



Procedure for Care and Maintenance of Stainless Steel Medical Instruments

Objective:

To ensure the proper cleaning, sterilisation, and maintenance of stainless steel medical instruments, thereby extending their lifespan, maintaining functionality, and ensuring patient safety.

1. General Guidelines

- **Avoid rough handling:** Handle instruments with care to prevent damage to the delicate tips and edges.
- **Separation:** Instruments with sharp tips or cutting edges should be separated from other instruments to avoid damage during cleaning and sterilisation.
- **Regular inspection:** Visually inspect instruments for any signs of damage, corrosion, or wear, especially at hinges, locks, or sharp edges.

2. Cleaning and Decontamination

2a. Pre-Cleaning

- **Immediate Rinse:** Immediately after use, rinse instruments under warm water to remove any blood, tissue, or debris. Use a soft-bristled brush or cloth to remove any visible contaminants.
- **Avoid Prolonged Soaking:** Do not leave instruments soaking for long periods, especially in saline or other corrosive solutions, as this can lead to rusting.
- **Segregation of Instruments:** Segregate delicate instruments from heavier ones to avoid physical damage.

2b. Manual Cleaning

- **Equipment:** Use soft brushes, sponges, or cloths. Avoid using metal brushes or abrasive materials that could scratch the stainless steel surface.
- **Detergents:** Use a pH-neutral or mild enzymatic detergent solution. Avoid harsh chemicals like bleach or chloride-based cleaners, as they can cause corrosion.
- **Cleaning Technique:**
 1. Immerse the instruments in the detergent solution.
 2. Gently scrub the instruments, focusing on joints, hinges, and serrations where debris can accumulate.
 3. Rinse thoroughly with deionized or distilled water to prevent residue build-up from tap water minerals.

2c. Ultrasonic Cleaning

- **Preparation:** Place instruments in an open position in the ultrasonic cleaner, ensuring that they do not overlap to ensure proper cleaning.
- **Cleaning Time:** Run the ultrasonic cleaner for the manufacturer's recommended time (typically 5-10 minutes).
- **Rinse:** After cleaning, rinse the instruments in deionized water.

3. Drying

- **Immediate Drying:** Instruments must be dried immediately after rinsing to prevent water spots or corrosion. Use a lint-free cloth or compressed air for drying, especially around joints and hinges.
- **Avoid Air-drying:** Do not allow instruments to air-dry as this can lead to staining or corrosion.

4. Inspection

- After cleaning, visually inspect instruments for any signs of:
 - Damage (e.g., dullness, cracks, or bends).
 - Corrosion or discoloration.
 - Proper alignment and functioning of moving parts (e.g., scissors, forceps).
- Set aside any damaged instruments for repair or replacement.

5. Lubrication

- **Lubricate Moving Parts:** Apply a medical-grade, water-soluble instrument lubricant (often called "instrument milk") to the hinges and joints of instruments. This will reduce friction and protect against corrosion.
- **Procedure:**
 1. Dip the instruments in the lubricant solution or spray the lubricant on moving parts.
 2. Allow excess lubricant to drip off, but do not rinse afterward.



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6. Sterilisation

6a. Packaging

- **Proper Arrangement:** Place instruments in sterilisation pouches or trays without overcrowding. Keep hinged instruments in the open position.
- **Use Appropriate Materials:** Always use sterilisation wraps, pouches, or containers that are compatible with your sterilisation method (e.g., autoclave or dry heat).
- Be careful when handling instruments that may be hot.

6b. Autoclaving

- **Sterilisation Cycle:** Follow manufacturer guidelines for sterilisation cycles. Common sterilisation parameters include:
 - 121°C (250°F) for 30 minutes for gravity displacement autoclaving
 - 132°C (270°F) for 4-7 minutes for pre-vacuum autoclaving
- **Ensure Proper Drying:** Make sure the autoclave completes its drying cycle to avoid moisture retention, which can lead to corrosion.

6c. Dry Heat Sterilisation

- Instruments must be dry before this procedure to avoid water spots or staining.
- Ensure instruments are compatible with dry heat if using this method, typically set between 160–180°C for 30 minutes to an hour.

7. Storage

- **Store in a Dry Environment:** After sterilisation, store instruments in a clean, dry, and temperature-controlled environment to prevent corrosion and maintain sterility.
- **Avoid Humid Areas:** Ensure storage areas are free from excessive moisture, which can lead to rusting.
- **Periodic Re-sterilisation:** Instruments that have been stored for extended periods should be re-sterilized before use.

8. Rust Prevention

- **Conditions:** All Stainless Steel is vulnerable to corrosion if the conditions allow.
- **Preventative Measures:** Avoid prolonged exposure to saline solutions, Salt can cause pitting and corrosion in stainless steel. Instruments exposed to saline should be rinsed thoroughly.
- **Minimize Prolonged Exposure to Chemicals:** Strong disinfectants, bleach, and other harsh chemicals should not come into direct or prolonged contact with instruments.
- **Lubrication:** Apply a medical-grade, water-soluble instrument lubricant to provide a protective layer.

9. Rust and Stain Removal

- If any rust spots appear, remove them immediately using non-abrasive cleaners or specialized stain removers.
- **Polishing (if necessary):** Gently polish the stainless steel surface with a non-abrasive cloth or soft pad. Regular polishing can help maintain the corrosion-resistant properties of stainless steel.



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