

SESLHD PROCEDURE COVER SHEET



Health
South Eastern Sydney
Local Health District

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AUTHOR	SESLHD Infection Prevention and Control Committee: Infection Control Policy Working Party
POSITION RESPONSIBLE FOR THE DOCUMENT	Infection Control Manual Policy Party SESLHD Infection ControlDL@sesiahs.health.nsw.gov.au
KEY TERMS	Tonometer, Disinfection, Prism
SUMMARY	<p>Tonometers are semi-critical items that require cleaning and disinfection to ensure their safety for ophthalmic diagnostic procedures.</p> <p>The manufacturer's Instructions for Use on cleaning, disinfection and quality assurance checking are validated and must be followed.</p>

COMPLIANCE WITH THIS DOCUMENT IS MANDATORY

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Tonometer Disinfection and Prism Field Check

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1. POLICY STATEMENT

Reusable tonometers are used to perform applanation tonometry on different groups of patients. In view of the potential for transmission of viruses (eg, herpes simplex virus, adenovirus) by tonometer tips, it is essential that the tonometer tips be cleaned and disinfected between each patient.

It is also important that a regular monthly quality assurance program to check the tonometer prism fields is planned, assigned responsibility and documented.

2. BACKGROUND


3% hydrogen peroxide and 70% isopropyl alcohol are not effective against adenovirus capable of causing epidemic keratoconjunctivitis and similar viruses and should not be used for disinfecting reusable tonometers.

The use of alcohol wipes alone is insufficient for safe decontamination, and if used before the cleaning stage there is a theoretical risk of binding any organic matter to the instrument surface.

It is important that manufactures instructions for use (IFU) are followed for cleaning and the recommended disinfection agent is used as the tonometer prisms can become scratched, damage the glued components and cause cracking if the incorrect disinfection agent is used.

The option of using disposable (single use) tonometry is available if a viral eye infection is suspected.

3. GLOSSARY

Applanation tonometry	Measuring intraocular pressure This test measures the amount of force needed to temporarily flatten part of your cornea. The test involves using a slit lamp equipped with forehead and chin supports and a tiny, flat-tipped tonometer prism that gently comes into contact with the cornea.
Disinfection	Destruction of pathogenic and other kinds of micro-organisms by thermal or chemical means. Disinfection is less lethal than sterilization, because it destroys the majority of recognised pathogenic micro-organisms, but not necessarily all microbial forms (eg bacterial spores). Disinfection does not ensure the degree of safety associated with sterilisation processes.
Keratoconjunctivitis	Inflammation of the cornea and conjunctiva.
Manufacturer's Instructions for Use (IFU)	Information provided by the manufacturer to inform the device user of the medical device's intended purpose and proper use and of any precautions to be taken, including cleaning, disinfection and/or sterilisation.
Tonometer prism	

4. RESPONSIBILITIES

4.1. Employees will:

- Comply with Infection Prevention and Control policies in relation to cleaning and disinfection practices
- Report any risks and incidents related to cleaning, disinfection and storage of reusable tonometers
- Not use cleaning and disinfection methods or disinfection agents not subscribed by manufactures

4.2. Line Managers will:

- Manage and escalate risks
- Ensure staff are provided education on the correct cleaning and disinfection procedures for tonometers
- Ensure staff are provided education on identifying potential risks to patients.

4.3. General Managers/Service Managers will:

- Ensure that the procedure for tonometer cleaning and disinfection is audited and reported to local Infection Prevention and Control Committees

4.4. Medical staff will:

- Not use cleaning and disinfection methods or disinfection agents not subscribed by manufactures IFU

5. PROCEDURE FOR EACH TONOMETER PRISM

5.1. Cleaning principles

- Remove the prism from the holder
- Clean with a pH neutral detergent and water
- Rinse for 30 – 60 seconds under running water
- Dry with a lint-free disposable cloth/gauze

5.2. Disinfection principles

- The disinfectant used must be compliant with manufactures IFU
- Prisms must be completely immersed in the disinfectant solution
- Ensure maximum exposure time for disinfection
- Rinse the prisms under running water for a minimum of 10 minutes and a maximum of 15 minutes (to ensure that all traces of the disinfectant agent is removed and to prevent corneal damage when the tonometer prism is used on the patient)
- Dry each prisms individually using a lint-free disposable cloth/gauze
- Store the dry prisms in a closed container

5.3. Prism Field Check principles

- Fill a clean container with 1 litre of cold tap water
- Either immerse six (6) fluorescein strips for 10 seconds in the cold water, shake the strips gently while immersed or add one (1) drop of fluorescein concentrate
- Place the prisms to be tested in between two sieves to immerse them into the fluorescein solution

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- Move the sieve combination 3× up and down while immersing the prisms to ensure even dissolving of the fluorescein
- Keep the prisms immersed in the fluorescein solution for 10 minutes
- After 10 minutes, remove the prisms from the solution and rinse them for 1 minute using tap water.
- Dry the prisms using a lint free disposable cloth/gauze
- Use the slit lamp to check for cracks in the prisms. Check for cracks as fluorescein is accumulated inside the cracks and therefore they show up as fluorescent lines in the microscope view of the prism

6. DOCUMENTATION

- The prism field check is a quality assurance program to determine if there is damage or cracks within the prism. The fluorescein accumulates in the crack and show up as fluorescent lines in the microscope view of the tonometer prism. The prism field check should be documented each month indicating LOT numbers of tonometer prisms checked, LOT numbers of those discarded due to damage.

7. AUDIT

- Audit of cleaning, disinfection and storage

8. REFERENCES

- 8.1. [CDC Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008](#)
- 8.2. [The UK Royal College of Ophthalmologists Ophthalmic Services Guidance: Ophthalmic Instrument Decontamination 2012](#)
- 8.3. [NSW Ministry of Health Policy Directive 'Hand Hygiene Policy' PD2010_058](#)
- 8.4. [SESLHDPR354 Antiseptics & Disinfectants](#)
- 8.5. [NSW Health Infection Control Policy 2007_036 2007](#)
- 8.6. [Goldman Tonometer Prisms Cleaning and Disinfection Instructions For Use \(IFU\)](#)
- 8.7. Adenovirus-Associated Epidemic Keratoconjunctivitis Outbreaks - Four States, 2008-2010. King, Diane; Johnson, Barbara; Miller, Darlene, DHSc; Landon, Emily M, MD; DeVries, Aaron, MD. MMWR. Morbidity and Mortality Weekly Report, 62. 32. (Aug 16, 2013).

9. REVISION AND APPROVAL HISTORY

Date	Revision No.	Author and Approval
September 2015	1	Procedure drafted by SESLHD Infection Prevention and Control Committee: Infection Control Policy Working Party Endorsed by Executive Sponsor to proceed to Draft for Comment.
November 2015	1	Approved by C&QC on 11 November 2015 for publishing