



VISION 2020 e-resource
-for eyecare management worldwide

Sterilization Protocol



Standardized Sterilization Protocol

The following were standardised by the participating hospitals for sterilisation

I. Instruments:

Preparation of Instruments for Sterilization

- i) Separate the sharp instruments from the blunt instruments.
- ii) Instruments should be cleaned as soon as possible after their use, especially simcoe cannula.
- iii) Instruments should be thoroughly cleaned by washing in sterile distilled water. A clean toothbrush should be used to clean instruments.
- iv) Instruments should be placed in a tray with perforated bottom to allow steam penetration around the instruments during autoclaving.
- v) The size of instruments pack should allow space for steam penetration in the drum
- vi) Place the tray inside a bin after spreading the towel inside.
- vii) Gloves must be worn while handling the instruments to avoid infective material & cuts.
- viii) All the instruments should be cleaned with ultrasound cleaner once a week and the Simcoe cannulas preferably everyday (optional).

A) Blunt Instruments

Method of Choice:

General Autoclave:

Safe method of sterilization it kills bacteria, spores, viruses, fungus. Indicator tape should be used in every cycle.

Items	Pressure	Temperature	Time
a) Blunt Instruments dressing, glass, silicon materials, Linen vessels.	20 pound	121°C	30 Min
b) Rubber items	20 pound	121°C	20 Min
c) Liquids	20 pound	110°C	30 Min

Note: Autoclaved instruments to be used within 48 hours

Between Cases:

i) Boiled in sterile water for 20 Min.

(OR)

ii) Autoclaved for 10 minutes – Flash or high speed autoclave

B) Sharp Instruments

i) Prior to surgery:

1) All the four trays should be autoclaved before using.

2) To be kept in activated solution of Cidex (**2% Glutaraldehyde**) for 8 hours and then washed 3 times with sterile water.

ii) Between Cases

Keep in Cidex for 15 minutes. Again wash for 3 times with sterile water.

The same solution can be used for 2 weeks depending upon the amount of usage. Preferably should be changed weekly.

The sterile water should be changed everyday.

Preparation of Instruments (Cidex)

- 1) Wash and **dry** the instruments carefully.
- 2) Place the instruments in a tray.
- 3) Add Cidex to the instruments tray.
- 4) Make sure all the Instruments are completely immersed in the Cidex.
- 5) Cover the tray and let the instruments soak for 8 to 10 hours.
- 6) Before use the instruments **should be rinsed** thoroughly with sterile water
- 7) The solution may be used up to 14 days after activation.
- 8) Record the date of mixing on the side of tray.
- 9) Sterile water tray should be prepared daily.

Alternative Methods for sterilization of sharp instruments

- 1) Acetone – kept in a covered steel tray for 5 minutes; No need to clean in sterile water
- 2) Bacillol spray

(c) Cryoprobe, Vitrectomy Cutter, Cautery

- To be kept in Formalin chamber for 24 hours.
- An eye pad soaked with liquid formalin is used and changed the next day.
- Clean the tip of the cautery probe with razor blade

d) Ethylene oxide (Gas Sterilization)

For Vitreophage, Cryoprobes, IOL, sutures, Eye shields

Remove all lubricants from instruments. They should be absolutely dry.

Pack them in polythene bag with indicator tape inside the bag.

e) Sutures:

a) Prior to surgery: Used bits can be autoclaved

b) Between cases: Silk & Nylon can be kept in Cidex

c) Vicryl, Prolene should be kept in formalin chamber.

f) Linen:

1. Surgeon's dresses to be washed with detergents; caps and masks may be autoclaved.

2. Aprons and drape sheets to be washed with detergent, dried in covered area and autoclaved in a loosely packed, separate drum pasted with an indicator strip.

Note: No one should be allowed to enter the theatre with street clothes.

Hand Washing:

Principle: To wash from a clean area (hand) to less clean area (arm).

Methods:

- Hand to be first washed with ordinary tap water + medicated soap, then twice with sterile water (boiled for 30min and cooled)
- Chemical disinfectants (Povidone iodine liquid scrub or 20% Chlorhexidine) to be used
- twice on each occasion for 3 min. **or**
- To use steryllium twice for 30 sec. each time

- The staff & surgeons are all required to use surgical gloves, which after being worn are
- cleaned, by using sterile pads soaked in sterile water prior to the procedure to remove
- glove powder.

During Surgery

- Should see that observers keep a distance; do not allow them to stand behind you.
- Should keep sharp instrument on towel such that tip is facing up.
- Do not poke the instruments on to the towel.
- Plastic disposable drapes be used preferably
- Do not touch sutures/IOL, any instruments to lid margins.

Between Cases:

- Change the gloves after every case or apply 70% Alcohol/2.5% Chlorhexidine or steryllium

Irrigation Solutions: Check clarity of solution before autoclaving. BSS/Ringer lactate in glass bottles is recommended; the **aluminium cap is to be removed** before autoclaving separately from linen or the bottles may burst and soak the linen.

Viscoelastic:

The left over is neither re-autoclaved nor reused in the operating rooms.

Theatre Sterilization:

1. Daily OT floor is swept thoroughly then mopped with plain water and finally mopped with Dettol 10ml in 4 liters of water.
2. After washing, formalin fumigation should be done at least once a week; theatre should be closed for 24 hours.
3. Corridors should be fumigated with Automist.
4. Complete washing of the theatre including walls, door, floors and equipment is done once a week with detergents & dettol.
5. Fans, light, watches, A/C vents inside the theatre are wiped once a week.
6. Equipment like microscopes should be cleaned separately with Isopropyl alcohol except lens. Lenses should be cleaned once a week with lens cleaning solutions.
7. Tables, saline stands, revolving stools should be cleaned daily with antiseptic liquid concentrate (Chlorhexidine, Gluconate 75%) 10 ml should be diluted to 500ml of water or Benzalkonium chloride (10%).
8. Air conditioner filter must be cleaned once in a week.
9. Air conditioner should be sent for servicing & cleaning once in 3 months.
10. Block room, changing room, doctor's room must be cleaned daily three times with dettol.
11. Periodic culture is done once in a month from areas such as hand wash, autoclave, needles, knives and gas sterilized items.

12. Swabs are taken from operating tables, surgeon's hands, and sister's hands; nail clippings for culture once in a month.
13. Slippers for toilet use and theatre are kept strictly separated.
14. Slippers are daily washed with detergent and dried.
15. Theatre boys to be instructed to change the dress before leaving the theatre as well as Slipper.
16. Stretchers used in & out of theatre must be separated.
17. Keep the doors of theatre always closed.
18. Garbage should be disposed after each OT session.

Patients:

- In morning, have a bath.
- Shave thoroughly,
- Wear dress provided by hospital.
- Use cap (shower cap may be used for this purpose).
- Diluted povidone iodine (5%) to be applied in the eye
- 10% povidone Iodine to be applied around the eye for 2 mint, before surgery.

OPD:

- Instruments tray should be autoclaved daily.
- Instruments once used in OPD must be autoclaved.
- Instruments used on infective cases are kept in Cidex for 10 hours prior to being cleaned, and is autoclaved twice before use.
- Disposable products should be strictly disposed.

- Slit lamps should be cleaned once a week.
- Should be cleaned with spirit daily and at least after an infective case is seen.
- Floors should be swept thoroughly, and then mopped with dettol at least 3 times a day.
- Eye drops should not be kept uncapped.

Wards:

- Floor swabbing to be done daily with dettol and water
- Instrument trolley should be cleaned everyday. A separate trolley should be kept for infective cases
- The drops should be kept clean and the tip of the dropper should not be touched
- The hands should be washed before applying any medication
- The slit lamp should be cleaned everyday