Approach to Airway Management in the Trauma Center

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Learning Objectives
The goal of this exhibit is to demonstrate a systematic approach to airway management in the trauma setting.

Background
Trauma is an increasing cause of death and disability worldwide. One of the preventable causes of death among trauma patients stems from a failure to secure the airway. Anesthesiologists can be an integral part of resuscitation efforts in the trauma bay. This role requires us to draw on a unique set of skills infrequently used in the surgical setting.

In certain circumstances airway interventions have begun in the field and our job is to evaluate or exchange the airway device. In nearly every case, we are intubating these patients in an unfamiliar environment with limited access to advanced airway equipment. In some instances we are involved in the team assessment of the need for intubation. Furthermore, in cases necessitating a secured airway, we are often required to fulfill a backup role in institutions where emergency physicians are skilled in intubation. Also the mode of trauma and comorbid conditions can significantly distort the usual airway anatomy and present an unexpected difficult airway.

Procedure Details
Safe and effective airway management in trauma patients requires a prepared, methodical approach. Evidence shows that trauma mortality is reduced in hospitals with organized trauma services.

WHY? Indications for Intubation
The first step in airway management in the trauma patient is evaluation of the airway and determination of the need for airway support or definitive securement.

WHO? ED physician vs. Anesthesiologist vs. ENT
Most ED providers working in trauma centers have some experience with airway management and intubation. However, this experience is broad and skill level varies significantly among ED practitioners.

It is important to ensure availability of additional personnel including respiratory therapists, anesthesia technologists, trauma surgeons, etc.

WHEN? Timing of Intubation
Timing of intubation in the trauma patient is not always straightforward. In some cases, delaying airway instrumentation is the safest option. Studies show that early intubation in patients with c-spine injuries may lead to worse outcomes.

WHERE? Intubation Setting

Initial airway evaluation in the trauma patient must include an assessment of the most appropriate location for the initial Intubation attempt(s).

HOW?

The difficult airway algorithm has been modified for use in the trauma setting, but it still includes advanced airway equipment. Depending on the mode of injury, anatomical distortion, concomitant c-spine injury or blood/debris in the oropharynx may warrant use of advanced airway tools by a skilled provider.

Here we demonstrate various advanced airway equipment used in traumas (e.g., Ambuscope).

Teaching Points

- Review the Difficult Airway algorithm in trauma setting.
- Demonstrate an effective approach to airway management in the ED including appropriate use of advanced airway equipment.
- Discuss alternatives to immediate airway instrumentation.

The goal of this exhibit is to demonstrate an effective approach to airway management in the ED including appropriate use of advanced airway equipment. Intubation in the ED is fraught with complexity and this exhibit should help organize management of the complex airway and ultimately improve the success of any airway interventions.