cry	4
Inappropriate	3	Cries To Pain	3
Incomprehensible	2	Moans to Pain	2
None	1	None	1
TOTAL		TOTAL	



Head Trauma

History

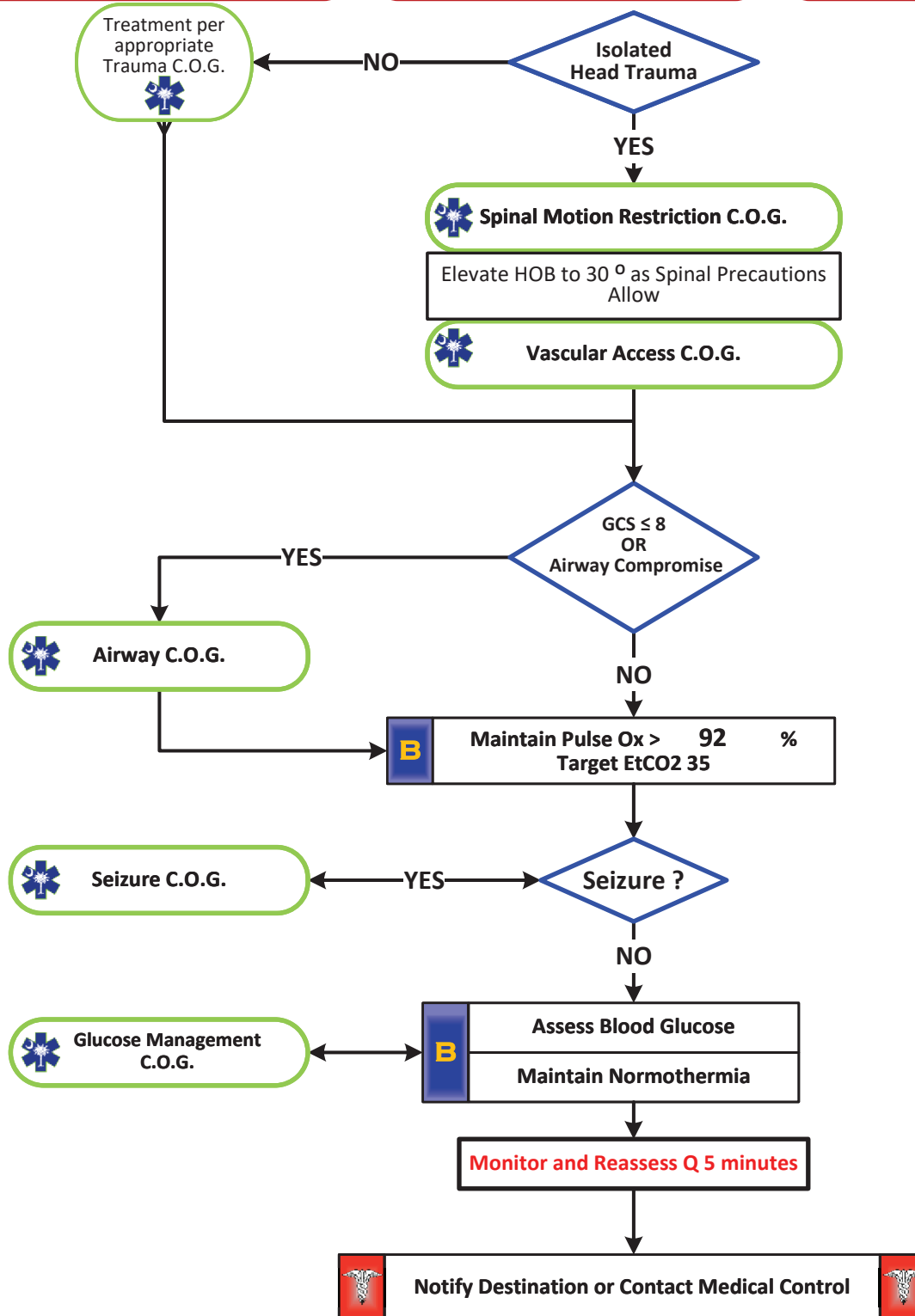
- Time of injury
- Mechanism (blunt vs. penetrating)
- Loss of consciousness
- Bleeding
- Past medical history
- Medications
- Evidence for multi-trauma

Signs and Symptoms

- Pain, swelling, bleeding
- Altered mental status
- Unconscious
- Respiratory distress / failure
- Vomiting
- Major traumatic mechanism of injury
- Seizure

Differential

- Skull fracture
- Brain injury (Concussion, Contusion, Hemorrhage or Laceration)
- Epidural hematoma
- Subdural hematoma
- Subarachnoid hemorrhage
- Spinal injury
- Abuse





Head Trauma

PEARLS

- **Recommended Exam: Mental Status, HEENT, Heart, Lungs, Abdomen, Extremities, Back, Neuro**
- If GCS < 12 consider air / rapid transport
- In the absence of Capnography, hyperventilate the patient (adult: 20 breaths/min, child: 30, infant: 35) only if ongoing evidence of brain herniation (blown pupil, decorticate or decerebrate posturing, or bradycardia)
- Increased intracranial pressure (ICP) may cause hypertension and bradycardia (Cushing's Response).
- Hypotension usually indicates injury or shock unrelated to the head injury and should be aggressively treated.
- The most important item to monitor and document is a change in the level of consciousness.
- Consider Restraints/Sedation if necessary for patient's and/or personnel's protection per the Restraint Procedure.
- Limit IV fluids unless patient is hypotensive.
- Concussions are periods of confusion or LOC associated with trauma which may have resolved by the time EMS arrives. Any prolonged confusion or mental status abnormality which does not return to normal within 15 minutes or any documented loss of consciousness should be evaluated by a physician ASAP.
- In areas with short transport times, RSI/Drug-Assisted Intubation is not recommended for patients who are spontaneously breathing and who have oxygen saturations of greater than 92% with supplemental oxygen
- **KEY DOCUMENTATION ELEMENTS:**
 - High-flow oxygen with non-rebreather (NRB) mask
 - Airway status and management
 - EtCO₂ monitored and documented for all traumatic brain injury (TBI) patients with advanced airway and strict avoidance of hyperventilation, overventilation, and hypocapnia
 - Neurological status with vitals: AVPU, GCS
 - Exams: Neurological and Mental Status Assessment pre- and post-treatment
- **KEY PERFORMANCE MEASURES:**
 - No oxygen desaturation less than 92%
 - No hypotension:
 - Adults: less than 110 mmHg
 - Pediatrics:
 - Age less than 1 month: less than 60 mmHg
 - Age 1–12 months: less than 70 mmHg
 - Age 1–10 years: less than 70 + 2x age in years
 - Assess the patient's blood pressure prior to the administration of any medication that may cause hypotension.
 - EtCO₂ target 40 mmHg (range 35–45 mmHg). Meticulous prevention of hypocapnia in all patients
 - Triage to the appropriate level hospital within the local trauma system