

- Title** Effectiveness and safety of single-use protective sheaths for flexible nasopharyngolaryngoscopes
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Aim

Flexible nasopharyngolaryngoscopes are instruments used to endoscopically examine the nasal and sinus passages and upper airways, and to diagnose diseases. The procedures for disinfecting them are complex, but there is a simpler alternative: using single-use protective sheaths. These sheaths cover nasopharyngolaryngoscopes during endoscopic examinations. One of the major concerns regarding such use is the effectiveness and safety of single-use protective sheaths.

Conclusions and results

Because of the level of evidence of these few scientific studies and the need to carry out additional research, we cannot make definitive conclusion on the effectiveness and safety of using protective sheaths on flexible nasopharyngolaryngoscopes in a clinical context.

However, the effectiveness and safety data on protective sheaths are as follows:

- In a prospective, controlled trial, no significant difference in the bacterial counts was observed between the sheathed nasopharyngolaryngoscopes combined with intermediate-level disinfection and those used without a sheath but combined with high-level disinfection. No adenoviruses were detected in the samples. Since this is the only controlled trial found, we cannot make conclusion on the effectiveness of these sheaths.
- No problems or incidents relating to the use of protective sheaths have been reported by Health Canada.

Recommendations concerning protective sheath use and instrument reprocessing are few in number and conflicting. Indeed, few assessment reports or guidelines have commented on the level of disinfection necessary for nasopharyngolaryngoscopes after these sheaths are removed. Some organizations (Centers for Disease Control and Prevention, Rural Infection Control Practice Group) recommend high-level disinfection, while others (Haut Conseil de la santé publique) recommend low-level disinfection. The manufacturer recommends intermediate-level disinfection. There is currently no international consensus on this matter.

All publications stress the critical importance of strictly adhering to the instrument reprocessing protocols to ensure successful decontamination and to prevent the risk of patient-to-patient transmission of infections through the use of medical devices. Cleaning is recommended, even when sheaths have been used. Furthermore, some organizations recommend keeping a disinfection logbook to ensure traceability in the event of an incident.

Methods

Literature on the use of protective sheaths on flexible nasopharyngolaryngoscopes is fragmentary and sparse: only five studies of low or fair to good quality studies have been identified.

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