

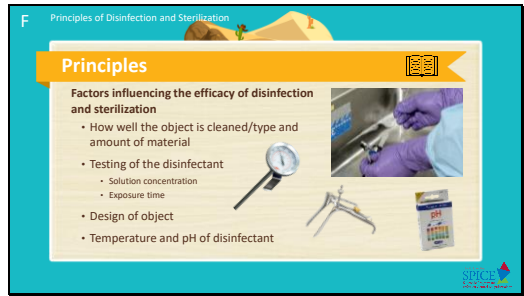
Slide 1



Slide 2



Slide 3



Slide 4

F Principles of Disinfection and Sterilization

Objectives

Hardest to Kill

Prions
Spores
CJD
Mad cow
BSE
Spores
Spores Resistant to disinfectants
Mycobacteria
Non-enveloped Viruses
Norovirus
Alcohol resistant
Fungi
Vegetative Bacteria
Enveloped Viruses
HIV
HBV
MSA
VRE
HIV
HBV
Easiest to Kill

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Principles

Management of reusable contaminated items:

- Handle as little as possible
- Use appropriate PPE
- Remove gross soil or debris at the point of use (gauze sponge moistened with water/disinfectant wipe for example)

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Principles

Transport of contaminated items:

- Must be contained. The type of container depends on the item being transported:
 - Puncture-resistant, leak-proof, closable containers must be used for devices with edges or points capable of penetrating container or skin
 - Must have a bio-hazard label or be red in color (never via gloved hands alone)
- Items should be kept moist during transport by adding a towel moistened with water (not saline) or a foam, spray or gel product specifically intended for this use
- Avoid transporting contaminated items in a liquid
- Reusable collection containers for holding contaminated items should be made of material that can be effectively decontaminated
- Use separate collection containers for contaminated versus re-processed or clean items

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Spaulding Classification

Spaulding Classification of Surfaces:

- Critical** – Objects which enter normally sterile tissue or the vascular system and require sterilization
- Semi-critical** – Objects that contact mucous membranes or non-intact skin and require high-level disinfection, which kills all but high-levels of bacterial spores
- Non-critical** – Objects that contact intact skin but not mucous membranes, and require low-level disinfection

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Processing Critical Instruments

Critical Items:

- Penetrate or enter normally sterile tissue or spaces, including the vascular system (Surgical instruments, cardiac catheters, IV devices, urinary catheters)
- High risk of transmitting infection if handled improperly
- Must be sterilized between uses or used as single-use disposable devices

Goal: Sterility = devoid of all microbial life

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Storage Of Sterile Items

Ensure the sterile storage area is a well-ventilated area that provides protection against dust, moisture, and temperature and humidity extremes.

Sterile items should be stored so that packaging is not compromised.

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Liquid Disinfectants

Disinfectant Agent	Use Concentration
Ethyl or isopropyl alcohol	70% - 90%
Chlorine (bleach)	100 ppm
Phenolic	UD
Iodophor	UD
Quaternary ammonium compound (QUAT)	UD
Improved/Accelerated hydrogen peroxide	0.5%, 1.4%

Non-critical
UD = Manufacturer's recommended use dilution



Slide 17

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Properties of an Ideal Disinfectant

- Broad Spectrum
- Fast Acting
- Non-Toxic
- Surface Compatibility
- Easy to Use
- Acceptable odor
- Economical



Non-critical



Slide 18

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Other Environmental Issues OSHA



Use appropriate PPE



Slide 22

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Training and Quality Control

Provide comprehensive and intensive training for all staff assigned to reprocess medical/surgical instruments

To achieve and maintain competency:

- Staff receive hands-on training
- Work with supervision until competency is documented
- Competency testing should be conducted at commencement of employment and no less than annually
- Training and competencies should be documented



Slide 23

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