

Equine Jugular Blood Sampling



Disclaimer

A series of booklets (instructions for skills and flipped classroom materials) has been developed by the Clinical Skills Lab team (staff, recent graduates and students) from Bristol Veterinary School, University of Bristol, UK.

Please note:

- Each flipped classroom booklet includes ways to prepare for learning a skill in class; it is acknowledged that there are often other approaches. Before using the booklets, students should check with their university or college to determine whether the approaches illustrated are acceptable in their context or whether an alternative resources should be used.
- The booklets are made available in good faith and may be subject to changes.
- In using these booklets, you must adopt safe working procedures and take your own risk assessments (as and when appropriate), checked by your university, college etc. The University of Bristol will not be liable for any loss or damage resulting from failure to adhere to such practices.

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Equipment list:

Equine jugular blood sampling

Equipment for this station:

- Equine jugular blood sampling model
- Needle: 21g x 1"
- Syringe: 5ml

Considerations for this station:

- Personal protective equipment (PPE) must be worn when working with horses, including safety boots and a hard hat.
- In the model, fake blood may squirt out of the needle hub when inserted into the simulated vein whereas in a live horse blood will drip from the hub.
- Venipuncture is performed in the cranial third of the neck to reduce the risk of accidentally puncturing the carotid artery.

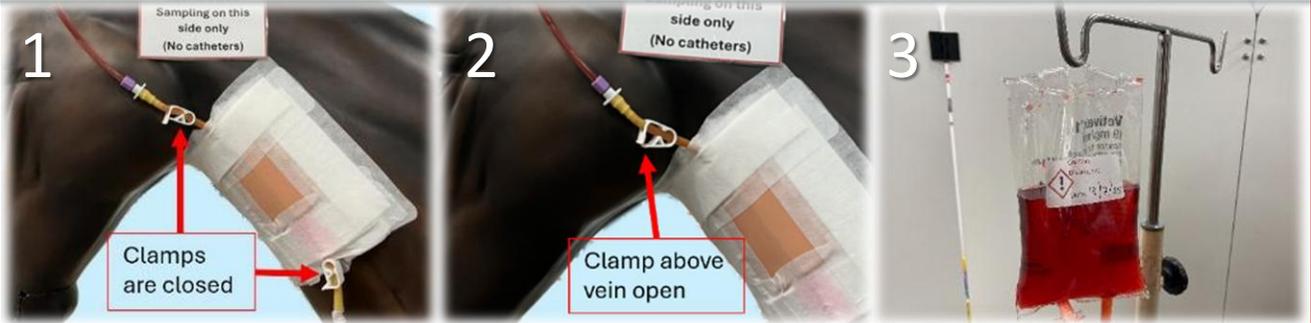
Anyone working in the Clinical Skills Lab must read the 'CSL_I01 Induction' and agree to abide by the 'CSL_I00 House Rules' & 'CSL_I02 Lab Area Rules'

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

Clinical Skills:

Equine jugular blood sampling

Checking the model is ready for use



Normally the model will be ready for use at the start of a practical.

When the model is **not in use**, both clamps should be closed – one above and one below the 'vein' (as in the photo).

To ensure the model is **set up ready for use** and blood can be drawn from the jugular vein, open the clamp above the 'vein', closest to the fluid bag containing the fake blood.

Note: If the tubing is filled with air you will need to open the clamp below the vein to allow the tube to refill with blood. Then close the lower clamp.

The fake blood in the fluid bag contains colouring and disinfectant.

If any fluid comes into contact with your skin, please wash hands immediately. The fake blood may stain clothing.



The model is set up for taking a blood sample from the horse's left jugular vein. Typically, horses are approached on the left side, but blood can also be collected from the right jugular vein, although not on this model.

Clinical Skills:

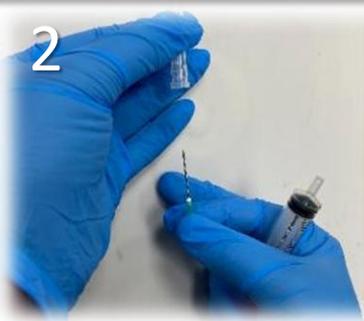
Equine jugular blood sampling



Steps to collect a blood sample

Identify the jugular vein.

Note: With a real horse, apply a headcollar before starting and ensure the owner/handler is standing on the same side as you are.



Select a 5ml syringe and a 21 gauge 1 inch needle.

Remove the cap from the needle and hold the needle by the hub with the fingers of your right hand. Your thumb should be uppermost.

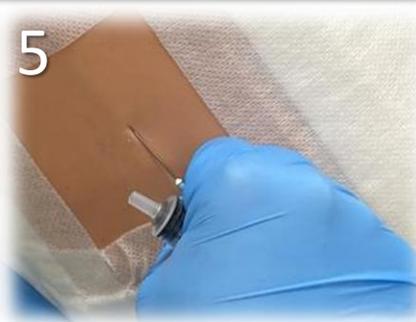


Stand perpendicular to the horse's neck and in line with the horse's forelimb.



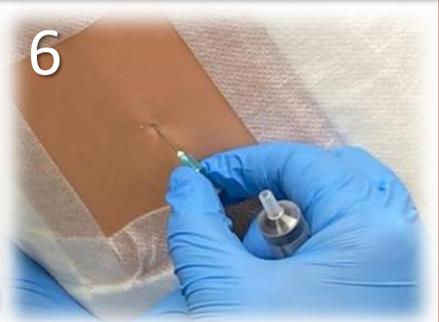
Using the thumb of your left hand (arrow on image above), press into the jugular groove approximately halfway down its length. This occludes blood flow and in the live horse will allow the cranial portion of the vein to fill with blood and 'raise'. Continue to 'raise' the vein until step 8.

Palpate the vein with a finger of the other hand.



Line the needle up parallel with the vein and at a 30-degree angle to the skin, with the bevel of the needle facing towards you.

Press the back of the needle into the skin and maintain this pressure as you advance the needle cranially through the skin and into the vein at a 30-degree angle.

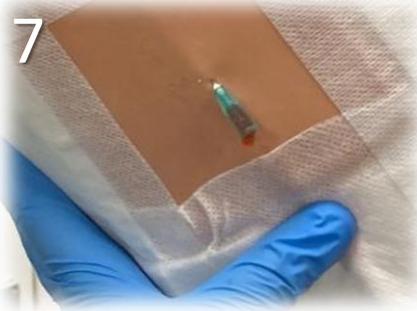


Once the needle is through the skin and into the vein, flatten the angle of the needle before advancing all the way up to the hub, so that no needle is showing. Fake blood should squirt/drip from the hub.

In the live horse, dark red blood will drip from the hub.

Clinical Skills:

Equine jugular blood sampling



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If the needle is in the vein, blood will start to fill the needle hub and drip.



8
Stop 'raising' the vein. Connect the syringe to the hub of the needle by securely holding the hub with your left hand and pressing the syringe into place with your right hand.



9
'Raise' the vein again with your left thumb and then withdraw the plunger of the syringe with your right hand without pulling the needle out of the vein.

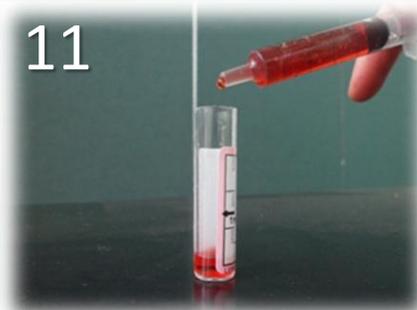
Continue to slowly withdraw the plunger until the syringe is filled with 5ml of blood.



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Once the required amount of blood is in the syringe, stop withdrawing the plunger and stop 'raising' the vein.

Smoothly pull the needle and attached syringe out of the horse's neck.

Do not place your thumb or fingers over the venipuncture site as this can introduce contamination.



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In a clinical setting, the blood sample is then decanted into a suitable blood tube(s).

The needle and syringe must be disposed of appropriately. See booklet 'CSL_U02 Safe Use of Needles.'

Resetting the station: Equine jugular blood sampling

1. Dispose of needle safely in a sharps container
2. Place syringe in a clinical waste bin
3. If there are no other students going to use the model immediately after you, close the clamp closest to the fluid bag above the 'vein'

Station ready for the next person:



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

I wish I'd known:

Equine jugular blood sampling

- Inserting only the needle into the vein (without the syringe attached) allows you to check the blood is dark red and dripping out of the hub indicating the needle is in the jugular vein, rather than bright red and spurting indicating the needle is in the carotid artery. It is important to obtain venous blood for most blood tests but especially important when injecting medications.
- A wider gauge needle is often used for giving medications.
- Often, for blood sampling, experienced vets will keep the needle and syringe attached throughout the process.
- Some vets may occlude the vein proximal to the site of venipuncture when they remove the needle to attempt to reduce perivascular bleeding.
- Some horses do not like having injections and may show signs of distress. It is helpful to be aware of the signs to look out for. A useful resource is: [Equine stress | The British Horse Society](#)
- There are methods to train horses to cope with injections. A useful resource is: [Don't Break Your Vet - Easy Injections](#)