

# Best Practices for Cleaning & Disinfecting the OR



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## THE ENVIRONMENT AND HAIs

Researchers of multidrug-resistant organisms (MDROs) have identified the increase in the role the environment plays in the development of HAIs.<sup>1</sup> Literature articles have identified contamination of environmental surfaces touched frequently by healthcare providers allows for the transmission of pathogens to patients.<sup>2,3</sup> In a study by Kramer it was found that most common pathogens can survive or persist on environmental surfaces for months. Gram negative and positive organisms can survive for months on dry surfaces. *Mycobacterium*, *Clostridium difficile* can also survive for months on surfaces along with the fungal pathogen, *Candida albicans*. Viruses from the respiratory tract can live for a few days while viruses from the GI system can live for months.<sup>4</sup>

Pathogen transmission in the perioperative environment can be due to several factors such as multiple contacts among patients, perioperative team members, and environmental surfaces. There have been multiple studies done to identify bacterial transfer during surgery. One such study stated that the amount of bacteria present in the operative suite is one of the most important factors associated with surgical site infections. Fomites and shed skin squames cells were identified as potential culprits in contributing to SSIs.<sup>5</sup>

## WHY DO WE CLEAN?

It's a rhetorical question, but it's an important one. Your hospital's Environmental Services group plays an integral role in arresting and reducing the spread of nosocomial infections or HAIs. Patients have always depended upon it, and now hospital bottom lines can be impacted by it as well.

One place where an established, thorough cleaning routine combined with disposable microfiber and a sporicidal disinfectant cleaner can positively impact HAIs is in your healthcare facility's Operating Room. The Association of periOperative Registered Nurses (AORN) sets the standard in this area and requires that every healthcare facility to have its own policy and procedure detailing the manner and frequency of required OR cleaning and disinfection.

## AORN RECOMMENDED PRACTICES FOR ENVIRONMENTAL CLEANING<sup>6</sup>

- **Recommendation I.** A multidisciplinary team should establish the cleaning procedures and frequencies in perioperative practice setting. The team should select the cleaning chemicals by using a standardized product selection process. The process should assist in the selection of functional products that are safe, cost-effective, and environmentally friendly and promote quality care. High-level disinfectants, liquid chemical sterilants and alcohol should not be used to clean environmental surfaces. An EPA-registered disinfectant should be used. The team should select the cleaning materials, tools, and equipment for use in the OR. A number of factors influence the team's decisions. The guides to selection include: manufacturers' instructions for use on surfaces and for cleaning materials and equipment; compatibility with detergents and disinfectants; cost; ergonomics, safety and effect on the environment. The team

also decides the frequencies for high-touch objects and surfaces. They differentiate reusable versus single-use disposable cleaning materials and should determine if microfiber cloths should be used. This team also designates personnel responsible for cleaning.

- **Recommendation II.** The patient should be provided with a clean, safe environment. It is the responsibility of the perioperative registered nurse to assess the perioperative environment for cleanliness.

- **Recommendation III.** A clean environment should be reestablished after the patient is transferred from the area. This decreases the risk of cross-contamination and disease transmission. Items that are used during patient care should be cleaned and disinfected. The floors and walls of the operating rooms should be cleaned and disinfected after each surgical or invasive procedure if soiled during the procedure.
- **Recommendation IV.** Perioperative areas should be terminally cleaned. All floors in the perioperative and sterile processing areas should be disinfected. Terminal cleaning of operating and procedural rooms should include cleaning and disinfecting of all exposed surfaces, including wheels and casters of all items.

- **Recommendation V.** All areas and equipment that are not terminally cleaned should be cleaned according to an established schedule. Items such as ventilation ducts, linen chutes, refrigerators and sinks are included in this group.

- **Recommendation VI.** All personnel should take precautionary measures to limit transmission of microorganisms when performing environmental cleaning and handling waste materials. Because of the increased risk for exposure to bloodborne pathogens during cleaning procedures personnel must comply with bloodborne pathogen standards to protect themselves. Personnel must wear personal protective equipment and practice good hand hygiene.

## HAND WASHING

Correct hand washing procedures are critical for a successful disinfection process as they come in contact with the most bacteria. Wet the hands and thoroughly apply disinfectant soap. Rub hands vigorously while counting to twenty and apply friction to them in a rotating motion. To clean between the fingers, interlace them and rub in an up and down motion. Then rinse hands thoroughly and dry completely with a clean paper towel. Immediately put on rubber gloves to prevent coming into direct contact with contaminated surfaces, blood, bodily substances, contaminated linen or debris.<sup>7</sup>

## PREPARING TO DISINFECT

Prepare your sporicidal disinfectant according to the product label. Always wear eye protection and gloves when mixing or pouring your disinfecting chemicals. Follow dispenser and disinfectant instructions **EXACTLY** to ensure safe and effective handling.

Choose the correct size disposable wipes and insert the roll into the dispensing canister. Follow the disinfectant's instructions for charging the wipes with the sporicidal disinfectant.

Use the prepared disposable microfiber wipes to clean and disinfect all vertical and horizontal surfaces. By using a disposable wipe, the possibility of cross-contamination is reduced, and an even distribution of the sporicidal disinfectant is applied to the surface to achieve maximum effectiveness. Make sure that enough prepared wipes are used to keep the surface wet for the required dwell times.<sup>8</sup>

Prepare the disposable microfiber floor pads for cleaning and disinfecting. Always follow your facility's procedures for the approved disinfectant or neutral cleaner for use throughout the facility. The facility procedure may require pre-charging of the microfiber pads or the use of dry pads with chemicals applied directly to the floor using a bucketless mop system. Either way is an effective way to clean or disinfect the floor.

For wall washing, prepare and place a disposable microfiber wall washing pad, frame, and handle on the environmental services cart for use. Apply the sporicidal disinfectant to the disposable microfiber pad per facility policy.

## SET UP

Preparation of the environmental services cart is an important part of the cleaning and disinfecting procedure. Be sure your hands are washed according to the instructions provided. Stock the environmental services cart with the following supplies and make sure all equipment is available prior to cleaning and disinfecting. This will save time and ensure that your process will maximize infection control.<sup>9</sup>

### Products

Products	Equipment
• Paper towels	• Lobby broom
• Toilet paper	• Dustpan
• Seat covers	
• Trash can liners	
• Biohazard red bags	
• Linen bags	• Flat mop handle and frame
• Hand soap refills	• Wall and ceiling mop handle and frame
• Disposable microfiber wipes	• "Wet Floor" signs
• Hospital-grade sporicidal disinfectant and cleaner	• 2 Secondary disinfectant dispensing bottles
• Disposable microfiber floor pads	• Wipe dispensing canister
• Disposable microfiber wall washing pads	• Eye protection and gloves
• High duster pad	• High duster handle and frame

Place a plastic liner in the environmental services cart trash bag. Overlap the edges of the plastic liner so it does not fall into the bag. Tying a knot in one corner of the plastic liner will help secure it in place.

## GETTING READY TO CLEAN

Park the environmental services cart in an area that is easily accessible and does not block doorways or hallways.

When cleaning the pre-operative (pre-op) and post-operative (post-op) areas, save time and steps without sacrificing results by working in an orderly fashion or a pattern and repeat that pattern each time you clean and disinfect.

## PICK A STARTING POINT

Often times, simplicity is the best weapon for infection prevention. By picking a starting point and establishing a readily repeatable routine for cleaning, you decrease the chances that you may neglect to disinfect a particular area or piece of equipment. Working clockwise (or counter-clockwise) around the room every time ensures that surfaces will not be missed or skipped. Always clean and disinfect pre-op and post-op areas by working from the higher surfaces first and then working down toward the lower surfaces and from the cleanest to the dirtiest, increasing the probability that no surface will be missed.<sup>10</sup>

## SOILED LINENS

Wearing appropriate PPE, carefully remove soiled linen from pre-op and post-op areas folding from the edges and corners to the center and be on the lookout for hidden sharps. If the linen is heavily soiled, you be required to change into another form of appropriate attire and PPE per your facility's policy. Do not hold soiled linens next to your body in order to reduce the risk of contaminating your clothing. The less these items are touched, the better. Always follow facility policy when handling soiled linen.<sup>11</sup>

## PRE-OP AND POST-OP AREAS

These areas require a schedule that includes ceiling, wall, and floor cleaning and disinfecting as well as high dusting of ledges and window sills according to your facility's Perioperative Services and Infection Prevention guidelines.

If stretchers are cleaned and disinfected by the nursing staff or OR technicians, make sure not to contaminate what has already been cleaned and disinfected. Healthcare facilities may instruct that the stretchers be cleaned daily by the OR staff and weekly by the EWS staff. When cleaning and disinfecting the stretchers, make sure to work from top to bottom and clean and disinfect all parts of the stretchers.

## OPERATING ROOM CLEANING AND DISINFECTING

In the operating room (OR), a patient with an open wound or incision is extremely vulnerable to infection. That's why effective cleaning and disinfecting of the operating room is critical. The patient's well-being is at stake!

The purpose of cleaning and disinfecting an operating room is to provide an aseptic environment for surgery, eliminating cross-contamination of surgical patients from inanimate surfaces.<sup>12</sup>

## PERSONAL PROTECTIVE EQUIPMENT

Protect your patients and yourself. Reduce the risk of carrying pathogens from room to room or from person to person by wearing special protective garments. Follow facility policy regarding required PPE.

### SCRUB ATTIRE OR FULL-LENGTH GOWN

Complete PPE includes: scrub attire or a full-length gown to protect clothing, shoe covers to prevent tracking in dust or marring the floor, a cap to cover all scalp hair, and rubber gloves to protect the hands.

Depending on the healthcare facility standards and procedures for operating room environmental services, a mask and eye protection also may be required. Anyone with facial hair may be required to wear a full head cover.

In most cases, the facility will follow standards from the Association of periOperative Room Nurses (AORN). The AORN standard requires that each facility develop a policy addressing the manner and frequency of OR cleaning.

## OPERATING ROOM CLEANING AND DISINFECTION PROCEDURES

To achieve the highest cleaning and disinfection possible, the following steps should be incorporated into a best practice for cleaning and disinfecting the operating room using AORN and CDC guidelines.

### SIMPLIFY WITH A ROUTINE: CLEAN IN A PATTERN

Clean every room using a pattern. Clean clockwise or counter-clockwise around the room, from high places to low places, to ensure that nothing is overlooked and that cleaning and disinfecting one area doesn't re-contaminate another area.

## OPERATING ROOM CLEANING AND DISINFECTION STEPS<sup>13,14</sup>

### Step 1: Remove Soiled Linen

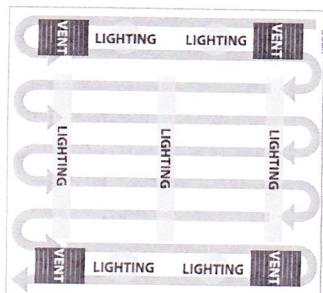
- Remove all soiled linen from the operating room. Gather the soiled linen and place in a plastic bag for laundering. Take plastic liners with soiled linen to the laundry hamper. Carry the linen away from your body.

### Step 2: Remove Trash and Debris

- Next, remove trash and debris from the floor using a dry microfiber pad and tongs or a dustpan. Do not use your gloved hands. Lift the used suction containers, place them in double red biohazard bag, and tie the top. Tie the tops of the inner red bag and top of the outer red bag together. Lift the bag and carry it out of the operating room to the pickup point for biohazard waste. Follow hospital policy and procedure

for the handling of bio-hazardous waste. Carry the trash away from your body. Replace gloves as needed.

Ceiling Cleaning Procedure

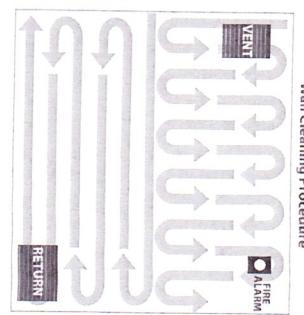


### Step 3: Clean and Disinfect OR Ceiling

- Use the disposable microfiber pad with the prepared sporicidal disinfectant and cleaner to perform Step 3. According to AORN standards, the manner and frequency of cleaning and disinfecting OR ceilings depends upon the critical nature of the surgical procedure being performed.
- Start at the corner of the room furthest from the patient entry way, moving the charged, disposable microfiber pad along the edge of the ceiling where it meets the wall. Use overlapping "S" strokes across the entire ceiling. Make sure that all vents are cleaned and disinfected. **Note:** Use caution around light fixtures, smoke detectors, and sprinkler heads.

### Step 4: Clean and Disinfect OR Walls

- Use the disposable microfiber pad with the prepared sporicidal disinfectant and cleaner to perform Step 4. According to AORN standards, the manner and frequency of cleaning and disinfecting OR walls depends upon the critical nature of the surgical procedures being performed.
- Start at the corner of the room furthest from the patient entrance, moving the charged disposable microfiber pad from the topmost corner down the wall halfway, and then up again in an overlapping "S" stroke across that entire wall. The return stroke will be from the ceiling back to the middle of the wall. Continue this process until the entire top half of the wall has been cleaned and disinfected. Next, start at one end at the middle of the wall where the down strokes stopped, moving the pad horizontally across the length of the wall in overlapping "S" strokes to clean and disinfect the entire wall surface. Repeat for each remaining wall. The last stroke will be at the bottom of each wall. **DO NOT** touch the floor with the wall pad. If the pad touches the floor, replace the pad immediately.



### Step 5: Clean and Disinfect Overhead Lights

- Use the disposable microfiber wipes prepared with sporicidal disinfectant to perform Step 5.
- Clean and disinfect the overhead lights starting at the top most part of the ceiling attachment using a disposable microfiber high duster charged with sporicidal

disinfectant. Include the stem, all surfaces of the piping, and all surfaces of the light housing.

- Clean and disinfect the remaining parts of the overhead lights using a disposable microfiber wipe charged with sporicidal disinfectant.

- Rotate the lights, and clean and disinfect the light fixture lenses. If blood or other organic material is visible on the surface, a pre-cleaning step is required prior to disinfecting the surface. Clean and disinfect all lens surfaces. If a second overhead light is present, repeat the process used for the first light.

#### **Step 6: Clean and Disinfect OR Table**

- Use the disposable microfiber wipes prepared with sporicidal disinfectant to perform Step 6.
- Start by cleaning and disinfecting the warming pad. Clean and disinfect the table pads on all sides, paying careful attention to any stains or fluid droplets.
- Clean and disinfect the operating room table attachments, removing and then wiping all sides and ends clean. Restore attachments to the table in the proper location.
- Clean and disinfect the metal surfaces under the pads, being careful to wipe all contours of the metal surface. Remember to reassemble the parts of the OR table as you clean them. After the table has been cleaned and disinfected, return the warming pad back to the table.
- Use as many saturated wipes as needed to ensure that the OR table is properly cleaned and disinfected and that disinfectant dwell times are achieved. The OR table is one of the most critical items in the operating room.

#### **Step 7: Clean and Disinfect OR Furnishings**

- Use the disposable microfiber wipes prepared with sporicidal disinfectant to perform Step 7.
- Clean and disinfect all other operating room furnishings. Use a sufficient number of charged wipes to achieve your disinfectant's required dwell time. Clean and disinfect the stainless steel tables, trays, and table legs. Clean and disinfect the stainless steel back tables. Don't forget to clean and disinfect the shelves.
- If a wipe touches the floor while cleaning furnishings, it must be replaced with a clean wipe.
- Clean and disinfect the Mayo stands which contain the trays that hold operating instruments. Clean and disinfect both sides of the trays as well as the entire unit.
- Next, clean and disinfect the basin stands. Use the same technique with exacting thoroughness.
- Clean and disinfect the suction units. Make sure to wipe all surfaces of the containers, the stand, and the pedestal. Don't forget to wipe clean the tubing and disinfected.
- Clean and disinfect the waste liner stands including the lower parts of the stand.
- **Change wipes as needed to ensure surfaces are cleaned and remain wet for the required dwell times.**

- When cleaning and disinfecting items like a portable stand, be sure to lift and clean and disinfect under items stored there.

- Clean and disinfect the stools found in the operating room. Some of these are very close to the actual operations and can be sprayed with blood. Clean and disinfect these stools from top to bottom. Remember, if visible organic load such as blood is visible on the surface, a pre-cleaning step is required before disinfecting.

- Clean and disinfect all of the I.V. poles and stands. Again, work from top to bottom. Clean and disinfect the chairs in the operating room. Wipe all surfaces, including the bottom chair supports.

- Clean and disinfect cabinets.

- Clean and disinfect the hyper-hypothermia system including the tubing and all sides of the unit.

- Clean and disinfect the electrosurgical units starting at the top, and moving down to the drawer pull, cleaning and disinfecting all sides of the unit and the shelving underneath the units.

- Clean and disinfect all monitors, cables, and mounting brackets. Be aware of potentially frayed or loose wiring.

- Clean and disinfect all rolling stock.

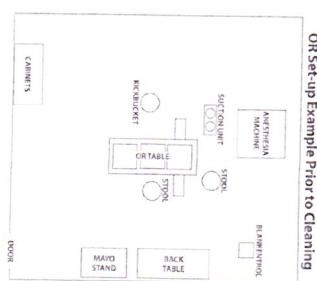
- Clean and disinfect all other equipment that may be in the OR. (**Note:** Follow manufacturers guidelines for cleaning and disinfecting all equipment.)

#### **Step 8: Clean and Disinfect OR Floor**

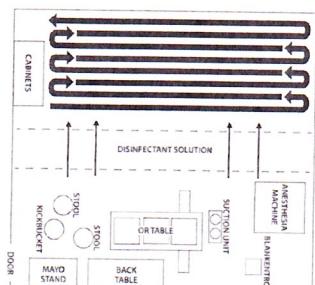
- Use the disposable microfiber pad charged with your prepared sporicidal disinfectant cleaner to perform Step 8.

Since all OR equipment is mounted on casters, cleaning each half of the floor in order to clean and disinfect can be done in minutes. Remember the original placement of the items that were moved. Before moving, draw a map of the room's set up or Starting Point so that putting the items back in place is easily done.

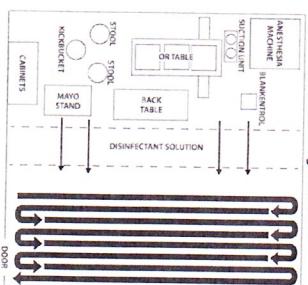
Move all equipment to one side of the OR, making half of the floor easily accessible for cleaning and disinfecting.



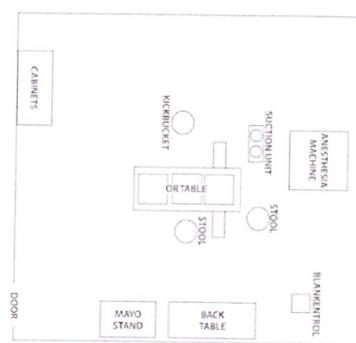
#### Floor Cleaning Procedure



#### Floor Cleaning Procedure



#### OR Set-up Example After Cleaning



#### Using a 17 or 20 inch auto scrubber, start

- in one corner of the OR and scrub the floor using the sporicidal disinfectant and cleaner solution. The automatic scrubber will scrub the floor and pick up the solution at the same time. Once you reach the

middle of the OR floor, lay down a twelve inch strip of sporicidal disinfectant and cleaner solution to allow the casters to roll through the solution, cleaning and disinfecting the casters. Repeat the same process for the opposite side of the OR floor.

- Use the disposable microfiber floor pads to mop around furniture legs not on casters to clean the entire floor.

#### Step 9: Arrange OR Furnishings

- Return the operating room furnishings to their assigned Starting Point location.
- If there are any doubts as to where OR equipment or furnishings should be placed, ask a supervisor who can clarify and demonstrate the proper arrangement of all such items.

Next, put a clean sheet on the now-dry operating room table and then place a second sheet over the center of the table.

- Put a clear liner in the trash stand, along with a second bag to ensure double thickness of the plastic bags in each stand.
- Do the same with the red biohazard bag in the trash stand, and again, place a second liner in the first to ensure the double bagging of all infectious waste.

#### Step 10: Quality Assurance Inspection

- Finally, it's time to inspect the cleaning and disinfection efforts to assure compliance. Look around the operating room to make sure nothing was missed during cleaning and disinfecting process. Assess the overhead lights, walls, ceiling, equipment, etc. If something was missed it should be cleaned and disinfected properly before leaving, making sure to not re-contaminate surfaces that have already been cleaned and disinfected. Use an ATP meter or check those areas that were marked using a fluorescent marker to ensure no area was missed.

- Remove rubber gloves and discard in the appropriate container.
- Note:** All cleaning equipment in the operating room suite must stay in their assigned areas. All disinfectant and cleaning solutions and supplies, including wipes and pads, must be changed between each operating room assignment, and disinfecting tasks. All EVS equipment must be cleaned and disinfected prior to entering each OR to reduce the possibility of cross-contamination from room to room.

## SUGGESTED PROCEDURE FOR OPERATING ROOM SUITE ENVIRONMENTAL CLEANING<sup>15</sup>

### Purpose

- This cleaning and disinfecting procedure applies to all critical patient care areas such as operating suites, day surgery and recovery.

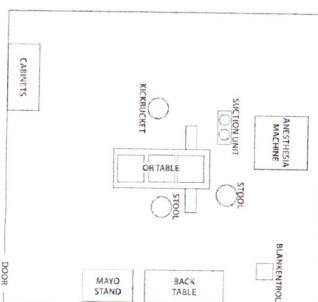
### Procedure

- Exercise standard precautions. Always work from cleanest area to dirtiest and from top (high areas) to bottom (low areas).
- Safety**
  - Check electrical equipment for frayed or loose wiring prior to cleaning.
  - Post caution signs appropriately.
  - Practice proper lifting techniques when moving any furniture or other heavy objects.
  - Ask for assistance when appropriate.
  - Follow the label for your cleaning chemical, including all safety precautions.
  - Practice standard precautions when handling articles soiled with blood or body fluids.
  - Position the ladder squarely on an even, dry surface and lock it into the open position before attempting to climb it. **NEVER** stand on the very top step of a ladder.
  - Do not mix different chemicals together.**

### Preparation

- Change into appropriate scrub attire.
- Wear the appropriate personal protective equipment (PPE) per your facility's policy.
- Follow all safety procedures per your facility's policy.
- Prepare your disposable microfiber wipes by dispensing the prescribed amount of sporicidal disinfectant and cleaner solution into the canister of disposable microfiber wipes. The wipes are now ready for surface cleaning.

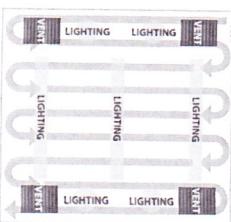
#### OR Set-up Example Prior to Cleaning



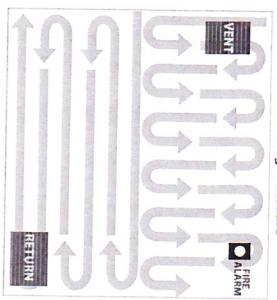
- Add hospital-grade disinfectant to a charging bucket containing the disposable microfiber floor pad. (Floors).
- Position equipment at assigned areas.
- Check with nursing staff on items that have been left in the operating/delivery room. Before cleaning, **know your start position** (where all equipment is located in the room). Sketch out on paper your **start position** in advance of cleaning and disinfecting.
- **Personal Protective Equipment (PPE)**
  - Wear the PPE that your facility's policy requires for the job being performed.
- **General Inspection**
  - Survey the area. Pick up loose trash.
  - Be alert for **needles** and other **sharp** objects. Pick up **sharps** using a mechanical device such as tongs, forceps, or brush and dustpan and place them in a sharps container.
  - For quality inspection post-cleaning, use fluorescent markers or an ATP Monitor.
- **Remove General Waste**
  - Leave plastic trash can liner in container, close, twist and tie knot in the top of the bag.
  - Use caution and look for protruding objects in the waste containers. **Never reach into or push on the bag to compress the trash.**
  - Place the bag of trash into the container on the EVS cart or take it to the waste pick up point. **Never carry a bag of trash against your body.**
  - Clean and disinfect all surfaces of the waste container using disposable microfiber wipes prepared with sporicidal disinfectant and cleaner. Keep wet for the time specified on the disinfectant label and allow to air dry.
  - Reline the container with the appropriate liner.
- **Remove Infectious Waste**
  - Use caution and look for protruding objects in the waste containers. **Never reach into or push on the bag to compress the trash.**
  - Leave plastic trash can liner in container, close, twist, and tie knot in the top of the bag. If the amount of waste is heavy or if there is a chance the liner could tear, place the liner inside another to prevent leaking and spilling while handling the infectious waste.
  - Place the bag of trash into the container on the cart or take it to the waste pick up point. **Never carry a bag of trash against your body.**
  - Place the infectious waste bag in the appropriate container for pick up.



- **Cleaning Procedures**
  - Prepare to enter area by donning scrubs (long sleeve), shoe covers, face mask/eye protection, head cover, and gloves per your facility's policy.
  - Scrub sink areas and halls are a part of the sterile corridor. Clean and disinfect using disposable microfiber wipes prepared with sporicidal disinfectant and cleaner. Keep wet for the time specified on the disinfectant label and allow to air dry.
  - Continue the same procedure for the rest of the surgery/delivery corridor.
  - Change wipes frequently to ensure sufficient disinfectant application to surfaces.
- **Cleaning Ceiling**
  - Clean and disinfect ceiling taking care to ensure that residual blood spatters are removed. Follow your facility's policy for cleaning frequency. Use the wall washing pad, frame, disposable microfiber wall washing pad, and sporicidal disinfectant and cleaner. Keep wet for the time specified on the disinfectant label and allow to air dry.
  - Clean and disinfect monitors taking care to ensure that residual blood spatters are removed. Use disposable microfiber wipes prepared with sporicidal disinfectant and cleaner. Keep wet for the time specified on the disinfectant label and allow to air dry.



- Using a high dusting tool with disposable microfiber high duster pad prepare with sporicidal disinfectant and cleaner, clean and disinfect lights, vents, clock, light rails, etc. Use a ladder (not to exceed six feet) to adequately reach light tracks and rails in ceiling. Be sure floor is dry before ascending ladder. Clean and disinfect sinks using disposable microfiber wipes prepared with sporicidal disinfectant and cleaner. Keep wet for the time specified on the disinfectant label and allow to air dry.



- Using the disposable microfiber wall washing pad, frame and sporicidal disinfectant and cleaner, clean and disinfect all walls and windows taking care to ensure that residual blood spatters are removed. Follow your facility's policy for cleaning frequency. Keep wet for the time specified on the disinfectant label and allow to air dry.



- Clean and disinfect light over table on inside and outside with using disposable microfiber wipes prepared with sporicidal disinfectant and cleaner. Keep wet for the time specified on the disinfectant label and allow to air dry. Lights may be moved within comfortable reach for better cleaning and disinfecting.
- After checking for frayed or loose wiring, clean and disinfect all cords, cable, light switches and plates, cabinet door tracks, stools, stands, etc. using disposable microfiber wipes prepared with sporicidal disinfectant and cleaner. Keep wet for the time specified on the disinfectant label and allow to air dry.
- Clean and disinfect the OR/delivery table, including all sides of the mattress, pillow, frame, stand/legs, rails, etc. using disposable microfiber wipes prepared with sporicidal disinfectant and cleaner. Keep wet for the time specified on the disinfectant label and allow to air dry.

- Empty all trash receptacles, clean and disinfect receptacles as required. Replace plastic liner. Discard disposable wipe.

- In scrub rooms, thoroughly clean sinks using disposable microfiber wipes with sporicidal disinfectant and cleaner. Keep wet for the time specified on the disinfectant label and allow to air dry.

- Rinse and wipe dry plumbing fixtures above and below sink. Other metal apparatus, such as soap dispensers, should be thoroughly cleaned and disinfected using disposable microfiber wipes prepared with sporicidal disinfectant and cleaner.

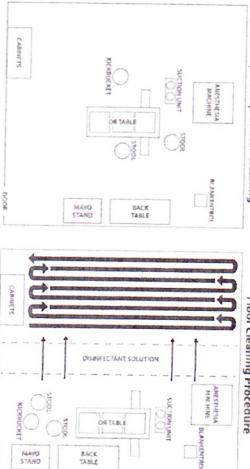
- Clean and disinfect hamper stands in scrub area using disposable microfiber wipes prepared with sporicidal disinfectant and cleaner and set in a fresh hamper bag.

- Scrub floor using automatic scrubber machine and an approved, hospital-grade disinfectant solution. **Note start position** for all equipment. Move equipment to one side of the room and scrub. Repeat for the other side of the room.

Floor Cleaning Procedure



OR Set up Example After Cleaning



- Move all equipment back to its original **start position**.
- Wash hands in accordance with your facility's infection control policy.

#### Quality Inspection

- Do a four corners inspection of your cleaning and disinfecting. Stand at each corner of the room and look from top to bottom.
- Use fluorescent markers pre-cleaning to highlight areas for post-cleaning inspection or use an ATP monitor to inspect the critical and high touch areas of the Operating Room and other areas in surgery post-cleaning.
- Complete and return inspection documentation to EVS or OR Director depending on the facility's policy.



## **SUMMARY**

In today's operating room environment, infection prevention has taken on a greater significance because of the multidrug-resistant organisms and hospital acquired infections. It is an expectation by the patient and the surgical team that the patients are free from signs of infection following their surgery. Proper cleaning and disinfecting of each operating room and surrounding suite areas are important infection control measures. Because surgical site infections continue to occur, high-touch surface areas within the operating room must be cleaned thoroughly after each patient. It is the room of the perioperative registered nurse to ensure that the environment for each patient is clean.

## **GLOSSARY**

### **Cleaning**

A process using friction, detergent, and water to remove organic debris; the process by which any type of soil is, including organic debris, is removed. Cleaning removes, rather than destroys, microorganisms.

### **Contaminated**

The presence of potentially infectious pathogenic microorganisms (eg, blood, other potentially infectious materials) on or in animate or inanimate objects.

### **Decontamination**

Any physical or chemical process that removes or reduces the number of microorganisms or infectious agents and renders reusable medical products or equipment safe for handling or disposal; the process by which contaminants are removed, either by hand cleaning or mechanical means, using specific solutions capable of rendering blood and debris harmless and removing them from the surface of an object.

### **Disinfection**

A process that kills most forms of microorganisms on inanimate surfaces. Disinfection destroys pathogenic organisms (excluding bacterial spores) or their toxins or vectors by direct exposure to chemical or physical means.

### **Hospital Acquired Infections (HAIs)**

An infection acquired by patients during hospitalization, with confirmation of diagnosis by clinical or laboratory evidence. The infective agents may originate from endogenous or exogenous sources. HAIs, which are also known as nosocomial infections, may not become apparent until the patient has been discharged from the hospital.

### **Low-Level Disinfection**

A process by which most bacteria, some viruses, and some fungi are killed.

### **Microfiber Cloth**

A cloth made of synthetic fibers; the most common types of microfiber cloths are made from polyesters, polyamides (nylon), and/or a combination of polyester and polyamide.

### **Microorganism**

An organism that is too small to be seen with the naked eye and requires a microscope. Bacteria, viruses, fungi, and protozoa are generally called microorganisms.

### **Multidrug-Resistant Organisms (MDROs)**

Bacteria that have become resistant to current antibiotic therapy and therefore are difficult to treat. MDROs can cause serious local and systemic infections that can be severely debilitating and even life-threatening.

### **Personal Protective Equipment (PPE)**

Specialized equipment or clothing for the eyes, face, head, body, and extremities; protective clothing; respiratory devices; and protective shields and barriers designed to protect the worker from injury or exposure to a patient's blood, tissue, or body fluids. PPE is used by health care workers and others whenever necessary to protect themselves from the hazards of processes or environments, chemical hazards, or mechanical irritants encountered in a manner that is capable of causing injury or functional impairment of any part of the body through absorption, inhalation, or physical contact.

### **Surgical Site Infection (SSI)**

An infection at the site of a surgical incision; the infection may be superficial, deep, or it may extend to organs.

### **Terminal Cleaning**

Cleaning that is performed at the completion of the surgical practice settings' daily surgery schedules. Terminal cleaning is performed in the surgical procedure rooms (as well as scrub/utility areas) and includes, but is not limited to: surgical lights and external tracks; fixed and ceiling-mounted equipment; all furniture, including wheels and casters; equipment; handles of cabinets and push plates; ventilation faceplates; horizontal surfaces (eg, tops of counters, fixed shelving); the entire floor; kick buckets; and scrub sinks.

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## POST-TEST

**Multiple Choice/True or False.** Please choose the word or phrase that best completes the following statements.

1. Disinfection and cleaning ORs has become more important than ever.
  - a. True
  - b. False
2. Contamination of environmental surfaces has been traced to the transmission of pathogens to patients.
  - a. True
  - b. False
3. What pathogens can survive for months on OR environmental surfaces?
  - a. Gram negative organism.
  - b. Gram positive organism.
  - c. Clostridium difficile.
  - d. All of the above.
4. Which virus can live on surfaces for months?
  - a. Respiratory tract viruses.
  - b. GI system viruses.
5. According to AORN's Recommended Practices for Environmental Cleaning, a multidisciplinary team should assist in the selection of functional cleaning products are:
  1. Safe regardless of cost.
  2. Cost-effective only.
  3. Safe and environmentally friendly.
  4. Promote quality care.
  - a. 1 only
  - b. 2 only
  - c. 2 & 3
  - d. 3 & 4
6. Which factors influence the team's decisions?
  1. Manufacturer's advertisements.
  2. Manufacturer's instructions.
  3. Product capability and safety.
  4. Environmental protection agencies recommendations.
  - a. 1, 3 & 4
  - b. 2 & 3
  - c. 3 & 4
  - d. 4 only
7. AORN's Recommended Practices for Environmental Cleaning states that it is the responsibility of the perioperative registered nurse to assess the perioperative environment for cleanliness.
  - a. True
  - b. False
8. Correct hand washing procedures are critical. The steps include:
  - a. Singing "Happy Birthday" while cleaning hands.
  - b. Leaving hands wet with disinfectant then gloving.
  - c. Wetting hands, applying disinfectant and rubbing hands to the count of 20, and drying completely.
  - d. The order of steps is not important; just so all are completed.
9. Floors in the perioperative practice setting should be considered contaminated:
  - a. After every case.
  - b. At all times.
  - c. At the end of the day.
  - d. Prior to the start of the day.
10. All areas and equipment that are not terminally cleaned should be cleaned:
  - a. According to an established schedule.
  - b. As often as needed.
  - c. At least weekly.
  - d. At least monthly.

## NOTES

## Best Practices for Cleaning & Disinfecting the OR

Date: \_\_\_\_\_

Location: *Infection Prevention Strategies for ASC's Seminar*: St. Louis, MO

To receive Continuing Education Credits, please give your completed registration form to the presenter. A certificate of completion will be provided to you. Credits will not be valid or recorded without the return of the completed registration form. **All blanks must be filled in.**

Last Name \_\_\_\_\_

First Name \_\_\_\_\_ M.I. \_\_\_\_\_

Registered Nurse  Other \_\_\_\_\_

Mailing Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip code \_\_\_\_\_

E-Mail Address

Surgery Center Affiliation:

Daytime Phone #: \_\_\_\_\_

Housing State.

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Excellentia Advisory Group

101 St. Peters Howell  
St. Peters, MO 63376  
ph: (636) 875-5088