

# Locating Equine Pulses



## 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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## Equipment list: Locating Equine Pulses

### Equipment for this station:

- Live horse
- Model horse (with Velcro sites)
- Laminated card labels

### Considerations for this station:

- Refer to the CSL booklets '*CSL\_H03 Placing a Headcollar*' to restrain a horse prior to palpating pulses.
- It is a pre-requisite that you have had your equine handling session before using the live horses
- Before handling live horses, always wear the appropriate personal protective equipment (PPE) i.e., hard hat, steel toe capped boots, a boiler suit.
- N.B. It is convention to initially approach a horse on its left (near) side; never walk behind a horse.

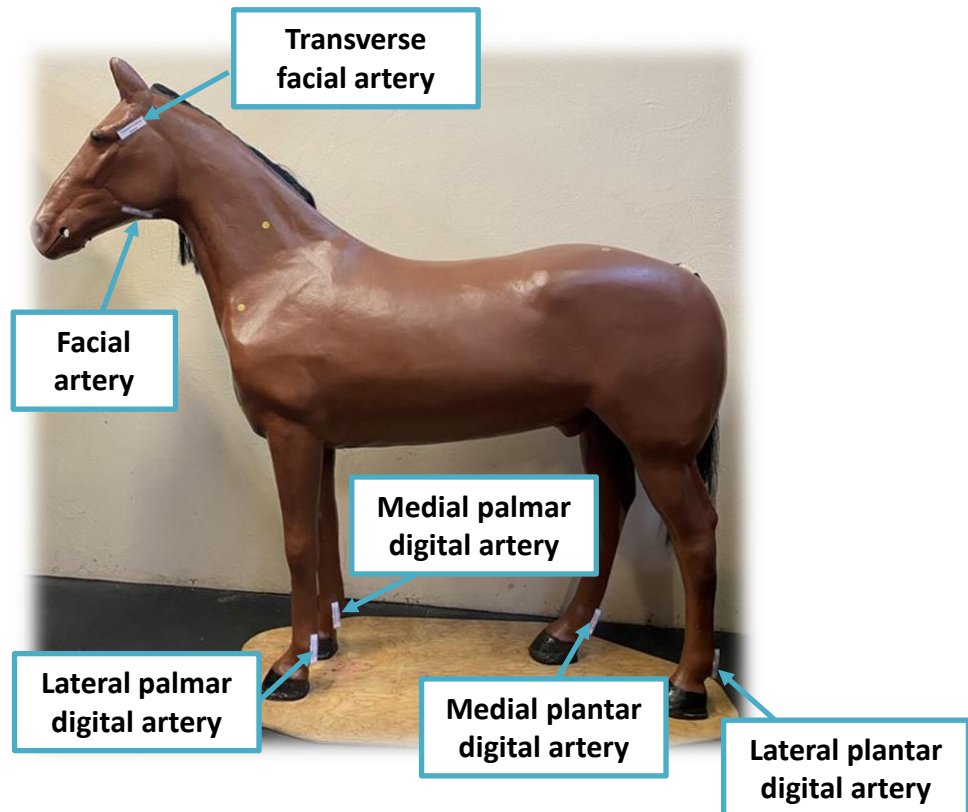
Anyone working in the Clinical Skills Lab must read the '*CSL\_I01 Induction*' and agree to abide by the '*CSL\_I00 House Rules*' & '*CSL\_I02 Lab Area Rules*'

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



# Clinical Skills: Locating Equine Pulses

Using the model horse in the CSL, have a go at labelling the sites for palpating equine pulses.



There are **three** places to palpate to feel a pulse in a horse

1. **Transverse facial artery** – located caudal to the lateral canthus of the eye towards the temporomandibular joint, running parallel and ventral to the zygomatic arch.
2. **Facial artery** – crosses the ventral border of the mandible from caudomedially, to rostrolaterally, in the rostral half of the masseter muscle.
3. **Digital artery** – located on the abaxial aspects of each limb, from the level of the proximal sesamoid bones distally to the ungular cartilage.

**Remember:**

Palmar	Caudal aspect of forelimb
Plantar	Caudal aspect of hindlimb
Lateral	Away from midline of body
Medial	Towards midline of body



# Clinical Skills: Locating Equine Pulses

1



Wearing the correct PPE (hard hat, steel toe capped boots and a boiler suit); restrain a horse with a headcollar.

If tying the horse up, tie the lead rope using a quick release knot to something that will break under pressure e.g. a piece of string, in case the horse pulls back suddenly.

2



**To palpate the transverse facial artery:**

- Place two fingers behind the lateral canthus of the eye, ventral to the zygomatic arch.

3



Palpate for a pulse using gentle pressure, while the horse is stood still, not chewing.

*You may need to use your fingertips, rather than the pads on your fingers if the pulse feels very feint.*

4



**To palpate the facial artery:**

- Palpate the ventral border of the mandible.
- Move your hand from caudal to rostral until you feel a vessel crossing the ventral border of the mandible.

*It may feel like a thick noodle!*

5



If you are struggling to feel the vessel, make a V shape with your fingers, and place the front of this V in-front of the masseter muscle.

The vessel will often cross-over at the base of the V (black star).

6



Palpate for a pulse gently, while the horse is stood still, not chewing.

*Some people find it easiest to palpate a pulse on the ventral border of the mandible, whereas others prefer the medial aspect of the mandible – find your preference!*





# Clinical Skills: Locating Equine Pulses

7



## To palpate the LEFT fore digital arteries:

Palpate the proximal fetlock at its widest point (where the proximal sesamoid bones (PSB) sit) with your **left** hand, with your body facing towards the tail of the horse.

8



Place your thumb on the lateral PSB, and second and third finger on the medial PSB.

9



With firm pressure, run your thumb and fingers in a palmar to dorsal direction. You should feel the neurovascular bundle underneath your fingers.

*Remember the bundle will contain the **palmar digital vein** most dorsally, **artery** in the middle, and **nerve** on the most palmar aspect.*

10



If you are struggling to feel the pulse, continue to run your fingers and thumb from palmar to dorsal, and then back to the palmar aspect of the limb.

*It will feel like an elastic band "rolling" underneath your fingers.*

11



Once you have located the neurovascular bundle, palpate lightly to feel the pulse.

*Compare the intensity of the medial/lateral digital pulse or left/right fore digital pulses. A bounding pulse in one digital artery may indicate inflammation in this region.*

12



To test yourself on the locations of the pulses:

- Use the model horse
- Match the white labels to the correct white Velcro squares on the model.

# Resetting the station: Locating Equine Pulses

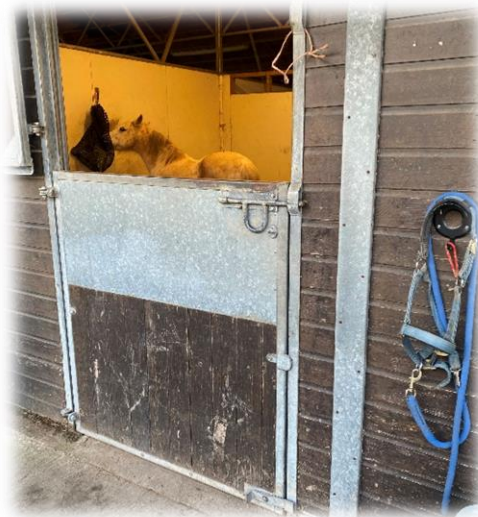
## Live horse

- Remove the headcollar from the horse and replace it on the hook
- Ensure the stable door is closed and the top lock and kick bolt are closed

## Model horse

- Remove all labels from the model horse and return the labels to the box/container

*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: Locating Equine Pulses

- Both the transverse facial artery and facial artery are very difficult to palpate if the horse is chewing!
- Digital pulses are generally not palpated to check the pulse rate of a horse. They are palpated to assess for inflammation within the foot. For this reason, you would usually check all four limbs.
- While palpating the digital pulse, remember to keep your body to the side of the horse so you are not in an un-safe area.
- You can palpate the digital pulse anywhere along the length of the digital artery – from the proximal sesamoid bones (PSBs) distally to the ungular cartilage. Some people prefer to palpate the pulse distal to the fetlock joint.
- Palpating pulses in a thin skinned / clipped horse is a lot easier than a hairy pony. If you get the chance, practice on different breeds of horses.
- If you are struggling to palpate a pulse:
  - Use less pressure over the vessel. If you press too hard, you might “crush” the vessel, so a pulse is not palpable.
  - Remember the horses pulse rate is only 30-40 beats per minute (bpm) – it will feel very slow! Count to three before you relocate as you may find you are in the correct spot.
  - Relax your fingers, do not hold them in extension