

# Guidelines

## ENVIRONMENTAL INFECTION CONTROL in healthcare facilities

• **CLEAN** • **DISINFECT** • **RINSE** • **DRY** • **STORE**

Never reuse disposable or one-time only items without written permission from manufacturer.

### Cleaning Instruments

Follow manufacturer's instructions.

**Use personal protective equipment (PPE), such as gloves, mask, gowns and goggles, if splashing is anticipated.**

- Immediately remove all organic matter, such as blood and tissue, to prevent materials from drying in hard-to-reach areas.
- Remove all other residue.
- Wash in hot sudsy water with brushes as appropriate, and keep below water line as much as possible.

### Disinfecting and Sterilizing Instruments

Follow manufacturer's instructions. (Use disposables as available and appropriate.)

Item or Instrument	Procedure After Cleaning
<b>Surgical instruments</b>	Sterilize* with heat.
<b>Acupuncture needles</b>	Sterilize* with heat.
<b>Neurologic test pin</b>	Sterilize* with heat or HLD†.
<b>Suture removers</b>	Sterilize* or HLD†.
<b>Electrocautery tip (skin use)</b>	Sterilize* or HLD†.
<b>Vaginal speculum and IUD tenaculum</b>	Sterilize* or HLD†.
<b>Respiratory therapy equipment</b>	HLD†
<b>Anesthesia equipment</b>	HLD†
<b>Endoscopic instruments</b>	HLD†
<b>Laryngoscope and blades</b>	HLD†
<b>Laryngeal mirror</b>	HLD†
<b>Esophageal manometry probes</b>	HLD†
<b>Pessary and diaphragm fitting</b>	HLD†
<b>Nasal speculum</b>	HLD†
<b>Anorectal manometry</b>	HLD†
<b>Ear suction tip, speculum and syringe nozzle</b>	HLD†
<b>Stethoscope</b>	Wipe with alcohol, a phenolic or quaternary ammonium compound between patients.
<b>Exam table, counter top, baby scale</b>	Change paper cover between patients. If fecally contaminated, use phenolic or quaternary ammonium. If blood contaminated, use 1:10 bleach solution.

### Rinsing, Drying and Storing Instruments

Follow manufacturer's instructions.

**Rinse:** Use sterile, filtered or tap water according to manufacturer's directions.

**Dry:** Scopes may require forced air.

**Store:** Store instruments to prevent recontamination and promote drying.

#### \*Sterilization Methods

##### Heat tolerant items:

- Steam (~40 min)
- Dry heat (1-6 hours depending on temperature)

##### Heat -sensitive non-immersible:

- Ethylene oxide gas (~15h), hydrogen
- Peroxide gas plasma (~50 min)

##### Heat-sensitive immersible:

- ≥2.4% glutaraldehyde (~10 h), or
- 1.12% glutaraldehyde and 1.93% phenol (12 h),
- 7.35% hydrogen peroxide and 0.23% peracetic acid (3 h),
- 7.5% hydrogen peroxide (6 h),
- 1.0% hydrogen peroxide and 0.08% peracetic acid (8 h), or
- ≥0.2% peracetic acid (~50 min at 50C-56C)

#### †High Level Disinfection (HLD) Methods

##### Heat-automated:

- Pasteurization (~50 min)

##### Liquid immersion:

- >2% glutaraldehyde (20-45 min),
- 0.55% ortho-phthalaldehyde (12 min),
- 1.12% glutaraldehyde and 1.93% phenol (20 min),
- 7.35% hydrogen peroxide and 0.23% peracetic acid (15 min),
- 7.5% hydrogen peroxide (30 min),
- 1.0% hydrogen peroxide and 0.08% peracetic acid (25 in), or
- 650-675 ppm chlorine (10 min)

### Cleaning and Disinfecting Environmental Surfaces

**Minimal hand-contact surfaces** (hard surface flooring, window sills, blinds, window curtains, walls)

- Regularly clean with a 'free rinsing' detergent and when visibly soiled.

**Frequent hand-contact surfaces**

(light switches, door knobs, telephones, non-porous furniture, bedrails, privacy curtains, areas around and surrounding toilets)

- Daily clean and disinfect. Increase frequency when visibly soiled.
- Use barrier protective coverings for non-critical equipment surfaces that are difficult to clean (computer keyboards, copy and fax machines). Clean coverings daily and increase frequency when visibly soiled.

**Carpeting and cloth furniture**

- Regularly vacuum using HEPA filters.
- Deep clean periodically.
- Properly maintain wet cleaning equipment and allow to dry between uses.

- Use EPA-registered disinfectants (<http://www.epa.gov/oppad001/chemregindex.htm>). Follow all manufacturers' directions.
- Change cleaning solutions frequently and when moving to a new area.
- Clean mop heads and cleaning cloths, and allow to dry before reuse.
- Replace soiled mop heads and cleaning cloths before each cleaning solution change and/or when cleaning a blood or body substances spill.

### Blood and Body Substance Spills (vomitus, feces, urine)

**Standard office setting**

- Wear appropriate PPE.
- Clean visible matter with disposable, absorbent material. Discard in biohazard bag.
- Dispose of blood spill clean up materials as medical waste.
- Use EPA-registered hospital disinfectant labeled tuberculoidal or EPA-registered sodium hypochlorite; 1:100 or 1:10 dilution depending on size or spill.

**High risk environments** (clinical, public health and research labs)

In addition to the above:

- Isolate the area.
- Flood area with a recently mixed 1:10 sodium hypochlorite or another intermediate level disinfectant<sup>‡</sup> before cleaning.
- Use fresh disinfectant after cleaning.

<sup>‡</sup>Intermediate Level Disinfectants—1:10 sodium hypochlorite, 60-90% ethyl or isopropyl alcohol, some phenolics and some iodophors.

**Note:** If blood or body substances spill on a carpeted or cloth surface, spot clean immediately. Use a deep steam cleaning apparatus, and clean and disinfect the apparatus appropriately after its use.

### Medical Waste Management

**Develop and administer an appropriate plan.**

**"Sharps" disposal**

- Container must be impermeable and clearly marked.
- Store all sharp items (scalpels, needles) in a puncture-resistant container located close to the point of use.
- Do not break, bend or manually recap used needles prior to placement in sharps container.

**Regulated medical waste**

- Dispose of medical waste according to appropriate local, state or federal regulations.
- Store properly in well ventilated areas, inaccessible to vertebrate pests.
- Store in appropriate containers.

#### Sources

College of Physicians and Surgeons of Alberta. "Cleaning, Disinfecting and Sterilizing Office Instruments. CPSA Guideline". 1994. [http://www.cpsa.ab.ca/publicationsresources/attachments\\_policies/Cleaning,%20Disinfecting%20&%20Sterilizing%20Office%20Instruments.pdf](http://www.cpsa.ab.ca/publicationsresources/attachments_policies/Cleaning,%20Disinfecting%20&%20Sterilizing%20Office%20Instruments.pdf)

Rutala, William A. and David J. Weber. "Disinfection and Sterilization in Health Care Facilities: What Clinicians Need to Know". Clinical Infectious Diseases. 39 (2004): 702-709. <http://www.journals.uchicago.edu/CIJ/journal/issues/v39n5/33590/33590.web.pdf?erFrom=5829154896225191610Guest>

Schulster, Lynne and Raymond Y.W. Chinn. "Guidelines for Infection Control in Health Care Facilities". MMWR 52(RR10); (2003): 1-42. <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5210a1.htm>

