

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	
Low-level disinfection	Destroys most vegetative bacteria, some fungi, and some viruses. Does not inactivate <i>Mycobacterium tuberculosis var. bovis</i>		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)	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.