

the trachea past the soft tissues and potential obstruction from swelling, tumors, or vocal cords.

Method: Consultant anaesthesia staff were to use the device following two or more failed attempts at intubation.

Results: Over an 18-month period, there were 10 reports of failed intubation from seven consultants. Of these, eight intubations were successful on first attempt when the introducer was used. Notably, it was beneficial with an "anterior larynx," pharyngeal edema, one patient with a laryngeal tumor, and for intubation of awake patients in the emergency department and intensive care unit.

Conclusion: This simple, disposable device appears efficacious in unanticipated, difficult intubations. A follow-up randomized study is underway to assess its effect on the success rate of routine intubations by less experienced operators.

063.

Telemedicine and the Remote Assessment of Disasters

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For appropriate disaster relief to be mobilized, an early expert assessment is essential. The current approach includes the immediate dispatch of a team of academic experts. The limitations of this approach are that the required disciplines must be estimated correctly without information on the actual conditions, the depth of knowledge for assessment is limited to the expertise of the initial team, and the risks to the members of this team. The early stages of a disaster usually are associated with hazardous conditions and an austere environment for which academic experts usually are not ideally suited.

A remote assessment method will be described and demonstrated which involves deploying a team of data collectors with expertise in functioning within the disaster environment. These operators gather data, images, and video which are immediately transmissible over the INMARSAT satellite link to a home-base array of experts. Appropriate experts can interrogate the operational data collectors and direct the assessment from their remote location. Remote assessment technology enables a small team of field-experienced data collectors to act as the eyes and ears of a large and flexible group of experts without the costs and risks of deploying them.

029.

"In-Field" Assessment of Endotracheal Tube Placement

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Objective: Oesophageal tube malposition is among the leading

causes of anaesthesia incidents. While clinical maneuvers for detection of tube position are unreliable, monitoring (i.e., quantitative capnography) can prevent such incidents. The problem is important particularly in prehospital care where capnography is not yet available.

Method: We tested three devices used for assessment of tube position:

1) Oesophageal Detector Device (ODD) as described by Pollard and Wee.^{1,2} A syringe is connected to the endotracheal tube and air aspirated. With oesophageal tube malposition, the oesophagus collapses and very little air can be aspirated. With correct tracheal tube placement, due to the rigidity of the trachea, air easily can be aspirated.

2) Chemical disposable capnometer (EASYCAP, Nellcor, Pleasanton, California USA); and

3) Infrared miniaturized capnometer (MiniCAP, MSA, Owing Mills, Maryland USA).

In 50 anaesthetised and intubated minipigs, an additional, identical tube was placed in the oesophagus. Inexperienced personal (e.g., students) were asked to use one of the devices on one of the tubes and to decide within 30 seconds, if its position was tracheal or esophageal. Using the ODD, the proband first inflated 100 ml air into the tube and then tried to aspirate the same volume. EASYCAP and MiniCAP were used according to manufacturers' manual.

Results: Each device was used 25 times at a tracheal and 25 times at an oesophageal tube. All decisions were correct. When ventilating the oesophagus for capnometric control, we saw 6 times regurgitation into the tube (5 times with the EASYCAP and 1 time with the MiniCAP). In these cases, oesophageal position was identified by regurgitation, not by the display of the device. With use of the ODD, no regurgitation was seen.

Conclusions: We recommend initial control of ET-tube position with an ODD in any emergency intubation, because it is: a) CO₂-independent (works well in cardiac arrest); b) quick; and c) without risk of regurgitation. This should be followed by continuous control of tube position, ventilation, and circulation with capnometry.

References

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020.

Considering 391 Runs Performed by One Physician in Vittal Emergency Medical Services

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Objectives: The objective of this paper is to describe the study of one physician's work to improve the quality of the assistance provided.

Methods: Three hundred ninety-one prehospital incidents performed by the same physician were analysed. One of our best qualified professional was chosen because of her ability to complete the assistance forms. Dispatcher priority decisions were