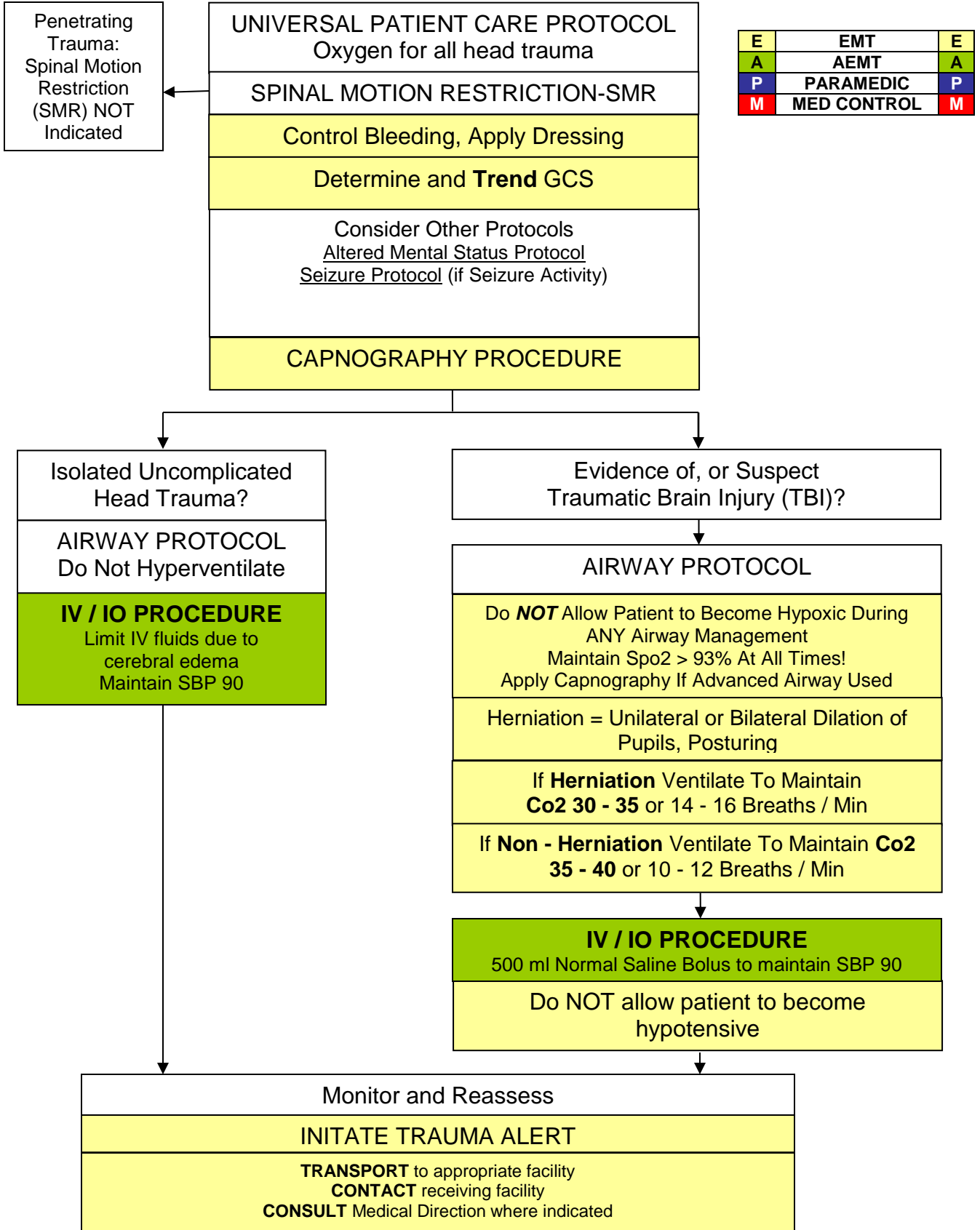




Section 6: Adult Trauma Protocols

ADULT TRAUMA: HEAD TRAUMA





Section 6: Adult Trauma Protocols

ADULT TRAUMA: HEAD TRAUMA-Cont.

PEARLS and KEY POINTS

HISTORY	SIGNS AND SYMPTOMS	DIFFERENTIAL DIAGNOSIS
<ul style="list-style-type: none"> • Time of injury • Mechanism: blunt / penetrating • Loss of consciousness • Bleeding • Medical history • Medications • Evidence of multi-trauma • Helmet use or damage to helmet 	<ul style="list-style-type: none"> • Pain, swelling, bleeding • Altered mental status • Unconscious • Respiratory distress / failure • Vomiting • Significant mechanism of injury 	<ul style="list-style-type: none"> • Skull fracture • Brain injury (concussion, contusion, hemorrhage, or laceration) • Epidural hematoma • Subdural hematoma • Subarachnoid hemorrhage • Spinal injury • Abuse

- **Exam: Mental Status, HEENT, Heart, Lungs, Abdomen, Extremities, Back, Neuro**
- If GCS < 12 consider air / rapid transport and if GCS < 9 intubation should be anticipated.
- **GCS ≤ 8? Intubate / assist ventilations. Do not delay transport**
- DO NOT allow patients to become hypoxic, maintain Spo2 > 93%, abandon intubation attempts if this cannot be maintained. Secure airway by other means.
- Increased intracranial pressure (ICP) may cause **hypertension** and bradycardia (Cushing's Reflex).
- Maintain SBP > 90
- Be alert for c-spine injuries with head trauma.
- Continually reassess the patient, including pupils, LOC, and neurological status.
- Any decrease in GCS suggests a TBI surgical emergency, transport to trauma center
- Capnography is critical! Maintain the Co2 ranges indicated in protocol, 1 point of Co2 change = 3% decrease in cerebral perfusion.
- The most important item to monitor, trend, and document is a change in the level of consciousness / GCS.
- Herniation may occur. Signs are:
 - Cushing's reflex; Bradycardia, hypertension, widening pulse pressure
 - Decreasing level of consciousness progressing towards coma.
 - Dilatation of pupils – may be unilateral or bilateral
 - Decerebrate posturing (extension of arms and legs)
 - Decorticate posturing (flexion arms and legs)
- Concussions are periods of confusion or LOC associated with trauma, which may have resolved by the time EMS arrives. A physician ASAP should evaluate any prolonged confusion or mental status abnormality, which does not return to normal within 15 minutes or any documented loss of consciousness.
- Consider **Restraints** if necessary for patient's and / or personnel's protection per the RESTRAINT PROCEDURE.