Endotracheal Tube Revision on the ICU

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A 45-year-old gentleman was admitted to ICU with pneumonia. He required intubation for deteriorating respiratory function and subsequently developed ARDS. Whilst in the midst of invasive respiratory support, the patient developed a cuff leak secondary to migration of the ETT. This necessitated a revision of the ETT.

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This revision was complicated by a loss of the airway.
The team encountered a 'Can't Intubate, Can't Oxygenate' (CICO) scenario, with an inability to ventilate effectively for approximately 20 minutes.

This event resulted in a severe hypoxic brain injury, and ultimately the patient's death.

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The incident highlighted a number of issues:

- The need for a safety checklist: ETT revision in the critically ill being a high-risk procedure
- Clarity of airway planning for airway revision
- Avoidance of difficulties related to human factors during an airway emergency
- Forward planning of the role of fibreoptics, videolaryngoscopy and airway exchange catheters during airway revision
- Importance of simulation in preparing for difficult airway management
- Need for nominated timekeeper/scribe during airway emergencies
- Usefulness of recording of key endpoints and parameters including hypoxic time and hypoxic cardiac arrest within future guidance.

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- ETT revision in the critically ill is a high risk procedure and should be fully prepared for.
- A safety checklist for endotracheal tube revision has been produced to support teams during occasions of ETT inadequacy, failure or migration. The checklist promotes the availability of immediate backup, the consideration of airway optics and the designation of a timekeeper/scribe.
- A commitment to simulation-based team training (SBTT). This training focusses on promoting the use of safety checklists, strong airway planning, open team communication and human factors.

Welcome to our safety learning bulletins, which aim to disseminate learning that has been shared from adverse incidents

We invite you to submit anonymous summaries of incidents that have occurred in your local units that have important lessons that we can all learn from to improve patient safety.

If you have an incident and learning that you would like to share please submit using the SBAR format.

We welcome any feedback regarding our shared learning process.