

Methods for Sterilizing and Disinfecting Patient-Care Items and Environmental Surfaces*

| Process | Definition | Method | | Example | Application | |
|--|---|------------------|--|---|--|------------------------|
| | | | | | Patient-Care Items | Environmental Surfaces |
| Sterilization | Destroys all microorganisms, including bacterial spores | Heat | High temp | Steam, dry heat, unsaturated chemical vapor | Heat tolerant critical and semicritical | Not applicable |
| | | | Low temp | Ethylene oxide gas, plasma sterilization | Heat tolerant or heat sensitive critical and semicritical | |
| | | Liquid immersion | Glutaraldehyde, glutaraldehydes with phenols, hydrogen peroxide, hydrogen peroxide with peracetic acid, peracetic acid | Heat sensitive critical or semicritical | | |
| High-level disinfection | Destroys all microorganisms, but not necessarily high numbers of bacterial spores | Heat | Washer disinfectant | Heat-sensitive semicritical | | |
| | | Liquid immersion | Glutaraldehyde, glutaraldehydes with phenols, hydrogen peroxide, hydrogen peroxide with peracetic acid, ortho-phthalaldehyde | | | |
| Intermediate-level disinfection | Destroys vegetative bacteria, most fungi, and most viruses; does inactivate <i>Mycobacterium tuberculosis var. bovis</i> ‡ Not necessarily capable of killing bacterial spores | Liquid contact | EPA-registered hospital disinfectant with label claim of tuberculocidal activity (e.g. chlorine-containing products, quaternary ammonium compounds with alcohol, phenolics, bromides, iodophors, EPA-registered chlorine-based product) | Noncritical with visible blood | Clinical contact surfaces Blood spills on housekeeping surfaces | |
| | | | EPA-registered hospital disinfectant with no label claim regarding tuberculocidal activity OSHA also requires label claim of HIV and HBV potency for use of low-level disinfectant for use on clinical contact surfaces (e.g. quaternary ammonium compounds, some phenolics, some iodophors) | | Clinical contact surfaces Housekeeping surfaces | |
| Low-level disinfection | Destroys most vegetative bacteria, some fungi, and some viruses. Does not inactivate <i>Mycobacterium tuberculosis var. bovis</i> | | | Noncritical without visible blood | Clinical contact surfaces Housekeeping surfaces | |

The US Environmental Protection Agency (EPA) and the US Food and Drug Administration (FDA) regulate chemical germicides used in health-care settings. The FDA regulates chemical sterilants used on critical and semicritical medical devices, and the EPA regulates gaseous sterilants and liquid chemical disinfectants used on noncritical surfaces. FDA also regulates medical devices, including sterilizers.

‡Inactivation of the more resistant *Mycobacterium tuberculosis var. bovis* is used as a benchmark to measure germicidal potency.

*CDC. Guidelines for infection control in dental health-care settings – 2003. MMWR 2003; 52(No. RR-17):1–66.