

Blood and Air: Field Resuscitation of Traumatic Arrest with a Disrupted Airway

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Pre-Hospital Course

- 49 year old female, EMS called for “traumatic injuries”
- EMS instructed to stage at the scene, mutual aid ambulance requested for pre-hospital blood
- Patient found in cardiac arrest, with PD holding pressure on neck laceration
- Found to have completely transected trachea
- Surgical airway placed through disrupted airway
- Whole blood started via IO
- Transported

EMS Patch



Trauma Bay Course

- Immediately prior to arrival, achieved ROSC
- Primary Survey
 - Airway: Complete tracheal transection, surgical airway placed through large stab wound into distal tracheal limb. +EtCO₂, minimal bleeding around airway.
 - Breathing: B/L breath sounds
 - Circulation: Initial 60s/palp, improved with blood
 - Disability: GCS 3
 - Exposure: Second stab wound above sternal notch
- MAC Line placed, MTP started
- Massive hemorrhage from neck → to OR

OR Course

- Median sternotomy and left neck exploration
- Extensive bleeding within neck and mediastinum was unable to be controlled despite multiple techniques and two attending surgeons
- Progressive instability
- Patient succumbed to her injuries

Learning Points: Tracheal Transection

- Rare injury
- In patients with tracheal injuries, blind attempts at intubation can risk worsening injury and can be fatal
- Options for definitive airway depend on extent of injury and mechanism
- Tracheal intubation through the wound is rare, however remains viable option to secure airway
- EtCO₂ most definitive way to confirm airway placement

Learning Point: Pre-Hospital Whole Blood

- Scarce commodity
 - 2% of all US EMS agencies carry blood products
- Improves shock physiology
- Improves survival probability

Conclusions

- Recognize difficult airways early and have algorithm for management
 - Remember direct tracheal intubation through wound is viable
 - Beware worsening injury
- Pre-hospital whole blood improves outcomes for patients in hemorrhagic shock