

Surgical Instruments



Disclaimer

A series of booklets has been developed by the Clinical Skills Lab team (staff, recent graduates and students) from the School of Veterinary Sciences, University of Bristol, UK. Please note:

- Each booklet illustrates one way to perform a skill and it is acknowledged that there are often other approaches. Before using the booklets students should check with their university or college whether the approach illustrated is acceptable in their context or whether an alternative method should be used.
- The booklets are made available in good faith and may be subject to changes.
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Year Group: BVSc3 +



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Equipment list:

Surgical Instruments

Equipment for this station:

- Towel clips
- Scalpel handle
- Dressing scissors
- Mayo scissors
- Metzenbaum scissors
- Suture removal scissors
- Allis tissue forceps
- Dressing forceps
- Rat tooth tissue forceps
- Spay forceps
- Artery forceps
- Mayo needle holders
- Gillies needle holders

Considerations for this station:

- Please use the instruments with care

Anyone working in the Clinical Skills Lab must read the 'CSL_I01 Induction' and agree to abide by the 'CSL_I00 House Rules' & 'CSL_I02 Lab Area Rules'

Please inform a member of staff if equipment is damaged or about to run out.



Towel clips:

Used for holding drapes in place and securing them to the patient.

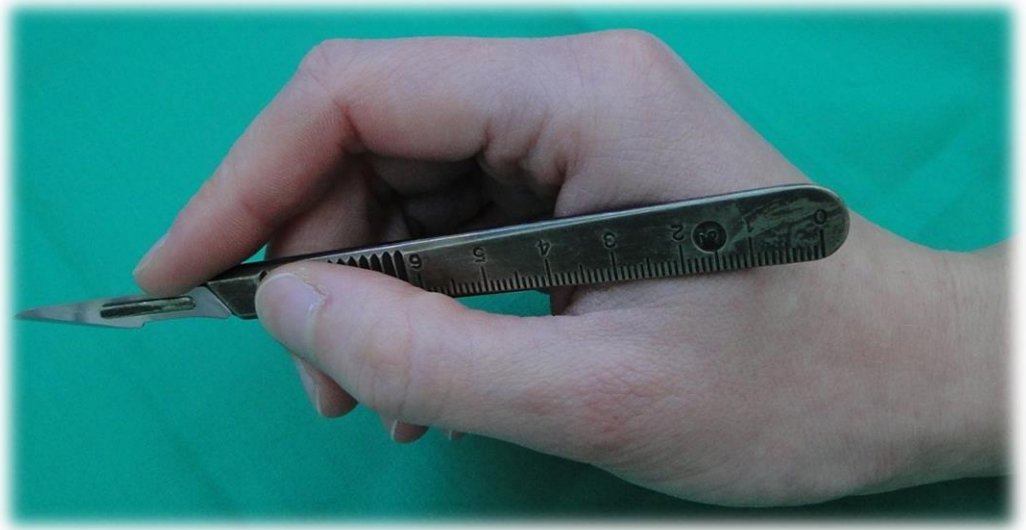
As a surgeon it is important to let the anaesthetist know when the clips are about to be placed as this is the first painful stimulus to the patient.



Scalpel handle:

Handles come in different sizes and different blades will fit onto the different handles. Always place and remove a blade using forceps not your fingers!

There are different ways of holding scalpels but the most common is the pencil grip, as it offers most precision. Use your index finger to guide the blade, and if necessary, your other fingers can be used to brace and support the handle (and therefore the blade).



A correct grip



Dressing scissors:

These are for cutting dressings and bandaging materials. Don't use them in surgery!

See Metzenbaum scissors for how to hold scissors.



Mayo scissors:

Straight-bladed Mayo scissors are designed for cutting body tissues near the surface of a wound. As straight-bladed Mayo scissors are also used for cutting sutures, they are also referred to as "suture scissors".

Curved-bladed Mayo scissors allow deeper penetration into the wound than the type with straight blades. The curved style of Mayo scissor is used to cut thick tissues such as those found in muscles, mammary glands and the foot. Mayo scissors used for blunt dissection are placed in tissue with the tips closed. The scissors are then opened so that the tips open and spread out the tissue during the dissection process.

See Metzenbaum scissors for how to hold scissors.



Correct grip

Metzenbaum scissors:

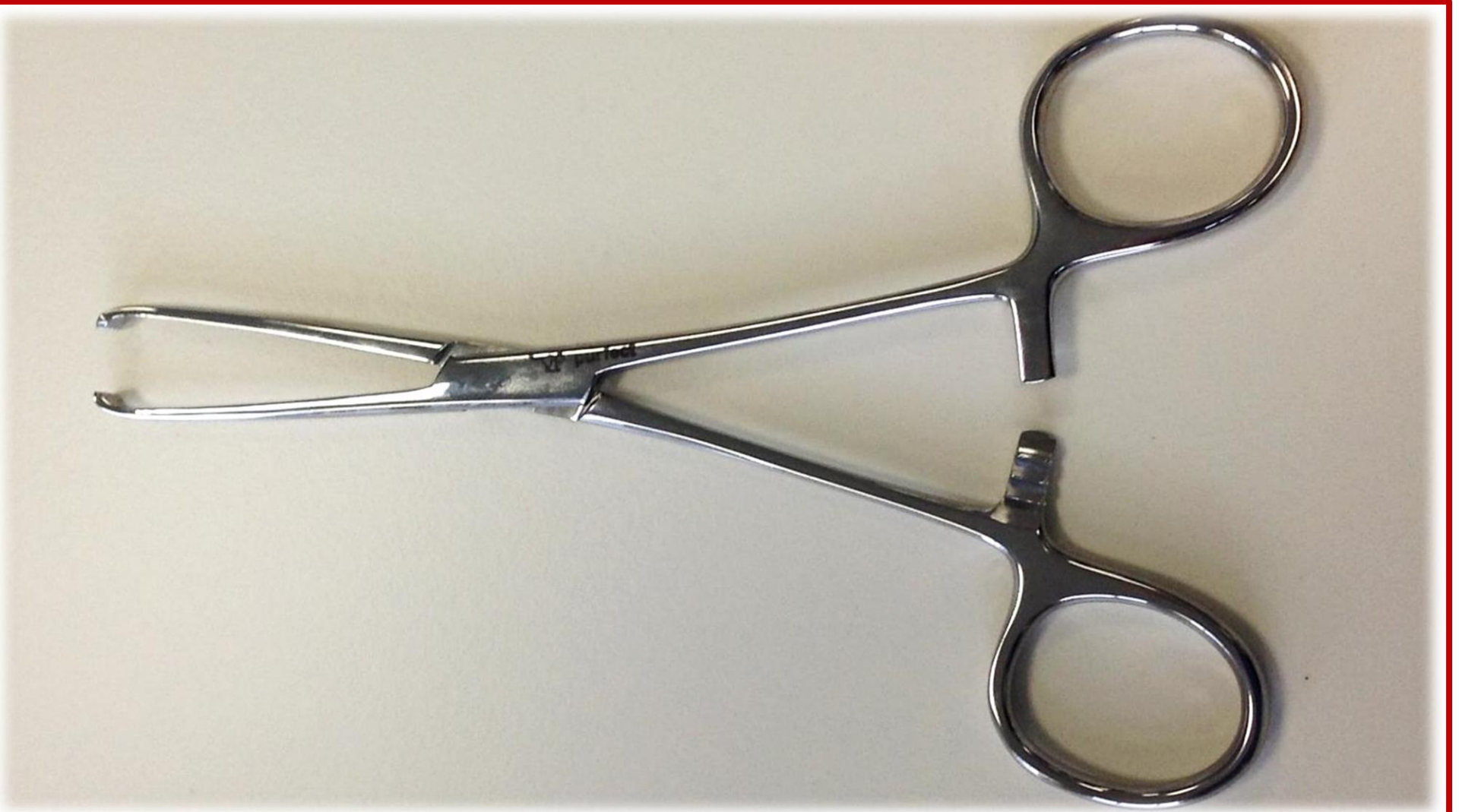
Metzenbaum scissors are surgical scissors designed for cutting delicate tissue. The scissors come in variable lengths and have a relatively long shank-to-blade ratio. The blades can be curved or straight. The blade tips are blunt.

Scissors should be held with the thumb and ring finger, with the index finger near the fulcrum to guide the blades. This grip maximises the torque and shear forces when using scissors.



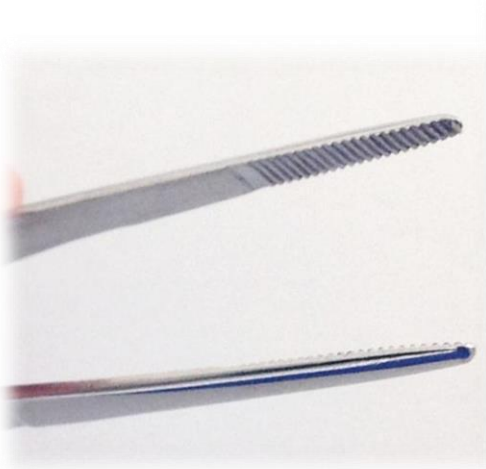
Stitch removal scissors:

These have a fine tip and blades specifically designed to facilitate suture removal.



Allis tissue forceps:

These are used to grasp tissues such as skin or other fibrous tissues such as fascia or tendons.

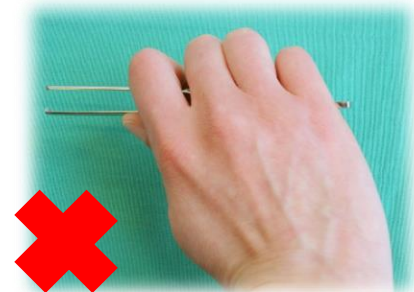


Correct grip

Dressing forceps:

Originally designed for handling gauze. In addition to being used to hold gauze, dressing forceps can also be used during wound debridement, to pull out pieces of infected or dead tissue, remove foreign material in a wound, or pull back the skin to better visualize the area of an injury. These forceps can also be used for handling sutures in place of rat tooth forceps.

Hold forceps in the pen grip, with your index finger running along one arm of the forceps, and your thumb along the other to allow optimal fine motor control, access (your hand is less likely to get in the way) and for ease of manipulation of tissue.



Incorrect grip



These
forceps
have
'rat
tooth'
ends



Rat tooth tissue forceps:

These forceps are used to hold (grip) skin/dense tissue. They have interdigitating teeth to hold tissue without slipping. They do cause a degree of tissue damage so should not be used on delicate tissue and care should be taken when operating on animals with thin delicate skin.

Hold forceps in the pen grip, with your index finger running along one arm of the forceps, and your thumb along the other to allow optimal fine motor control, access (your hand is less likely to get in the way) and for ease of manipulation of tissue.



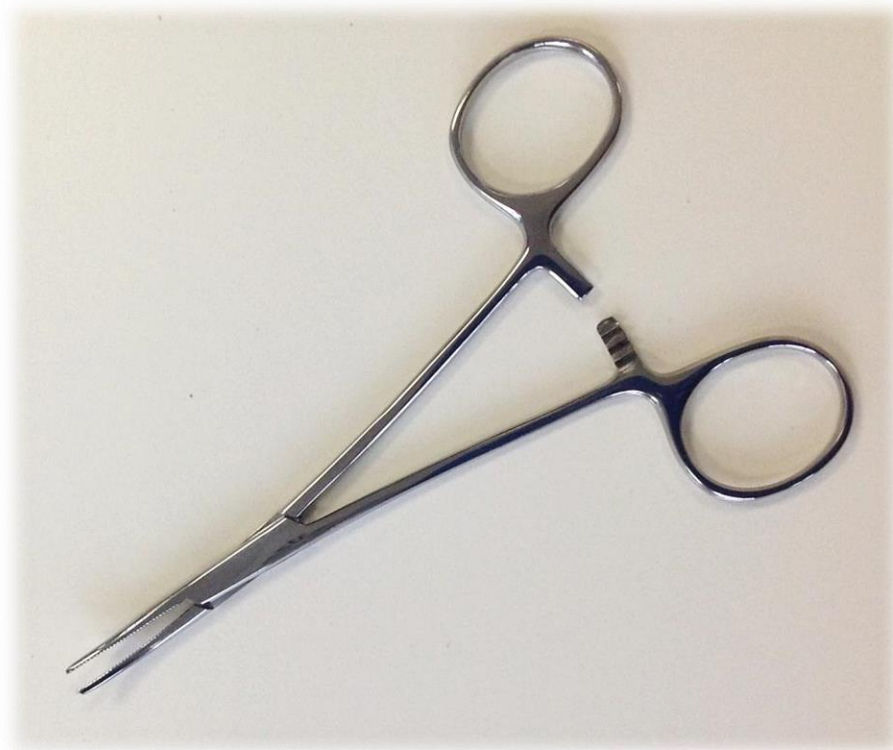
Correct grip



Spay forceps:

Fine forceps that allow good control and are used to aid handling of delicate tissues. Also used during a flank cat spay.

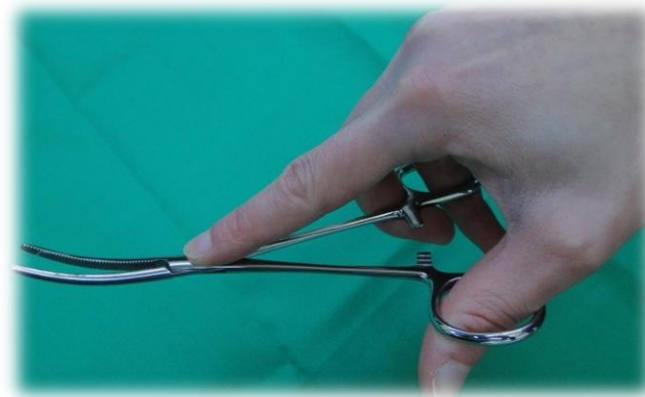
See rat tooth forceps or dressing forceps for how to hold forceps correctly (pen grip).



Artery forceps (haemostats):

Artery forceps come in various sizes and varieties and are used for haemostasis i.e. to control bleeding from vessels and tissues. They should not be used as needle holders.

Curved forceps should be placed on the vessel with the curve facing up. Artery forceps should be held with the thumb, ring and index fingers as shown.



Correct grip

Mayo needle holders:

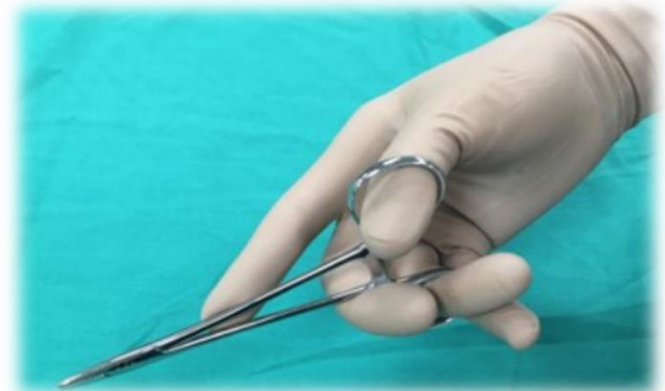
Used for holding a suture needle. Note that Mayo needle holders have a ratchet which helps to prevent the needle slipping or twisting round.

Hold the Mayo needle holders with your thumb in the one hole.

Have your ring finger (or if you have large hands you may prefer to use your middle finger) in the other hole.

Place your index finger down the handle near the hinge.

Mayo needle holders can be used by right and left handers.



Correct grip



Correct grip

Gillies (needle holders):

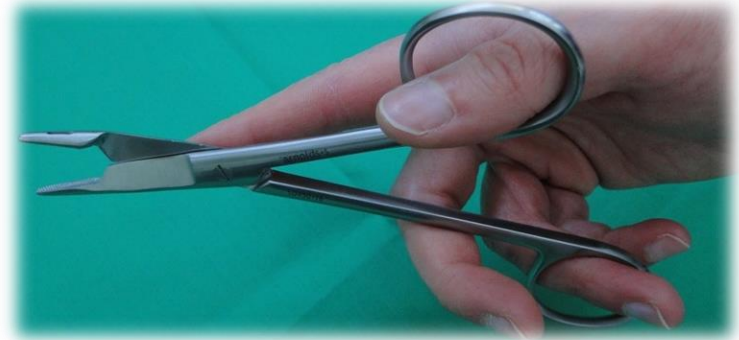
Used for holding a suture needle. Note that gillies do not have a ratchet and therefore there is a knack to holding them without letting the needle slip.

Hold gillies with your thumb in the larger hole (of the shorter section).

Have your ring (or middle) finger in the other hole – which finger is used depends on the size of your hands.

Place your index finger on the handle near the hinge.

Left handed people will struggle with right handed gillies and vice versa. There are a few pairs of left handed gillies in the CSL; otherwise needle holders may be easier.



Correct grip



Correct grip

1. Replace instruments in the appropriate container or in the drawer.

Station ready for the next person:



Please inform a member of staff if equipment is damaged or about to run out.



- Be aware of the damage that can be caused when holding tissue with forceps e.g. too much re-gripping damages tissue and may make suturing more difficult, especially with cat skin.