



Cleaning & Sterilization of Instruments

Personal Protective Equipment (PPE)

- While cleaning instruments it is imperative that personnel protect themselves from unnecessary exposure to microorganisms on dirty instruments, including Hepatitis C and HIV.
- Always wear gloves when handling instruments during cleaning and repackaging.
- Always wear a mask and glasses or a face shield.

Manual Cleaning of Instruments

1. Fill basin with cool water and manufacturer's recommended amount of enzyme/detergent.
2. Carefully remove instruments from the instrument tray, watching carefully for sharp instruments (ie: scissors, osteotomes, etc.). Make sure that all hinged instruments are wide open and that instruments with removable parts are disassembled.
3. Rinse instruments under cold running water to remove gross debris.
4. Submerge instruments in the detergent solution.
5. Clean the instruments while they are submerged in order to avoid splashing and spray. A soft bristle brush, pipe cleaner, or enzyme impregnated foam brush should be used to clean the instruments, paying particular attention to serrations, joints/hinges, and lumens. Do NOT use abrasive cleaners such as steel wool, as they will damage the instrument surface. Flush cannulated instruments (suction tips) while submerged.
6. If debris has been allowed to dry on the instruments, soak them, to soften adherent soil.
7. Rinse thoroughly. Flush lumens with water, to remove detergent residue.
8. Change cleaning solution whenever visibly soiled.

Lubrication of Instruments

This is an essential step in instrument processing. It should be done after each washing, to prevent binding and excessive wear.

1. Pour instrument milk into a container deep enough that instruments with hinges will be totally submerged.
2. Immerse open instruments for 30-40 seconds.
3. Let instrument drain for a few seconds to remove excess lubricant. Do not rinse or towel dry, this will remove the protective film



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Assembly of Instruments

1. Place ring handled instruments on stringers or towel clips, with ratchets open.
2. Curved jaws should face the same direction to protect their tips.
3. When instruments have been assembled place them in instrument tray with a clean towel and a Class IV sterilization indicator (or in a peel pack with a sterilization indicator).
4. Wrap instrument trays in a sterilization wrapper, then close package with sterilization indicator tape. Make sure to inspect wrap for holes or signs of wear.

Steam Sterilization with an Autoclave

This is a relatively simple, safe, and reliable means of sterilizing. Steam sterilization requires that four conditions be met: adequate contact between the steam and the microorganisms; sufficient moisture; exposure to temperatures lethal to heat-resistant microorganisms; and adequate time.

1. Fill the holding tank of the autoclave to the marked level with distilled water. (Distilled water increases the longevity of the machine.) Filling to the correct water level in the sterilization chamber is necessary in order to create enough steam to penetrate packaging and allow contact of steam to microorganisms. Too much water in the chamber will cause wet wrappers and requires extra drying time before removal from the autoclave.
2. Peel packs need to be loaded in the autoclave in a manner that allows steam to completely reach and penetrate the paper side of the wrappers. Two to three peel packs can be loaded together with appropriate space between them for sterilization.
3. Temperature and exposure time are:
20 minutes at 270-275 °F (132-135C) **or** 30 minutes at 250-254 °F (121-123C)
4. The sterilization process and timing do not begin until selected chamber temperature is reached. At that point the time should be set.
5. When the process is complete the chamber needs to be vented to the indicated level prior to opening the chamber door. Cracking the door open and leaving the instruments inside will facilitate the drying of wrapped instruments.
6. When instruments are removed from the autoclave, they will still be warm and should be placed on a padded area to cool. This will diminish the chance of condensation build up in wrapped trays. Peel packs should be placed on padding with the plastic side down, for cooling. A wet wrapper = contaminated instruments.

ALL instruments must be run through the autoclave unwrapped for 10 minutes prior to repacking to send back to AfS. They are a bio hazard until this is done!