

# IP 101

## Class 5: Cleaning, Disinfection, & Sterilization

Rochelle Beard, MSN, RN, CPN, CIC, CPHQ  
Infection Preventionist

# Syllabus

- Definitions
  - Cleaning, disinfection, sterilization, sanitization
  - Spaulding's Classification
- Environmental Services
- Endoscopy
- Operating Room (OR) & Sterile Processing Department (SPD)
  - Guidelines overview
    - ANSI/AAMI

# Cleaning, Disinfection, Sterilization

- **Sanitization:** reduces number of germs to what is considered a safe level
- **Cleaning:** removal of foreign material (visible soil and microbial contaminants)
- **Disinfection:** eliminates many/all pathogenic microorganisms except bacterial spores
- **Sterilization:** destroys all microorganisms

Cleaning

**Clean FIRST!!**

# Disinfection

- **Low-level**
  - Kills some viruses, bacteria, and fungi but not mycobacteria or spores
- **High-level**
  - Complete elimination of all microorganisms except for some bacterial spores
  - FDA says: sterilant used for a shorter contact time to achieve a 6-log kill of an appropriate *Mycobacterium* species
- Follow manufacturer's instructions for use (MIFU/IFU) that include dwell/contact time

# Sterilization

- **High temp:** steam, dry heat
- **Low temp:** ethylene oxide gas, hydrogen peroxide gas plasma, ozone, hydrogen peroxide vapor
- **Liquid immersion:** combinations of glutaraldehyde, paracetic acid, hydrogen peroxide, ortho-phthalaldehyde, and chlorine

# Spaulding Classification System

- **Critical:** enters sterile tissue and must be sterile
- **Semicritical:** contacts mucous membranes and requires high-level disinfection
- **Noncritical:** comes in contact with intact skin and requires low-level disinfection
- *Environmental surfaces*

# Spaulding's Matching Game

Place each patient care item in the correct section according to its Spaulding classification of critical, semicritical, or noncritical.

Scalpel  
Urinary catheter  
Vaginal probe  
BP cuff  
Telemetry leads  
Needles  
Laryngoscope blades  
Diaphragm fitting rings  
Bedpan  
Chair  
Crutches  
Breast implant  
Heart catheter  
Cystoscopes  
Anesthesia equipment

Critical	Semicritical	Noncritical
Scalpel Urinary catheter Needle Breast implant Heart catheter	Vaginal probe Laryngoscope blades Diaphragm fitting rings Anesthesia equipment	BP cuff Telemetry leads Bedpan Chair Crutches IV pole Bed rails



# Noncritical

- Intact skin is an excellent barrier
- Patient care equipment and environmental items
- Chlorine-based products, phenolics, improved hydrogen peroxide, quaternary ammonium compounds, 70-90% alcohol

# Environmental Services

- Clean to dirty, top to bottom
- Friction
- Patient vs. healthcare zone
- Trainer-Certified Health Care Environmental Services Technician (T-CHEST)
  - [Certified Health Care Environmental Services Technician \(CHEST\) Training Model & Resources | AHE](#)

## Order of Cleaning

Label each box with a number 1-10, based on the order you would clean it.

Number 1 indicates the first item you would clean and 10 indicates the last item you would clean.



# Semicritical

- Contact with mucous membranes or nonintact skin
- Free of all microorganisms, except small numbers of spores
- Respiratory therapy, anesthesia, scopes, probes
- Glutaraldehyde, hydrogen peroxide, ortho-phthalaldehyde, improved hydrogen peroxide, paracetic acid with hydrogen peroxide, and chlorine-based products

# Endoscopy

- What is an endoscope?
- Spaulding classification
- What makes it unique?
- HLD process
- AAMI ST91

# Critical

- Items have to be free of all microorganisms- including spores
- Surgical instruments, implants, ultrasound probes that go into sterile body cavities

# Sterile Processing Department (SPD)

- Who works in SPD?
- What is the setup?
  - What is worn?
  - What is done?
- Special considerations for storage

# Environmental Services-OR

- Trainer-Certified Surgical Cleaning Technician
  - [Certified Surgical Cleaning Technician \(CSCT\) Training Model & Resources | AHE](#)
- Upon completion of the training, the T-CSCT is designated to train technicians at your facility using AHE training materials





**Operating Room**

# Assignments

- **Find out:**
  - what your facility's accreditation organization is: CMS, OIG, Joint Commission, DNV, ACHC
  - if your facility holds any specialty accreditations or certifications

# Resources

- [Difference Between Cleaning, Sanitizing, and Disinfecting \(cdc.gov\)](#)
- [Disinfection of Ultrasound Transducers Used for Percutaneous Procedures \(apic.org\)](#)
- [Choosing Medical Solutions That Keep Patients Safer | TouchPoint Medical](#)
- [Disinfection of Ultrasound Transducers Used for Percutaneous Procedures](#)