

Cleaning, Disinfection, and Other Decontamination Steps

A. EFFECTIVE DATE :	09/17/2021
B. PURPOSE :	To outline the process for cleaning, disinfection, and other decontamination steps to be taken with reusable medical devices. Effective sterilization or high level disinfection depends on effective cleaning, disinfection, and decontamination.
C. POLICY :	<ol style="list-style-type: none"> 1. Manufacturer’s instructions for use (MIFU) are the primary resource for proper cleaning, disinfection, and other decontamination steps. 2. Staff will be competent in locating MIFUs via on-line resources (e.g., One Source). 3. Thorough cleaning and rinsing will be the first and most important step in reprocessing reusable medical devices once they have arrived in the Sterile Processing Dept. 4. Cleaned and rinsed instrumentation will be carefully inspected before transferring from the soiled decontamination area. 5. Lubricant will be used on instrumentation with movable parts and specific powered instrumentation to ensure proper function, according to MIFUs. 6. Items used for cleaning, disinfection, and decontamination must be removed from their external shipping containers before they enter the storage areas of the department. Any instructions for use (e.g., expiration dates, contents, ingredients, directions for use, etc.) accompanying the items should be kept with the items. 7. Case carts will be cleaned between uses with an automatic cart washer (preferably) or manually.
D. SCOPE :	Sterile Processing, Inpatient Units, Ambulatory Units, Emergency Department, ORs and Procedural Areas
E. MATERIALS NEEDED:	<p>Brushes, reusable and single-use</p> <p>Enzymatic pre-cleaning and soaking solutions</p> <p>Flushing syringes or devices</p> <p>Instrument air</p> <p>Instrument lubricant</p> <p>Lint-free cleaning cloths</p> <p>Personal Protective Apparel (PPE)</p>
F. DEFINITIONS :	<ol style="list-style-type: none"> 1. Decontamination: use of physical or chemical means to reduce the number of pathogenic microorganisms from objects to the point where they are no longer capable of transmitting infectious particles.

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2. Cleaning: manual or automated removal of all visible dirt, soil, and foreign matter from an item to render it safe for handling and further patient care. For non-critical devices, manual cleaning will be the only step in the reprocessing cycle.
3. Automated cleaning: mechanical equipment used to wash soiled instruments with water and a cleaning agent that includes lubricant.
4. Point-of-use cleaning: removal of gross soil from surfaces and lumens of instrumentation by wiping and flushing with sterile solution (preferably water) during and after invasive procedures.
5. Cleaning agents: enzyme- or non-enzyme-based agent comprised of a combination of active and inert chemical ingredients that vary in compatibility, efficacy, and safety. (*refer to AAMI/ANSI standards for specifications of appropriate agents*)
6. Point-of-use treatment: the process of gross soil removal and moistening of instruments with enzymatic cleaner to prevent development of biofilm from bioburden that OR staff complete prior to transporting used instruments to decontamination.
7. Pre-soaking: submersion of immersible devices in a solution of water and cleaner in a specific ratio and within an approved temperature range to prevent coagulation and assist in removal of protein substances. Cleaning of immersible devices should be done to minimize aerosolization; non-immersible devices are not pre-soaked and are cleaned in a way that protects the instrument from water invasion.
8. Disassembly: breaking down or opening of instrumentation to expose all surfaces to soaking solution, including but not limited to devices with lumens or cannulas, box locks, and multiple parts.
9. Rinsing: process after manual cleaning of removing detergent residue and debris.
10. Lubrication: use of a water-soluble lubricant on specific manually-cleaned items to ensure proper movement of parts.
11. Powered surgical instruments: instruments that are powered by an external power source such as battery, compressed gas, or electricity.

G. PROCEDURE :

When cleaning / decontaminating devices routinely in the Decontamination area, the CSS/Instrument Aide will:

1. Don appropriate personal protective equipment (PPE) in designated Decontamination entry area prior to handling any contaminated items,

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in accordance with OSHA requirements for protection from potentially infectious microorganisms.

2. Remove contaminated items from transport containers.
3. Sort out delicate items that require special handling, sharp items, and those identified for repair. Repair tags that are designed for surgical instrumentation should remain on the instrumentation throughout the cleaning process.
4. Remove all reusable protective devices (e.g., silicone mats and dividers) for cleaning.
5. Inspect rigid sterilization containers filters / valves and prepare for cleaning according to MIFUs.
 - a. remove / release filters and filter protectors or holders (retention plates) to disengage the filter media to allow for cleaning
 - b. discard disposable filters
 - c. remove, disassemble, and clean any valves
6. Remove interior basket from exterior container; obtain additional wire mesh baskets if items comingled in multiple layers.
7. Remove and discard all process indicators, disposable labels, disposable locks, or any other single-use items.
8. Disassemble all instrumentation, being careful not to lose small parts (e.g. screws, nuts, washers).
9. For immersible items, mix soaking solution according to MIFUs for proper ratio, temperature range, and soaking time.
10. Submerge immersible items in soaking solution, assuring that all surfaces are exposed to solution (e.g., hinged instrumentation should be completely open to expose box locks) for long enough to loosen soil and debris or per recommended soak time.
11. Clean immersible items under water to minimize aerosolization, using lint-free cloth and recommended brush types, as appropriate.
12. Clean lumened or cannulated medical devices submerged in soaking solution with the appropriate size brush, bristle type and material, followed by flushing the lumen to remove all loosened debris. If using a pressurized lumen-flushing device, verify that it is connected correctly prior to use.
13. Ensure all areas of instrument are cleaned, including crevices and all surfaces that may be exposed to tenacious materials such as orthopedic cement.

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When handling instrumentation with special considerations, the CSS/Instrument Aide will:

1. Separate delicate microsurgical and lensed surgical instruments from items that can be immersed and reserve for manual cleaning only.
2. Separate powered surgical instruments components that must be hand cleaned as follows:
 - a. Hold handpiece in a position that prevents fluid from entering the handpiece
 - b. Manipulate and clean all moveable parts
 - c. Brush cannulas and other areas that cannot be wiped with a cloth until the brush comes out clean
 - d. Re-inspect all locations where contaminants may be harbored
 - e. Rinse or wipe down all components thoroughly to remove any residue from cleaning chemicals.
3. Separate robotic instrumentation that must be hand cleaned as follows:
 - a. Wipe instruments with enzymatic cleaner
 - b. Scrub distal tips of instruments with nylon brush, never using a metal brush
 - c. Flush ports that require flushing and priming thoroughly by using a pressure-rated hose per MIFUs
 - d. If endorsed by MIFU, run instruments through a cycle in automated washer-disinfector
 - e. Prime ports prior to placement in ultrasonic cleaner, as appropriate
4. Separate laparoscopic instrumentation that must be cleaned as follows:
 - a. Ensure all small parts (e.g., screws, nuts, washers) are contained to prevent loss, making sure parts for each instrument are not mixed because many parts may be non-interchangeable.
 - b. Soak cannulated instruments in vertical position to facilitate removal of bioburden; if unable to soak vertically, soak horizontally with fluid instilled by syringe.
 - c. Flush soaking fluid until exit solution is free of debris.
 - d. If instrument has cannula and MIFUs allow, brush cannula with a brush of appropriate diameter to ensure contact with inner walls of lumen and length to extend past exit of opposite end until brush emerges clean and without debris or discoloration.

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- e. Perform final manual flush with water until all cleaning solution is removed, e.g. lack of visible debris, absence of bubbles or odors.
- f. Attach correctly any irrigating lines if using irrigating manifold for washer disinfecter, ensuring placement that prevents bumping or damaging of insulation.

Manually Completing Cleaning of Instrumentation

1. Wipe surfaces of devices that cannot be immersed thoroughly with a lint-free cloth containing approved soaking solution.
2. After cleaning, thoroughly rinse or wipe down devices with clean water to remove detergent residue and debris. Verify if MIFUs allow for items that cannot be immersed to be rinsed under running water.
3. Perform final rinse or wipe down with treated water to remove detergent residue and debris, as well as harmful microbes. Discard cloths when done.
4. Dry manually cleaned items with lint-free cloth or instrument air.
5. Check all devices for flaws, damage, debris, detergent residue, and completeness, then dry before sending to the assembly area. Re-perform entire cleaning process if any soiled instrument is found.
6. Transfer cleaned item(s) to assembly and preparation area.

Loading Mechanical Cleaning and Disinfection Equipment

1. Remove any debris from the bottom of the washer-disinfecter. *Filter should be cleaned at least daily and when there is visible debris present.*
2. Connect lumened instruments to irrigation ports, if available.
3. Assure all hinged instruments are fully opened unless contraindicated by manufacturer.
4. Position heavier devices on bottom of wire baskets, separating items into additional baskets as needed, to prevent damage.
5. Position items such as rigid sterilization container and basins to avoid the accumulation and retention of water.
6. Place delicate devices in a perforated basket and secure them to prevent them from moving around.
7. Position items so they do not protrude from the washer baskets.
8. For equipment that accommodates hold down screens, use to prevent dislodging and improper movement of devices during process.

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9. Separate multi-level sets so that all surfaces are exposed to impingement action.
10. Open trays with lids/covers so that the contents are exposed and water can drain freely.
11. Remove silicone and rubber mats from the set to permit full impingement action.
12. Load items so that the spray can easily reach all surfaces and so that water can drain out.
13. Check that spinning arms are unobstructed.
14. Verify that the correct cycle and dry time are selected for the load and start cycle.

Completing the Decontamination Process

1. Check reusable brushes for visible soil and damage following each use, cleaning and disinfecting frequently, then hang clean items to dry between uses.
2. Discard single-use brushes or other cleaning implements after each use.
3. Discard soaking solution after each use, cleaning all surfaces of the sink, counter or other locations that have been exposed to contaminants. Multiple trays may be processed consecutively in a single use, depending on how effective the solution is at removing bioburden, soil, or debris, but solution may not be saved for future use with another patient.
4. Clean case cart at any time after all items removed by sending through case cart washer or wiping down if no washer available.
5. Doff PPE prior to leaving Decontamination area.
6. Perform hand hygiene.

H. ATTACHMENTS:

none

I. STAKEHOLDER APPROVALS :

Karen Curley, Nursing Director, Procedural Services	<u>08/25/2021</u>
Ellen Benson, Associate Nursing Director, Spec Procedures	<u>08/30/2021</u>
Nancy Dupont, Director of Epidemiology	<u>08/25/2021</u>
Carol Schramm, Clinical Nurse Specialist	<u>08/30/2021</u>

J. REFERENCES :

1. ANSI/AAMI ST79: 2017. A comprehensive guide to steam sterilization and sterility assurance in health care facilities.

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	<ol style="list-style-type: none"> 2. The Manual Cleaning Process. Communique' (International Association of Healthcare Central Service Material Management (IAHCSMM)). (September/October 2016) 3. What's New in the World of Decontamination – a Focus on Stainless Steel Instrumentation Communique' ((IAHCSMM)). (January/February 2018). 4. Laparoscopic Instrumentation. Communique' (International Association of Healthcare Central Service Material Management (IAHCSMM)). (January / February 2017). 5. Powered Surgical Instruments. Communique' (International Association of Healthcare Central Service Material Management (IAHCSMM)). (March / April 2016). 6. Safe Reprocessing of Robotic Instruments. Communique' (International Association of Healthcare Central Service Material Management (IAHCSMM)). (January / February 2018).
<p>K. SEARCH WORDS :</p>	<p>Brush, cleaning, debris, decontamination, detergent, disinfect, enzymatic, filter, immersible, instrumentation, lubricant, manual, rinse, soak, soiled, solution, surface, washer, water, wipe</p>
<p>L. COMMITTEE REVIEW:</p>	<p>Nursing Standards Committee</p>
<p>M. FINAL APPROVALS:</p>	<p> <u>Signed</u> <u>9/14/2021</u> Caryl Ryan, MS, BSN , RN, Date Interim Chief Operating Officer, John Dempsey Hospital Vice President Quality & Patient Care Services Chief Nursing Officer </p> <p> <u>Signed</u> <u>9/17/2021</u> Scott Allen, M.D. Date Interim Chief Medical Officer, Chief Quality Officer, Medical Director, Quality Programs and Patient Safety Officer </p>
<p>N. REVISION HISTORY :</p>	<p>Date Issued: 8/7/2018 Date Revised: 9/2021</p>