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Sterility: Efficient Reprocessing

This month's deep dive

Reprocessing body piercing equipment and going from used to ready to use in the most efficient way possible.

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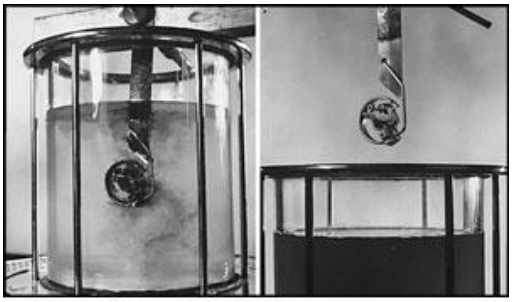
A brief history of medical reprocessing

Cleaning of medical devices began with the desire to reduce infections, however, microorganisms were only discovered in the 17th-century[1], and the term enzymes (proteins that hold together blood) was first used by German physiologist Wilhelm Kühne in 1877.[2]

By 1862 we started to understand how diseases are caused by germs which then led French chemist Louis Pasteur to develop the pasteurisation process, which confirmed that heat kills microbes. This finding brought about high-temperature sterilisation of reusable surgical tools.[3]

Typically cleaning and sterilisation of medical instruments was done by the surgical team in their operating theater until the American College of Surgeons recognised in 1928 that the operating theatre wasn't the safest place for the decontamination and sterilisation of surgical instruments, and as such reprocessing was moved to its own specialised department.[4]



'During' and 'After' test photos taken in 1956 featuing a glass ultrasonic Bendix testing tank.

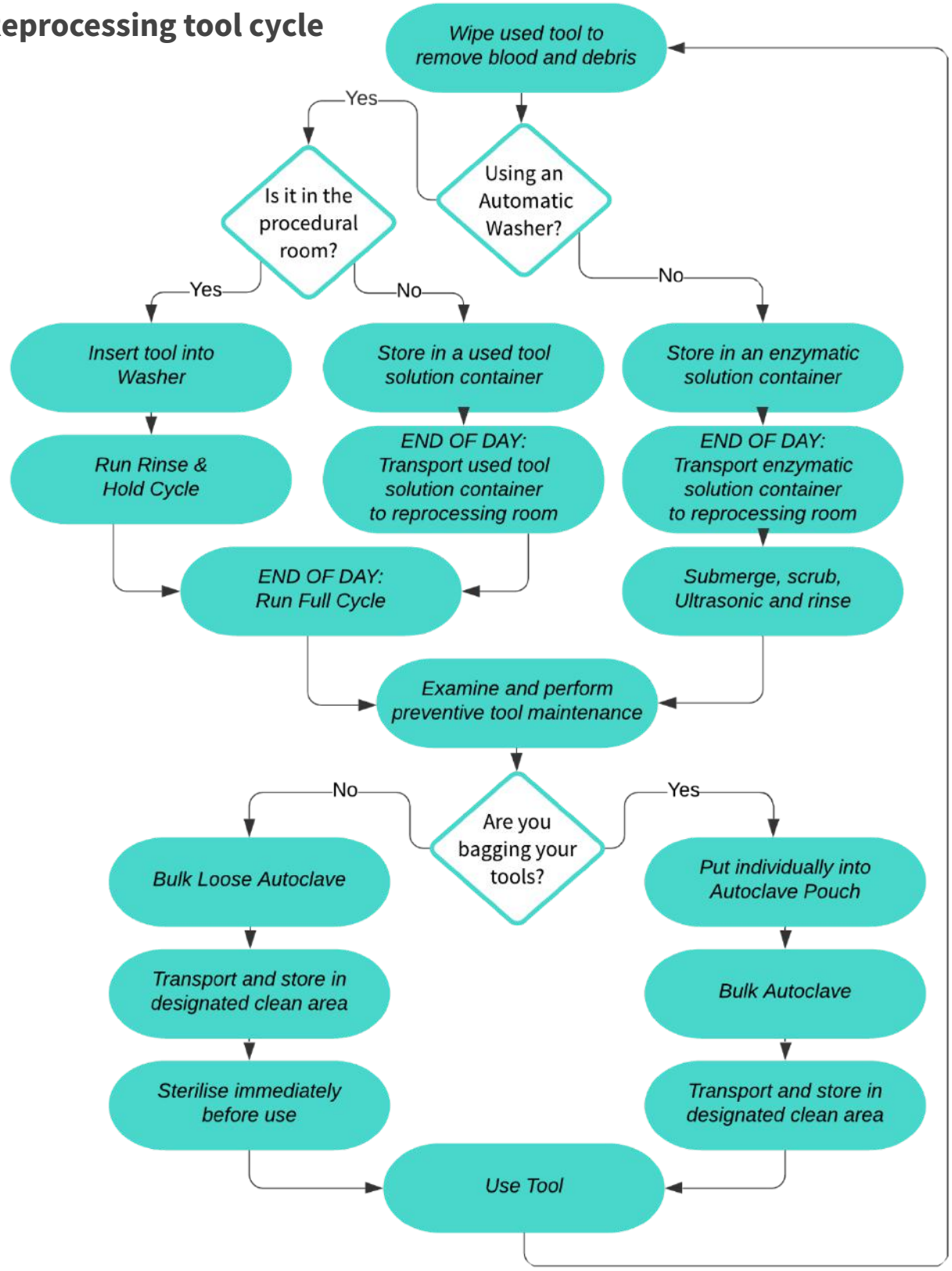
The 1950s marked the emergence of ultrasonic cleaning technologies, and during this era, there were multiple companies globally that developed systems.

This was after the suggestion by E. A. Neppiras that ultrasonic energy performed a physical function in the process of cleaning (when the correct techniques, materials, and knowledge was applied) that could not be obtained by any other industrial tool.[5]

While ultrasonic cleaning technology was already around, manual washing of instruments was still common practise in hospitals for a while afterward. As you can imagine, this involved a lot of work for the sterilisation department! It wasn't until after the first washing machine for laboratory glassware was delivered in 1968,[6] the technology could then begin to be developed for surgical instrument reprocessing. In the late 1980s, automatic washers were developed for endoscopes, which was an important step forward in medical equipment reprocessing as it did help to ensure much higher safety standards and much simpler work processes.[7]

[1] https://www.steris-ims.co.uk/blog/the-history-of-sterilisation/
[2] https://en.wikipedia.org/wiki/Enzyme
[3] https://www.steris-ims.co.uk/blog/the-history-of-sterilisation/
[4] https://steris.com/healthcare/knowledge-center/sterile-processing/medical-washer-disinfector-cssd
[5] https://www.sciencedirect.com/science/article/pii/S1350417715001339#b0005
[6] https://www.belimed.com/en-us/about-us/history
[7] https://www.wassenburgmedical.com/wp-content/uploads/2018/07/Wassenburg-Medical-Our-History-Our-Heritage.pdf

Reprocessing tool cycle



Purchasing new instruments

When you are starting a new studio, expanding your existing tools selection, or simply replacing decommissioned tools, you will need to purchase new instruments. Just like getting anything for our studios, thought should be put into exactly what we are getting for our money, and what benefits we can expect from more expensive tools vs budget grade ones.

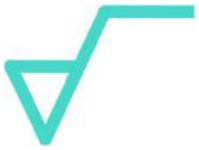
Metals

The medical industry uses a variety of different materials for surgical tools, however, the most commonly used is Inox Stainless Steel (with a minimum of 13% chromium[8]) due to its corrosion resistance and affordability[9]. To add further protection during sterilisation and chemical cleaning processes, 316L Stainless Steel, which is the low carbon version of standard 316, is alloyed with molybdenum.

Although Titanium and Tantalum are often used (Tantalum, while similar to Titanium, has higher corrosion resistance[10]), they are significantly more expensive due to the higher melting point and due to this are not typically found in the piercing industry.

Surface finish

Generally, tools have a high-gloss polished finish, however, it is becoming more common to see non-glare matte finishes used in the medical industry[11] to relieve eye strain and improve grip.



We are yet to see widespread use of matte finishing on tools in the piercing industry, however, they are becoming more and more common in specialised body modification tools[12].

Quality

Just like jewellery, different brands will offer different quality tools at different price points. The level you require will depend on specific usage cases, like how you are reprocessing and volume of use.

It can be generally observed that most piercing instruments on the market are made in Pakistan from lower-quality materials and poorer workmanship compared to their hospital-grade counterparts. The main exception to this is insertion tapers, which are generally produced in-house from the same implant grade materials used to produce professional body jewellery.

[8] https://www.astm.org/Standards/F138.htm
[9] https://matmatch.com/blog/technologies-and-materials-advanced-surgical-tools/
[10] http://ga.gov.au/scientific-topics/minerals/mineral-resources-and-advice/australian-resource-reviews/tantalum
[11] https://roslerblog.com/2019/06/04/part-1-surface-finishing-requirements-for-medical-instruments/
[12] https://store.stevehaworth.com/collections/tools/products/4th-generation-dermal-elevator-set-of-7

Removing debris from used instruments

Failure to immediately remove debris can allow microbes to survive following sterilisation[13].

It is important to remove gross soiling and debris from a tool as soon as possible, as the longer it is left, the harder it is to remove and can cause increased staining, pitting, and corrosion.[14]

Ideally, clean water on a cloth such as a single-use water wipe should be used to achieve a low amount of friction and reduce the chance of rust forming.

Generally, the perfect time to do this is after you have finished your piercing procedure and cleaned up your client. Assuming your gloves are not heavily soiled, use a water wipe to wipe down the interactive parts of the tool before placing it into your enzymatic solution container or automatic washer.

Enzymatic solution containers

There are a variety of different storage solutions for used tools. The exact design, size, and style you use will depend on how your studio operates.

These trays are made from chemically resistant materials and are designed to keep biomatter from drying before the time comes that they are able to be processed. This will also allow for efficient transportation to your reprocessing area.

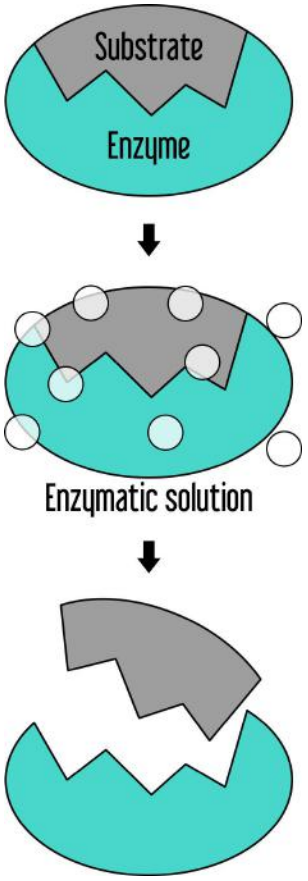
Specially designed ones (like SST containers from Healthmark[15]) even have a 'floating' inner tray that stops the solution from pooling and allows for easier removal when you are ready to process the items. They are usually fully autoclavable and should be periodically cleaned with detergent and sterilised regularly to minimise contamination during transportation.

Depending on your needs and requirements, you can even customise them with lockable lids and drainage pipes. Ensuring that you can safely transport your container is vital, so a locking lid with a water-tight seal is strongly suggested.

Affordable stainless steel mesh tea infusers can also be a great option for used tapers and small tool containment for not just your enzymatic solution container, but also to secure small items in instrument washers and cassette autoclaves.

[13] https://www.fda.gov/medical-devices/products-and-medical-procedures/reprocessing-reusable-medical-devices
[14] https://www.veterinarypracticenews.com/dried-on-blood-is-biggest-enemy-of-surgical-instruments/
[15] https://www.hmark.com/ssttrays.php

Enzymatic Solutions



Enzymatic solutions break down biological fluids either when soaking before cleaning, during manual scrubbing, and even in your ultrasonic. They work by breaking the peptide bonds[16] that hold the enzyme and substrate of proteins together.

Basically, it makes bioburden easier to remove later.

What enzyme you use, such as proteases, amylases, and lipases, will depend on your application and what soils you are trying to remove.

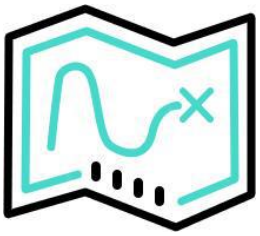
There are many products on the market for different purposes, including enzymatic solutions that combine detergents, stain removers, surface conditioners, and lubricants, such as the ERGO UPS all-in-ONE[17] foaming spray.

How long can you leave items in solutions?

Generally, it's recommended to process your tools at the end of each day or every second day if you are low volume, but you should always refer to your manufacturer's IFU.

Leaving instruments unprocessed for any period of time can lead to the development of biofilm[18].

Transportation of containers



An efficient protocol to transport your contaminated tools (in your enzymatic container) to your reprocessing station should be a crucial component of your reprocessing protocol as it increases the likelihood of contaminating your entire studio.

It is always a good idea to don PPE in your procedural room before transporting contaminated equipment. Even with a lockable watertight container on a rolling cart and correct protective PPE, accidental contamination can occur simply walking through common spaces or opening doors.

[16] https://www.steris.com/healthcare/knowledge-center/sterile-processing/what-is-an-enzymatic-cleaner
[17] https://statim.us/all-in-ONE-enzyme-cleaner-foaming-sprayer-32OZ-p2454537
[18] https://www.infectioncontroltoday.com/view/avoid-long-delays-instrument-decontamination-reprocessing

Preventive tool maintenance

Inspection

Carefully check each tool after and during the cleaning process under magnification and bright light to ensure:

- Ends are straight and jaws are aligned
- Hinges operate smoothly and don't jam or wobble
- Ratchets operate firmly and release smoothly
- The surface is smooth, free of chips or defects
- Free of discoloration or staining on all surfaces and hinges

Lubrication

Ensuring your tools are lubricated monthly not only extends the life of your tools but also improves their appearance and operation.

Surgical Milk: Also referred to as Instrument Milk due to its resemblance in color to milk, Surgical Milk is used to dip dry instruments in as little as 30 seconds[19] (or as per IFU) prior to autoclaving. Surgical Milk is commonly available in concentrate or ready-to-use formula.

Spray Lubricant: Can come in a pump or pressurised containers and is applied directly to the tool prior to autoclaving. Designed predominantly for hinges, but can be used on surface areas also.

Avoid silicone-based products as some can negatively affect the ability to effectively be sterilised[20].

Brass-lined tools

As these are a mixed metal tool with joins (either with screws, welds, or pressure fit), they are often more susceptible to degradation. Reprocessing these should be treated with more care and should not be reprocessed in an instrument washer, or left submerged with other tools.

Failure to do so can create a "junkyard battery[21]" when submerged in some cleaning solutions, which acts as an electrolyte and will drastically increase the degradation of other surrounding materials.

[19] https://www.i-c-t.us/our-products/dental/surgical-milk/
[20] https://www.inkasurgical.com.au/instruments/care-of-surgical-instruments/
[21] https://www.energymatters.com.au/renewable-news/junkyard-battery-vanderbilt-em5740/

Stain Removal

Light-coloured spots are commonly caused by water droplets with impurities like sodium, calcium, and magnesium which condense on the surface of the tool and slowly evaporate.

Brown/orange stains are often mistaken for rust, however are caused by traces of minerals in the autoclave water or high alkaline/acidic detergents. The autoclave steam deposits the phosphate on the surface and can be verified by removal using a pencil eraser[22].

Corrosion (rust) is rare in the piercing industry as we don't generally wrap our instruments in linens which can become contaminated with caustic cleaning chemicals. However, rust can occur with very low-quality manufacturing due to or surface imperfections or damage.

Blue/black stains can occur from dissimilar metals touching (such as brass lined tools) while being cleaned, or during autoclaving, which creates an electrolytic reaction. Although only visual, they can be very difficult to remove without abrasion and may require professional refinishing.

Black stains occur when a non-pH-neutral detergent is used for cleaning or when non-distilled deionised water is used in the autoclave. Ensure your instruments are fully rinsed and dry prior.

Stress Corrosion Cracking may occur on tools such as hemostats if used in an aggressive or prolonged nature and generally result in fractures in the metal before eventually shearing.

Decommission when required

If a tool has not been cared for correctly or simply has exceeded its usable life, it should be decommissioned and thrown away. If it is able to be sterilised, it should be thrown into your regular waste. In the event it is hazardous (sharp edges, for example), it should be disposed of in your sharps container where possible.

Chipped, pitted, and scratched chrome-plated tools should be immediately decommissioned, as the porous surface underneath is unable to be effectively cleaned from.

Storage of instruments

The way tools are stored can be as important as how they are cleaned. A number of reusable sterilisation containers are available to better organise and protect tools[23] before being used.

Correct storage will also reduce wear on autoclave pouches and increase the longevity of sterility.

[22] https://www.researchgate.net/post/Rusty_microdissection_forceps
[23] https://www.scican.com/us/media/instrument-management/95-114168_US_EN_R2_SALUS_OpsMan.pdf

Processing new jewellery and tools for use

Although new jewellery directly from the company should be relatively clean, there is currently no agreed adopted standard between manufacturers. It is up to the end-user (body piercers) to ensure the cleanliness of the final product, prior to installation. New tools will often come with a protective oil that needs to be removed.

Steam Cleaners: For new items only. Sprays jets of high-pressure steam to very effectively remove debris and residue which doesn't require rinsing after. Tools or metal baskets should be used to prevent burns, and care should be taken with natural stones (including pearls and natural opals) as they can easily crack.

Alcohol: Most non-toxic solvents can be used, however, Isopropyl alcohol is readily available between 70-99% concentrations, and correct ventilation and flame protection should be taken to reduce injury.

Enzymatic Agents: Made to break down proteins, fats, and starches, and any other bioburden from jewellery, however, requires adequate soaking times and temperatures that may vary. Refer to the manufacturers' IFU, and rinse thoroughly with clean water after.

Ultrasonic: A dedicated clean ultrasonic should be used only for new jewellery. They work by creating high-frequency sound waves which make bubbles (cavitation) in water, detergent, or enzymatic solutions. Small loads should be done to minimise scratching against each other.

Anodisation: An anodising machine uses a passivation process to thicken the oxide layer on the surface of reactive metals by passing electricity through an electrolyte solution. This is normally used for changing the colour of the metal to funky colours, but the process forms oxygen bubbles on the surface of the metal which can efficiently remove present debris and residues for any metal at lower voltages.

An Example of an efficient new jewellery station using a detergent ultrasonic soak, enzyme ultrasonic soak, distilled water rinse, steam cleaner, and anodiser. [24]

[24] Scratching the Surface – Association of Professional Piercers – June 2017 [Rob Hill & Christina Bloosey]

Processing used jewellery for reuse, repair or re-anodisation

Worn jewellery is biologically contaminated and should only be processed in a disposable container. The practitioner should wear disposable gloves and be aware of cross-contamination.

It should be noted that some studios will have a policy in place to reduce potential contamination and not allow the reprocessing of worn jewellery.

Steps to reprocess used jewellery:

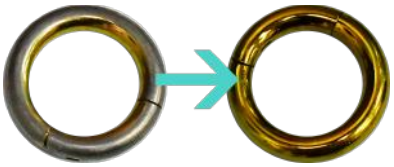
1. Disassemble any removable components (like threaded or threadless ends)
2. Use a disposable enzymatic bath or detergent to break down proteins and loosen hard debris
3. Rinse in a disposable cup of distilled water and perform a visual inspection
4. Use a disposable toothpick or Interdental Brush to further remove debris and re-rinse
5. Thoroughly clean with a single-use alcohol wipe and allow to fully dry
6. Sterilise the components. An autoclave pouch should be used when processing for warranty repair.

Important notes:

- You should NOT under any circumstances ultrasonic contaminated jewellery as there is no efficient way to ensure a lack of cross-contamination for implant use
- Do not steam clean used jewellery. It will spray contaminated aerosols back onto your instruments and also around your studio.
- Be sure to follow each company's return/repair policies and procedures when reprocessing, sterilising, and returning.
- Be sure to properly pad and protect pieces before shipping to avoid potential damage
- Regardless of how well a piece can be cleaned and sterilised, it should not be used on another client[25]. Enough residue can be left behind to defeat even the most thorough cleaning and sterilisation methods. Due to this, there is no accepted standard practice for the reuse of body jewellery on other clients.

[25] https://brnskll.com/wp-content/uploads/2013/01/Returning-Explants-to-Patients-AORN-201202.pdf

Reanodising Used Jewellery



The oxide layer of an anodised piece of jewellery will often become worn over time, resulting in the colour to appear faded or uneven and may need to be reanodised to restore uniformity. This is often more apparent when used in healing piercings.

It should be noted that, just like regular anodising, you can only reanodise to the same or higher voltage, and any biomatter on the jewellery will lead to uneven colour.

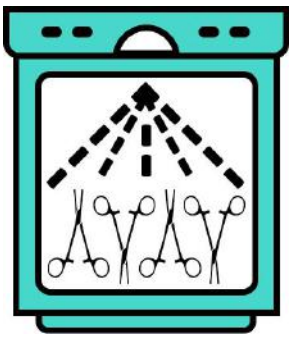
Extra care needs to be taken to ensure that you do not cross-contaminate your anodiser and leads, even when using a single-use disposable setup.

Disposable "Double cup" anodising setup

One way to safely do this is to use two plastic cups, a single-use piercing needle, and a taper.
Ensure you have fully processed and cleaned the jewellery prior, and take care to avoid cross-contamination.

1. Using a piercing needle blade (16g or thicker is suggested), perforate a number of holes in the bottom of a disposable cup to later allow fluid to pass through. If you find anodisation slow, try more or larger holes
2. Fill a second cup with approximately 4cm of anodising solution or around ⅓ of the cup's volume
3. Pierce the second cup at least 1cm ABOVE the solution level and point the needle downwards
4. Slowly nest the cup with holes inside the cup filled with solution. Ensure the needle is in the solution
5. The anodising solution will slowly come up through the holes as you push down.
6. Attach the cathode (black) lead to the end of needle blade
7. Attach the anode (red) lead to a titanium taper or disposable niobium/titanium rod
8. Set the desired voltage on your anodiser
9. Place the jewellery into the liquid in the bottom of the top cup
10. Repeatedly touch the anode (rod connected to red lead) against jewellery until desired color is achieved, ensuring that the leads and clips are never allowed to touch the solution or jewellery
11. Rinse off jewellery with saline solution or water
12. Dry jewellery thoroughly with paper towel
13. Dispose of sharps (and rod if fully disposable) in sharps container
14. Place titanium taper (if used) with soiled tools for reprocessing
15. Dispose of both cups and used solution into biological bin

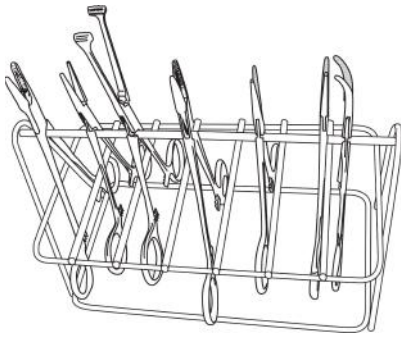
Although a similar setup can be done with a single cup, the addition of the second cup not only allows the cathode to be safely protected against accidental grounding, but also reduces the chance of spillage.



Automated Washers

Similar to your household dishwasher, automated washers require plumbing for water supply and drainage, and use specialised cleaning agents and temperatures to ensure consistent cleaning of used tools.

They decontaminate re-usable equipment using a 5 step process by flushing, washing, rinsing, thermal disinfection, and finally drying. As they automatically dispense cleaning agents, neutralisers, and rinse aid, they save on wastage and optimise cleaning and drying.



Not only do automated washers provide better protection for your clients and yourself, but they also save time and money on PPE, and almost eliminate the need for manual scrubbing and ultrasonics. The only tools that should require manual scrubbing are ones with mixed metals, such as brass-lined tools.

Loose tools should be arranged so they don't touch each other, preferably vertically oriented, and concave surfaces should be arranged so they can drain.

Small components, such as tapers can also be used in automated washers as long as they are secured in fastened stainless containers, like stainless steel tea infuser containers or cassettes.

Automated Washer Cycles

Washers will differ by brand and model, and they generally have the following cycles:

Machine Cleaning Cycle: Used periodically to remove hard water deposits from the chamber walls and racks. Vinegar is often suggested to be manually added to the chamber and can increase the lifespan of your washer and reduce corrosion[26].

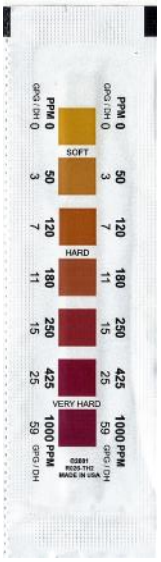
Rinse and Hold Cycle: They also have a "Rinse and Hold" cycle to be used throughout the day to humidify and ensure proteins don't dry before the end of the day cycle is run, eliminating the need for an enzymatic solution container.

Regular Cycle: Used for moderately soiled loose instruments.

Heavy Duty Cycle: Used for heavily soiled instruments, cassettes, and hollow instruments (like receiving tubes). This cycle may result in earlier signs of wear on your regular instruments.

[26] https://scican.com/media/instrument-washing/95-113022_NA_EN_FR_R4_HYDRIM_C61w_G4_Operator_Manual.pdf

Water Quality



Unlike using an Ultrasonic, an automated washer is plumbed directly to your water supply and therefore is susceptible to the water supply having an unusual concentration of calcium and magnesium salts, commonly referred to as water hardness[27].

You may notice a white-greyish residue left on some instruments after drying, which is the leftover impurities. Not only does hard water put extra wear on your equipment (as it deposits in valves and filters), but it also generally reduces how efficient the incorporated cleaning chemicals work[28].

Although many automatic washers automatically remove most Calcium Carbonate after calibration, your water hardness can still be out of the range of adjustment[29]. In this event, an in-line Reverse Osmosis (RO) filtration system may be connected in line with your water supply.

Performance Validation

Just because it looks clean doesn't mean it is clean. Make sure that your unit is functioning correctly with either weekly foil tests or ultrasonic bath monitors, such as the following OK-Sonic™ system[30].

Monitors are printed with two blue reactive soil spots which are removed by the energy of cavitation and action of detergent. The presence of blue is an indication your washing cycle is not working correctly.

Before Use	Pass	Fail
		

[27] https://www.watercorporation.com.au/Help-and-advice/Water-issues/Water-quality/Hard-water
[28] https://apps.who.int/iris/bitstream/handle/10665/250232/9789241549851-eng.pdf
[29] https://www.scican.com/media/instrument-washing/95-113022_NA_EN_FR_R4_HYDRIM_C61w_G4_Operator_Manual.pdf
[30] https://store-cirsgjnyqt.mybigcommerce.com/content/OK%20Sonic%20Technical%20Bulletin%202019%20TT.pdf

Monthly Automated Washer Maintenance Log Book

Year:		
Monthly Maintenance (date/initials)		
January		
February		
March		
April		
May		
June		
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Year:		
Monthly Maintenance (date/initials)		
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Monthly Maintenance (date/initials)		
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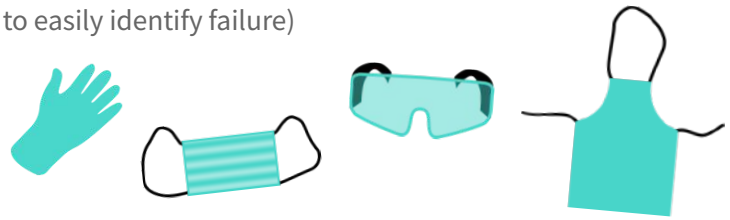
Manual scrubbing tools [31]

Ideally use two or three sinks (or two or three bowls in a single sink) which are kept clean and dedicated to scrubbing. One should be used for active scrubbing in detergent and the other for rinsing off with regular water.

Appropriate PPE (Personal Protective Equipment) should be worn to protect you during scrubbing:

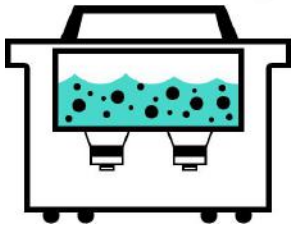
- Double gloving (preferably different colours, to easily identify failure)
- Eye protection
- Fluid repellent masks
- Fluid resistant gown or apron



When cleaning instruments, you should:

- Use stiff plastic cleaning brushes and matching size pipe cleaners for hollow instruments
- Do **NOT** use steel wool or wire brushes
- Only use a pH neutral detergent and do **NOT** use abrasives
- Always brush and rinse submerged to reduce the generation of aerosols
- Use a micro brush (or disposable q-tip) on hinged areas of tools
- Open and close hinged tools while rinsing to ensure thoroughly cleaned

Ultrasonic Units



Wave motion energy is transmitted from the device to the cleaning solution, which creates tiny bubbles of vaporised liquid which implode with high pressure, and as a result, thoroughly cleans all surfaces (including inside hollow instruments and hinges).

Blood and bioburden should be removed with an enzymatic solution prior to ultrasonic, as ultrasonic units naturally heat and temperatures above 40°c can cause the hardening of proteins. A 30-minute break between cleaning sessions is suggested to prevent overheating.

Hollow or lumened (cannulated) items will require additional manual cleaning with pipe-cleaners and brushes with matching sizes and flushing, as they are not always successfully cleaned in an ultrasonic.

As long as the unit is designed for use with health care facilities (not for jewellers), it should comply with the AS 2773.1:1998[32] specifications and be suitable for use in your piercing studio.

[31] https://www.wpiinc.com/media/wysiwyg/pdf/MDI-Cleaning_IMs.pdf
[32] https://infostore.saiglobal.com/en-us/standards/as-2773-1-1998-123812_saig_as_as_260246/

The size, brand, and features will depend on the volume of your studio and exactly which tools you use on a regular basis. However, you should be able to fully submerge your largest tools in an open state.

Upon completion of a cycle, instruments should be immediately removed, drained, rinsed, and allowed to dry in a drying cabinet or manually with a lint-free cloth. Failure to do so can result in residual moisture, which can damage the instruments and also impede the sterilisation process.[33]

Ultrasonic Cover

As ultrasonics emit high-frequency sounds and biohazardous aerosols, they should ONLY be operated with an airtight lid and non-permeable covering to avoid hearing damage or contamination.

A silicone seal for the lid can keep the ultrasonic airtight, or you may choose to fully enclose it inside a plastic container. A cheap and easily accessible alternative is to use a plastic shower cap - just be sure to replace it once the elastic wears out.

Ultrasonic Solutions

There are a number of pH-neutral bacteriostatic detergents on the market, and some will have specific advantages over others, including multi-usage as a manual scrubbing agent.

Make sure to read the back of your product to ensure correct saturation and usage.

Degassing

Degassing is the removal of air and other gases that are dissolved in the cleaning solution and will directly impact the performance of the said solution.

This should be done after replacing the solution by running the empty unit for 5-10mins.

Maintenance

Just like an autoclave, your ultrasonic requires maintenance to ensure it operates efficiently.

Daily	• Dispose of used cleaning solution • Wipe inside of the tank with an enzymatic solution to remove staining • Replace and degas cleaning solution before use
Weekly	• Perform and record transducer performance tests (foil testing)

[33] https://www.health.nsw.gov.au/environment/factsheets/Pages/how-to-sterilise-instruments.aspx

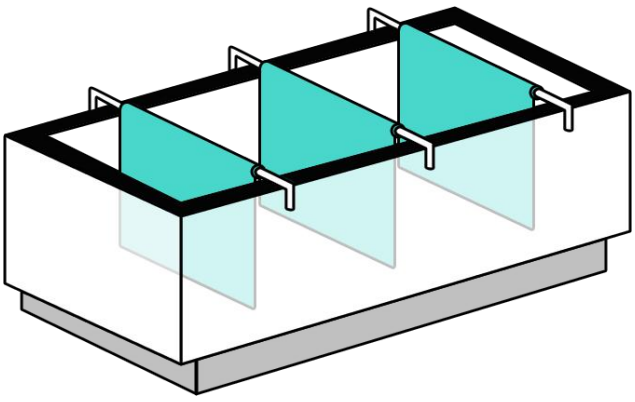
Ultrasonic Validation

Foil Test Ultrasonic Validation

Weekly transducer performance tests, more commonly known as aluminium foil ablation tests, should be done in accordance with AS 2773.2 to ensure the transducer function is functioning correctly.

1. Cut multiple strips of regular (0.2 mm) aluminium foil 1-2cm longer than the depth and the same width as the inside capacity of the unit.
2. Use cut pieces of metal wire, like a clothes hanger, that is wider than the exterior of the unit and if possible bend the ends to prevent movement.
3. Fill the ultrasonic cleaner tank, add detergent, and degas the solution by running it covered and empty for 5-10 minutes.
4. Fold the strips securely over the wire so they almost touch the bottom of the unit.
5. With the unit off, lower the foil vertically into the tank and replace the lid and cover.
6. Operate the ultrasonic cleaner for 10 seconds on its regular cycle and remove the lid and cover.
7. Take the foil out and inspect it for even distortions in the foil. You should see pitting (indents) and perforations (small holes) evenly distributed across each foil piece.

If you observe an uneven distribution, then the ultrasonic cleaner is not functioning at maximum efficiency and should be replaced or serviced prior to use.



A demonstration of a DIY foil testing setup

Note the even distribution of perforations in the foil and the line where submersion started

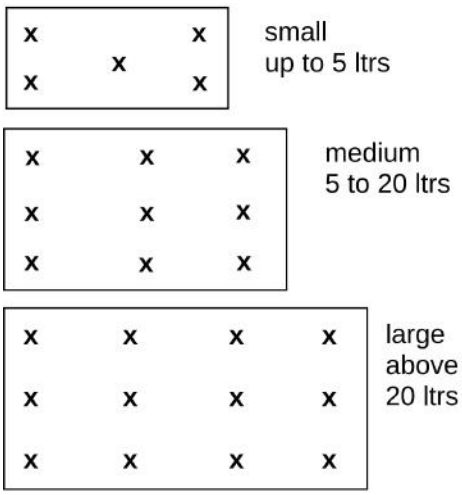
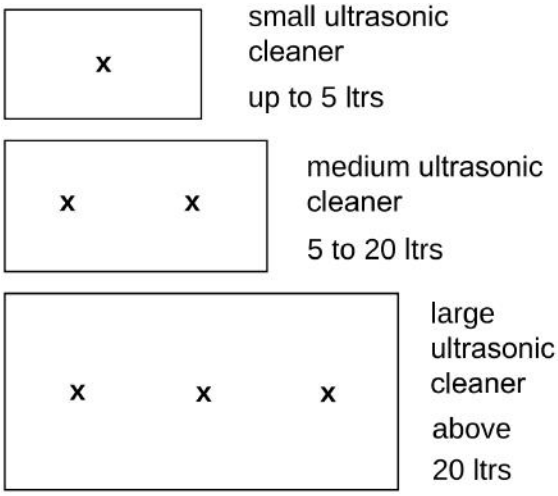
SonoCheck Ultrasonic Validation

SonoCheck is a modern alternative to ultrasonic foil testing as the sealed vials are pre-prepared and designed to be used alongside your tools in a cycle and very easy to identify pass or fail[34].

Problems such as insufficient energy, overloading, water level, improper temperature, and degassing will increase the time needed for the color change. At approximately $12 AUD each[35], they are significantly more expensive than foil testing but offer much greater ease of use and reading.

Before Use or Fail	Pass
	

Care should be taken during the disposal of the used vile as the exterior will be contaminated.

Initial Functional Test	Weekly Routine Test
	

[34] http://www.healthmark.info/CleaningVerification/SonoCheck/ValidationofSonoCheck.pdf
[35] https://www.elma-ultrasonic.com.au/product/sonocheck-ultrasonic-activity-test-vials-box-30-vials/

Ultrasonic Log Book

Ultrasonic Maintenance Log Book

Month:		Year:		Daily solution changed and degassed											
Monday (date/initials)		Tuesday (date/initials)		Wednesday (date/initials)		Thursday (date/initials)		Friday (date/initials)		Saturday (date/initials)		Sunday (date/initials)		Weekly Validation Test	

Reprocessing area layout

The layout of your reprocessing area is not only vital to reducing the chance of cross-contamination but can also drastically increase the efficiency of your daily workflow.

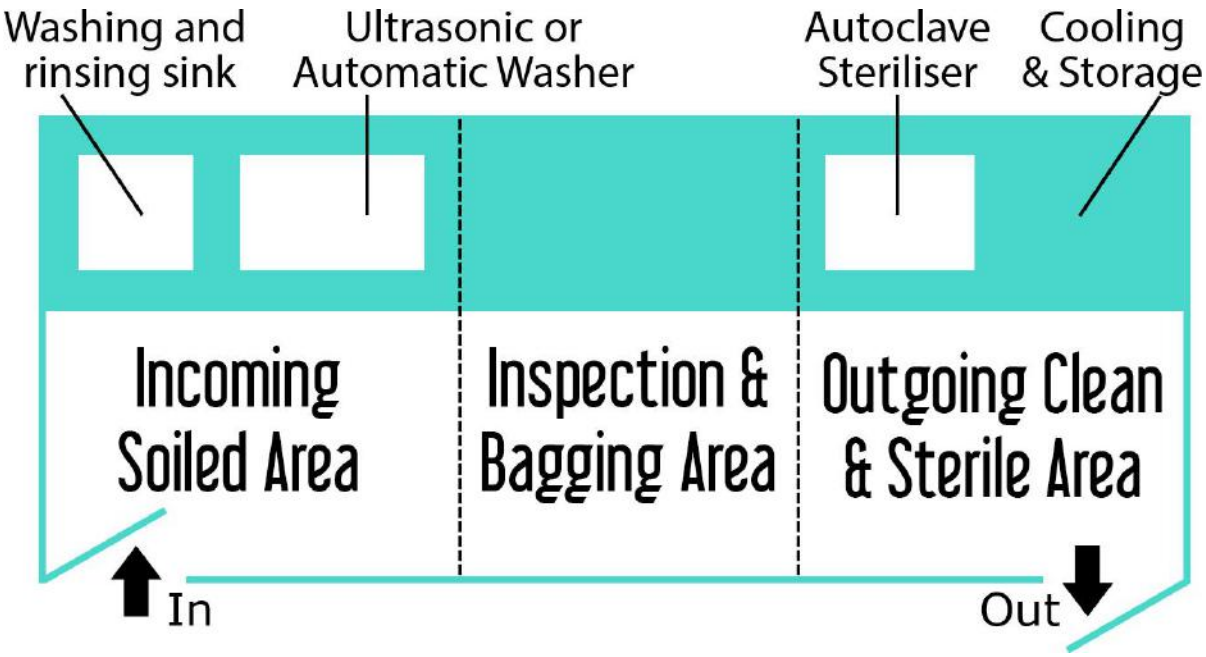
Ideally, it should be divided into areas that are physically separated with a clear directional workflow from dirty to clean. Physical barriers or physical separation are advised to separate dirty and clean areas, as well as clear signage[36].

Dedicated sterilisation room

The most common layout where a dedicated physically separated room is used for reprocessing only.

Soiled tools are transported in an enzymatic container at the end of the day for processing, inspection, and sterilisation before finally being stored away from the soiled area. Sterile storage can occur in the processing room if physically protected, although more commonly it is stored in another area.

A shared in and out doorway may be used as long as there is a clear pathway and the door can be operated hands-free from both directions, but should never be used as a thoroughfare.



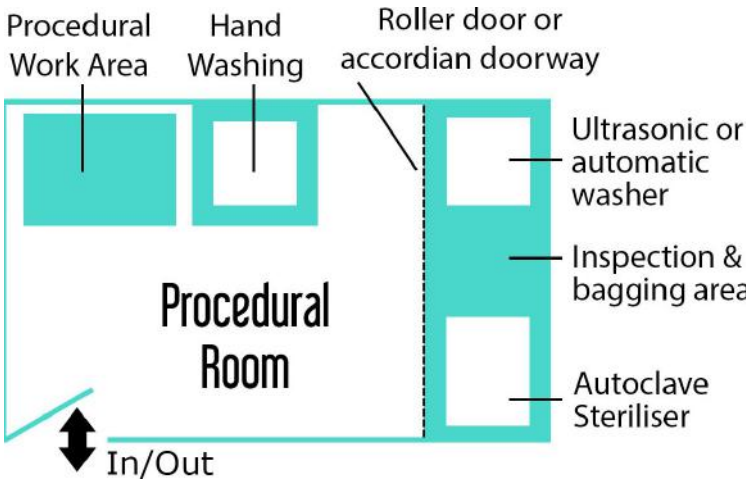
[36] https://apps.who.int/iris/bitstream/handle/10665/250232/9789241549851-eng.pdf

Reprocessing room-in-a-room

Useful for smaller studios with a single procedural room or for a micro-studio inside another store.

Tools need to be stored in an enzymatic storage container and transported into the designated area at the end of the day for automated reprocessing.

Care needs to be taken to ensure ultrasonic units are enclosed and both areas have separate HEPA air filtered to ensure no cross-contamination occurs.

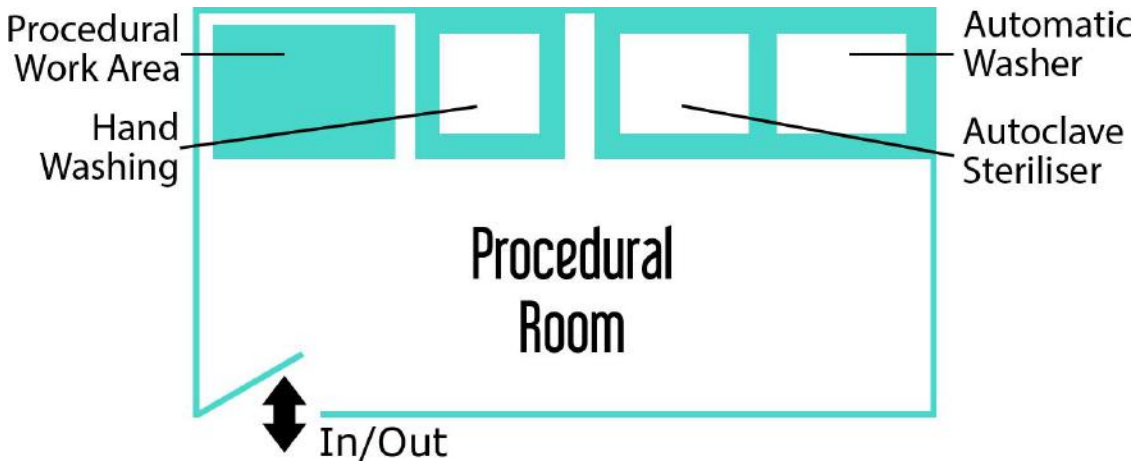


Procedural area automated washer

Soiled tools are immediately put into an automatic washer for a “rinse & hold” cycle until a complete cycle can be run at the end of the day. Once this cycle is completed, the disinfected tools need to be inspected and put directly into the autoclave for bulk sterilisation. This system only works if you are not bagging your tools before autoclaving.

Care needs to be taken to ensure the exterior of your automatic washer and steriliser remain uncontaminated during use. Many automated washers have an unlock button that can be operated with a clean hand (or elbow) while still holding the soiled tools to be inserted.

A separate reprocessing area may still be required for other reasons such as tool maintenance, tools not designed to run in an automated washer, and in the event, your automatic washer requires servicing. Alternatively you could also rely on a fully disposable setup while machines are down.



AUPP Member Corner

We want your feedback

Are your favourite jewellery manufacturers, medical suppliers, or industry-specific distributors NOT already AUPP supportive members? You should definitely let them know they should be!

Just like a practitioner membership, supportive members come with lots of fun perks and the knowledge they are helping our industry and association grow further. <3

Tell them to sign-up on the website or hit us up at **contact@safepiercing.org.au**

Meeting Membership Requirements

Ensuring that you meet or exceed the minimum AUPP member requirements is an important part of the advancement and growth of our association and industry.

2020 Requirements

- Environmental requirements
    - Dedicated biohazard tool container (if reprocessing tools)

2022 Requirements (previously 2021)

- Environmental requirements
    - Dedicated sterilisation area with door and HEPA air filter (if reprocessing tools)
    - Biohazardous waste containers must have a hands-free lid and marked “Biohazard”
- PPE requirements
    - Uses PPE for manual tool reprocessing (if applicable), including:
        - disposable gloves
        - disposable apron
        - disposable arm sleeves
        - disposable mouth protection
        - eye protection (disposable mask with eye shield suggested)

2023 Requirements (previously 2022)

- Has submitted a video walk-through of studio, including:
    - reprocessing room (if applicable)

Supporter Highlight