

Standards & Guidance

The care, maintenance and sterilisation of stainless steel surgical instruments should only be carried out by or under the supervision of those with appropriate training and in accordance with local and national guidelines such as those published by the Institute of Decontamination Sciences (Standards and Practice 3rd Ed. (as amended)) and the National Institute of Clinical Excellence NICE IPG 196 (2006) as amended.

Stainless steel is the name given to a group of corrosion resistant steels containing a specified amount of chromium. Although stainless steel is the material of choice for most surgical instruments, contact with certain substances cause staining or even pitting and corrosion. The following information will assist users in the care and maintenance of stainless steel instruments.

Sterilisation

The recommended method for sterilisation of reusable stainless steel instruments is steam sterilisation @ 134°C (+3°C – 0°C) for minimum of 3 minutes.

This recommendation should be used in conjunction with the standards and guidelines laid down in ISO 17665-1:2006: Sterilization of health care products - Moist heat. Part 1: Requirements for the development, validation and routine control of a sterilization process for medical devices and ISO/TS 17665-2:2009 Sterilization of health care products: Moist heat - Part 2: Guidance on the application of ISO 17665-1

General Handling

At all times handle instruments carefully. Do not drop into trays, sinks or on to trolleys. Take special care of sharp edged and pointed instruments. Never imprint on surgical instruments by impact marking. Striking any hardened instrument can cause stresses and severe damage or failure may result at a later date.

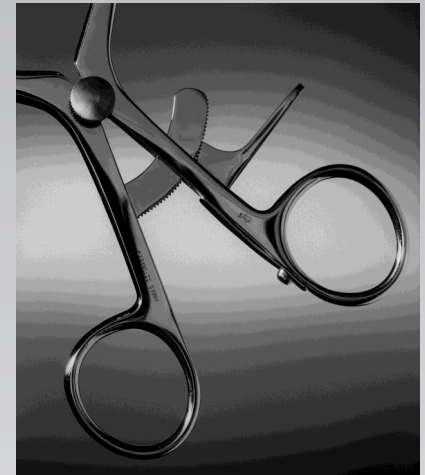
Avoid as far as possible, contact between stainless steel instrument and any of the following substances: barium chloride, sodium chloride solutions, aluminium chloride, bromide, iodine.

New Instruments

All new ROCKET instruments are supplied dry without lubrication. It is recommended that they are carefully washed, dried and moving parts lubricated. Moving parts must be lubricated after drying. Avoid oils that may mask bacteria during sterilisation.

Care & Maintenance

Rinse blood and saline solutions from instruments as soon as possible following use. Saline solutions are a major cause of pitting. Instruments should never be soaked in them, nor should a saline solution be permitted to dry on any instrument. When cleaning by hand, instruments should be cleaned with a nylon brush under cool or warm running water. Very hot water will cause coagulation of proteinous substances and should not be used.



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Mechanical washing machines and ultrasonic cleaners, using instrument detergents of strength recommended by the manufacturer may be used followed by a clean rinse. Whenever cleaning, regardless of method, keep ratchets unlocked and box joints open.

Chrome plated carbon steel, and silver or gold plated instruments can stain and discolour stainless steel. Avoid mixing during washing and sterilisation cycles.

The presence of tissue debris in 'hard to clean' areas such as serrations, box joints and ratchets can result in corrosion. Staining and spotting can be caused by condensation of water droplets on the surface, leaving slight mineral deposits. General dullness of the surface finish may arise from water softening systems.

Cleaning

This device should be cleaned in accordance with local hospital policy and with regard to all applicable regulations, including but without limitation to, those pertaining to human health & safety and care of the environment.

Detergents

Neutral (Ph7) detergents (or detergents that once appropriately diluted, result in a solution of Ph7) should be used during manual, mechanical or ultrasonic cleaning. The use of alkaline detergents will result in the formation of brown or orange staining on the instrument.

The concentration and volume of detergents used should be in line with the detergent manufacturer's instructions, taking into account regional water quality variations.

Drying

Immediately after washing, instruments should be dried completely either by hand or in a suitable hot air cabinet. Failure to remove water from trapped areas will cause corrosion and staining in joints and crevices.

Inspection

Check all instruments before storage or packing. Look for distortion, misalignment and wrong assembly. Check for ease of movement in pivots.

Most surgical instruments require periodic sharpening or adjustment to ensure continued optimum performance.

Packaging

Device should be packaged for sterilisation in accordance with local hospital policy and with regard to all applicable regulations and appropriate guidelines such as those published by the Institute of Decontamination Sciences (Standards and Practice 3rd Ed. (as amended)) and NICE IPG 196 (2006) – as amended.

Electrosurgical Diathermy Instruments

WARNING: Never use steel wool, wire brushes, or abrasive powders on stainless steel instruments.

Their use may seriously damage the corrosive resistant film of the instrument.

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Active devices such as those connected to electrosurgical diathermy units require special attention to ensure safety is maintained.

Instruments for use with electro-surgical diathermy are commonly insulated by dip coating with acrylic resins or sleeved with polyolefin derivatives.

All of these materials will deteriorate with use and repeated sterilisation. Deterioration is normally identified by longitudinal and radial cracking of the outer surface and flaking of the covering at the interface between active and insulated parts.

CAUTION: Wash and pack insulated instruments care, avoid mixing during transport, washing and sterilisation. Ideally electrosurgical instruments should be packed separately to protect their insulation

All electrosurgical devices must be additionally inspected for integrity of the insulation after washing and before packing and sterilisation. Visual inspection of the insulation may be insufficient to detect small cracks.

It is recommended that all diathermy instruments are subject to high voltage testing every 3 uses, using a proprietary insulation tester.

WARNING: Faulty insulation may cause stray discharge of energy from electrosurgical instruments

Surgical instruments should be packed for sterilisation in their disassembled state (where practical), with care being taken to cover sharp points by sheathing them with short lengths of open ended silicone rubber tubing, or commercially available tip protectors.

