

CLINICAL & HEALTH ECONOMICS EVIDENCE SUMMARY

Ambu® aScope™ 4 RhinoLaryngo Slim



Ambu

Flexible nasal endoscopy (FNE) is an invaluable multi-disciplinary tool for upper airway examination. However, FNE was highlighted as a potential aerosol-generating procedure during COVID-19 pandemic. National guidelines are recommending that FNE should be carried out with full PPE, and preferably with the use of an endoscope with a separate video monitor.^{1,2,7,8}

Switching to single-use aScope 4 RhinoLaryngo Slim will potentially reduce “downtime” between patients and increase your service capacity. Although the aScope 4 RhinoLaryngo Slim is a new technology, there are growing numbers of clinical and health economics evidence supporting its benefits to both patients and healthcare systems.

PATIENT-WORN ENHANCED PROTECTION FACE SHIELD FOR FLEXIBLE ENDOSCOPY

Anon et al., (2020). Otolaryngology

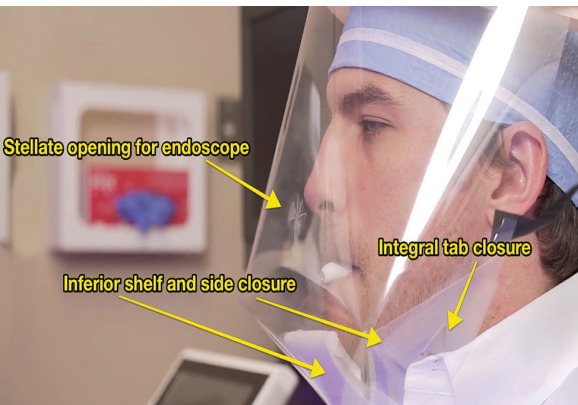


Figure 1. The enhanced face shield demonstrates the design and the tab closure system. The stellate opening allows passage of the flexible endoscope (Image taken from the publication.³)

STUDY AIM

The protection afforded by a new enhanced protection face shield (EPFS) was compared to a standard face shield design in a controlled flexible fibreoptic endoscopy setting using the Ambu aScope 4 RhinoLaryngo Slim.

KEY OUTCOMES

- There was no disruption of the shield's barrier by the aScope 4 RhinoLaryngo Slim passing through the stellate opening of the face shield (Figure 1).
- The enhanced face shield maintained a barrier to the aerosolised fluorescein dye, thereby offering a level of protection to otolaryngologists during aerosol-generating procedures.
- The study only gave an overview of larger droplets, and further studies are needed to assess the movements of smaller droplets with the shield.³

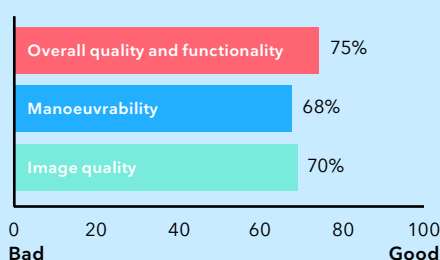
CONCLUSION

It is essential that physicians can resume day-to-day patient care while maintaining the health and safety for themselves, other HCPs, and patients, which could be enabled by using the EPFS during FNE.

ASSESSING THE PERFORMANCE OF A SINGLE-USE FLEXIBLE RHINOLARYNGOSCOPE

Ambu Whitepaper (2020)

Otorhinolaryngologists perception of the characteristics of aScope 4 RhinoLaryngo



STUDY AIM

The overall functionality and characteristics of the aScope 4 RhinoLaryngo Slim were systematically assessed by 117 international otolaryngologists in 8 different countries.

KEY OUTCOMES

- 97% of the 270 endoscopic procedures were performed successfully with aScope 4 RhinoLaryngo Slim. The procedures included nasal endoscopy, laryngoscopy and pharyngoscopy.
- The doctors found that the single-use scope could replace the reusable scope for the majority of the procedures performed (172/248).
- Image quality and manoeuvrability were scored 70 and 68 points, respectively.
- The overall functionality and quality were both rated 75 points, respectively.⁴

CONCLUSION

Otolaryngologists expressed positive opinions on the aScope 4 RhinoLaryngo Slim regarding the characteristics measured in the study. In this evaluation, 97% of endoscopic procedures were completed using aScope 4 RhinoLaryngo Slim without having to switch to reusable scopes. This could eliminate potential problems regarding availability, the need for post-processing, and the risk of cross-contamination.

THE SINGLE-USE RHINOLARYNGOSCOPE: AN EVALUATION AND COST COMPARISON

Mistry et al., (2020).The Journal of Laryngology & Otology

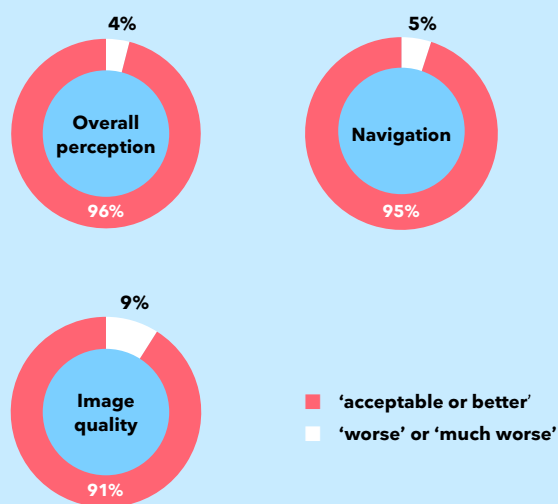
STUDY AIM

A non-blinded, prospective and single-arm evaluation of the Ambu aScope 4 RhinoLaryngo Slim. This study investigated whether the single-use rhinolaryngoscope is clinically and economically comparable to the conventional reusable rhinolaryngoscope (RR) at St George's University Hospitals NHS Foundation Trust.

KEY OUTCOMES

1. Clinical Performance

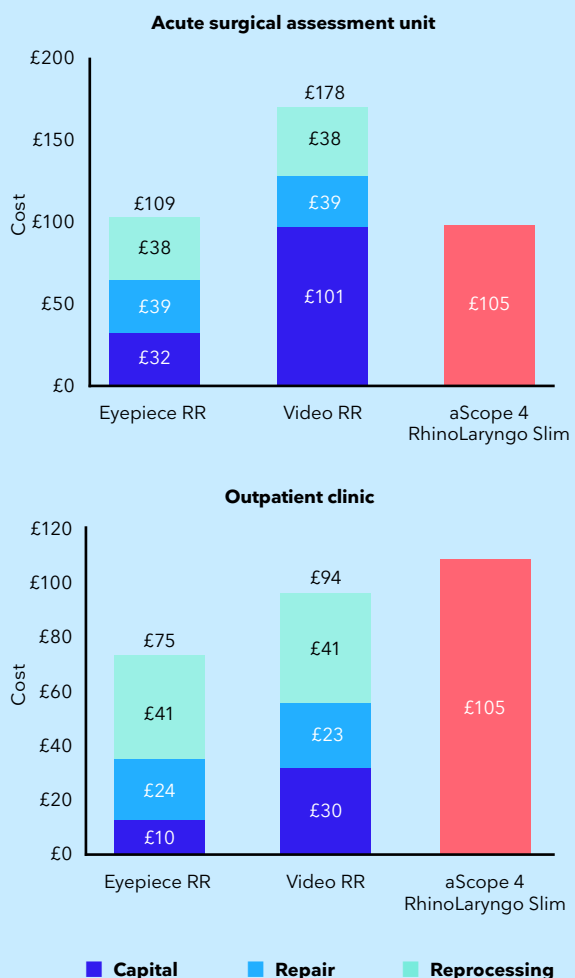
The single-use rhinolaryngoscope was deemed acceptable or better for overall perception, navigation and image quality by 96%, 95% and 91% of clinicians, respectively. 85% believed the single-use aScope 4 RhinoLaryngo Slim could replace the reusable rhinolaryngoscope.



2. Cost Outcomes

At St. George's University Hospital, the cost-comparison analysis found that aScope 4 RhinoLaryngo reduces costs in the acute surgical assessment unit by £73 compared to reusable video rhinolaryngoscopes and is cost-equivalent compared to eyepiece rhinolaryngoscopes.

The outpatient clinic conducts more than 4900 procedures per year. At this high volume, aScope 4 RhinoLaryngo was within £11 of being cost neutral compared to the reusable video rhinolaryngoscopes.⁵



CONCLUSION

The aScope 4 RhinoLaryngo Slim was evaluated as a clinically comparable, and cost-minimising alternative to the reusable rhinolaryngoscope for use in the acute surgical assessment unit at St George's University Hospitals NHS Foundation Trust.

REUSABLE VS DISPOSABLE NASOPHARYNGOLARYNGOSCOPES: COST ANALYSIS AND RESIDENT SURVEY

Walczak et al., (2020). Laryngoscope Investigative Otolaryngology

STUDY AIM

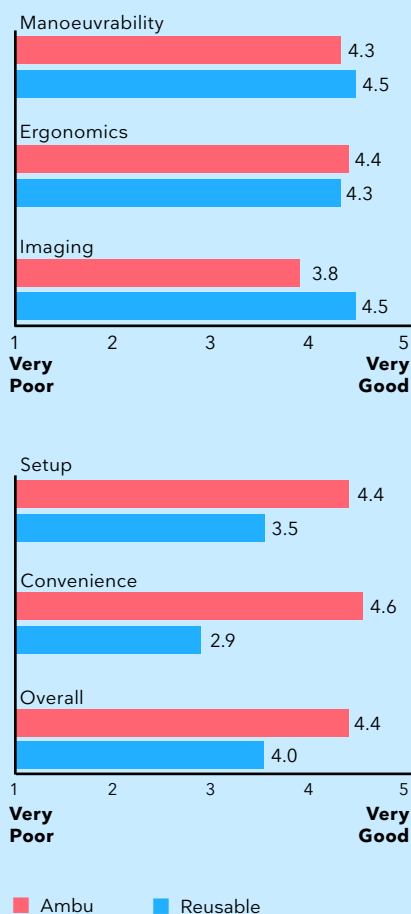
This study aimed to assess the quality of the new aScope 4 RhinoLaryngo Slim through clinician feedback at multiple academic institutions, and to provide a cost analysis of reusable and disposable nasopharyngolaryngoscopes (NPL) at a single academic center.

KEY OUTCOMES

1. Clinical Performance

The survey collected ratings of the disposable NPL against all other reusable NPLs (n=31) and the Karl Storz reusable NPL (n=27). aScope 4 RhinoLaryngo was comparable to reusable NPLs and Karl Storz NPL based on ergonomics and manoeuvrability, and superior in setup, convenience, and rated better overall.

Ambu vs reusable ratings based on a 5-point Likert scale



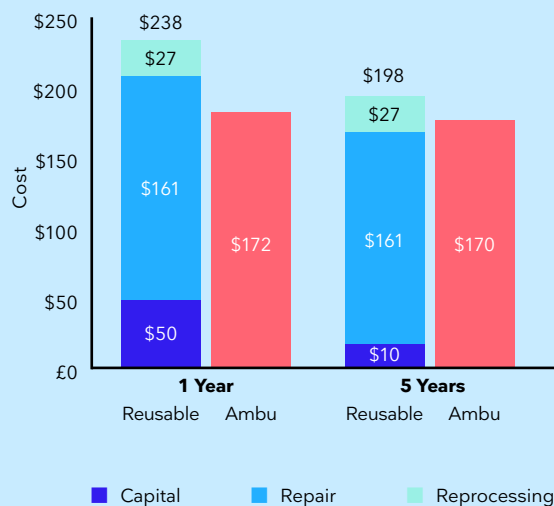
2. aScope 4 RhinoLaryngo Slim is cost minimising over a 1 year and 5 year lifespan

The cost of the disposable NPL was reported as \$170 and the monitor cost adds \$1.82 (based on 660 procedures/year) to each procedure in 1 year. Therefore, the per-use cost of the disposable NPLs for 1 year is \$172.82 and for 5 years is \$170.36.

The department had six reusable NPLs, which costed a total of \$33 240.69 along with necessary accessories. There were 28 repairs over a year, costing \$106 325. The cost of labor was \$18 for approximately 1 hour of reprocessing and the cost of materials for reprocessing each scope was \$8.71.

Based on 660 procedures/year, the cost of reusable NPLs for 1 year ($50.36 + 161.10 + 8.71 + 18$) totaled \$238.17 per-use. The total cost per use for a life span of 5 years is \$197.88.⁶

Costs per use of aScope 4 RhinoLaryngo Slim compared to reusable NPL over 1 year and 5 years



CONCLUSION

aScope 4 RhinoLaryngo Slim is rated cost-minimizing for consults or on admitted patients compared to reusable NPLs, which have high associated repair and reprocessing costs.

REFERENCES

1. ENT UK (2020) Aerosol Generating Procedures (AGPs) within the ENT clinic. Available at: <https://www.entuk.org/aerosol-generating-procedures-agps-within-ent-clinic> (Accessed: 22 January 2021).
2. ENT UK (2020) Nasal endoscopy and laryngoscopy examination of ENT patients. Available at: <https://www.entuk.org/nasal-endoscopy-and-laryngoscopy-examination-ent-patients> (Accessed: 22 January 2021).
3. Anon JB, Denne C, Rees D. Patient-Worn Enhanced Protection Face Shield for Flexible Endoscopy. *Otolaryngology-Head and Neck Surgery*. 2020;163(2):280-283.
4. Ambu Whitepaper: Assessing the performance of a single-use flexible rhinolaryngoscope. June 2020. Available at: <https://www.ambu.com/endoscopy/ent-otorhinolaryngology/clinical-evidence/ambu-ascope-rhinolaryngo> (Accessed: 15 January 2021).
5. Mistry R, Russell RV, Walker N, Ofo E. The single-use rhinolaryngoscope: an evaluation and cost comparison. *The Journal of Laryngology & Otology*. 2020;134(9):790-797.
6. Walczak R, Arnold M, Grewal J, Yuan X, Suryadevara A, Marzouk H. Reusable vs disposable nasopharyngolaryngoscopes: Cost analysis and resident survey. *Laryngoscope Investigative Otolaryngology*. 2020;1-6. <https://doi.org/10.1002/lio2.500>
7. Sioechcf.it. 2021. PIANO STRATEGICO PER LA GESTIONE DEL PAZIENTE ORL E MAXILLO-FACCIALE DURANTE IL PERIODO DI TRANSIZIONE A SEGUITO DELLA PANDEMIA PER IL COVID-19. [online] Available at: <<https://www.sioechcf.it/wp-content/uploads/2020/06/PIANO-STRATEGICO-PER-LA-GESTIONE-DEL-PAZIENTE-ORL-DURANTE-IL-PERIODO-DI-TRANSIZIONE-A-SEGUITO-DELLA-PANDEMIA-PER-IL-COVID.pdf>> [Accessed 26 March 2021].
8. Entnet.org. 2021. Guidance for Return to Practice for Otolaryngology-Head and Neck Surgery. [online] Available at: <https://www.entnet.org/sites/default/files/uploads/guidance_for_return_to_practice_part_one_update_070120.pdf> [Accessed 26 March 2021].



A HISTORY OF BREAKTHROUGH IDEAS

Ambu has been bringing the solutions of the future to life since 1937. Today, millions of patients and health-care professionals worldwide depend on the efficiency, safety and performance of our single-use endoscopy, anaesthesia, and patient monitoring & diagnostics solutions.

The manifestations of our efforts have ranged from early innovations like the Ambu® Bag™ resuscitator and the Ambu® BlueSensor™ electrodes to our newest landmark solutions like Ambu® aScope™ - the world's first single-use flexible endoscope. Moreover, we continuously look to the future with a commitment to deliver innovative quality products that have a positive impact on your work.

Headquartered near Copenhagen in Denmark, Ambu employs approximately 4,200 people in Europe, North America and the Asia Pacific.

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