

# Disinfection of Instruments and Equipment

Disinfection is a process that involves killing most, but not all microorganisms.

Instruments and equipment **must** be cleaned before being disinfected.

Level of Disinfection	When to Use	Disinfectant Active Ingredient(s)	Immersion Contact Times (Approximate)	Advantages	Disadvantages
<b>High Level</b>	Use on semi-critical items. Items that come in contact with nonintact skin or mucous membranes but do not penetrate them.	1:10 bleach solution (1 part bleach 9 parts water)	10 minutes	Fast acting	Corrosive to metals
		2% gluteraldehyde (not recommended)	45 minutes	Not corrosive	Toxic fumes
		6% hydrogen peroxide	45 minutes	Environmentally friendly	Corrosive to metals
		7% stabilized hydrogen peroxide	30 minutes	Environmentally friendly	Corrosive to metals
		0.55% orthophthalaldehyde (OPA)	10 minutes	Fast acting, no mixing needed	Stains proteins
<b>Intermediate Level</b>	Use on semi-critical items. Items that come in contact with nonintact skin or mucous membranes but do not penetrate them.	70-90% isopropyl alcohol	10 minutes	Fast acting	Can damage rubber and plastics
		70-90% ethyl alcohol	10 minutes	Fast acting	Can damage rubber and plastics. Flammable
		1:50 chlorine bleach (1 part bleach and 49 parts water)	10 minutes	Fast acting	Corrosive to metals
<b>Low Level</b>	Use on non-critical items. Items that contact intact skin and not mucous membranes, or items that do not ordinarily touch the client. Used for routine housekeeping	3% hydrogen peroxide	10 minutes	Environmentally safe	Corrosive to metals
		Quaternary ammonium	Follow manufacturer's instructions	Good cleaning agent for surfaces	Not for instrument use
		1:500 chlorine bleach (1 part bleach and 499 parts water)	10 minutes	Fast acting	Corrosive to metals
		Phenols	Follow manufacturer's instructions	Easy to obtain, cleans and disinfects	Can cause tissue irritation

Critical items are items that are intended to penetrate the skin and must be sterilized. Follow manufacturer's safety instructions and use directions.

This chart is not intended to be inclusive of all approved disinfectants.

Adopted from the *Infection Prevention and Control Best Practices for Personal Services Settings* produced by the Ministry of Health and Long Term Care, 2008.