



Title **Reprocessing of Single-Use Medical Devices: Clinical, Economic, and Health Services Impact**

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Aim

To assess the evidence that the use of reprocessed single-use devices (SUDs) is safe, effective, and cost effective.

Conclusions and results

The results of the clinical review suggested that SUD re-use could be safe and effective, but the quality of the studies varied. In the economic review, 7 of the studies provided evidence of cost savings from the use of reprocessed SUDs. The estimated decreases in cost per patient as a result of SUD re-use were 173 Canadian dollars (CAD) for coronary angioplasty catheters and CAD 971 for instruments used in laparoscopic cholecystectomy, assuming there were no adverse events. The re-use of SUDs is typically considered to be a cost-saving measure for healthcare facilities. The liability risks associated with reprocessing and re-using SUDs may lead to higher costs. Patients may need to be informed about the known risks from using reprocessed SUDs.

Recommendations

None given.

Methods

A systematic review of available analytic studies was performed to examine the clinical impact of reprocessing SUDs. Two reviewers independently evaluated the quality of the selected studies using an approach that takes into account study design and study performance and links both to judgments on study reliability. Twelve articles were selected that reported results from 12 unique studies on 5 types of medical devices. An economic analysis from a healthcare system perspective was conducted using 2 scenarios to measure the direct costs and dollar values of adverse health events associated with SUD reprocessing. The budgetary implications of eliminating the practice of re-use were examined as were legal and ethical issues related to liability.

Further research/reviews required

Larger studies and the systematic monitoring of SUD use and associated outcomes are needed to arrive at confident conclusions. Additional data are required to perform a full economic study.