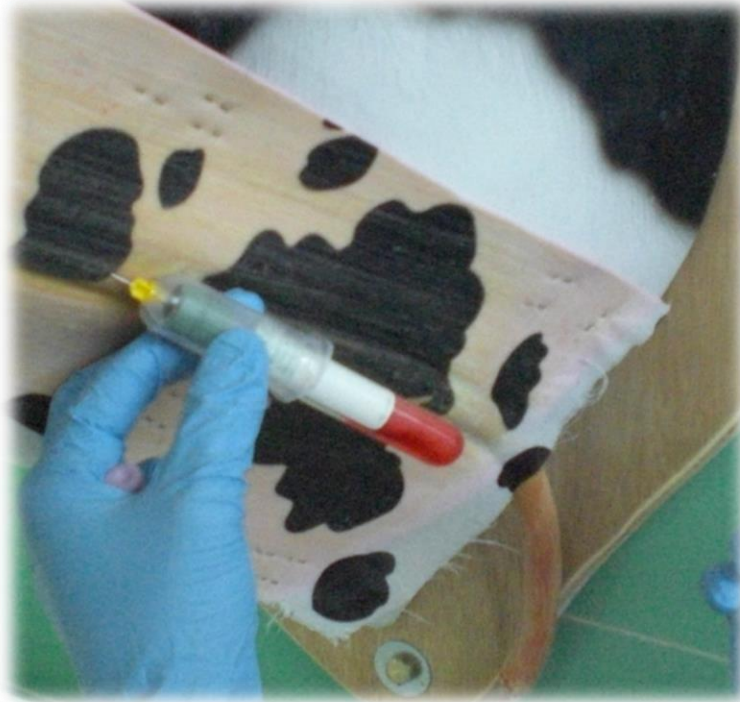


# Bovine Blood Sampling Jugular Vein



## 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.
- In using these booklets you must adopt safe working procedures and take your own risk assessments, 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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Year Group: BVSc & AGEP



## Equipment for this station:

- Gloves
- Vacutainer holder
- Vacutainer needle
- Vacutainer blood collection tube
- Cow jugular model

## Considerations for this station:

- **WARNING:** This model contains latex. If you have a latex allergy, please consult a member of the clinical skills lab staff before using the model.
- The needles are sharp and therefore present a risk of a needle stick hazard. Handle with care.
- Refer to and follow the instruction booklet 'CSL\_U02 Safe Use of Needles'.
- For more information please refer to 'General Risk Assessment Form: Needles CSL\_R03' (in the CSL).
- Dispose of used needles in a sharps container.

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'

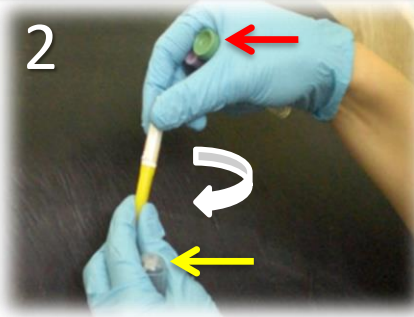
Please inform a member of staff if equipment is damaged or about to run out.



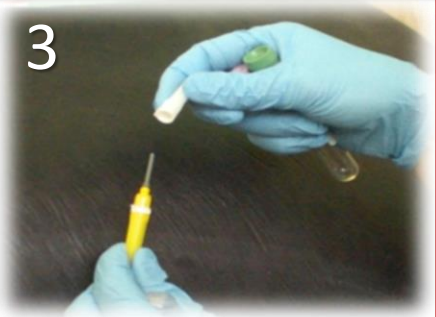
# Clinical Skills: Jugular Blood Sampling



1  
Wearing gloves, select a vacutainer needle, plastic vacutainer holder and a blood collection tube (which may have a red, green or purple top depending on the reason for the sample collection - see further information later in the booklet.).



2  
Hold the blood tube in the palm of your dominant ('sampling') hand (red arrow). Hold the vacutainer holder in the palm of your other hand (yellow arrow). Keep the fingers of both hands free. Remove the cap from the shorter part of the needle (white in the photo above) using a twisting and pulling motion.



3  
Pull the cap off. This will reveal a needle, that may be covered with a rubber sheath (see photo below) depending on the brand.



This is a needle and so must be treated as a sharp!



4  
Hold the needle with the thumb and index finger of your dominant hand and the vacutainer holder between the thumb and index finger of your non-dominant hand. Insert the needle through the small hole in the top of the vacutainer holder.



5  
Screw the needle into the holder until it is firmly secured in place.



6  
Remove the other plastic needle cap (yellow in the photos) to reveal the sampling end of the needle. Hold/transfer the vacutainer holder into the hand that will be used to perform the sampling (usually your dominant hand).



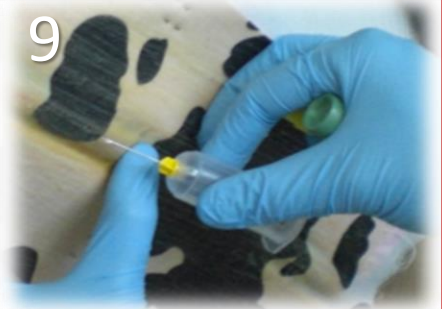
# Clinical Skills: Jugular Blood Sampling



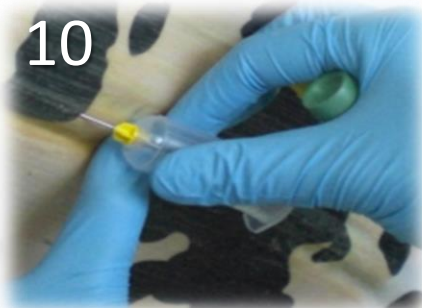
7  
Palpate the jugular groove with your free hand to determine the location of the jugular vein.



8  
With your free hand raise the jugular vein by pressing your thumb firmly into the jugular groove.  
The thumb position must be far enough down the groove (caudally) to leave enough space to insert the needle and collect the sample.



9  
Position the needle over the jugular groove cranial to where your thumb is raising the vein. Hold the needle at an angle of about 45 degrees to the skin surface.



10  
Push the needle through the skin and into the jugular vein following the direction of jugular with the needle.  
N.B. Continue to raise the vein with your thumb during needle placement.



11  
Stabilise the vacutainer holder between the thumb and index finger of the hand that is raising the vein. Use the free fingers of that hand to continue raising the jugular vein.  
Have the first blood tube ready in your other hand.



12  
Insert the blood tube into the vacutainer holder with your index and middle fingers over the base of the holder and use the palm of your hand to push the blood tube up into the holder and firmly onto the needle.  
Your other hand maintains the position of the needle in the jugular vein by stabilising the vacutainer holder.



# Clinical Skills: Jugular Blood Sampling

13



If the needle has been placed correctly in the jugular vein, the tube will now rapidly fill with blood. Remove the tube when it is about two thirds full. If collecting more than one sample (e.g. different tube types), leave the needle in situ and insert another tube into the vacutainer holder.

14



If the tube does not fill with blood, ensure the vein is raised and then either:  
i) Keep the needle in the vein and try repositioning it  
Or  
ii) Remove the blood tube from the vacutainer holder. Then remove the needle from the vein and reinsert it in a different place.

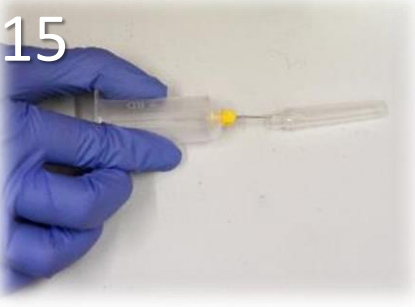
N.B. If needing to reposition the needle, it is important to preserve the vacuum in the blood tube. Therefore:

- **Always remove the blood tube from the needle before removing the needle from the vein.**

Otherwise the vacuum is lost ('blown') and a quiet hissing noise may be heard!

When all samples have been collected, remove the needle from the vein.

15



Safely recap the needle using the one-handed needle re-capping technique (see 'CSL\_U02 Safe Use of Needles'). This should be done on a flat surface e.g. in your veterinary equipment box.

## Types of blood tube and their uses



### Red top

Plain (clotted)  
Serum  
Uses e.g.  
• Serology  
• Biochemistry  
• Down cow



### Green top

Lithium heparin  
Plasma  
Uses e.g.  
• Biochemistry including non esterified fatty acids (NEFAs)  
• Trace elements (Se, Co, Cu, Zn)



### Purple top

EDTA  
Uses e.g.  
• Complete blood count (CBC)

N.B. It is always advisable to check with the laboratory doing the tests for their preferred sample type (as it can vary).



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# Resetting the station: Jugular Blood Sampling

Having replaced the cap onto the exposed needle (Step 15):

1. Unscrew the needle from the vacutainer case.
2. Dispose of the needle in a sharps container.
3. Replace the vacutainer holder in the container provided or in the drawer.
4. Dispose of any full blood tubes or 'blown' blood tubes into the disposal container provided near the model.
5. Clean up any spills or leaks with a damp paper towel.

*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: Jugular Blood Sampling

- Have all the equipment including each type of blood tube to be used ready before you start.
- Decide which diagnostic tests you are going to run and therefore which blood tubes you need to fill before you start. If in any doubt take all that you might need.
- Make sure the cow's head is properly restrained. Even in a crush the cow can still swing her head making blood sampling a challenge. Therefore, consider using a halter as well or asking the farmer to restrain her head for you.
- Take more tubes with you to the cow than you anticipate needing in case you accidentally lose ('blow') the vacuum on one.
- N.B. If needing to reposition the needle, it is important to preserve the vacuum in the blood tube. Therefore:  
**Always remove the blood tube from the needle before removing the needle from the vein.**  
Otherwise the vacuum is lost ('blown') and a quiet hissing noise may be heard!
- You can also collect the sample with a 10ml syringe and a 1.5" 19G needle and then transfer the sample to the relevant blood tube.
- Most blood samples from adult cattle are collected from the tail (see booklet 'CSL\_F11 Tail Vein Blood Sampling'). It is often easier and safe than from the jugular. Use of the jugular vein is usually reserved for calves (when the tail vein can be difficult to find) or down cows when the neck is easier to access, and the head is easier to restrain.