Event Reporting & Analysis - Alerts

If It's Not Clean, It's Not Sterile: Reprocessing Contaminated Instruments

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PSO Compass Points

The patient was in the operating room but awake. While setting up, the scrub person noticed debris on one of the instruments—probably dried blood or tissue from a previous case. The instrument had not been properly cleaned before it was sterilized. (When this happens, the entire sterile field is considered contaminated.) All instrumentation and supplies had to be removed, and instrumentation had to be resterilized. The surgeon elected to cancel the procedure and send the patient home to be brought back in the near future. The sterile processing manager was notified and planned to follow up.

Situation

The failure to adequately reprocess contaminated instruments—that is, not cleaning and disinfecting or sterilizing them—before using them on subsequent patients can lead to the spread of deadly pathogens.

Background

ECRI Institute PSO identified 234 events in its database pertaining to dirty surgical instruments. The top five factors for the contamination were:

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- Inadequate cleaning before sterilization (34%)
- Immediate-use steam sterilization (also known as flash sterilization) issues (12%)
- Holes in wrappers (11%)
- Instruments not sterilized in time for case (10%)
- Vendor instrument issue (9%)

Of the events in which inadequate cleaning before sterilization was identified as a factor, the instruments were identified as the following (percentages do not add up to 100% because of rounding):

- Complex instrument (39%)
- Cannulated or lumened instrument (35%)
- Simple noncomplex instrument (9%)
- Other or unidentified (16%)

Assessment

Complex and cannulated or lumened instruments present an increasing challenge to the cleaning process of surgical instruments. Reports indicate that sterile-processing staff are often challenged by productivity pressures, inadequate instrumentation inventory, and lack of access to specific instructions for cleaning surgical instruments.

Recommendations

ECRI Institute PSO recommends the following:

- Emphasize to all personnel involved in reprocessing (cleaning and disinfection or sterilization) reusable medical devices—including clinical and central sterile department staff—that omitting any of the cleaning steps in the reprocessing protocol can lead to deadly infections.
- Assess the organization's reprocessing program to identify and rectify factors that could contribute to poor instrument cleaning.
- Review reprocessing procedures to ensure that they are comprehensive and easily accessible to all personnel involved in the cleaning process.
- Review procedures periodically to confirm that they are aligned with current manufacturer recommendations for cleaning.
- Review compliance with reprocessing procedures to ensure that they are being following appropriately and that fail-safes are in place to prevent contaminated instruments from reaching the field or patient.

- Assess competency on an ongoing basis, and provide refresher training at regular intervals to help staff sustain competency. The U.S. Centers for Disease Control and Prevention (CDC) recommends that training be provided at least once a year (CDC 2015).
- Prevent productivity pressures from forcing staff to deviate from the cleaning instructions for the instruments at hand.
- Seek input from reprocessing staff when assessing new instruments for purchase.
- Foster regular communication between reprocessing staff and the clinical departments they support.

TOPICS AND METADATA

Topics

Biomedical Engineering; Infection Control; Sterilization and Reprocessing

Caresetting

Hospital Inpatient

Clinical Specialty

Surgery

Roles

Biomedical/Clinical Engineer; Clinical Practitioner; Patient Safety Officer; Quality Assurance Manager; Risk Manager

Information Type

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