

## Sanitizing, Disinfecting & Sterilizing Instruments



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## Asepsis & Infection Control

What is the most effective way to break the chain of infection?



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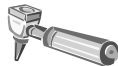
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## First level of medical asepsis...

- **Sanitization**

- Cleansing process
- Objects that are exposed to healthy, unbroken skin
- Removes many microorganisms
- Removes gross contamination



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## Sanitizing instruments...

- PPE - gloves, goggles
- Be aware of sharp instruments
- Rinse with cold water - prevents coagulation of proteins, reduces sticking
- Immerse in warm water & detergent
- Scrub all surfaces with brush
- Rinse thoroughly
- Inspect for damage & cleanliness



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## Second level of medical asepsis...

- Disinfection, AKA “clean technique”
- Highest level of cleanliness achieved by washing the skin
- Destroys / removes most microorganisms except bacterial endospores & viruses
- Surgical scrub
- Specula, laryngeal mirrors



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## Disinfecting...

- Instruments are sanitized before disinfecting
- Boiling - some bacteria & viruses are resistant to temperatures of 212°F
- 70% isopropyl
- Germicidal
- Bactericidal
  - follow manufacturers directions for
    - correct dilution
    - temperature
    - time of immersion



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### Disinfecting...

- Formaldehyde, AKA formalin  Poison Control
- Corrosive, causes irritation to body tissues - gloves required, goggles
- 10% solution preservative for biopsy tissue
- 5% solution - germicidal agent
- Use at room temperature (less effective at cool temperatures)
- Rinse thoroughly with distilled or sterile water

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### Disinfecting...

- 10% solution of household bleach  
– 1 part bleach to 10 parts tap water
- replace solution daily
- loses effectiveness after 24 hours



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### Disinfecting instruments...

- PPE - gloves & goggles
- Use appropriate solution
- Clamps & scissors are placed in solution in the open position
- Label container with date, time & initials
- Remove with transfer forceps
- Rinse
- Store in appropriate location

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### Third level of medical asepsis...

- Surgical asepsis
- Complete absence of microorganisms
- Preparation for contact with broken skin & mucus membranes, internal organs
- Accomplished by sterilization
- Surgical instruments, scalpels



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### Sterilization...

- Destroys all microorganisms including endospores & viruses
- Chemical sterilization
  - Cidex® used for sterilization of heat sensitive instruments (endoscopes)
  - Chemiclave® uses heat & pressure
    - most instruments & equipment
    - purchased only from equipment manufacturer

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### Sterilization...

- Dry-heat oven
  - hot air, 250 - 320°, 1 to 9 hours depending on temperature
  - microorganisms more resistant, penetrates slowly & unevenly
- Gas sterilization
  - ethylene oxide - hospitals, manufacturers
  - not used in medical office
- Incineration
  - reduced to ashes
  - no sharps

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### **Autoclave**

- **Steam**
- **3 vital elements:**
  - time
  - temperature 240°
  - pressure 20 -30 pounds
- **CDC recommends microbiological monitoring at least once a week**

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### **Preparing instruments for Autoclaving**

- **Wraps - cloth, paper, see-through packages**
- **Partially open hinges of instruments**
- **Place gauze around sharp points**
- **Use sterilization indicators both inside and outside the package**
- **Place packages 1 - 3” apart & at least 1” from walls**

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### **Autoclaving**

- **Instruments may be autoclaved unwrapped, “flashing” for immediate use**
- **Follow recommended sterilization time:**
  - wrapped 30 minutes
  - unwrapped 15 minutes
- **Pressure must be at zero before opening the door**
  - stand to the side, avoid steam
- **Allow instruments to dry completely prior to removing**

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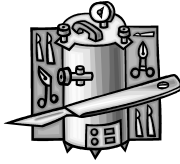
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## Storing sterilized packages...

- Packages considered sterile for 30 days
- Rotate stock
  - oldest date in front
  - expired packages are considered unsterile



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