



RSI IN THE ED

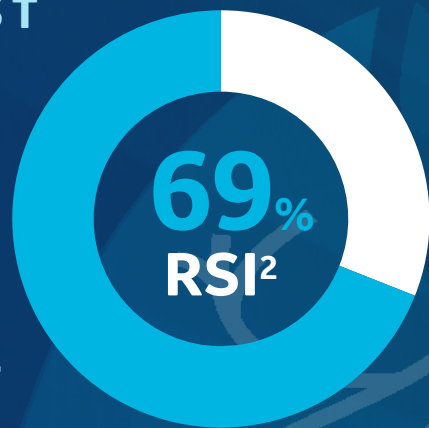
HOW EtO_2 MAY HELP OPTIMIZE PATIENT PREOXYGENATION

RSI CHALLENGE IN THE ED

Rapid Sequence Intubation (RSI) studies show a significantly higher rate of adverse outcomes and important deficiencies of airway management in ICUs and EDs, compared with anesthetic practice¹.

RSI MOST COMMON → CONSEQUENCES^{3,4}

RSI IS THE MOST COMMON METHOD AND CHOSEN FIRST IN THE ED FOR INTUBATING CRITICALLY ILL AND INJURED PATIENTS²

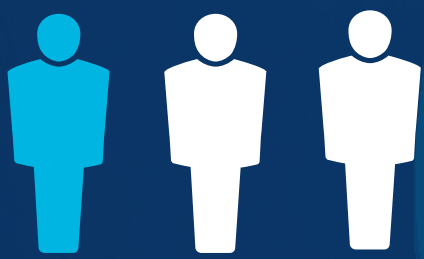


TRANSIENT OXYGEN DESATURATION DURING ED RSI

- ✓ Dysrhythmia
- ✓ Hypoxic brain injury
- ✓ Hemodynamic decompensation
- ✓ Cardiac arrest

Hypoxemia 19.2%

Dysrhythmia 3.4%



DESATURATION IN ED DURING RSI OCCURS IN **1 in 3** PATIENTS⁵

MONITORING IN THE ED

NAP4 GUIDELINES¹

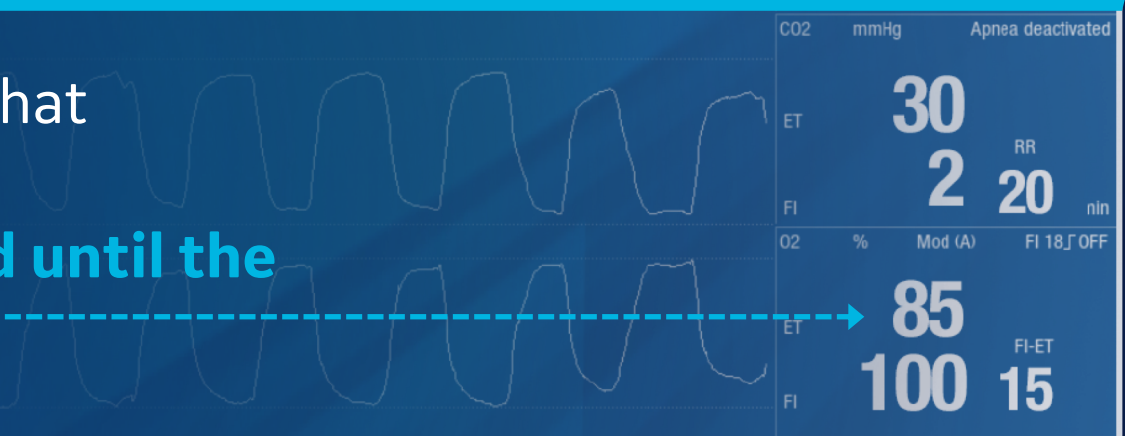
STANDARD MONITORING FOR ICU, ED AND WARDS

- ✓ ECG
- ✓ Oximetry
- ✓ Heart rate
- ✓ Blood pressure
- ✓ Waveform capnography
- ✓ End-tidal oxygen concentration (when available)



OPTIMIZING PREOXYGENATION WITH EtO_2

Guidelines have been established that recommended critically ill patients undergoing RSI be preoxygenated until the EtO_2 level attained is $\geq 85\%$ ¹.



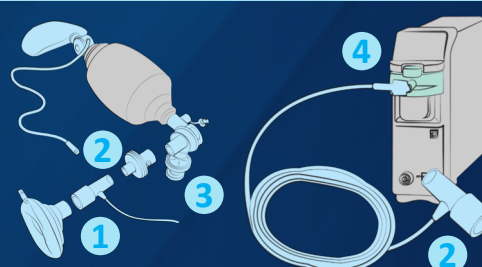
CLINICAL EVIDENCE CAPUTO STUDY RESULTS⁶



20% of patients experienced desaturation ($SpO_2 < 90\%$) or marked desaturation ($SpO_2 < 80\%$)

Among the desaturated patients, **78% did not reach an EtO_2 level greater than 85%** at induction

THE USE OF A GAS ANALYZER TO MEASURE FIO_2 AND EtO_2 CAN PROVIDE A RELIABLE MEASURE OF PATIENT OXYGENATION DURING RSI⁷



1. Bag mask valve (BMV)
2. Airway adapter
3. HMEF filter
4. E-sCO

1. Higgs, A., et al., Guidelines for the management of tracheal intubation in critically ill adults. Br J Anaesth, 2018. 120(2): p. 323-352. 2. Walls, R., et al., Emergency airway management: A multi-center report of 8937 emergency Department Intubations. J Emerg Med, 2011. 41(4): p. 347-354. 3. Pourmand, A., et al., Pre-oxygenation: Implications in emergency airway management. Am J Emerg Med, 2017. 35(8): p. 1177-1183. 4. Reid, C., et al., The who, where, and what of rapid sequence intubation: Prospective observational study of emergency RSI outside the operating theatre. Emerg Med J, 2004. 21:296-301. 5. Bodily, J.D., et al., Incidence and duration of Continuously Measured Oxygen Desaturation During emergency department intubation. Ann Emerg Med, 2016. 67(3): 389-395. 6. Caputo, N.D., et al., Use of End Tidal Oxygen Monitoring to Assess Preoxygenation During Rapid Sequence Intubation in the Emergency Department. Ann Emerg Med, 2019. 74(3): p. 410-415. 7. Murphy, S., et al., Novel Use of a Gas Analyzer Can Reliably Predict the Arterial Oxygen among Emergency Department Patients Undergoing Rapid Sequence Intubation. The Journal of Emergency Medicine, 2020.