Guidance Document

Decontamination and Sterilisation of Veterinary Surgical Instruments and Devices
This guide provides an overview of best practice methods for decontamination and sterilisation of veterinary surgical instruments and devices.

Three reasons you should improve your surgical instrument reprocessing:

1. **Patient Safety**
   You want to ensure that the instruments and devices used on your patients are sterile and safe. This is important to ensure a high quality and reliable service for your pet patients.

2. **Staff Safety**
   Ensuring that instruments are properly managed and cleaned results in improved safety for everyone dealing with the instruments and devices.

3. **Longevity**
   By looking after your instrument inventory properly, you can maximise the instrument lifespan. This reduces the costs associated with instrument replacements for your practice.

The five pillars of an effective decontamination and sterilisation process

01 Process Segregation

02 Pre-cleaning

03 Cleaning & Inspection

04 Sterilisation

05 Storage

Before we look at these steps in more detail, let’s have a look at a few key definitions which will be used throughout this guide:

**Bioburden** – The quantity of microorganisms on a surface.

**Decontamination** – Decontamination is the combination of processes (including cleaning, disinfection and sterilisation) used to clean a product, ensuring that re-usable medical devices are safe for further use on patients and to be handled by your theatre team. The effective decontamination of re-usable medical devices is essential in reducing the risk of transmission of infectious agents.†

**SOP** – Standard operating procedure – this is the documented, standard way of completing a process and ensuring that a task is done in the same way by all people involved.

**Sterile** – For something to be sterile it needs to be free from bacteria and other living microorganisms.

**Sterilisation** – The process which removes any bacteria or other living microorganism from a surface or object.

**Sterile barrier system** – Packaging or other containment that ensures sterility is maintained when stored under appropriate conditions.
01 Process Segregation

Process segregation sounds like an impressive concept, but it is actually just common sense. Process segregation in the field of instrument reprocessing simply means: do not mix your dirty instruments with your clean ones and more importantly, make sure that you have designed your process to “flow” in accordance with the key concepts of sterility.

You can have the best disinfection and cleaning process in the world, but if you do not segregate between what has been cleaned and what has not, all your hard work will have gone to waste.

Space, at times might be limited within busy veterinary practices. Ideally, the cleaning should take place in a different room, then the packaging and sterilisation should take place in a “controlled area.” In reality, we have to make the best of what we have.

Some simple ways to improve your “process flow” include:
1. Make sure your dirty instruments are kept in a segregated area and that you have clear SOP’s
2. Make sure that there is a clear physical segregation between dirty and clean instruments and that the “clean side” is always kept clean
3. Make sure you store sterile goods in a segregated, fit for purpose space

There are 2 very important points of segregation in your cleaning process:
1. Segregation between cleaned and dirty instruments
2. Segregation between non-sterile and sterile instruments

02 Pre-cleaning

One of the most important aspects of instrument or device reprocessing is to minimise the time between a procedure and the start of the cleaning process. There are several reasons for this, such as:

- Bioburden can damage the instruments if left on for a long period of time
- Bioburden can be more difficult to remove the longer it is left on instrument or device

Given this, it is crucial to initiate the cleaning process as soon as possible after the surgical procedure, especially after invasive procedures which result in higher levels of bioburden on the instruments or devices. To achieve best practice instrument reprocessing, the cleaning process should begin as soon as reasonably possible. It is not best practice to leave instruments dirty until the end of the day.

Veterinary practices are busy places and it is not always possible to clean the instruments straight after the procedure. If this is the case your practice needs to implement 2 key processes:

1. Ensure that the contaminated instruments are kept in a secure, secluded area
2. Ensure that the instruments are kept moist until the cleaning process can begin

Segregating dirty instruments and devices and keeping them away from patients and staff increases safety and reduces contamination risks.

Keeping an instrument moist until the cleaning process can begin ensures that bioburden does not dry onto the instrument. Dried on blood or other bodily fluids can be difficult to remove and can also damage the instrument or device.

STERIS’ Pre-Klenz Spray is an excellent and easy to use product which ensures that your instruments or devices are kept moist. The product also initiates the cleaning process by breaking down the organic material.
03 Cleaning & Inspection

In this section, we will explore the concept of surgical instrument cleaning and provide some simple guidelines for improving the cleaning process of your instruments.

One of most important things to remember when it comes to cleaning your instruments is that if your instruments are not cleaned properly, they are not sterile. This is of vital importance and means that if your cleaning process is not effective, your instruments will not be sterile.

In this process step you will need to ensure that you use effective and safe products. The following products will be required at a minimum:
1. A cleaning chemical (detergent or disinfectant)
2. A variety of cleaning brushes
3. Lubricant (as applicable)

In healthcare, 99.9% of instruments are processed using an automated washer disinfector. If you have one of these, then this is great. However, if not, a well-controlled manual cleaning processes is also sufficient. Some veterinary practices utilise ultrasonic washers. If you are using an ultrasonic, make sure that you get the machine tested/validated on a regular basis to ensure that it is always performing effectively. Also make sure to use a detergent suitable for your machine.

The final thing you need to do is to inspect the instruments. This is a quick visual inspection and will confirm that:
1. The instruments are visibly clean
2. That the instruments function properly

The inspection process for each instrument is different depending on serrations, hinges, joints etc. STERIS Animal Health’s instrument flash cards offer an interactive way to practice instrument inspection points.

Inspecting your instruments for functionality and cleanliness is very important since this is the last chance to confirm that the instrument is fit for purpose and ready for the steriliser.

Top tips for an effective cleaning process:

→ Use the right cleaning chemistries
  We recommend a CE marked detergent/disinfectant such as the STERIS Prolystica range.

→ Use the right brush for each instrument
  Not all instruments should be cleaned with the same brush, not all brushes are suitable for cannulated or fragile instruments. Ask us about our range of high-quality instrument cleaning brushes.

→ Control your temperature!
  A proper detergent or disinfectant should come with temperature specifications, if it does not then it may be advised that you should look at swapping for a better product. It is important that you control the water temperature you use as some detergents/disinfectants are not effective at too high or too low temperatures.
One common mistake within the industry is that vets/vet nurses may assume that their steriliser is working as it should. The consequences of a steriliser that is not working properly can be very severe. Given the severity associated with this risk, you need to conduct routine testing to confirm and ensure that your equipment is fit for use.

To confirm that your steriliser is operating efficiently you should use verification products. Such as:

1. **TST strips**
   TST is short for Time, Steam and Temperature because that is just what the product measures! It should be used to monitor your sterilisation process on a routine basis. The indicator on the strips will change colour when the right temperature and holding time is achieved, this will give you confirmation that the machine has effectively done its job and sterilised the load! This product is a must for any veterinary practice that takes infection prevention and sterility seriously. The strips are easy to use and cost effective and will ensure that you identify any issues with your equipment before pet patient suffers an infection as a result of unsterile instruments or devices.

2. **Bowie Dick Tests**
   Bowie Dick test is an operational process verification test used on steam sterilisers to confirm that the machine is operating according to the specifications required to ensure sterility of products. In the healthcare industry, completing a Bowie Dick test is a daily requirement. The test should be completed first thing in the morning or before the machine is used for the first time that day, this is to ensure that no issues have occurred with the machine before commencing the sterilisation of your instruments or devices. While a TST test strip is used to confirm temperature and holding time as an ongoing routine during your everyday processing, a Bowie Dick gives a much more comprehensive result since it also tests the steam penetration and presence of non-condensable gases in your machine. All these factors can seriously impact the machines ability to effectively sterilise items and can also lead to a variety of problems such as wet packs/sets. Using a Bowie Dick ensures that you can identify any issues with your machine before a pet patient suffers an infection as a result of unsterile instruments or devices.

3. **Autoclave tape/process indicators**
   A visible indication of an effective sterilisation process, this should be used with every cycle and on/inside every packaging.

### 04 Sterilisation

**Sterilisation is segregated into two sub-processes.**

1. **Packing** – Placing your instruments/devices in a suitable sterile barrier system
2. **Sterilisation** – Sterilising your items using a validated and tested process
Packaging

To be able to effectively sterilise a product it needs to be placed in a sterile barrier system, this means that it needs to be contained in packaging that keeps the instrument/device sterile until it is to be used. There are several different options, including:

- **Tray wrap**
  This is a reusable or single use wrap used to pack the instruments/devices in

- **Sterilisation containers**
  These containers use a heat locking system or filter to keep your products sterile

- **Heat seal pouches**
  These are bags sealed with a heat sealer

Regardless of what sterile barrier system you choose, make sure you select a reliable product from a reliable supplier. Remember, if your packaging can not keep your product sterile then there is no point in sterilising at all!

STERIS recommends a single use tray wrap as a sterile barrier system. These are easy to use, cost effective and reliable. Please ask us about our tray wrap range.

To recap

- Do not assume that your sterilisers are effective, always conduct daily tests including these in your SOP’s and use process indicators with every cycle
- Select a reliable and user-friendly sterile barrier system

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05 Storage

The final key thing to consider when it comes to effective instrument management, is storage. Once your instruments/devices are sterilised they need to be stored to ensure that sterility is maintained.

As previously mentioned, process segregation is of high importance. Your sterile packs should be kept in a segregated area with no risk of cross contamination from dirty instruments/devices.

Another very important aspect is ensuring that the storage area is fit for use. Storage areas should be dry and have appropriate shelving to minimise the risk of causing damage to sterile packs. A torn or damaged pack means that the instrument is no longer sterile. The same applies for a package that has been in contact with water.

Finally, you need to store your instrument in suitable containers or baskets. Delicate instruments should for example be kept in a fine mesh basket with silicone inserts to prevent damage. STERIS offers a wide range of containers and baskets please contact us for more information.
Need further or more detailed advice?

We are always here to provide guidance and support. If you have any questions about effectively managing the sterilisation process of your instruments or devices, please contact us.

We also offer on-site reviews of your current process, where an experienced member of our team will visit your veterinary practice to evaluate your current procedures and suggest areas of improvement.

Interested in any of the products recommended?
Please visit our website for the full range or contact us today to place your order.

www.steris-ims-animalhealth.com

+44 (0) 345 0343 202 animalhealth_enquiries@steris.com

Disclaimer: This document is intended for the UK veterinary market. STERIS recognises that there are no regulations in place for re-processing of veterinary surgical instruments and devices. The content of this guide is based on the regulations and best practice guidance document outlined in European and national directives and guidance documents. The processes recommended in this document are a result of STERIS’ long standing expertise within re-processing of human medical instruments and devices. This document does not claim compliance to any healthcare regulations.

STERIS recommends that the manufacturers instructions for reprocessing are always used as primary guidance for reprocessing.

References