PROGRESSIVE SURGICAL Half Time

Keeping you "in the know" in the ASC industry

PROGRESSIVE SURGICAL eSupport
POWERED BY BSM CONSULTING

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DISINFECTION AND STERILIZATION BEST PRACTICES

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Objectives

- Describe steps for reprocessing medical devices, including high-level disinfection and sterilization.
- Recognize the importance of manufacturer's instructions for use and nationally recognized guidelines/standards.

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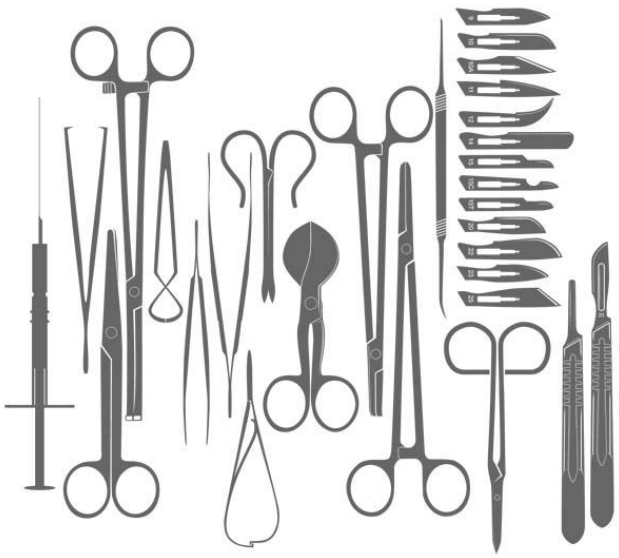
Surgical Instrument Reprocessing



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Surgical Instrument Reprocessing

- All reusable instruments and equipment will be decontaminated and high-level disinfected or sterilized prior to use.
- A quality control program is important to assure appropriate disinfection and sterilization.

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Surgical Instrument Reprocessing

- Reprocessing staff must have proper training with competency testing and orientation to their jobs.
- Documentation of training should be maintained in the employee's personnel files.
- Continuing education (including training for all new instrumentation, devices, and equipment) should be conducted at regular intervals.

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Surgical Instrument Reprocessing

PRE-CLEANING

- Used instruments should be wiped during use and items with lumens irrigated with sterile water throughout the procedure.
- Point of use treatment of instruments after this case is required to keep them moist prior to cleaning, regardless of the time from end of surgery to reprocessing.

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Surgical Instrument Reprocessing

PRE-CLEANING

- Contaminated items should be transported in covered containers marked as “bio-hazardous”.
- Sharps and delicate instruments should be kept separate from other items and should be transported in containers that are rigid.

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Surgical Instrument Reprocessing

CLEANING IN DECONTAMINATION AREA

- Cleaning of patient care items must occur prior to beginning high-level disinfection or sterilization.
- Cleaning solutions and/or detergents should be measured, mixed, labeled, and discarded appropriately according to the manufacturer's instructions or directions for use (IFUs or DFUs) and should be compatible with the instruments and equipment.

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CLEANING IN DECONTAMINATION AREA

- Cleaning can either be done mechanically in a sink with the required amount of detergent and water mixed as per instructions for use.

OR

- An ultrasonic cleaner and/or washer-disinfector using the correct enzyme cleaner at the correct dilution (follow manufacturer's IFUs).

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CLEANING IN DECONTAMINATION AREA

- Ultrasonic cleaners should be emptied, cleaned, rinsed with sterile water and the chamber wiped with alcohol or other disinfectant as recommended by the equipment manufacturer, when visibly soiled and at least daily.

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CLEANING IN DECONTAMINATION AREA

- Washer/disinfectors must be maintained according to manufacturers instructions for use. This includes maintenance and routine testing for efficacy.

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CLEANING IN DECONTAMINATION AREA

- Proper protective equipment (PPE) must be used in the decontamination area.
- PPE consists of a full face shield or goggles and a mask, impervious gown, hair covering and appropriate gloves.

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HIGH-LEVEL DISINFECTION (non automated)

- High-level disinfectants should be measured and mixed according to manufacturer's instructions and placed in appropriate containers compatible with the solutions.
- Appropriate solution, including chemical activation and expiration dates, and hazardous material labeling should be placed on containers holding these chemicals.

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HIGH-LEVEL DISINFECTION

- They should be used in locations meeting all ventilation requirements listed by the manufacturer or MSDS.
- Routine testing of high-level disinfectants should be performed to ensure effective concentration of active ingredient.

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HIGH-LEVEL DISINFECTION

- Testing of the strips should be performed when opening a new test strip container and appropriately documented on the log sheet.
- Expiration date of the test strip container should be documented on the container when opened.

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HIGH-LEVEL DISINFECTION

- High-level disinfectant temperatures should be checked and recorded prior to use; temperatures should be maintained in the range recommended by the manufacturer.
- A special heating pad is available to assist with temperature control.

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STERILIZATION

- Select the appropriate method of sterilization according to the instrument or equipment manufacturer's instructions.
- The sterilization process, including critical parameters (time, pressure, temperature) and chemical indicators should be identified and followed accordingly.

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MONITORING

- Mechanical (physical), chemical, and biological monitors must be used to assure that the sterilization process has been effective.

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MONITORING

- Physical monitors include time, temperature, and pressure gauges, displays, recorders, and digital printouts. At the end of each cycle, the operator should examine the printout to verify that:
- the printer is functioning properly;
- the cycle identification number has been recorded; and
- all cycle parameters have been met.

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Surgical Instrument Reprocessing

MONITORING

- Chemical monitors (internal and external) should be used with every load.
- Internal chemical indicators should be placed on all levels within the instrument sets; they should be placed in the geometric center of wrapped packages and in two opposite corners of rigid containers.

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MONITORING

- For steam sterilization, a Type 5 integrating chemical indicator may be used with every load for increased sterility assurance.
- Dynamic Air removal steam sterilizers (also known as prevacuum or Class B) should be tested daily using a Bowie-Dick type test. This test checks for proper air removal which allows this type of steam sterilizer to run a much faster cycle.

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MONITORING

- Use a biological indicator as follows:
  - Steam sterilization: At least weekly but preferably daily (if an in-house kit is used), and for every load containing an implant. Quarantine implantable items, whenever possible (Surgeons can sign a waiver).
  - Ethylene oxide and ozone sterilization: for every load.
  - Hydrogen peroxide sterilization: at least daily and preferably for every load.

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MONITORING

- Package identification should include the lot control number, year and date of sterilization, packet contents, and initials of processor.
- Writing directly on peel packs should only be performed on the plastic side of the pouch with a non-toxic marker.
- For wrapped packages, labeling should only be done on tape.

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MONITORING

- If the sterilizer has a vacuum-assisted cycle, run a Bowie Dick type test pack each day, after major repairs, and for installation testing to make certain that the steam sterilizer removes air efficiently and that proper steam penetration occurs before starting the daily sterilization routine.

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MONITORING

- The test pack must be placed horizontally in the front, bottom section of the sterilizer rack, near the door and over the drain, in an otherwise empty chamber.
- Do not run a Bowie Dick test in gravity, steam-flush pressure-pulse or low temperature sterilizer.

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STORAGE

- Central Sterile Processing Department employs the concept of event related sterility which means the sterility of an items is determined by how it is handled rather than by time (an expiration date)
  - Event related.
  - Integrity of clean and sterile equipment and supplies shall be assessed prior to use.
  - Inspect all packages before use; if intact, they are considered sterile.

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STORAGE

- Packaging will be considered non-sterile (compromised) when certain events occur:
  - holes/tears; broken or no seal, dropped, moisture, unsealed dust cover, broken tape ad lids improperly applied.
  -]Observe parameters for items on shelves in the storage room (18 inches from the ceiling and 8 inches from the floor).

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DOCUMENTATION

- Documentation of each sterilizer load so that all sterilized items can be traced back to the patient should include the following:
- Sterilizer identification, the type of sterilizer and cycle used, the lot control number, the specific load contents, the critical parameters such as time, temperature and pressure, the results of the process monitors and the operator's name, initials or identification

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Creutzfeldt-Jakob Disease (CJD)

- CJD is a degenerative neurological disorder that is incurable and invariably fatal. CJD is at times called a human form of mad cow disease.
- CJD is caused by an agent called a prion.
- CJD belongs to a group of prion related illnesses called Transmissible Spongiform Encephalopathies (TSEs).

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Creutzfeldt-Jakob Disease (CJD)

- Prion-specific reprocessing should be employed for:
  - Any neurosurgical procedure performed on a confirmed or suspected TSE patient.
  - Neurosurgery performed for diagnosis.
  - Neurosurgery to obtain non-lesionous biopsy material.

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Creutzfeldt-Jakob Disease (CJD)

- Recommendations for disinfection and sterilization of prion-contaminated medical devices.
  - Instruments should be kept wet (eg, immersed in water or a prionicidal detergent) or damp after use and until they are decontaminated, and they should be decontaminated (eg, in an automated washer-disinfector) as soon as possible after use.

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Creutzfeldt-Jakob Disease (CJD)

- Dried films of tissue are more resistant to prion inactivation by means of steam sterilization than are tissues that are kept moist.
- After the device is clean, it should be sterilized by either
  - autoclaving (ie, steam sterilization) or
  - using a combination of sodium hydroxide and autoclaving, using 1 of the 4 options on the next slide:

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Creutzfeldt-Jakob Disease (CJD)

- Option 1
  - Autoclave at 134C for 18 minutes in a prevacuum sterilizer.
- **Option 2**
  - Autoclave at 132C for 1 hour in a gravity displacement sterilizer.
- **Option 3**
  - Immerse in 1 N NaOH (1 N NaOH is asolution of 40 g NaOH in 1 L water) for 1 hour; remove and rinse in water, then transfer to an open pan and autoclave (121C gravity displacement sterilizer or 134C porous or prevacuum sterilizer) for 1 hour.
- **Option 4**
  - Immerse in 1 N NaOH for 1 hour and heat in a gravity displacement sterilizer at 121C for 30 minutes, then clean and subject to routine sterilization.

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Creutzfeldt-Jakob Disease (CJD)

- Some data suggest that the temperature should not exceed 134C, since under certain conditions the effectiveness of autoclaving actually declines as the temperature is increased (eg, to 136C or 138C),52 but other data do not demonstrate reduced effectiveness with increasing temperature (eg, 138C).

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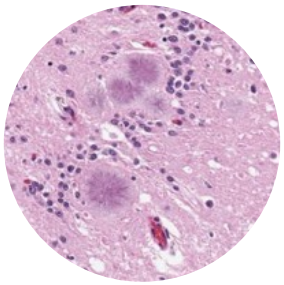
Creutzfeldt-Jakob Disease (CJD)

- Prion-contaminated medical devices that are impossible to clean or fully expose to steam and other sterilants should be discarded.
- IUSS must not be used for reprocessing.
- To minimize environmental contamination, noncritical environmental surfaces should be covered with plastic-backed paper and discarded after use.



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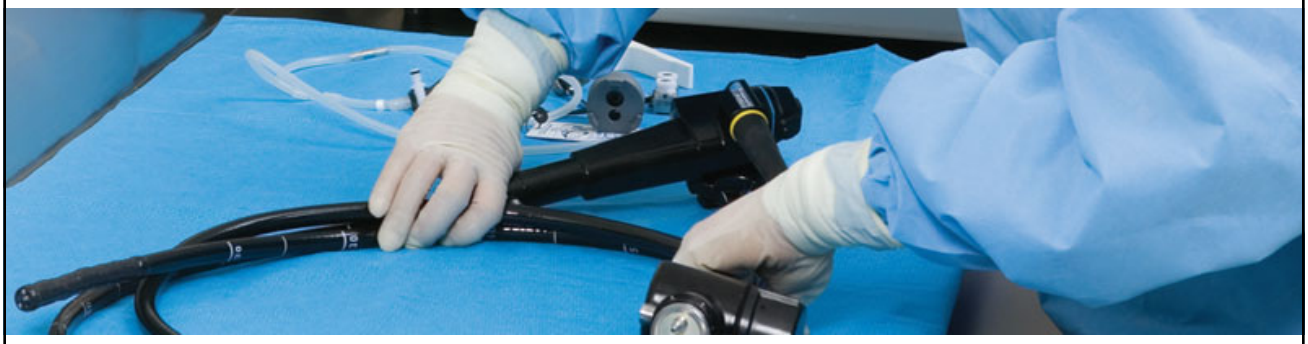
Endoscope Reprocessing



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Endoscope Reprocessing

INITIAL STEPS

- Reprocessing area should be designed to accommodate decontamination and high-level disinfection (design for dirty and clean, number of air exchanges, room pressure, adequate number of sinks).
- First step in endoscope reprocessing is to locate and understand the manufacturer's instructions for use (IFUs).

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Endoscope Reprocessing

INITIAL STEPS

- Become familiar with the instructions for use (IFUs) for the endoscope, high level disinfection equipment such as the automated endoscopic reprocessor (AER), chemicals for cleaning and disinfection.
- Staff responsible for reprocessing scopes should be trained and show evidence of competency at every level of the process.
- Compliance monitoring and competencies.

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Endoscope Reprocessing

REPROCESSING STEPS

- Pre-clean at point of use.
- Transport in a leakproof, puncture resistant container marked with a biohazard label.
- Conduct leak test.
- Perform manual cleaning (the most important step).
- Rinse/flush scopes and accessories (tap water or per IFU).
- Perform high-level disinfection via use of an AER.

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Endoscope Reprocessing

REPROCESSING STEPS

- Rinse after disinfection (AER will rinse scope).
- Dry exterior of scope (soft, lint free cloth or sponge).
- Purge all channels with instrument air.
- Visually inspect scope, accessories, and other related items before use, during the procedure, after the procedure, after cleaning, and before disinfection or sterilization.

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Endoscope Reprocessing

REPROCESSING STEPS

- Use lighted magnification to inspect for cleanliness and damage
- Use a borescope* to inspect internal channels of flexible endoscopes.
- Remove defective endoscopes, accessories, and equipment from service and repair or replace.

**Borescope: A device used to inspect the inside of an instrument through a small opening or lumen of the instrument*

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Endoscope Reprocessing

STORAGE

- Flexible endoscopes and endoscope accessories should be stored in a manner that minimizes contamination and protects the device or item from damage. Examples of specially designed storage systems include:
  - Drying cabinet that circulates continuous HEPA-filtered air within channels and cabinet.
  - Closed cabinet with HEPA-filtered air that provides positive pressure and allows air circulation.

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Endoscope Reprocessing

STORAGE

- Scopes should be stored vertically and not coiled. Tips should not touch the bottom of cabinet.
- Scopes should be stored with all valves open.
- Scopes should be stored with all removable parts detached but kept with each scope.
- Scopes should be clearly identified as processed and available for use.

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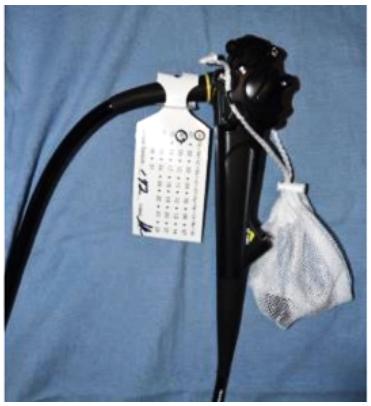
Endoscope Reprocessing

STORAGE



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References

- Comprehensive guide to steam sterilization and sterility assurance in health care facilities. ANSI/AAMI ST79:2017
- Guideline for Processing Flexible Endoscopes. Available per subscription online at: AORN Facility Reference Center.

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Questions?

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Continued Education

1 CE CONTACT HOUR PER ATTENDEE.
(MUST BE LICENSED NURSE)

COMPLETE COURSE EVALUATION SENT VIA EMAIL BY FRIDAY 9/13.

ALLOW 2 WEEKS FOR PROCESSING OF YOUR CERTIFICATE.

ANY QUESTIONS REGARDING CE CREDIT, CONTACT LYN@PSS4ASC.COM

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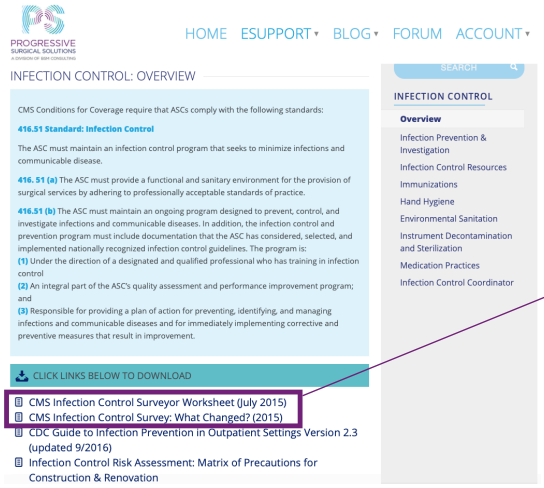
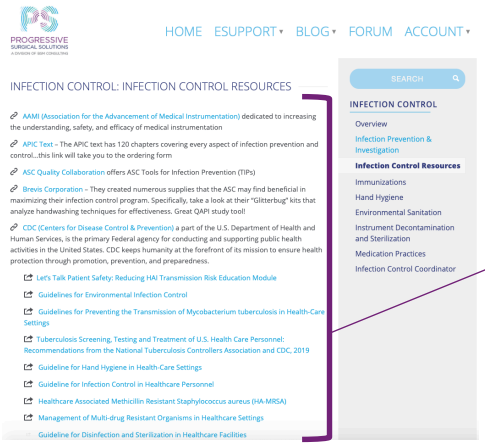


Infection Control Surveyor Worksheet

Available on Progressive eSupport

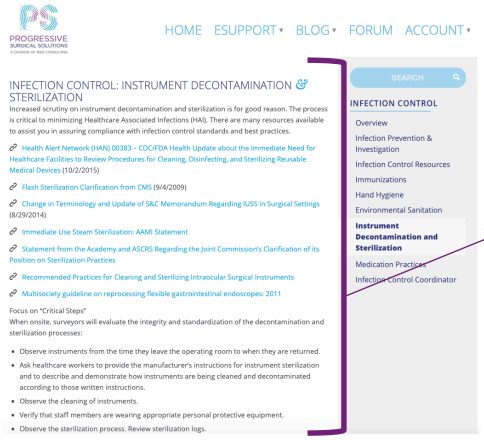
- eSupport/Operations/Infection Control/Infection Control Resources



Direct Links to AAMI standards, CDC guidelines and more all in one place

Available on Progressive eSupport

- eSupport/Operations/Infection Control/Instrument Decontamination and Sterilization



Information regarding Immediate Use steam sterilization and flash sterilization

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- eSupport/Education/CE Courses

Two CE Courses:
- ✓ Steam Sterilization
- ✓ Sterilization Best Practices in the ASC

*CE Contact Hours for RNs

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The 2019 Webinar Line Up!

DATE	🕒	CE	WEBINAR TOPIC	SPEAKER
August 29	60 min	✓	Sterilization Best Practices	Phenelle Segal
November 25	20 min		Annual Survey Watch Report	Leanne Gallegos
October 25	60 min	✓	Documentation Best Practices	Crissy Benze
September 30	20 min		Medication Shortages and How to Handle Them	Greg Tertes
December 20	60 min	✓	Informed Consent	Debra Stinchcomb Will Miller

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