Cleaning and Disinfection of Reusable Instruments that Contact the Surface of the Eye

Note: If you have any questions or comments contact IPC at ipcsurvstdadmin@ahs.ca.

Best practice recommendations

Objectives

To provide consistent, evidence-based provincial infection prevention and control (IPC) recommendations for cleaning and high-level disinfection of optometric/ophthalmologic instruments and devices that contact the surface of the eye, but do not enter the sterile tissues of the eye. These measures are intended to prevent patient-to-patient transmission of infection from the use of these instruments and devices.

Applicability

This recommendation applies to all AHS staff, medical staff, and other persons acting on behalf of AHS.

Recommendation

This recommendation addresses instruments and devices that contact the surface of the eye, but do not enter sterile tissue. Tonometers are the most common of these instruments; other devices include, but are not limited to: intra-ocular ultrasound probes, fundus contact lenses, gonioscopy lenses, and rigid contact lenses.

1. All medical devices must have written, validated, device-specific manufacturer's instructions that include recommendations for cleaning and disinfection that are easy to understand and achievable using products available in Alberta Health Services.
2. For tonometry, where possible, use disposable/single-patient use devices (e.g., tonometer tips, tip covers). There is evidence that these devices offer a reliable alternative to reusable Goldman applanation tonometers. When using disposable tonometer tips or covers:
   - 2.1 Clean reusable components of the tonometer according to manufacturer's instructions following each use.
   - 2.2. If the tip is disposable, discard the tip after use on a patient. A new tip must be used for each patient.
   - 2.3 Use only tips and covers that are approved for use by the tonometer manufacturer.
   - 2.4 If tip covers are used, remove and discard tip covers after use on a patient. A new tip cover must be used for each patient*.

   *When hand-held tonometers are used with tip covers, the tip does not require high level disinfection between uses. Follow manufacturer's instructions for cleaning the tip. This is an exception to the usual practice of high-level disinfecting semi-critical devices following use of a sheath or cover.
3. Reusable instruments and devices require cleaning and disinfection before they are initially used and after use on a patient.
4. Instruments shall be cleaned and disinfected according to *CSA Standard* Z314-18 Canadian

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medical device reprocessing, section 11, decontamination of reusable medical devices; and manufacturer's instructions following these steps:

4.1 Disassemble, if required.

4.2 Clean according to the manufacturer's instructions (immerse in cleaning solution if indicated).

4.3 Following cleaning, rinse residual cleaning solution and soil from the device using clean tap water before disinfection.

4.4 Disinfect following manufacturer's instructions with a recommended disinfectant product. The disinfectant product must be approved by Health Canada and have a drug identification number (DIN) or natural product (NPN) number. Follow exposure times and instructions for use. High-level disinfection is required and may include: 0.55% ortho-phthalaldehyde (OPA); ≥2.4% glutaraldehyde; 0.2% peracetic acid; 2% accelerated hydrogen peroxide; 7.5% hydrogen peroxide.

- Reusable high level disinfectant products require monitoring of minimum effective concentration (MEC) according to manufacturer's instructions at least daily when the disinfectant is in use.
- Workplace Health and Safety requirements for use and handling of all disinfectants must be followed.

Note: If device manufacturer's instructions indicate that sodium hypochlorite is the disinfectant to be used, it must be a minimum concentration of 5000 PPM [If using 5.25% household bleach, mix 62 ml (¼ cup) bleach with 562ml (2 ¼ cups water)]. A fresh batch must be constituted daily and the device must be subjected to a minimum contact time of 10 minutes (ensure device is immersed in the bleach solution for the entire contact time), followed by thorough rinsing to ensure removal of all traces of disinfectant.

4.5 Ensure device is immersed in the disinfectant product for the entire contact time.

4.6 Rinse thoroughly with fresh sterile, submicron filtered, or tap water to ensure all disinfectant residue is removed. Follow disinfectant manufacturer's instructions for rinse volume and method.

4.7 Before storage, ensure the device is completely dry by following manufacturer's drying instructions (e.g., using a clean lint-free cloth or air dry).

4.8 Inspect instrument for cleanliness and integrity.

4.9 When not in use, store in a closed, clean, dry container, labelled as reprocessed.

4.10 Containers or devices used for reprocessing must be emptied, cleaned, and dried at the end of each day they are used.

5. Any instrument or device covered by this recommendation that has no manufacturer's validated and written reprocessing instructions shall be considered single-use, as stated in the AHS Policy for Critical and Semi-Critical Single-use Medical Devices and the Reusable & single-use medical devices standards : Standards for the reprocessing of reusable medical devices and for the use of single-use medical devices in all health care facilities and settings.

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6. Facilities must have a dedicated area for reprocessing these devices, trained staff, and sufficient supply of reusable and single-use instruments and devices to support recommendations listed in these recommendations.

7. Instruments must be inspected for damage and visible soil before every use. Follow manufacturer's recommendations to determine functional life of the device.

8. If the instrument or device has been used on a patient with known or suspected Creutzfeldt-Jakob Disease (CJD), refer to Public Health Agency of Canada (2007) *Infection Control Guidelines: Classic Creutzfeldt-Jakob Disease in Canada Quick Reference Guide* and notify Infection Prevention and Control personnel responsible for your facility.

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