



# Issues beyond the injuries

## Scene Challenges for EMS

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MedFlight





# Scene Challenges for EMS

“Establishing a definitive airway is the first priority in scene trauma care.”





- definitive airway management in the field has become a source of ***significant controversy*** due to:
  - low success rates
  - high rates of missed esophageal intubation
  - worsening outcomes in head trauma patients

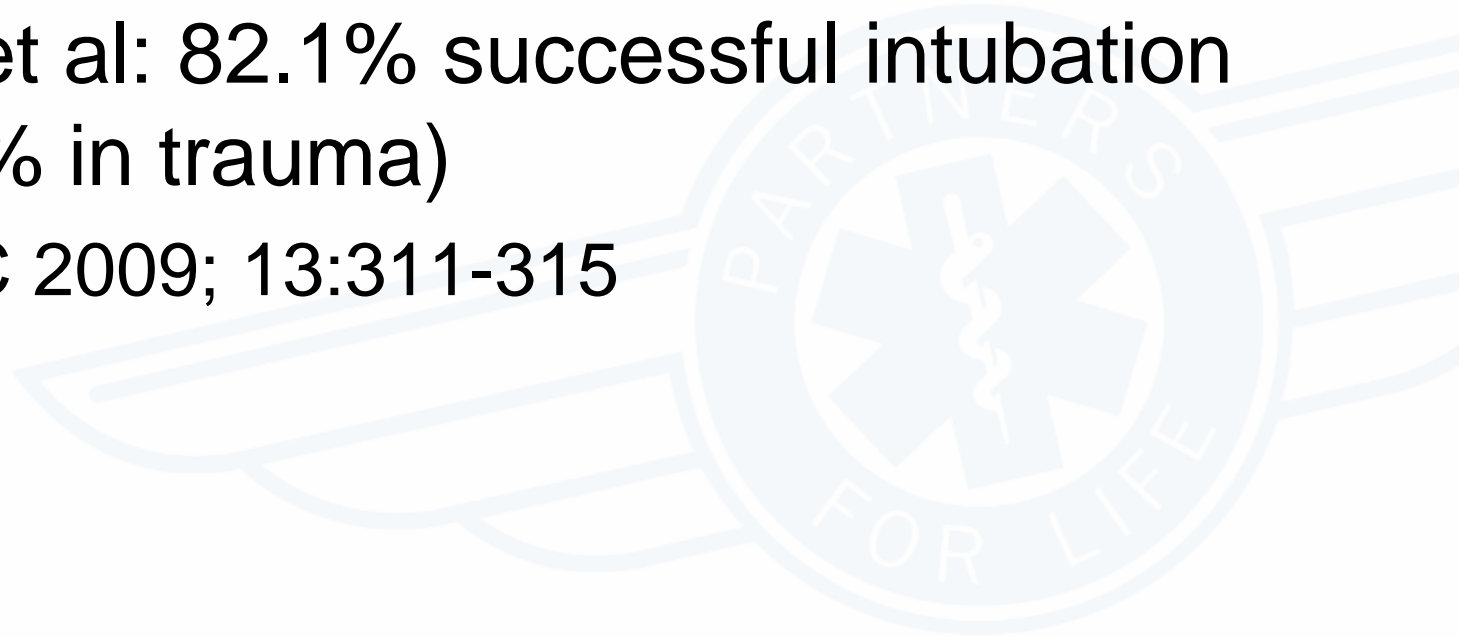


## **MedFlight**

- Cobas et al: 69% successful intubation (19% with alternative airways)
  - Anesth Anal 2009; 109:498-503
- Denver Metro Airway study group: 74.8% successful intubation (67.6% for non-cardiac arrest)
  - PEC 2009; 13:304-310



- Tam et al: 82.1% successful intubation (69.8% in trauma)
  - PEC 2009; 13:311-315





- low incidence exposure to a complex medical procedure
  - Fullerton – paramedics in UK average 1 intubation/medic/yr
  - Wang – 67% of paramedics had 2 or less intubation attempts in one year; 39% had no attempts
    - Crit Care Med 2005; 33:1718 –1721



- environmental challenges
  - location of intubation
  - bystanders
  - weather
  - unsafe scene
  - suboptimal lighting
  - patient position



- unrecognized esophageal intubation
  - Cobas: 12% esophageal intubation
  - Denver Airway: 5.2% esophageal intubation
  - Wirtz: 9% esophageal a LIFE ryxn intubation
    - PEC 2009; 11:213-218





- negative effect of prehospital intubation on patient outcome
  - **Davis:** comparison of moderate to severe head injury after intubation with RSI
  - mortality: 41.1% versus 30.3%,  $p < 0.05$
  - good outcome: 45.5% versus 57.9%,  $p < 0.01$ 
    - J Trauma 2003;54:444–453



## MedFlight

- negative effect of prehospital intubation on patient outcome
  - **Wang**: comparison PHI vs. no PHI in patients with moderate to severe head injury
  - mortality: OR 3.99; 95% confidence interval [CI] 3.21 to 4.93
  - poor outcome: OR 1.61; 95% CI 1.15 to 2.26



- negative effect of prehospital intubation on patient outcome
  - **Cudnik:** comparison PHI vs. no PHI in patients admitted to Level II Trauma Center
  - mortality: OR 2.06, 95% confidence interval [CI] 1.33–3.18
    - PEC 2008;12:459-466

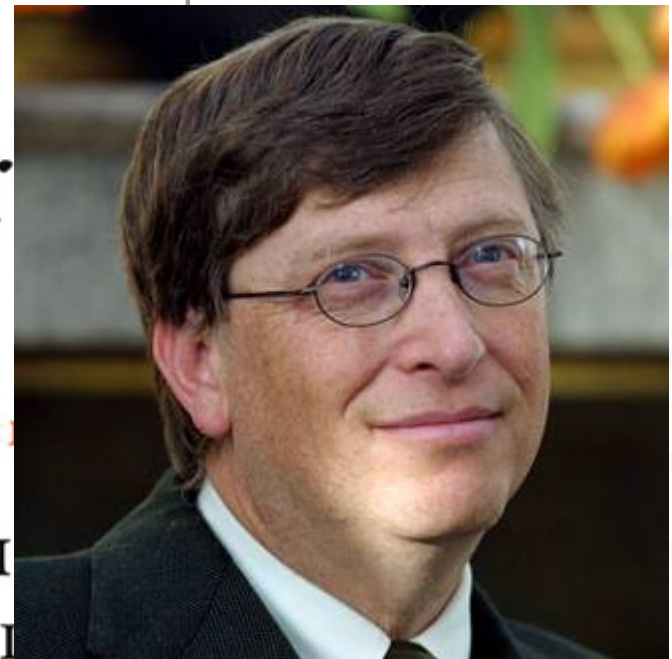


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- positive effect of prehospital intubation on patient outcome in air medical transport
  - improved outcomes in study by Wang and Davis
    - mortality OR 1.90; 95% confidence interval [CI] 1.60 to 2.25; P\0.0001)
    - Ann Emerg Med. 2005;46:115-122





- keys to success
  - concentrated intubation experience
  - repeated training and testing
  - continuous quality review
  - strong medical oversight

