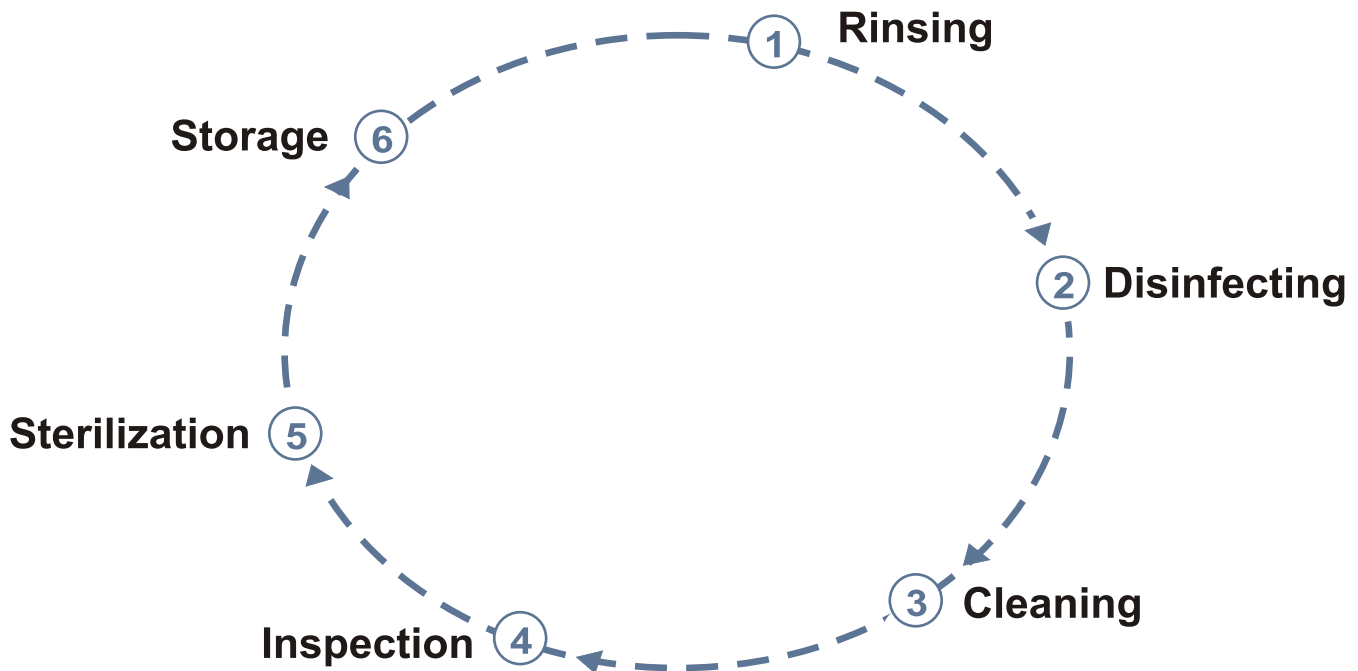


Recommended steps for cleaning, sterilization and maintenance of instruments



Safety First

There is a considerable risk for medical staff during reprocessing of instruments. Special care must be taken to ensure personal safety.

- ! Only fully trained personnel must perform these procedures.
- ! Protective clothing, gloves and eyewear must be worn at the time.
- ! Sharp instruments must be handled separately in baskets or cassettes.
- ! Manufacturers' user instructions and guidelines must be followed closely.
- ! If in doubt, please ask and Falcon will offer help as much as possible.

NB: This 'Instrument Care Guide' has been designed to offer general explanation of most situations. Local regulations or hospital protocols may differ from these suggestions, for which Falcon will not be held responsible.

1: Rinsing

Immediately after use, remove organic materials by rinsing instruments under warm (not hot) running water. Rinse should remove most body fluids and tissues.

Do not process dissimilar metals (Stainless, Copper, Chrome Plated etc.) Together.

2: Disinfecting

To protect medical staff from contamination, immerse instruments completely in an approved disinfectant before cleaning.

Use an approved disinfectant as per manufacturer's guidelines, then rinse again.

Caution:

Never expose Stainless Steel instruments to bleach or other corrosive chemicals i.e. Sodium Hypochlorite, Chlorine based disinfectants etc. Exposure to these chemical agents can cause discolouration and pitting.

Do not soak for extended periods i.e. overnight..

Never disinfect aluminum instruments in high alkaline solutions (PH>10).

3: Cleaning

All blood, dried body fluids and tissue should be completely removed from the instruments prior to sterilization. Several methods are available.

Regardless of cleaning methods used, soak instruments first in a solution of water and neutral pH (7) detergent. Soaking softens the organic matter stuck on the instruments and makes cleaning easy. Instruments should be fully submerged for at least 10 minutes. Rinse instruments under running tap water to remove solutions.

3.1: Ultrasonic Cleaning

Falcon recommends ultrasonic cleaning as the most effective way of cleaning instruments, particularly those with hinges, locks and other moving parts.

- ! Instruments must be fully submerged.
- ! Change solution as often as manufacturers' recommendation.
- ! Do not over-clean maximum time of 10 minutes is recommended.
- ! Avoid over-crowding of instruments.
- ! Handle 'sharps' (scissors, knives, chisels etc.) separately.
- ! Use a lid to avoid splashing.
- ! Keep joints open and ratchets unlocked.
- ! Place heavier instruments at the bottom of the basket.
- ! Cleaning of aluminum items by ultrasonic is not recommended.
- ! Rinse instruments with water to remove cleaning solution.

3.2: Automatic Washer / Disinfector

- ! Use only validated and CE marked equipment.
- ! Always follow manufacturer's instructions for use.
- ! Use only Distilled water.
- ! Use only low foaming and non-ionizing cleaning detergents.
- ! Keep joints open and ratchets unlocked.
- ! Place heavier instruments at the bottom of the basket.
- ! Items with concave surface must be placed face down to prevent pooling of water.
- ! If possible, flush clean all items with tubal structure.
- ! Ensure instruments are lubricated after last rinse and before sterilization.
- ! Electro-medical instruments must not be processed in washer/disinfectors.

3.3: Manual Cleaning

If ultrasonic or automatic washer/disinfectors are not available, manual cleaning is advised. This should be performed in a basin or sink dedicated for instruments cleaning only. Please observe the following steps:

- ! Scrub thoroughly until soil has been removed.
- ! Pay particular attention to serrations, knurling, hinges, ratchets and tubes.
- ! Clean delicate instruments separately to avoid damage.
- ! Always brush away from the body and avoid splashing.
- ! Use stiff nylon autoclavable cleaning brushes.
- ! Do not use steel wool or steel wire brushes except those made of stainless steel.
- ! Use only CE Marked detergents with neutral pH (7).
- ! Rinse thoroughly making sure surfaces are visibly free of stains or tissues.
- ! Repeat cleaning process if necessary.
- ! A good peracetic acid based instrument cleaner can help remove stains.
- ! After cleaning, sort and dry instruments using hand dryer or drying cabinet.

Caution:

- ! Low pH (acidic less than 6 pH) detergents break down stainless protective surface, resulting pitting and black staining.
- ! High pH (alkaline more than 8 pH) detergents can cause brown stains (phosphate deposits) that can interfere with the function of instruments. Most brown stains are not rust and are easily wiped with lightly oiled cloth. For further information on stain, please refer to our trouble-shooting guide.
- ! Electro-medical instruments must be cleaned very carefully to avoid damage to the coating.

Note: Manual cleaning is not a disinfection process.



4: Inspection and Repair

After cleaning/disinfecting, every instrument must be carefully inspected. Ideally, a magnifying glass or microscope should be used to help detect flaws not visible to the naked eyes. Check and make sure that:

- ! Scissors blades should glide smoothly all the way (they must not be loose when in closed position). Test by cutting thin gauze or surgical glove material three quarters of length of blade. Scissors should cut all the way to the tips, and not hang up.
- ! Forceps have properly aligned teeth and ratchets.
- ! Hemostats and Needle Holders must not allow light through the jaws when closed in first ratchet position (hemostats may show a small opening half way in from the closed tip) lock and unlock easily and joints should not be too loose. Check Needle Holders for wear on jaw surfaces.
- ! Suction tubes or instruments with tubal structure are clean inside.
- ! Biopsy Punches punch a clean hole into tissue paper.
- ! Retractors function properly.
- ! Cutting instruments and knives have the sharp undamaged edges.
- ! Joints are not loose or crack. Also they are not dry and stiff.
- ! There is no sign of breakage on any part of the instruments.

Note: Damaged instruments must be taken out of service immediately for repair or disposal. Faulty instruments may cause injuries to the staff and patient. If possible, return instruments to Falcon for repair and restoration like original. (Please see our repair service policy). Unauthorized or improper repair may void your right to claim free replacement. The most effective method of dealing with problems is to prevent them from occurring.

5: Sterilization

Preparation for Sterilization:

- ! Ensure instruments are fully clean, dried and lubricated.
- ! Use only a non-silicon water-soluble lubricant, not industrial type.
- ! Sterilize Instruments either individually or in sets.

Individual Instrument:

Disposable Paper or plastic pouches are ideal. Place instruments with ratchet locks in pouches in open (unlocked) position. Ratchets locked during autoclaving can experience cracked joints or other breakage because of heat expansion. If you wrap the instruments in towel make sure it does not contain detergent residue, which can stain your instrument.

Instrument Sets:

Place all instruments in unlocked position to avoid breakage. Place heavy instruments at bottom of set. Do not overload chamber, because air pockets can form that hinder steam penetration.

There are several methods of sterilization available. Falcon recommends steam sterilization

5.1: Steam Sterilization

- ! Follow instructions of the equipment manufacturer.
- ! Recommended temperature 134°C for minimum.
- ! Do not exceed manufacturers' stated load.
- ! Ensure instruments are dry before sterilization.
- ! Do not put rusted instruments in autoclave, it can transfer rust to other instruments.

Caution:

With most portable table top Autoclaves, at the end of the autoclave cycle before the drying cycle unlock the door and open it about 6-7mm. Then run the dry cycle for the period recommended by the autoclave manufacturer. If the autoclave door is fully opened before the drying cycle, cold room air will rush into the chamber causing condensation on the instruments that may result in water stains or cause wet packs. Make sure autoclave filters and chambers are cleaned afterwards as recommended by the manufacturer.

5.2: Dry Heat Sterilization

Falcon does not recommend this form of sterilization. However a few points may be noted.

- ! Follow instructions of equipment manufacturer.
- ! Recommended temperature is 160°C. Do not exceed 180°C.
- ! Do not process instruments with hollow handle.

5.3: Thermal Disinfection

- ! Follow instructions of equipment manufacturer.
- ! Do not use alkaline corrosive detergents.

5.4: Cold Sterilization

- ! Use only CE Marked products.
- ! Do not use bleach (sodium hypochlorite)
- ! Do not cold disinfect aluminum instruments, electro-medical instruments and instruments with tungsten carbide inserts.
- ! Use only cold sterilization of highest standard that take a short time. Most cold sterilizations take up to 10 hours which is detrimental to the instruments.
- ! Do not use a multi-day use disinfectant because organic residue collected in the solution after every immersion will not render instruments truly disinfected.
- ! Use of multi-day use disinfectant can also damage or stain instruments surface. Not only this, it can also cause corrosion to instruments that are processed in the same solution afterwards.

Finally, please remember what the following terms mean:

- ! **Sterile** an absolute term (no living organism survives).
- ! **Disinfected** basically clean. Some organisms may survive. Always choose a proper method of sterilization to get instruments in the required condition for use.

6: Storage

Instruments must be completely dry at the time of storage. Likewise, storage area must be absolutely dry. Wet climate and damp conditions can lead to corrosion. Even innocuous liquids like seawater have a devastating effect on stainless steel.

Falcon offers a high quality and affordable container system for sterilization and storage of instruments. All DIN sizes are included. Boxes are anodized aluminum and wire baskets are stainless steel. All necessary accessories are also available. (Please ask for catalogue and price list).