Use of Disposable Laryngoscopes in Anesthesiology Provides Multiple Quality and Safety Benefits

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Introduction

Laryngoscopes are an essential instrument used daily for direct laryngoscopy in contemporary anesthesiology practices. The issue of effective high level disinfection/sterilization practices has come to light because of recent literature and The Joint Commission’s requirement that reusable laryngoscopes must be cleaned according to the manufacturer’s recommendations. Many years ago, the original manufacturer of the handles and blades recommended using low level disinfection. When the department switched to a new manufacturer for laryngoscope handles and blades, the recommended cleaning process was changed, requiring high level disinfection. This level of disinfection for the blades could be achieved easily with the Sterrad process, but the handles required a time-consuming disassembly and reassembly process. At OMC, it was estimated that at least 2 additional FTEs would be needed to properly sanitize the laryngoscopes used for the 18,000 intubations performed annually. The basic question is what is the most cost effective means of providing a suitable laryngoscope that is compliant with Joint Commission’s requirements?

Methods

An inventory of current stock was taken and annual usage was determined from usage of endotracheal tubes. An in depth review of the options included reusable and disposable laryngoscopes. Other institutions were surveyed nationally for potential solutions. No clear trend was identified. The first preference was to examine reusable scopes. Replacement of current stock was estimated at 200 handles and 300-400 blades of various sizes. The cost for each handle was $140 and each blade $50. Because this presented a sizable investment for the department, trials were initiated to see how the reusable handles would perform after multiple cycles through the Sterrad cleaning process. Unfortunately, any plastic components were eventually dissolved by cleaning. No suitable reusable was found that could withstand the 3% peroxide used with the Sterrad disinfection process. After much deliberation, it was decided to switch to disposable laryngoscopes. Surprisingly, the cost of disposables was half the cost of cleaning the reusable laryngoscopes. It was determined that the department would save $256,000 annually. After multiple trials and feedback from the practitioners, a suitable scope was found that provided similar optics to the reusables and was available in all sizes including pediatric. The price for the disposable also decreased for an additional $25,000 savings. Recyclability is also the first green project for the Anesthesiology Department. The blades can be disposed of in existing recycle bins that are in each operating room. Benefits of the disposable system include: elimination of infectious risks for patients, recyclability within the current OR system, TJC compliance, resolution of stocking issues, decreased exposure for ancillary personnel, less manpower demand on Anesthesia Technicians, and $281,000 in annual savings.

Conclusion

After thorough analysis and trials by practitioners, disposable laryngoscopes offer clear and substantial advantages over reusable laryngoscopes. This project is a great example of a change that benefits all employees and patients plus adds substantial cost benefits.

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