

EPIC TBI Algorithm: For Adults

Any Suspicion of TBI (Mechanism, GCS, Exam)

Automatically: 15 L/min O₂ NRB, IV Access
q3-5 min: Monitor O₂, BP, HR

Airway/Breathing

Circulation

Disability

O₂ sat <90 &/or hypoventilation
(despite NRB)

SBP <90 or other signs of shock
(If BP is dropping, do not wait until patient is hypotensive to begin IVFs)

Evaluate
Mental
Status/GCS

No

Yes

No

Yes

-BLS airway
maneuvers
-BVM-10bpm

-Continue careful
Monitoring BP/HR
-Pay attention for
early signs of shock:
-Tachycardia
-Dropping SBP

-Initial bolus-1 liter NS/LR
-Continue IVFs at sufficient
rate to keep SBP ≥90 mmHg

Continue careful
monitoring of O₂
sat and airway

No

O₂ sat <90
despite BLS?

Yes

Consider ALS airway if experienced provider available:

- Place advanced airway:
 - Pre-oxygenate: BVM with 100% O₂ @ 10 breaths/min
 - Check placement using ETCO₂ monitor/detector
- AVOID* even *MILD* hyperventilation with *Ventilation Rate Timer* and *Pressure-controlled Bag*:
 - Carefully keep rate @ 10 BPM
 - ETCO₂ available: Target ETCO₂ 40 mmHg (range: 35-45)
 - Control Ventilatory volume:
 - Ventilator available: utilize *as soon as possible*
 - Tidal volume = 7 cc/kg
 - Ventilator not available: Continue Pressure-controlled BVM
- Monitor: O₂ sat and airway *every 3-5 minutes*:
 - If O₂ sat <90% despite above interventions, consider:
 - Tension pneumothorax & needle thoracostomy

NOTE: *NO ONE* (not even Respiratory Therapists) can manually ventilate at the proper rate without ventilatory adjuncts (EVERYONE inadvertently hyperventilates unless meticulously preventing it):

- Ventilation Rate timers
- Pressure-controlled bags
- ETCO₂ monitoring with someone watching the level continuously
- Mechanical ventilator with careful ETCO₂ monitoring