

# Reprocessing Decision Chart

This chart is an excerpt from [Best Practices for Cleaning, Disinfection and Sterilization of Medical Equipment/Devices](#). It provides information about instrument classification, level of reprocessing and examples of products to help with decisions related to reprocessing. For more information, please visit [www.publichealthontario.ca](http://www.publichealthontario.ca).

**Manufacturers’ recommendations for product, concentration and exposure time must be followed.**

Level of Processing and Reprocessing	Classification of Equipment/ Device	Examples of Equipment/Devices	Effective Products**
<p><b>Cleaning</b> Physical removal of soil, dust or foreign material. Chemical, thermal or mechanical aids may be used. Cleaning usually involves soap and water, detergents or enzymatic cleaners. Thorough cleaning is required before disinfection or sterilization may take place.</p>	All reusable equipment/ devices	<ul style="list-style-type: none"> <li>All reusable equipment/devices</li> <li>Oxygen tanks and cylinders</li> </ul>	<p>**concentration and contact time are dependent on manufacturer’s instructions</p> <ul style="list-style-type: none"> <li>Quaternary ammonium compounds (QUATs)</li> <li>Enzymatic cleaners</li> <li>Soap and water</li> <li>Detergents</li> <li>0.5% Enhanced action formulation hydrogen peroxide</li> </ul>
<p><b>Low-Level Disinfection</b> Level of disinfection required when processing noncritical equipment/ devices or some environmental surfaces. Low-level disinfectants kill most vegetative bacteria and some fungi as well as enveloped (lipid) viruses. Low-level disinfectants do not kill mycobacteria or bacterial spores.</p>	Noncritical equipment/ devices	<ul style="list-style-type: none"> <li>Environmental surfaces touched by staff during procedures involving parenteral or mucous membrane contact (e.g. dental lamps, dialysis machines)</li> <li>Bedpans, urinals, commodes</li> <li>Stethoscopes</li> <li>Blood pressure cuffs</li> <li>Oximeters</li> <li>Glucose meters</li> <li>Electronic thermometers</li> <li>Hydrotherapy tanks</li> <li>Client/patient/resident lift slings</li> <li>ECG machines/leads/cups etc.</li> </ul>	<p>** concentration and contact time are dependant on manufacturer’s instructions</p> <ul style="list-style-type: none"> <li>3% Hydrogen peroxide (30 minutes)</li> <li>60-95% Alcohol (10 minutes)</li> <li>Sodium hypochlorite (bleach) (1000 ppm)</li> <li>0.5% Enhanced action formulation hydrogen peroxide (5 minutes)</li> <li>Quaternary ammonium compounds (QUATs) (10 minutes)</li> <li>Iodophors</li> <li>Phenolics ** (should not be used in nurseries)</li> </ul>

Level of Processing and Reprocessing	Classification of Equipment/ Device	Examples of Equipment/Devices	Effective Products**
		<ul style="list-style-type: none"> <li>• Sonography (ultrasound) equipment/probes that only contact intact skin</li> <li>• Bladder scanners</li> <li>• Baby scales</li> <li>• Cardiopulmonary training mannequins</li> <li>• Environmental surfaces (e.g. IV poles, wheelchairs, beds, call bells)</li> <li>• Fingernail care equipment that is single-client/patient/resident use</li> </ul>	
<p><b>High-Level Disinfection</b></p> <p>The level of disinfection required when processing semicritical equipment/devices. High-level disinfection processes destroy vegetative bacteria, mycobacteria, fungi and enveloped (lipid) and non-enveloped (non-lipid) viruses, but not necessarily bacterial spores.</p>	<p>Semicritical equipment/ devices</p>	<ul style="list-style-type: none"> <li>• Flexible endoscopes that do not enter sterile cavities or tissues</li> <li>• Laryngoscopes</li> <li>• Bronchosopes, cystoscopes (sterilization is preferred)</li> <li>• Respiratory therapy equipment</li> <li>• Nebulizer cups</li> <li>• Anaesthesia equipment</li> <li>• Endotrachial tubes</li> <li>• Specula (nasal, anal, vaginal – disposable equipment is strongly recommended)</li> <li>• Tonometer foot plate</li> <li>• Ear syringe nozzles</li> <li>• Sonography (ultrasound) equipment/probes that come into contact with mucous membranes or non-intact skin (e.g. transrectal probes)</li> <li>• Pessary and diaphragm fitting rings</li> <li>• Cervical caps</li> <li>• Breast pump accessories</li> <li>• Glass thermometers</li> <li>• CPR face masks</li> <li>• Alligator forceps</li> </ul>	<p>** concentration and contact time are dependant on manufacturer’s instructions</p> <ul style="list-style-type: none"> <li>• ≥ 2% Glutaraldehyde (20 minutes at 20°C)</li> <li>• ≥ 6% Hydrogen peroxide (30 minutes)</li> <li>• 0.55% Ortho-phthalaldehyde (OPA) (10 minutes at 20°C)</li> <li>• Pasteurization (30 minutes at 71°C)</li> <li>• 2% Enhanced action formulation hydrogen peroxide (8 minutes at 20°C)</li> </ul>

Level of Processing and Reprocessing	Classification of Equipment/ Device	Examples of Equipment/Devices	Effective Products**
		<ul style="list-style-type: none"> <li>• Cryosurgery tips</li> <li>• Ear cleaning equipment, ear cures, otoscope tips</li> <li>• Fingernail care equipment used on multiple clients/patients/residents</li> </ul>	
<p><b>Sterilization</b> The level of reprocessing required when processing critical equipment/devices. Sterilization results in the destruction of all forms of microbial life including bacteria, viruses, spores and fungi.</p>	Critical equipment/ devices	<ul style="list-style-type: none"> <li>• Surgical instruments</li> <li>• Foot care equipment</li> <li>• Implantable equipment/devices</li> <li>• Endoscopes that enter sterile cavities and spaces (e.g., arthroscopes, laparoscopes)</li> <li>• Bronchosopes , cystoscopes (sterilization preferred)</li> <li>• Biopsy forceps, brushes and biopsy equipment associated with endoscopy (disposable equipment is strongly recommended)</li> <li>• Colposcopy equipment</li> <li>• Electrocautery tips</li> <li>• Endocervical cures</li> <li>• Fish hook cutters</li> <li>• Transfer forceps</li> <li>• Eye equipment, including soft contact lenses</li> <li>• Dental equipment including high speed dental hand pieces</li> </ul>	<p>** concentration and contact time are dependant on manufacturer’s instructions:</p> <ul style="list-style-type: none"> <li>• Steam autoclave</li> <li>• 100% Ethylene oxide</li> <li>• Dry heat</li> <li>• Hydrogen peroxide gas plasma (75 minutes at 50°C)</li> <li>• Vapourized hydrogen peroxide (55 minutes)</li> <li>• Ozone (4 hours)</li> <li>• Hydrogen peroxide/ ozone combination</li> <li>• ≥2% Glutaraldehyde (10 hours at 20°C)</li> <li>• 0.2% Peracetic acid (12 minutes at 50-56°C)</li> <li>• 6-25% hydrogen peroxide liquid (6 hours)</li> <li>• 2% Enhanced action formulation hydrogen peroxide (6 hours at 20°C)</li> <li>• 7% Enhanced action formulation hydrogen peroxide (20 minutes at 20°C)</li> </ul>

**Adapted from:**

- Rutala WA, Weber DJ, Healthcare Infection Control Practices Advisory Committee (HICPAC). Guideline for disinfection and sterilization in healthcare facilities [Internet]. Chapel Hill, NC: Centers for Disease Control and Prevention; 2008 [cited 2017 Oct 24]. Available from: <https://www.cdc.gov/infectioncontrol/pdf/guidelines/disinfection-guidelines.pdf>
- Rutala WA, Weber DJ. Disinfection and sterilization: an overview. Am J Infect Control. 2013;41(5):S2-S5.