

Evaluating the Ambu aScope – an alternative approach to endoscopic monitoring during percutaneous dilational tracheostomy.

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Introduction

Percutaneous dilational tracheostomy (PDT) is a common bedside procedure in adult intensive care units. In the UK it is recommended that bronchoscopy should be immediately available [1,2]. The fiberoptic scope is the gold standard to provide a direct view of the procedure, but has a number of limitations and problems associated with its use. Within our intensive care unit (ICU) we were asked to evaluate the Ambu aScope: a disposable, single use, flexible intubating scope for endoscopic monitoring during PDT.

Methods

- Ideal characteristics and qualities of a fiberoptic scope identified
- Evaluation form devised
- Set-up, handling characteristics and image quality were compared to standard fiberoptic equipment using a five point scale
- Complications or technical issues related to the Ambu aScope and additional comments were sought.

Results

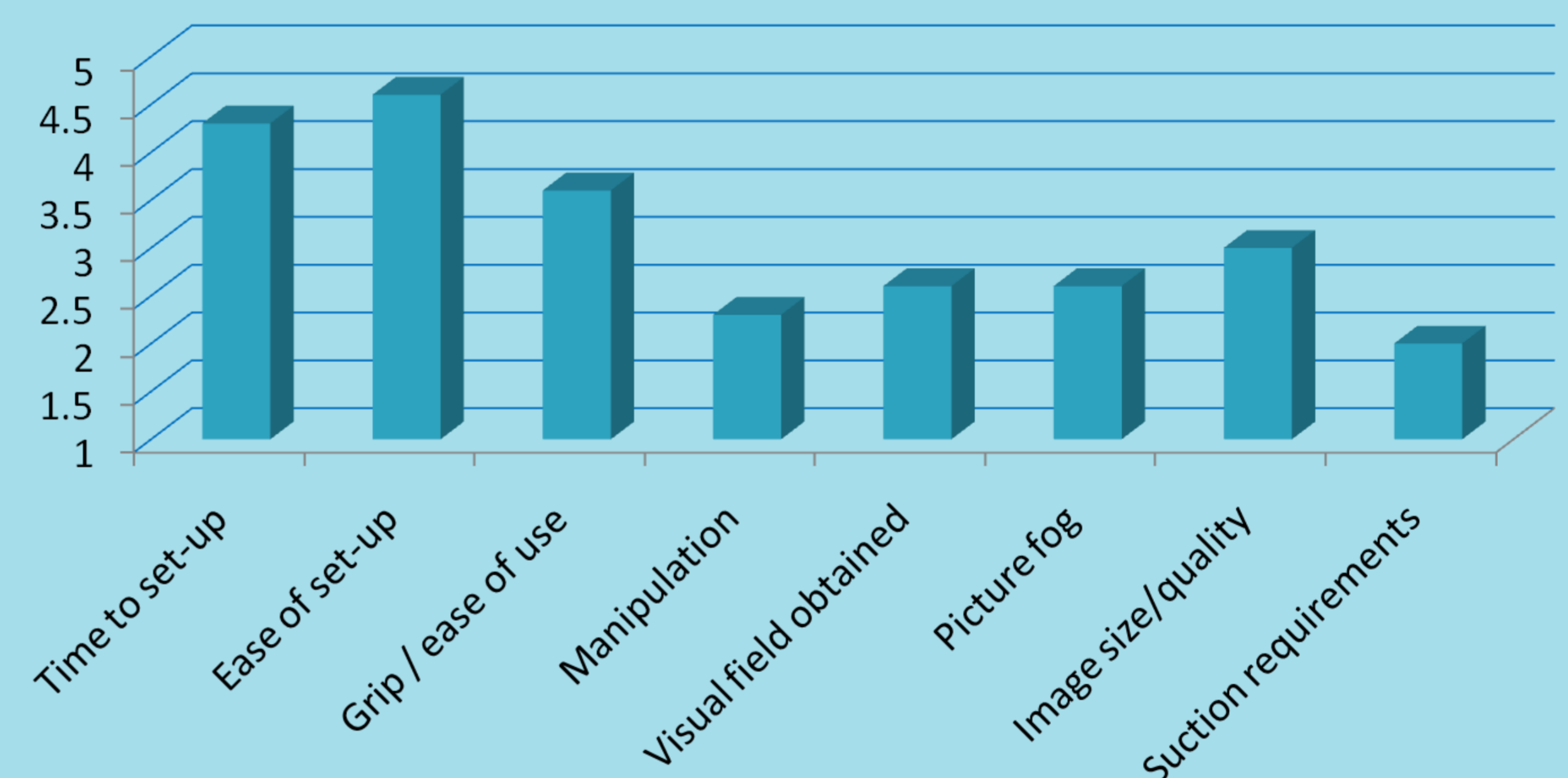
- Five Ambu aScopes were evaluated
 - All elective procedures, completed successfully
 - Mean Apache score = 25
 - Mean number of days ventilated prior to PDT = 7
 - Mean duration of use = 21 minutes
 - No complications directly attributed to Ambu aScope
- In comparison to traditional fiberoptic scopes:
- the time taken and ease of setting up rated higher
 - grip and ease of use rated higher
 - the ability to manipulate the tip was rated lower
 - picture quality and size rated as no different
 - a tendency for the picture to fog and blur and lack of suction meant these criteria rated lower.



The Ambu aScope



Comparing the Ambu aScope to traditional fiberoptic scopes (mean score)



Criteria were evaluated on a five point scale:

- 1 = very poor
- 2 = poor
- 3 = no difference
- 4 = improved
- 5 = much improved

Discussion

The Ambu aScope is a potentially useful addition to endoscopic equipment available in the ICU. Advantages of disposable equipment include eliminating the risk of cross contamination and no maintenance costs. Damage to fiberoptic scopes with the percutaneous technique is potentially very costly and may be eliminated with single use devices. The immediate availability was regarded as a beneficial factor when compared with the time taken to obtain traditional fiberoptic equipment. NAP4 included a recommendation that a fibrescope should be immediately available for use on ICU and the Ambu aScope is ideal for this purpose.

Conclusions

We believe the Ambu aScope is a useful, cost effective and safe way of providing a direct endoscopic view during percutaneous dilational tracheostomy.

References

- 1) Standards for the care of adult patients with a temporary tracheostomy. The Intensive Care Society. July 2008
- 2) NAP4. Report and findings of the 4th National Audit Project of The Royal College of Anaesthetists. Major complications of airway management in the United Kingdom. March 2011.

Competing interests

The equipment was provided free of charge by Ambu UK Ltd