

1. RINSING

Immediately after surgery, rinse instruments under warm (not hot) running water. Rinse should remove all blood, body fluids and tissue.

2. CLEANING

(If not done immediately after rinsing, instruments should be submerged in a solution of water and neutral PH(7) detergent.)

A. Ultrasonic Cleaning

For micro and delicate instruments, use manual cleaning (step C).

Instruments should be processed in a cleaner for the full recommended cycle time – usually 5 to 10 minutes.

Place instruments in open position into the ultrasonic cleaner. Make sure that "Sharp" (scissors, knives osteotomes, etc.) blades do not touch other instruments.

All Instruments have to be fully submerged.

Do not place dissimilar metals (stainless, copper, chrome plated, etc.) in the same cleaning cycle.

Change solution frequently – at least as often as manufacturer recommends.

Rinse instruments after ultrasonic cleaning with water to remove ultrasonic cleaning solution.

B. Automatic Washer Sterilizers

Follow manufacturers recommendations but make sure instruments are lubricated after last rinse cycle and before sterilization cycle.

C. Manual Cleaning

Most instrument manufacturers recommend ultrasonic cleaning as the best and most effective way to clean surgical instruments, particularly those with hinges, locks and other moving parts. If ultra sonic cleaning is not available observe the following steps.

I. Use stiff plastic cleaning brushes (nylon, etc.)

Do not use steel wool or wire brushes except specially recommended stainless steel wire brushes for instruments such as bone files, or on stained areas in knurled handles.

II. Use only neutral PH(7) detergents because if not rinsed off properly, low PH detergents will cause breakdown of stainless protective surface and black staining.

High PH detergent will cause surface deposit of brown stain, which will also interfere with smooth operation of the instrument.

III. Brush delicate instruments carefully and, if possible, handle them totally separate from general instruments.**IV. Make sure all instrument surfaces are visibly clean and free from stains and tissue.**

This is a good time to inspect each instrument for proper function and condition.

Check and make sure that :
Scissors blades glide smoothly all the way (they must not be loose when in closed position). Test scissors by cutting into thin gauze. Three quarters of the length of blade should cut all the way to the scissor tips, and not hang up.

Forceps (pickups) have properly aligned tips.

Hemostats and Needle Holders do not show light between the jaws, lock and unlock easily, joints are not too loose. Check Needle Holders for wear on jaw surfaces.

Suction tubes are clean inside.

Retractors function properly.

Cutting instruments and knives have sharp, undamaged blades.

V. After scrubbing, rinse instruments thoroughly under running water. While rinsing, open and close Scissors, Hemostats, Needle Holders and other hinged instruments to make sure the hinge areas are rinsed out, as well as the outside of the instruments.

3. AFTER CLEANING

If instruments are to be stored, let them air dry and store them in a clean and dry environment.

4. AUTOCLAVING

If instruments are to be reused or autoclaved:

- A. Lubricate all instruments which have any "metal to metal" action such as scissors, hemostats, needle holders, self-retaining retractors, etc.

Recommend surgical lubricants such as instrument milk are best. Do not use WD-40, oil or other industrial lubricants.

- B. Put instruments up for autoclaving either individually or in sets.

Individual Instruments

Disposable paper or plastic pouches are ideal. Make sure you use a wide enough pouch (4" or wider) for instruments with ratchet locks such as needle holders and hemostats so the instrument can be sterilized in an open (unlocked) position.

Instrument Sets

Unlock all instruments and sterilize them in an open position. Place heavy instruments on bottom of set (when two layers are required).

Never lock an instrument during autoclaving. It will not be sterile as steam cannot reach the metal to metal surfaces. The instrument will develop cracks in hinge areas because of heat expansion during the autoclave cycle.

Do not overload the autoclave chamber as pockets may form that do not permit steam penetration. Place towel on bottom of pan to absorb excess moisture during autoclaving. This will reduce the chances of getting "Wet packs". Make sure the towels used in sterilization of instruments have no detergent residue and are neutral – PH(7) if immersed in water. This can be a real problem as laundries frequently use inexpensive but high PH(9-13) detergents and do not properly rinse out or neutralize those detergents in the final wash/rinse cycle. Also, some times bleaches such as Clorox are added and are not neutralized.

CAUTION – At the end of the autoclave cycle – before the drying cycle – unlock autoclave door and open it more than a crack (about 3/4"). Then run dry cycle for the period recommended by the autoclave manufacturer. If the autoclave door is opened fully before the drying cycle, cold room air will rush into the chamber, causing condensation on the instruments. This will result in water stains on instruments and also cause wet packs.

If you have any unusual staining on your instruments during sterilization, contact your local instrument representative.

5. COLD STERILIZATION

Most cold sterilization solutions render instruments sterile only after a 10 hour immersion. This prolonged chemical action can be more detrimental to the surgical instruments than the usual 20 minute autoclave cycle. If the instruments need to be "disinfected" only, cold sterilization is okay as disinfection will place in only 10 minutes.

But keep in mind the difference between:

STERILE – an absolute term (no living organism survives)

and

DISINFECTED – basically clean.

Always use the proper sterilization/cleaning technique to render the instrument in required condition for use.

For instruments with Tungsten Carbide inserts (Needle Holders, Scissors, Tissue Forceps), we do not recommend use of solutions containing Benzyl Ammonium Chloride which will destroy the Tungsten Carbide Inserts.