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**KEY WORDS:** Cleaning, Disinfection, Sterilization, Cidex®, Cidex® OPA, AirX 109, AirX 44, instrument, blood spills, Spaulding classification system, toys, play equipment.

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## **I. POLICY**

### **A. OBJECTIVE**

To aid in providing an environment and equipment that is microbiologically safe for patients, staff, and visitors.

### **B. INDICATIONS FOR USE**


1. Refer to this protocol for proper cleaning and disinfection of patient care equipment
2. For [endoscope cleaning](http://deptmed.med.som.jhmi.edu/mednurse/manuals/medSOC/endo.htm) refer to: <http://deptmed.med.som.jhmi.edu/mednurse/manuals/medSOC/endo.htm>
3. [Prion-associated diseases](http://www.insidehopkinsmedicine.org/icpm/ifc032prions.pdf) refer to: <http://www.insidehopkinsmedicine.org/icpm/ifc032prions.pdf>

### **C. DEFINITIONS**

<b>STERILIZATION</b>	Destroys all microorganisms, including bacterial spores.
<b>HIGH-LEVEL DISINFECTION</b>	Destroys all microorganisms except high numbers of bacterial spores.
<b>INTERMEDIATE-LEVEL DISINFECTION</b>	Destroys vegetative bacteria, mycobacteria, most viruses, most fungi but not bacterial spores.
<b>LOW-LEVEL DISINFECTION</b>	Destroys vegetative bacteria, some fungi and viruses but not mycobacteria or spores.
<b>PRION-ASSOCIATED DISEASE</b>	A prion is an abnormal <u>protein</u> responsible for diseases such as Creutzfeld-Jakob disease (CJD).

## **II. RESPONSIBILITIES**


<b>JHH EMPLOYEE</b>	<ol style="list-style-type: none"> <li>1. Follow the manufacturer's directions for all cleaners, disinfectants and equipment.</li> <li>2. Choose an appropriate agent from the approved list of cleaners and disinfectants.</li> <li>3. If the manufacturer recommends a chemical for cleaning and/or disinfection that is not on the list, report this information to the supervisor.</li> </ol>
<b>SUPERVISOR/DEPARTMENT MANAGEMENT</b>	<ol style="list-style-type: none"> <li>1. Ensure employee compliance with this policy.</li> <li>2. Contact Hospital Epidemiology and Infection Control to seek pre-use approval of new products</li> </ol>
<b>HOSPITAL EPIDEMIOLOGY &amp; INFECTION CONTROL</b>	<ol style="list-style-type: none"> <li>1. Review Hospital policies and procedures and products utilized for cleaning and disinfection.</li> </ol>

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<b>(HEIC)</b>	<ol style="list-style-type: none"> <li>2. Submit policies to Hospital Epidemiology and Infection Control Committee for review and approval.</li> <li>3. Provide training.</li> <li>4. <u>Monitor use of Cidex® OPA on the daily and weekly logs.</u></li> </ol>
<b>HEALTH, SAFETY AND ENVIRONMENT (HSE)</b>	<ol style="list-style-type: none"> <li>1. Consult on ventilation requirements for the use of Cidex® and Cidex® OPA.</li> <li>2. Consult on neutralization, disposal and spill clean-up of Cidex® and Cidex® OPA.</li> <li>3. Consult on personal protective equipment and reactions to cleaning and disinfection products.</li> <li>4. Provide training.</li> <li>5. Provide MSDS if necessary.</li> </ol>
<b>ENVIRONMENTAL SERVICES (ES)</b>	Maintain adequate supply of approved cleaning/ disinfection agents and assist with large blood spills.

### III. PROCEDURES

- A. Step One: Select the appropriate level of disinfectant for the cleaning/disinfection based on the Spaulding Classification System: ([See Appendix A](#))
1. Critical Items:
    - a. These items enter the sterile tissues or vascular system of the body or will have blood flowing through them ( i.e. laparoscopes, arthroscopy scopes, surgical instruments, VADs)
    - b. Present a high risk of infection if contaminated with any microorganism, including bacterial spores.
    - c. Medical objects that enter into sterile tissue or into the vascular system must be sterile because microbial contamination could result in disease transmission.
    - d. **Sterilization is required for critical items.**
  2. Semicritical Items:
    - a. Items that contact mucous membranes or non-intact skin (endoscopes, respiratory therapy equipment)
    - b. Semicritical medical devices should not contain any vegetative microorganisms such as mycobacteria ,fungi, viruses or bacteria.
    - c. Semicritical medical devices require high-level disinfection using chemical disinfectants or pasteurization. Some items such as thermometers (oral and rectal ) and hydrotherapy tanks require intermediate level disinfection.
  3. Noncritical Items:
    - a. Items that come in contact with intact skin, not mucous membranes, (i.e. commode chairs, blood pressure cuffs, shared play equipment etc.).
    - b. Skin that is intact acts as a barrier against most microorganisms and therefore the devices coming into contact with skin that is intact need not be sterile.
    - c. Most of these items can be decontaminated in the units where they are used.
    - d. Items must receive Low-level disinfection.
- B. Step Two: Select the appropriate product approved by the Hospital Epidemiology and Infection Control Committee for use at the Johns Hopkins Hospital from the following list. [**NOTE: Use of another agent that is not listed below, must be pre-approved in writing by HEIC** ([see Appendix A and/or Appendix B](#))
1. Detergents
    - a. General purpose powdered detergent concentrate
    - b. Scouring powder
    - c. General purpose liquid detergent
    - d. Follow manufacturer's guidelines for medical equipment when selecting detergent. If manufacturer recommends a cleaning and/or disinfecting agent which is not approved, report this to the supervisor.

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- e. The supervisor must request approval (in writing) from HEIC for use of another cleaning and/or disinfecting agent.
2. Low Level Disinfectants – General hospital cleaners, which can be used for cleaning beds and other furnishings.
  - a. Quaternary ammonium chloride compounds ( AirX 109 ®)
  - b. Quaternary ammonium chloride compounds (AirX 44 HBV®)
    - This product is unable to kill tuberculosis and so it can not be considered a high level disinfectant.
    - It is effective against HBV and so can be used for blood spills.
    - This product will be used in operative suites and certain procedure areas.
3. Intermediate Level Disinfectants.
  - a. Bleach – Household strength used to clean equipment from patient rooms, isolation rooms, and blood spills.  
[Note: Sodium hypo-chlorite (household bleach) 0.05% = 1:50 dilution bleach water]
    - Mix 1 oz. bleach in 49 oz. water.
    - Label 1:50 dilution strength and date. Bleach solution must be prepared daily. (maximum expiration date is 24 hours).
    - Other concentrations (1:10) of bleach may also be acceptable for some uses, as may other concentrations required by specific departments as long as they have been reviewed and approved by HEIC.
  - b. HTH (calcium hypo-chlorite solution (used for whirlpool tub cleaning ); Rehabilitation Medicine Dept. only)
  - c. Procedure for cleaning blood spills: **(If broken glass or other sharp materials may be present, use a dust pan, forceps or other device for clean-up; and discard in a sharps container.)**
    - Don barrier gloves
    - Place paper towels over the spill area
    - Flood the spill area with the appropriately diluted bleach solution
    - Allow the bleach solution to act for 10 minutes
    - Cover the spill with paper towels
    - Clean up the spill with additional paper towels
    - Discard towels, gloves and other waste into a red bag
    - Area should then be cleaned with detergent or low-level disinfectant, such as Air X 109.
4. High Level Disinfectants – used for cold processing of scopes and other instruments which come into contact with mucus membranes
  - a. Ortho-phthaldehyde (such as Cidex® OPA)
  - b. Gluteraldehyde (Cidex®) will only be allowed within the institution with permission from HEIC.

#### IV. DOCUMENTATION:

- A. JHH EMPLOYEES WORKING WITH Ortho-phthaldehyde (such as Cidex® OPA) o Gluteraldehyde (Cidex®) will maintain daily and weekly required documentation using JHH approved log forms.

#### V. SUPPORTIVE INFORMATION

##### SEE ALSO


Patient Care Equipment: Appropriate Use and Mangement Policy,

[http://www.insidehopkinsmedicine.org/icpm/PAS015pt\\_care equip.pdf](http://www.insidehopkinsmedicine.org/icpm/PAS015pt_care equip.pdf)

Hospital Safety and Environmental Health: <http://www.hopkinsmedicine.org/hse/>

Endoscopy cleaning procedures, The Johns Hopkins Hospital, Medical Nursing Service,

<http://deptmed.med.som.jhmi.edu/mednurse/manuals/medSOC/endo.htm>

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**COMMUNICATION & EDUCATION**

**Initial**

- This policy will be distributed to all Interdisciplinary Clinical Practice Manual (ICPM) holders and will be available on the Intranet in the ICPM website. It will also be located on the HEIC Internet site ([www.Hopkins-HEIC.org](http://www.Hopkins-HEIC.org))

**Ongoing**

- HEIC will be available for consultation as requested by.

**SPONSOR**

Medical Care Evaluation Committee

**DEVELOPERS**

Hospital Epidemiology and Infection Control Committee

<b>REVIEW CYCLE</b>	▪ Three (3) years	<b>MEDICAL BOARD</b>	Approval Date: 7/31/07 Effective Date: 8/1/07
VICE PRESIDENT FOR NURSING & PATIENT SERVICES  _____		VICE PRESIDENT FOR MEDICAL AFFAIRS  _____	
Date:		Date:	