

I. General Considerations

- A. Spine trauma can accompany head trauma and so spinal immobilization should receive consideration.
 - B. If the patient is in shock, seek causes other than the head injury to explain it.
 - C. Always be prepared to rigorously guard and maintain the airway; be prepared for vomiting.
 - D. Be prepared for seizures.
 - E. The restless, combative patient may be so because of the head injury, but hypotension hypoperfusion, and hypoxia must be considered and treated.
 - F. Observations regarding the patient's level of consciousness and changes are of critical importance; observe the patient closely and communicate changes to the receiving hospital.
 - G. Minimize on scene time as much as possible.
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II. History

Perform a focused history and physical exam with particular attention to:

- A. Does the patient have any pain, numbness or tingling anywhere?
 - B. Has the patient lost consciousness?
 - C. What time did the injury occur?
 - D. What was the mechanism of injury? What forces were involved?
 - E. Is the patient chemically impaired? (alcohol, drugs, etc)
 - F. Has the patient moved himself or been moved?
 - G. Does the patient remember events either preceding or following the injury?
 - H. Obtain the past medical history.
 - I. What medications has the patient been, or is the patient supposed to be, taking (including over the counter medications)?
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III. Physical Examination

- A. Perform an initial assessment.
 - B. Perform a focused history and physical exam.
 - C. Obtain a complete set of baseline vital signs.
 - 1. Is the patient hypertensive and bradycardic?
 - D. Assess the patient's neurological condition.
 - 1. Check pupils for size, symmetry, reactivity.
 - 2. Assess motor function. Is the patient moving all four extremities? Is there equal grip strength? Is there posturing?
 - 3. Is sensation to touch intact in all four extremities?
 - E. Are there signs of trauma which might have caused altered mental status/coma (e.g., head trauma, hematomas, Raccoon eyes, bruising behind the ears)?
 - F. Are there other injuries (e.g., hip or wrist fracture)?
 - G. Is there an unusual breath odor? (alcohol, fruity acetone)?
 - H. Is there any evidence of chemical use, e.g., needle tracks, runny nose?
 - I. Is there abnormal flexion or extension of the extremities?
 - J. Is there fluid from the nose or ears?
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IV. Treatment**Basic**

- A. Establish an airway, maintain as indicated, suction as needed.
- B. Administer high concentration oxygen.
- C. Immobilize the spine.

Intermediate

- D. Secure IV access.
- E. If the patient is in respiratory arrest, secure the airway using an advanced airway device.
- F. If patient's mental status is altered:
 - 1. Perform capillary blood glucose determination.
 - 2. *If patient's blood glucose level is <80 mg/dl, administer dextrose 50% 25 gm IV in a secure vein for an adult (standing order for paramedics) or 0.5 - 1 gm/kg for a child.*
 - 3. ▲ *Administer thiamine 100 mg IV if dextrose is to be administered.*
 - 4. ▲ *If IV access cannot be secured and the patient's blood glucose level is <80 mg/dl, administer 1 mg glucagon IM.*

Paramedic

- G. Secure advanced airway. Do not extend the neck to intubate.
- H. Assess and monitor the cardiac rhythm; treat arrhythmias/dysrhythmias per applicable protocols.
- I. If capnography is available, follow any local medical direction guidance for ET_{CO}₂ level.