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p r e m i e r O 2 s o l u t i o n s

❖ Preventing Hyperventilation with the Exhalometer

The importance of not hyper-ventilating patients during resuscitation has been recognized, and properly addressed, with the new AHA GUIDELINES. But it is related¹ that Dr. Aufderheide found in one study that **after CPR retraining** the average pre-hospital ventilation rate was reduced from 37 breaths per minute to 22; well above the desirable rate. Can we now assume, because a lower number of breaths per minute is recommended that it will be automatically observed? When adrenalin pumps, it seems, training is often forgotten.

Furthermore, hyper-ventilation is not the only problem to be avoided. If, as instructed, eight to ten breaths per minute are delivered during resuscitation, and ten to twelve during post arrest, and there is significant leakage around the face mask or elsewhere (as there often is), it is likely that the patient may remain or become dangerously hypoxic. This can be catastrophic, particularly if the patient sustained traumatic brain injury (TBI).

To quote²,

The importance of not allowing the TBI patient to suffer from a hypoxic event can not be overstated.

Hypoxia in the brain-injured patient often leads to devastating damage in already fragile brain tissues and can drastically increase morbidity and mortality. The damage caused by even the shortest hypoxic event is often not evident at the time of the event but appears several hours or even days later.

For these reasons it is important to control not only the respiration rate but also the expired tidal volume.

As we cannot control what we do not measure, the importance of the Exhalometer becomes evident. It measures not only the respiration rate but also each exhaled tidal volume, and the minute volume, thereby enabling the healthcare provider to easily optimize ventilation.

The time should be past when ignorance of the ventilation being provided to critically ill patients is accepted as a standard of care.

¹ Forecast for RESUSCITATION: Highlights from the 2004 EMS State of the Science Conference; Dallas, Feb 20 - 21, 2004.

² Rosner, G. Combat Hypoxia, The importance of airway management and oxygenation of the traumatic brain injury patient. JEMS, March 2003.