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Cost-benefit and clinical outcomes of pharyngeal fish bone removal using single-use channeled nasendoscopy: A prospective case series from a UK tertiary centre

Problem: Pharyngeal fish bone impaction is a common ENT emergency, with fish bones accounting for up to 88% of upper aerodigestive foreign bodies¹. Immediate removal is essential to avoid complications such as perforation, abscess, migration, or airway compromise². Oropharyngeal foreign bodies are usually removed under direct vision. However, those in the vallecula or pyriform fossa may be difficult to retrieve intraorally due to anatomical position or patient tolerance, often necessitating general anaesthesia (GA) with associated cost, resource use, and risk³. Removal using channeled nasendoscope is an established technique⁴⁻⁵. However, uptake has been limited, likely due to the cost and sterilisation demands of reusable scopes. The introduction of single-use channeled nasendoscopes allows broader access to this safe, well-tolerated method with potential for reduced cost and improved outcomes.

Aim: To quantify the financial and clinical impact of awake single-use nasendoscope-guided removal of upper aerodigestive fish bones versus removal under GA in theatre.

Methodology/Outcomes: Prospective analysis of patients presenting between February–May 2025 with pharyngeal fish bone impaction not amenable to intraoral removal and likely to require emergency theatre. Awake retrieval was attempted using the Ambu® aScope™ 4 RhinoLaryngo Intervention and crocodile forceps. Per-case NHS cost was calculated from 2024/25 reference data. Outcomes included retrieval success, complications, and need for theatre escalation.

Findings: Ten patients (median age 53.5; 70% female) underwent attempted awake removal; 8 were successful (80% retrieval rate), 2 required escalation. No complications were reported. Mean cost per case was £202, compared to £3,240 for GA removal. Net saving per successful case was £2,988 (92% reduction). Cost-benefit persisted above a 6.2% retrieval rate.

Conclusion & Significance: Awake single-use channeled nasendoscope-guided fish bone removal is safe, effective, and cost-reducing. Our oral presentation includes procedural videos, case examples, and training videos to support broad adoption of this novel technique.

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Recent Publications

1. Michaels J, Orji C, Green F, Nogueira C. Investigative strategies for fish bone foreign bodies during the coronavirus disease 2019 pandemic: an analysis of ENT UK guidelines. *J Laryngol Otol.* 2021;135(3):250–254.
2. Arora A, Mathew R, Vats M, Thomas RJ, Sathian B. Emergency presentation of fishbone ingestion: a case series and review of current literature. *BMC Emerg Med.* 2023;23(1):54.
3. Kim HU. Oroesophageal fish bone foreign body. *Clin Endosc.* 2016;49(4):318–326.
4. Pankhania M, Elloy M. Fishbone removal with nasal endoscopy. *Ann R Coll Surg Engl.* 2022;104(10):730–732.
5. Candelo E, Rutt A. Fish bone removal from the supraglottic larynx with flexible channeled laryngoscope. *Ear Nose Throat J.* 2025;104(1):NP7–NP8.

Biography

Ian Thomas Braithwaite is a Clinical Research Fellow in ENT Surgery at the Royal London Hospital, part of Barts Health NHS Trust - one of the largest trust in NHS England, and a leading tertiary centre with a strong academic reputation. He has presented nationally and internationally on a broad range of topics. In addition to his clinical work, Dr Braithwaite has a strong interest in healthcare technology and innovation. He has founded and successfully exited a health-tech startup and continues to advise and invest in early-stage ventures. He holds an MBA from INSEAD,, as well as a Postgraduate Certificate with Distinction from Queen Mary University of London.

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