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Title **Comparative Analysis of Pasteurization and Thermal Disinfection in a Washer-Disinfector: Anesthesia and Respiratory Devices**

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Aim

To determine the extent to which the thermal disinfection cycle in a washer-disinfector is equivalent to pasteurization for reprocessing anesthesia and respiratory devices; to present the economic implications of using these two methods.

Results and conclusions

This comparative assessment gauges the effectiveness of both processes, describes the standards prevailing in Canada and abroad regarding the two methods, and provides an acquisition and operating cost scenario for related equipment.

Studies show that thermal disinfection in a washer-disinfector that complies with ISO 15883 or CSA-Z15883 requirements, and that fits the description provided in CSA-Z314.8-08, is equivalent to conventional pasteurization. Both procedures are effective for disinfecting and reprocessing anesthesia and respiratory devices because they destroy vegetative bacteria, mycobacteria, fungi, and viruses, but not spores. Economic analysis shows that the annual operating costs of a washer-disinfector are equivalent to those of a pasteurizer. However, the multipurpose nature of a washer-disinfector yields a non-negligible benefit, both financially and organizationally.

Methods

A MEDLINE search covering January 1980 to April 2008 and updated in May 2009 identified relevant studies on pasteurization and thermal disinfection in a washer-disinfector. Standards, recommended practices, and guidelines addressing the reprocessing or disinfection of anesthesia and respiratory devices were also examined. The studies analyzed were performed under experimental conditions. Some of these studies date back several years and do not necessarily reflect current technological advances. Nevertheless, the parameters tested in these studies met the requirements set out in CSA-Z314.8-08 for pasteurization and those in ISO 15883 for disinfection in a washer-disinfector.

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