

Laryngoscopes

December, 2023

Overview

Laryngoscopes are used for visualizing the larynx in intubation.¹ A direct rigid laryngoscope is made up of a handle, blade, and a light source which aids in the visualization.¹ The laryngoscope is used to view the laryngeal inlet in order to enable placement of an endotracheal tube past the vocal cords.² Laryngoscopes can be either be disposable or reusable, each having their own advantages and disadvantages.

Actions for Consideration

Partner: Identify anesthesiologists, certified registered nurse anesthetists (CRNA), perioperative nurses, respiratory therapists, emergency room physicians, hospitalists, and the appropriate clinical and non-clinical value analysis team members.

Connect: Identify all laryngoscopes currently in use, including both disposable and reusable, to ensure all products are addressed. Understanding potential physician and CRNA preferences and specialty needs will be helpful. Data including usage and cost will help inform management of these products. Consider providing samples to those team members identified, to allow for review and familiarity with product. Determine if reusables, disposables, or a combination of both best meet your facility's needs.

Communicate: When making a product change, ensure communication and discussion with anesthesia, emergency room physicians, hospitalists, and CRNAs to develop a common goal. Discuss product attributes, pricing, and potential to streamline products and develop strategies to manage use. Robust data sharing will not only enhance discussions, but may lead to actionable conversations between peers.

HealthTrust Resources: Access the [Clinical Knowledge Insights Library](#) to find other relevant documents and toolkits with actionable information. Examples for this product include resources on product conversion, value analysis, and conversion complexity matrix.³ Network on [HealthTrust Huddle](#), our member community that shares ideas and seeks guidance from colleagues.⁴

Physician Advisor Insight

A panel of anesthesiologists within our HealthTrust Physician Advisor Network offered the following insight with regard to laryngoscopes⁵:

- Physician advisors note that there is not a tremendous variety in product quality, and none were considered inferior.
- Populations that require consideration include patients with difficult airways and pediatric patients.
- Physicians note that much of the innovation in airway management of late has been in the realm of video assisted technology. For standard blades and handles, other than disposable options, there is very little difference in the equipment used.
- Important features mentioned include reusability, reliability of illumination, size and shape, blade type, length of handle, and being lightweight.
- In adult populations, there is strong preference for the curved Macintosh, while pediatric providers tend to lean towards straight blades due to differences in pediatric anatomy.

Reusable laryngoscopes:

- May be superior in brightness and visibility
- Environmentally friendly
- Maintain battery charge, low battery causes a dim bulb decreasing visibility
- Need to send for cleaning and processing following use

Disposable laryngoscopes:

- Ease of use and convenience
- Ready to use
- Negative environmental impact
- Illumination not as bright as reusable laryngoscopes

Professional Society Statements and Clinical Practice Guidelines

There are no guidelines related to what type of laryngoscope should be used in intubation. Societal guidelines relating to the practice of intubation in difficult airways are included below:

- The *2022 American Society of Anesthesiologists Practice Guidelines for Management of the Difficult Airway* can be found [here](#).⁶
- *Difficult Airway Society guidelines for awake tracheal intubation (ATI) in adults*, can be found [here](#).⁷

FDA Approval

Laryngoscopes are approved via the FDA 510k pathway, individual approvals may be found [here](#) by searching supplier or product name.⁸

Summary

There is no clinical evidence or clinical societal statement guidance dictating the type of laryngoscope to utilize. Engagement of end users to review product selection is helpful, due to the limited differences between products in this category.⁵ In review of this category, consider the breadth of product line including the need for disposable or reusables to meet facility and clinician need.

References

1. Peterson K, Ginglen JG, Desai NM, et al. Direct Laryngoscopy. [Updated 2023 Jul 24]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK513224/> Accessed December 11, 2023.
2. Collins SR. Direct and Indirect Laryngoscopy: Equipment and Techniques. *Respiratory Care*. 2014;59(6):850-864. doi:<https://doi.org/10.4187/respcare.03033>
3. Clinical Knowledge Insights Library. <http://www.hpginsights.com/Library>
4. HealthTrust Huddle. <https://huddle.healthtrustpg.com/forum/>
5. 2023 Physician Advisor Network: Anesthesiologist Survey. Collected November 3rd through November 17th, 2023.

6. Apfelbaum JL, Hagberg CA, Connis RT, et al. 2022 American Society of Anesthesiologists Practice Guidelines for Management of the Difficult Airway. *Anesthesiology*. 2021;136(1):31-81. doi:<https://doi.org/10.1097/aln.0000000000004002>
7. Ahmad I, El-Boghdady K, Bhagrath R, et al. Difficult Airway Society guidelines for awake tracheal intubation (ATI) in adults. *Anaesthesia*. 2019;75(4). doi:<https://doi.org/10.1111/anae.14904>
8. U.S. Food and Drug Administration. 510(k) Premarket Notification. *Fda.gov*. Published 2019. <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfPMN/pmn.cfm>