

It's a subject close to our heart here at Vi. There is no substitute for good instrument care. So, in this section you'll find a guide to good instrument care along with the equipment you'll need to carry it out.

We also offer training opportunities. Call us for advice on instrument care, or to discuss training possibilities.



Instrument Care

The majority of surgical instruments are made of Stainless Steel. There are many different types of stainless steel alloys (60+), with varying amounts of Nickel & Chromium to increase resistance to corrosion. All types of stainless steel will corrode under certain conditions – ‘stainless’ is a little misleading. The proportions of the various constituents affect the characteristics of the final steel, along with the degree of hardening applied.

Surgical instruments must be hard enough to take and keep a cutting edge (e.g. scissors) or have a certain spring (e.g. artery forceps). The steel possessing these qualities contains less chromium and more carbon than orthopaedic implants, which are made of steel with the primary characteristic of resistance to corrosion, making it too soft for instruments. The penalty is that this type of higher carbon stainless steel (called Martensitic) is much more likely to corrode and stain.

The parts of the steel likely to rust are protected by a thin layer of chromium oxide which is produced by the chromium part of the steel. Actions which encourage the production of chromium oxide minimise corrosion. Actions which either physically or chemically destroy this layer of chromium oxide encourage rusting or staining. Maximising the chromium oxide layer is the basis of sound instrument care. This layer thickens with age and increases the resistance of your instruments to corrosion – in new instruments it is relatively thin. This is why you may have marking problems with new instruments but your old ones are fine – new instruments will be more intolerant of inappropriate detergents, inadequate lubrication and the corrosive environment of the autoclave etc.

Manual Cleaning Protocol – Stainless Instruments

1. Open all joints and rinse gross loose debris from instruments in warm water (NOT hot – this will coagulate proteins & make the instruments much harder to clean) immediately after use. They will be much harder to clean if left to dry!
2. Completely submerge instruments in an enzyme based neutral pH detergent – soak for time specified in detergent instruction.
3. Gently scrub instruments with a soft bristled brush to remove all remaining visible soil, keeping the instrument under the surface of the detergent to reduce spray. Use a pipe-cleaner brush on instruments with a lumen. Pay special attention to joints & ratchets.
4. Remove from the enzyme solution and rinse thoroughly in tap water for at least 3 minutes.
5. Ideally place the instruments in an ultrasonic cleaning bath for 10-15 minutes or as per cleaner instruction manual.
6. Remove from bath at completion of cycle, (or after step 4 if no ultrasonic available) then rinse instruments thoroughly with purified (distilled) water.
7. Dry with a clean non-shedding wipe – leaving them to air-dry will result in water spotting.
8. Lubricate with either spray surgical instrument oil or place in instrument milk bath – follow directions for product used.

To keep your instruments in peak condition, there are some basic rules which should be followed.

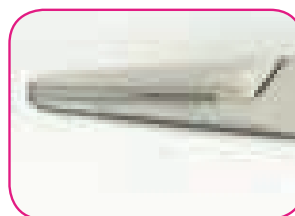
1. Handle your instruments with care – dropping, scratching etc. will all damage the surface of instruments and reduce their resistance to corrosion.
2. Store with care. If instruments are stored damp they will corrode. Delicate instruments should be packed with protective tips & silicone storage box inserts to stop them rattling around. Always make sure heavy instruments are not stored on top of lighter equipment.
3. Use them to do what they were designed for! Artery Forceps are not Needleholders or Wire Twisters. Bone Cutters are not designed to cut Wire, and Implant Cutters have a size rating for a reason! Inappropriate use will damage instruments and invalidate warranties.
4. Avoid mixing different metals when processing instruments – keep chrome plated, industrial finish & aluminium items separate from stainless, particularly in ultrasonic cleaners.

Cleaned lubricated instruments are ready for packaging. Always carry out a visual check at this stage – are the cutting edges of scissors free of damage, do the jaws of artery forceps & needleholders meet correctly with no signs of twisting for example. Check that all thumbscrews are tight, as in Gelpi & Stifle Distractor joints



Joint showing wear due to inadequate lubrication

Also look for fine cracks in instruments, for example across the box joints in Artery Forceps.



Needleholder with damaged jaws



Box joint showing cracking & biological debris

Damaged items should be sent for repair or disposed of. It is good practice to sterilize items being sent for repair. Many repairers require a certificate of decontamination to be sent with instruments, and instruments should never be sent out in a soiled condition.

There are many materials for packing instruments for autoclaving. Paper peel-packs are commonly used, along with nylon autoclave film. We do not recommend the use of laundered fabrics as instrument wraps, as residual detergents and bleaches can cause pH & chlorine related damage to your instruments. Disposable autoclavable instrument wrapping fabrics similar to disposable drapes are available.

Sterilisation

The autoclave is a very hostile environment for your instruments. The combination of heat & moisture promotes corrosion and staining, particularly if there are residual detergents etc. in wrapping materials. This is also true where tap water instead of distilled or demineralised water is used in the autoclave. Mineral deposits on instruments are unsightly as well as interfering with normal joint function etc. They are difficult to remove, so prevention is better than cure.

Rust in the steam pipes of your autoclave will transfer to your instruments, so autoclave maintenance is important. Regular servicing ensures the autoclave is working correctly. Vacuum autoclaves help remove residual steam from packs, and it is important that directions are followed and cycles are completed. Regularly check the door seal is undamaged, and replace if necessary. If applicable to your machine, drain & refill the water tank regularly with distilled water. You may well be surprised what comes out!

If your packs are coming out of the autoclave wet through then there is a cycle problem & you need to speak to your autoclave engineer for advice. Wet storage will result in corrosion and damage to your instruments.

So – store your instruments clean, dry, lubricated & protected and they will give you many years of service. A good, easy to follow instrument care protocol will extend instrument life, save money and result in happy surgeons!

Repair Service

Veterinary Instrumentation has a network of specialists who can repair any surgical instrument. Send the damaged item to us and we will advise if it is worth repairing. For some power tools, it may be necessary to send them back to the original manufacturer for assessment, which may be overseas. All carriage fees will be charged at cost.

Routine sharpening and setting of scissors is performed quickly and professionally by Len Richardson, an instrument maker with over 55 years of experience.



Instrument Cleaning Agents

Rapidex Cleaner - (Now supplied in bulk or water soluble sachets)



An effective degreaser and general instrument cleaner. Some users dislike the loose powder format. The new soluble sachets are simply dropped into the ultrasonic bath. No dry powder is released.

- Ideal for Ultrasonic Cleaners.
- Also effective as a pre-soak for long standing or difficult residues
- Tested by the Royal Institute of Public Health

RAPIDEX CLEANER

RAPIDEX Rapidex Soluble Sachets (Box of 50)
RAPIDEXBULK Rapidex Bulk Powder 2.25kg

Instrument Cleaning Brushes and Pipecleaners



Stainless Steel Instruments are protected from corrosion by a very thin layer of chromium oxide. This should not be damaged by regular wire brushes. Brushes available with Nylon and Stainless Bristles. Orthopaedic Cleaning Brush is Double Ended with superfine soft Stainless Steel Bristles. General instrumentation is the same with Nylon Bristles. One end has 3 rows of Bristles, the other has a single row for delicate work. Pipe Cleaners are 1/8" diameter and 12" long. Absorbant for cleaning and drying. Supplied in packs of 100.

INSTRUMENT CLEANING BRUSH

CB1 Cleaning Brush Nylon for Gross Contamination
CB2 Cleaning Brush Stainless for Large Burs & Reamers
CB3 Cleaning Brush Nylon for General Instrumentation
CB4 Cleaning Brush Stainless Steel for Orthopaedic
CBPIPE Pipe cleaners 1/8" 12" Long (Pack of 100)

Perasafe



Perasafe is a rapid, instrument compatible, user and environmentally friendly chemical sterilant. Supplied as a safe, space-saving powder Perasafe is activated by simply dissolving in luke-warm tap water. Providing rapid sterilisation and re-use of endoscopy instruments, Perasafe gives confidence to users and patients alike. A unique aldehyde-free formulation gives efficacy without harm to instruments, health risks to nursing staff and avoids the need for special fume extraction or waste disposal systems.

Perasafe is a pale blue/ white powder which, when in solution, sterilises within 10 minutes. Suitable for all surgical instruments and fibrescopes. Formulated not to damage surgical instruments. Prepared solution lasts 24 hours. 81g pack makes 5 litres. May be subdivided to make less.

PERASAFE

100100 Perasafe Cold Sterilant 24 x 81g (5 litre size)
100101 Perasafe Cold Sterilant 6 x 81g (5 litre size)

Instrument Marking

Colour Coded Identity Rings



Strong tear-resistant Silicone Instrument Coding Rings.

COLOUR CODED IDENTITY RINGS

I00012 Coloured Silicone Instrument I.D. Rings x 120

Instrument Marking Tape



Allows rogue instruments to be returned to their kits. Also useful when going on practical courses. Available as a Kit or in individual rolls.

INSTRUMENT MARKING TAPE

- I00001** Instrument Marking Tape (Box 8 colours) (120cm)
- I00001Y** Instrument Marking Tape Single Yellow (300cm)
- I00001R** Instrument Marking Tape Single Red (300cm)
- I00001BR** Instrument Marking Tape Single Brown (300cm)
- I00001OR** Instrument Marking Tape Single Orange (300cm)
- I00001BLU** Instrument Marking Tape Single Blue (300cm)
- I00001G** Instrument Marking Tape Single Green (300cm)
- I00001W** Instrument Marking Tape Single White (300cm)
- I00001BLK** Instrument Marking Tape Single Black (300cm)

Protective Autoclavable Tips

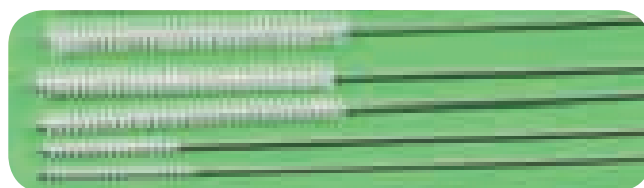


For Steinman, ESF pins and delicate or sharp instruments. Protect both tips and staff.

PROTECTIVE AUTOCLAVABLE TIPS

- I00011-W** Protective Tip White
up to 1.6 - 2.0mm Diameter Pack 20
- I00011-BL** Protective Tip Blue
2.5 - 3mm Diameter Pack 20
- I00011-G** Protective Tip Green
up to 3.2 - 4.0mm Diameter Pack 20
- I00011-R** Protective Tip Red
up to 4.8mm Diameter Pack 20
- I00011-Y** Protective Tip Yellow
up to 6.0 - 6.5mm Diameter Pack 20
- I00011-O** Protective Tip Flat Orange
up to 10mm Wide Pack 20
- I00011-BR** Protective Tip Flat Brown
up to 16mm Diameter Pack 20
- I00011-BLK** Protective Tip Flat Black
up to 25mm Diameter Pack 20
- I00020** Protective Tips Silicone Multi Pack
One pack of each colour 160 (8 x 20)

Tube Brushes



Fine brushes are very useful for cleaning the lumen of drill guides and tissue protectors down to 2mm, particularly where ultrasonic cleaning is not available. Use to remove gross contamination and ensure patency before ultrasonic cleaning.

TUBE BRUSHES

- ENDO2** Tube Brush 12 Inch Long 2mm
- ENDO3** Tube Brush 12 Inch Long 3mm
- ENDO4** Tube Brush 12 Inch Long 4mm
- ENDO5** Tube Brush 12 Inch Long 5mm

Sharpening Accessories

IM3 White Stone Slip



To work effectively both scalers and elevators need to be sharp. Regular sharpening will keep your instruments working correctly.



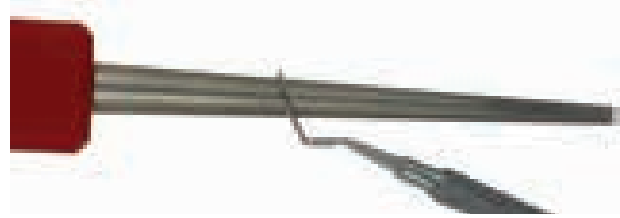
The Slip Stone has both flat and rounded surfaces to sharpen elevators and curettes. Use baby oil as lubricant.

IM3 WHITE SLIP STONE

012150 IM3 White Slip Stone for Curettes and Elevators

012146 Luxator Cylindrical Sharpening Stone

Diamond Cone



Subgingival Curettes must be kept sharp to work efficiently. They should be checked and sharpened at least weekly. The Diamond Cone is indestructible compared with stones which break very easily and uses water rather than oil as a lubricant.

DIAMOND CONE

012148 Diamond Cone 205mm

Plastic Test Stick PTS



Used to check the sharpness of curettes. The sharp curette will bite when used on the test stick at the angle used on the tooth. If it slips, it is not sharp.

PLASTIC TEST STICKS

HUF-PTS Plastic Test Sticks Pack of 6

Diamond Card - Fine



This credit card sized, Diamond Covered Plate is ideal for sharpening Dental Elevators and Luxators. To work efficiently these instruments must be sharp. The diamond is virtually indestructible. An additional advantage is that the lubricant used is water rather than the oil used with sharpening stones.

DIAMOND CARD - FINE

012144 Flat Diamond Sharpening Card (Fine)

Autoclaving

Disposable Security Padlocks - No Indicator



Anti-tamper security padlock. Useful for marking instrument boxes. Single use only. Padlock has to be broken to be removed. Good value. Supplied in packs of 100

DISPOSABLE SECURITY PADLOCKS- NO INDICATOR

PSS100 Disposable Security Padlocks No Indicator (x 100)

Disposable Security Padlocks with Sterilisation Indicator



Anti-tamper Security Padlock with steam sterilisation indicator spot. Spot colour changes from pale blue to brown. Single use only. Padlock has to be broken to be removed.

Supplied in packs of 20 and 100

SECURITY PADLOCKS WITH INDICATOR

PSL20 Security Padlocks with Sterilisation Indicator (x 20)

PSL100 Security Padlocks with Sterilisation Indicator (x 100)

Disposable Padlocks - Instrument Repair



Useful for marking instruments which should be sent for repair. Single use only. Padlock has to be broken to be removed.

Supplied in packs of 10

DISPOSABLE PADLOCKS - INSTRUMENT REPAIR

PSTR10 Disposable Padlocks - Instrument Repair (x 10)

Process Indicator Pen (PIP)



A really handy Process Indicator Pen (PIP) - you will wonder how you did without it.

Conforms to EN ISO 11140-1. Writes on all standard sterilization wrapping materials. Changes colour from purple to green. Clear Stop/ Go colour change. Non toxic and lead free.

AUTOCLAVE PEN

AUTOPEN Autoclave Pen

Autoclave Tape



Use to seal bags and boxes. Integral marking changes colour when passed through a full cycle. Note that a change in colour of the tape does not necessarily guarantee that the contents of the bag or pack are sterile.

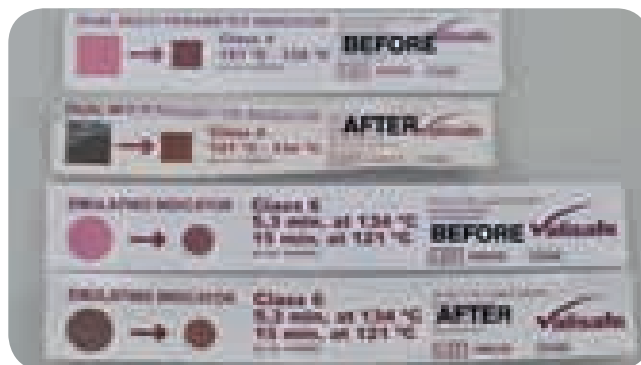
Conforms to ISO 11140-1 Class 1 19mm x 50m roll

AUTOCLAVE TAPE

AUTOT12 Autoclave Tape 19mm x 50m roll (12 Pack)

AUTOT48 Autoclave Tape 19mm x 50m roll (48 Pack)

Steam Sterilization Indicators



Available in Class 4 Dual Steam Multi Parameter and Class 6 Steam Emulating indicators

Class 4 monitors all 121°C to 134°C steam sterilization cycles

Class 6 monitors critical parameters - Time, Temperature and Steam

5.3 min at 134°C and 15 mins at 121°C

Clear colour change.

STEAM STERILIZATION INDICATORS

AUTOINDMP Class 4 Dual Steam Multi Parameter Indicators (500 Pack)

AUTOINDE Class 6 Steam Emulating Indicators (250 Pack)