

Stall Street Journal

THE ARIZONA EPIC PROJECT

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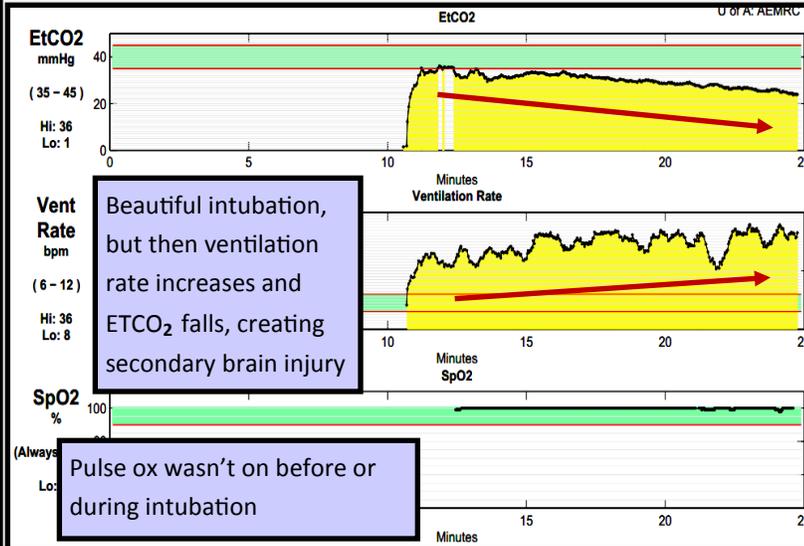
REMEMBER: NO H-BOMBS!

- ⇒ Hypoxia- put on high flow oxygen immediately
- ⇒ Hypotension- fluids if B/P low or falling
- ⇒ Hyperventilation-ETCO₂ target 40 (range 35-45)
- ⇒ Hypoglycemia-Check BS
- ⇒ TREAT THE INJURED BRAIN WELL!

ETCO₂ Monitoring That Isn't- Use Your Tools!

ETCO₂ is often underutilized in TBI care. It is **vital** to place patients on ETCO₂ whenever we ventilate them - OPA/BVM, supra-glottic airway, or ET Tube. Then we must continuously monitor the waveforms. As noted below, we are often seeing ETCO₂ used to confirm successful intubation, then to confirm inadvertent hyperventilation.

If you have ETCO₂ Monitoring, Use it! Watch it! Teach EMT's how to read it. Stay vigilant. Keep at 40mmHg. All providers will hyperventilate unless they watch EACH and EVERY breath. Do not let ETCO₂ monitoring be a tool that simply documents that you're hyperventilating TBI patients (See graph below).



This graph shows an actual EPIC patient with ventilation rate of up to 36bpm and ETCO₂ as low as 24mmHg. ETCO₂ this low causes a profound decrease in cerebral blood flow and results in neuronal ischemia and death. Remember the RR guideline in adults: 10bpm and ETCO₂ of 40mmHg (range 35-45).

Upcoming Event: Aug 14
Controversies in TBI Care
EPIC Webinar 10am-11am
See it at epic.arizona.edu

Caution! Watch for falling:

- ◆ O₂ Sat
- ◆ SBP
- ◆ ETCO₂

ETCO₂ 40 (35-45)
O₂ SAT ≥ 90
SBP ≥ 90
BG ≥ 70

Use Ventilation Rate Timers with SMART BAGS:

- ◆ Adults (ages 15+) 10 breaths/minute
- ◆ Kids (ages 2-14) – 20 breaths/minute

Sedation/Analgesia and TBI

Be mindful when you give benzos and narcotics in the presence of TBI. These medications rapidly drop blood pressure - especially in a patient in compensating shock. Judicious use in conjunction with aggressive fluid management is the key to managing TBI patients.

Once we give it - we can't take it back!

FREE CE AVAILABLE:

EPIC Refresher course is available on our website. Spark those neurons!

www.epic.arizona.edu/training

Q: Do we have to worry about patients with a GCS of 13-15?

A: Yes we do! EMS and Trauma Centers (TC) can't predict significant TBI from a GCS score.

⇒ **73%** of moderate to severe TBI patients have initial TC GCS scores of 13-15. EMS is no more accurate.

⇒ Over **HALF** (52%) of moderate to severe TBI patients have normal GCS scores (4/5/6=15) initially, but are diagnosed with moderate to severe TBI before hospital discharge.

TAKE HOME MESSAGE: Treat **EVERY** trauma pt. using EPIC guidelines to help prevent secondary injury in all of them.

Pocket TBI App: Keep the guidelines available on your smartphone. The EPIC App has the latest TBI treatment protocols for adults and children to help maximize survival and neurologic outcomes when caring for victims of moderate and severe TBI. Get it on [Google play Store](https://play.google.com/store/apps/details?id=com.epicproject) or [iPhone App Store](https://itunes.apple.com/us/app/epic-tbi/id888888888).

EPIC Concepts are easy...doing it right is really hard! Thanks for your efforts!

