1.0 PURPOSE

1.1 To reduce the transmission of microorganisms due to contaminated reusable semi-critical devices/equipment that come in contact with the surface of the eye.

1.2 To provide evidence-based infection prevention & control (IPC) recommendations for cleaning and high-level disinfection of semi-critical medical devices/equipment that come in contact with the surface of the eye, but do not penetrate the sterile tissue of the eye.

1.2.1 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.

2.0 PREAMBLE

2.1 This document is meant for the use of health care providers to ensure important elements of cleaning and disinfection are incorporated into the health care facilities procedures when using devices/equipment that contact the surface of the eye. [5.4]

3.0 DEFINITIONS

3.1 Cleaning: The physical removal of foreign material, e.g., dust, soil, and organic material such as: blood, secretions, excretions and microorganisms. Cleaning physically removes rather than kills microorganisms. It is accomplished with water, detergents and mechanical action.

3.2 High level disinfection: The level of disinfection required when reprocessing semi-critical medical 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. Medical equipment/devices must be thoroughly cleaned prior to high-level disinfection. [5.4]

3.3 Semi-critical medical equipment/device: Medical equipment/devices that comes into contact with non-intact skin or mucous membranes but ordinarily does not penetrate them (i.e. respiratory therapy equipment, transrectal probes, specula). Reprocessing semi-critical equipment/devices involves meticulous cleaning followed by, at minimum, high- level disinfection. [5.4]

4.0 DIRECTIVES

4.1 All reusable semi-critical medical devices/equipment must be reprocessed using procedures that are consistent with Routine Practices and Hand Hygiene. [5.4]

4.2 All medical equipment/devices must have written, validated, device-specific manufacturer's instructions that include cleaning and disinfection recommendations that are easy to understand and are achievable using products available in Winnipeg Regional Health Authority.

4.3 Reusable instruments and devices require cleaning and disinfection before they are initially used and after use on a patient. [5.3]

4.4 For tonometry, when using disposable tonometer tips or covers:

4.4.1 Clean the tonometer according to the manufacturer's instructions following each use.

4.4.2 Use only tips and covers for the tonometer that are approved for use by the manufacturer.

4.4.3 If a disposable tip or tip cover is used for the tonometer, discard the disposable tip or tip cover after use. A new tip or tip cover must be used for each patient.

4.5 Semi-critical medical devices/equipment shall be cleaned and disinfected according to CSA Standard Z314.23, Decontamination of Reusable Medical Devices and manufacturers instructions following the steps within the procedure section of this policy. [5.2]

4.6 Semi-critical medical devices/equipment that do not have validated written manufacturers reprocessing instructions shall be considered single-use, as stated in WRHA Policy for Single Use Medical Devices. Semi-Critical Single-use Medical Devices and the Reusable and single-use medical devices standards in all health care facilities and settings [5.7].

4.7 Facilities must have a dedicated area for reprocessing these devices, separate from the patient care area or procedure room, trained staff, and sufficient supply of reusable and single-use instruments and devices to support recommendations listed in this policy. [5.4]

4.8 Medical devices/equipment must be inspected for damage and visible soil before every use. Follow manufacturer's recommendation to determine functional life of the device. [5.4}

4.9 Medical devices/equipment used on high risk neurological and eye tissue from patients with known or suspected Creutzfeldt-Jakob Disease (CJD) must be quarantined after use and if diagnosis is confirmed, be disposed of by incineration. Refer to the CJD Specific Disease Protocol for additional details and notify site Infection Prevention & Control of medical devices/equipment with suspected exposure. [5.5]

5.0 PROCEDURE

5.1 Personal Protective Equipment (PPE):

5.1.1 Appropriate PPE shall be worn when cleaning and disinfecting medical devices/equipment that come in contact with the eye. [5.7]

5.2 Rinse:

5.2.1 Used medical devices/equipment must be rinsed with potable tap water after use before any residue dries on the device/equipment. [5.10]

5.3 Disassemble:

5.3.1 Disassemble, if required. [5.4]

5.4 Clean instrument:

5.4.1 Clean according to the manufacturer's instructions (immerse in cleaning solution if indicated). [5.4]

5.4.2 Following cleaning, rinse residual cleaning solution and soil from the device/equipment using potable tap water before disinfection. Follow manufacturer's instructions for rinsing time.

5.4.3 Dry device/equipment after cleaning with a clean lint-free cloth, before immersing in disinfectant, to prevent dilution of the disinfectant. [5.10]

5.5 Disinfect:

5.5.1 Disinfect following manufacturer's instructions with a recommended disinfectant product. The disinfectant product must by approved by Health Canada and have a drug identification number (DIN) or natural product (NPN) number. Follow concentration and contact time (use timer) and instructions for use.

5.5.2 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 [5.4}.

5.5.3 The disinfectant must be replaced when visibly soiled. [5.10]

5.5.4 Workplace Health and Safety requirements for use and handling of all disinfectants must be followed.

5.5.5 Ensure device is immersed in the disinfectant product for the entire contact time [5.4]. Ensure that no bubbles or air pockets are present around the device as this interferes with disinfectant contact.

5.6 Rinse:

5.6.1 Residue from cleaning agent and disinfectants can irritate and burn the patient's eye. [5.10]

5.6.2 Rinse thoroughly with sterile water to ensure all disinfectant residue is removed. Follow disinfectant manufacturer's instructions for rinse volume and method. [5.4]

5.7 Inspect:

5.7.1 Inspect instrument for cleanliness and integrity.

5.8 Storage:

5.8.1 Before storage, ensure the device is completely dry by following manufacturer's drying instructions (i.e. using a sterile lint-free cloth). [5.10]

5.8.2 Storage must be dedicated to clean and sterile supplies, located in a separate, limited access area. [5.3]

5.8.3 When not in use, store in a closed, dry container, labelled as reprocessed ensuring the container is high-level disinfected between use.

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

5.9 Documentation:

5.9.1 A permanent record of processing shall be completed and retained according to the policy of the facility including: [5.4]

5.9.2 The identification of the equipment/device to be disinfected

5.9.3 Date and time of the clinical procedure

5.9.4 Concentration and contact time of the disinfectant used in each process

5.9.5 Results of each inspection

5.9.6 Result of each testing of the disinfectant

5.9.7 The name of the person completing the reprocessing.

5.10 Cleaning Brushes:

5.10.1 If brushes are used to clean instruments, they should be cleaned and disinfected or sterilized at least once daily. [5.11]

6.0 REFERENCES:

6.1 Alberta Health Services; Cleaning and Disinfection of Reusable Instruments that Contact the Surface of the Eye. (2023). Available at https://www.albertahealthservices.ca/assets/healthinfo/ipc/hi-ipc-bpg-reusable-eye.pdf

6.2 CSA Z314.23. Canadian Medical Device Reprocessing. (2023) Available at: https://www.csagroup.org/store/product/2704392

6.3 PIDAC Best Practices for Cleaning, Disinfection and Sterilization of Medical Equipment/Devices in All Health Care Settings. (2013). Available at: https://www.publichealthontario.ca/-/media/documents/B/2013/bp-cleaning-disinfection-sterilization-hcs.pdf

6.4 WRHA CJD Specific Disease Protocol. (2019). Available at: https://professionals.wrha.mb.ca/old/extranet/ipc/files/manuals/acutecare/CJD_SDP.pdf

6.5 WRHA Definitions (2020). Available at https://professionals.wrha.mb.ca/old/extranet/ipc/files/manuals/acutecare/Definitions.pdf

6.6 WRHA Single Use Medical Devices Operational Directive. (2023). Available at: https://professionals.wrha.mb.ca/old/extranet/ipc/files/manuals/acutecare/operational-directive-90-00-010.pdf

6.7 WRHA Sterile Storage; Transportation and Distribution of Contaminated, Clean and Sterile Medical Devices (on and off-site) Operational Directive. (2023). Available at: https://professionals.wrha.mb.ca/old/extranet/ipc/files/manuals/acutecare/operational-directive-90-00-010.pdf

6.8 Whyman CA, McDonald SA, Zoutman D. Unsuspected dilution of glutaraldehyde in automatic washer for flexible fiberoptic endoscopes. Can J Infection Control. 1991 Winter; 6(4):91-3.

6.9 Instructions for Use. Cleaning and Disinfection. Tonometer Measuring Prism and Contact Lens. Haag-Streit Diagnostics 7th Edition. 2021-04.

6.10 Guidelines for the Cleaning and Sterilization on Intraocular Surgical Instruments. 2018. Available at: https://www.aao.org/education/clinical-statement/guidelines-cleaning-sterilization-intraocular

7.0 PRIMARY AUTHOR (S)

Natalie Gibson, RN BN ICP