

The pocket guide to working equid veterinary consultations



This short guide is designed to help you deliver veterinary care in a practical way that is safe for the animal, owners and you.

There are prompts throughout the guide to help you achieve this.



Stand on one side:

For safety reasons it is best practice for you and the animal handler to stand on the same side of the animal.



Interpreting vital signs:

When taking an animals vital signs remember that the weather, and if they have recently been working, will affect these results.



Clinical records:

Remember to record key findings and actions in your clinical notes.



Checklist:

Good things to have available and key things to remember to include in the consultation.



Things to consider:

Questions to ask yourself when faced with challenges or decisions to make.



Warning:

Where extra care is needed to avoid harm to you, others and the animals you are working with.



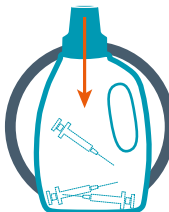
Top tips:

Useful advice to help you deliver great consultations for the animals and their owners.



Use only once:

Each needle and syringe should only be used once.



Waste disposal:

Remember to keep the environment safe and tidy for animals and people.



Hand washing:

Wash hands to prevent the spread of infections.



Aseptic technique:

Remember to reduce the risk of infection by using sterile equipment and keeping things clean.



Kit checklist

A clean and well equipped kit is essential for performing a thorough clinical exam and providing appropriate treatment to animals.

Being prepared with the correct equipment will help you to provide the best care you can.

- Watch or phone
- Stethoscope
- Thermometer
- Clean water (or a clean bucket to obtain water)
- Gloves
- Bandage material
- Scissors
- Sterile disposable needles and syringes in a range of sizes
- An adjustable head collar and/or rope
- Appropriate medication that has not expired
- Something to carry waste material in e.g. a thick sided empty plastic bottle and a plastic bag
- Hoof pick
- Hoof testers
- Soap and towel to wash and dry hands
- A dedicated notebook for recording clinical notes

Clinical governance

Practicing good clinical governance is a key part of being an outstanding animal health professional and involves working in a way that promotes animal, human and environmental welfare and safety.



Cleanliness and sterile technique

Germs which cause disease can be spread through dirty and contaminated kit and on hands that have not been washed.

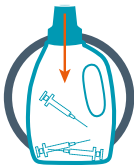


Use sterile needles and syringes and use them one time only. Do not use them if they become contaminated e.g. by dropping them on the ground.



Wash your hands before preparing and administering medication, or examining sensitive areas e.g. eyes or wounds.

Always wash your hands with soap or antiseptic wash at the end of the consultation.



Waste disposal

Waste materials must be managed safely to prevent injury to animals or humans, to prevent disease spread, and to protect the environment. Establishing a good relationship with a local veterinary or medical office can provide you with a safe way for disposing of veterinary materials.

Cut needles off at the hub to prevent them from being used again and secure them in a solid container e.g. a thick walled plastic bottle with a lid, until they can be deposited at a veterinary or medical office. Glass can also be placed safely in the bottle.

Material contaminated with medication, blood, faeces, urine or discharges should be collected and disposed of at a veterinary or medical office. If this is not possible then they may have to be burnt. Other waste such as packaging wrappers can be disposed of as normal.

You should strive to leave the environment better than you found it.

Clinical records

Recording clinical notes will help you to follow up on cases and provide evidence of the good work that you have carried out.

They can support you to learn from your experiences and can be a reference for managing future cases.



With the owner's consent, it can be useful to take photographs of conditions to help monitor progress (e.g. injuries, wounds, skin conditions).

Name and contact details of the owner:		Identification of the animal: (e.g. name, colour, microchip number)	
Species:	Age:	Gender:	
Date of consultation:			
Clinical findings:		Diagnosis made:	
Prognosis:		Treatment: (with the dose, route of administration and duration of treatment)	
Advice to owner:			
Date of any follow up:		Name of (para)veterinarian:	

This document must be written very clearly so that another veterinarian can take over and continue the care without difficulty.

For more information please visit
thebrooke.org/our-work/working-equid-veterinary-manual

Key welfare considerations



Consultations should be conducted in a safe working environment.

- Move clear of traffic or other hazards
- Unload and/or unhitch the animal
- Use a properly fitted head collar with a lead rope. You should carry your own head collar or rope halter as owners may not have their own
- A well fitted bridle can be used if the bit has been examined and determined to be safe
- Provide shade if possible
- Ensure water is offered or available
- Remember to give the animal time to drink

For more information please visit

thebrooke.org/our-work/working-equid-veterinary-manual



Handling challenging animals

Questions to consider

Try to understand why the animal is behaving in a challenging manner for you whilst conducting a husbandry, working or veterinary task.

1. How is the animal feeling?

- Are they hungry, thirsty, uncomfortable, scared, or in pain?
- What can you do to make the animal happier and more comfortable?

2. Is the environment stressful?

- Are there other animals about, in particular mares or stallions, are there loud noises, or too many people frightening the animal?
- What can you do to change the setting you are in?

3. Are your intentions clear to the animal?

- Are they un-trained in this practice/procedure? Are you working too quickly?
- What can you do to make your needs clearer [to the animal and the handler]?

4. Will a distraction help?

- Is the animal motivated by food, a scratch?
- Could you offer a treat or reward, to act as a distraction for the time you are working with them?

For more information please visit
thebrooke.org/our-work/animal-handling

Recognising pain

Pain is an aversive, sensory experience representing awareness by the animal of damage or threat to the integrity of their tissues; (note that there might not be any visible damage).

- Being in pain is a negative welfare state
- Pain results in both physiological and behaviour changes as the animal attempts to reduce or avoid the pain that they are experiencing

There are many signs of pain including:



- Wounds and harness rubs cause pain
- Donkeys do not demonstrate pain easily but feel pain just as much as other species
- If any signs of pain are present then pain relief should be provided

Other signs of pain:



If you are in any doubt as to whether the animal is in pain then provide pain relief and observe for a response to treatment.

For more information please visit
thebrooke.org/our-work/working-equid-veterinary-manual

Communication

At the beginning of the consultation find out about the animal's life in general and why the owner has sought veterinary care today. This is important for meeting the needs of both the animal and their owner and is a chance to build a good relationship with the owner.



Ask questions about:

- the animal's general life e.g. their work, feeding, routine
- the animal's general health
- The presenting problem: how long? Any treatment? Any progression of the clinical signs?

Throughout the consultation discuss the key parts of the history and the clinical exam findings with the owner.

Discuss what you think may be wrong and how this could be treated or managed, and what the prognosis is. Then you and the owner can agree on a plan for treating or managing the animal's problems.



Ensure the owner knows what their role is in managing the animal's illness and what role you will play.

Demonstrate how to do things such as cleaning wounds or giving medication.

Take time to advise on preventative management, especially any small changes that could make a big impact on the animals welfare.



Remember to record key parts of this conversation in the clinical records.



Before you leave make sure that the owner knows:

- What care they need to provide and how to do this
- How long it may take to see an improvement
- What to do if the animal does not improve or gets worse
- What the prognosis is
- How to contact you

Consider a written record for the animal's owner.

Taking the temperature



- Always make sure that the person holding the equine is on the same side as you
- Standing to the side of the animal lift or push the tail to the side and insert the tip of the thermometer about 3 cm into the animals rectum
- Ensure the thermometer is pressed against the side of the rectum and not stuck in a faecal ball
- Taking the temperature is a risky part of the clinical examination, only take when necessary and be aware of the animal's and handler's behaviour



Stop if there is a danger to you, others or the animal.

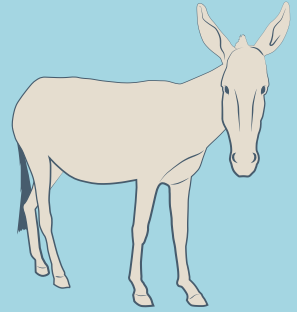
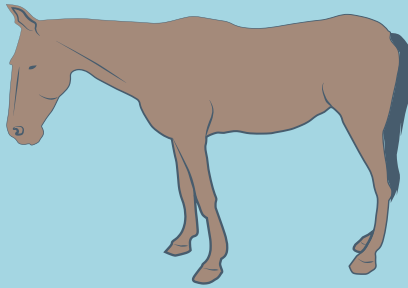


Applying a lubricant to the tip of the thermometer can make the process easier for you and the animal.



Photo: © Brooke/Daouda Seck

Species temperature



Horse: 37.1 - 38.5°C

Donkey: 36.5 - 37.8°C

Very young animals may have a wider temperature range.

Hyperthermia (temperature above normal) is an important clinical finding and it should be considered alongside other clinical signs and environmental factors to make a treatment plan.

If the animal is suffering from heat stress then this should be managed quickly by cooling the animal.

Hypothermia (temperature below normal) is a sign of degradation of the animal's vital functions (a dying animal) and should not be neglected.

If in doubt and it is safe to do so, take the temperature a second time to check the values obtained.



For more information please visit

thebrooke.org/our-work/working-equid-veterinary-manual

Pulse rate and heart auscultation

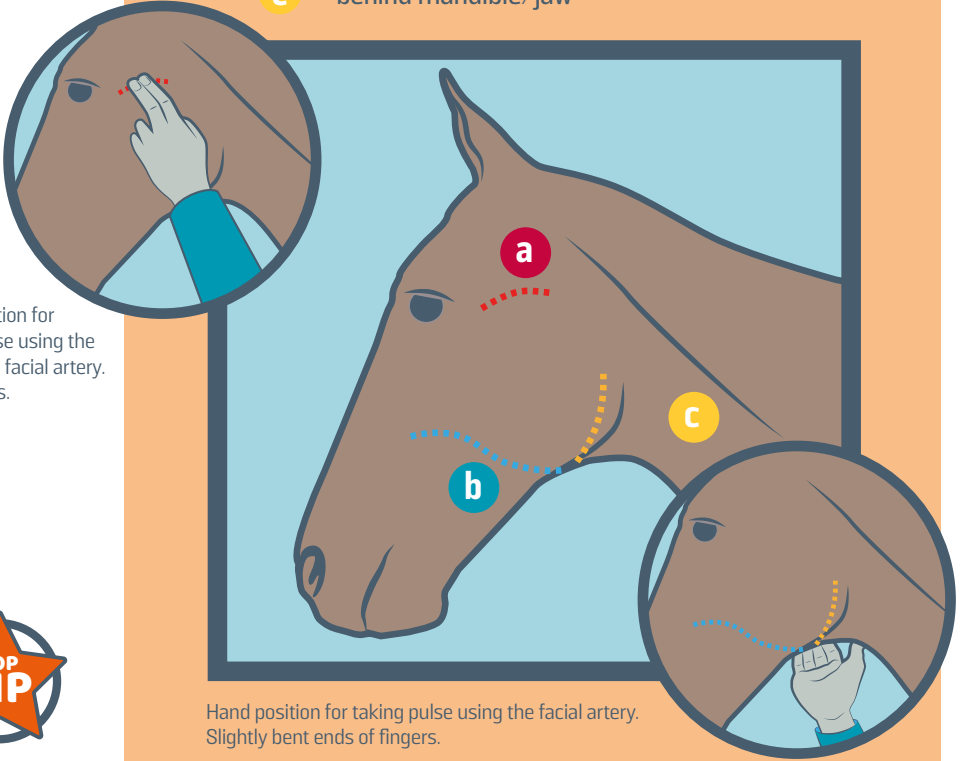
Location of easily palpable external arteries includes:

Transverse facial artery **a** – ventral to the facial crest

Facial artery – overlying the ramus of the mandible

b – on top of face mandible/jaw

c – behind mandible/jaw



Hand position for taking pulse using the transverse facial artery. Flat fingers.

Hand position for taking pulse using the facial artery. Slightly bent ends of fingers.



Count over 15 seconds and multiply by 4.

Or count over 30 seconds and multiply by 2.

A stethoscope should be used to auscultate (listen) to the heart. It is loudest on the left side of the chest in line with the point of the animals elbow.

Place your stethoscope on the chest and listen for a 'lub-dub' sound. If it is not clear move the stethoscope slowly around until the clarity of the heart beat improves.

Each lub-dub sound is counted as 1 heart beat.

Normal heart rate beats per minute (bpm):

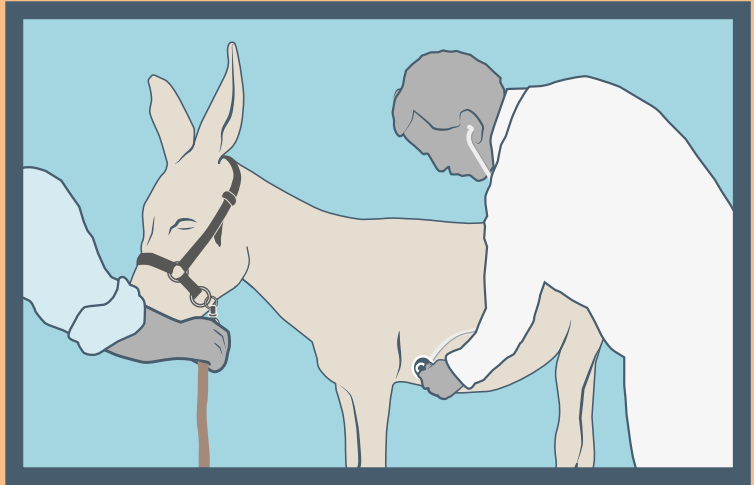
Horses and mules:

20 to 50 bpm



Donkey:

38-52 bpm



Hot and humid temperatures can result in high heart rates

Animals who have just finished working may have high heart rates. It is worth re-checking heart rates once animals have rested in the shade.

A heart rate >60 can indicate pain or severe dehydration.



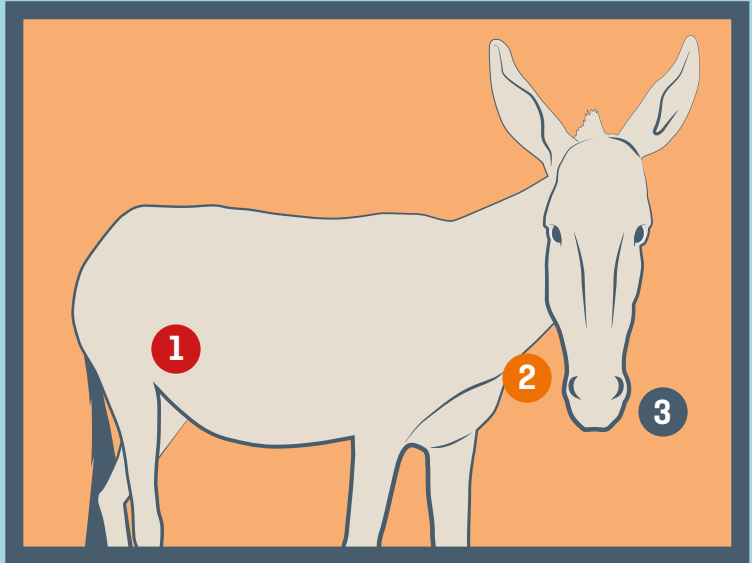
Make sure your stethoscope is in your ears correctly.



For more information please visit

thebrooke.org/our-work/working-equid-veterinary-manual

Respiratory rate and lung auscultation



Respiratory rate

- Take when the animal is at rest
- Watch the flank **1** and count it's in and out movement. Each in and out movement is one breath
- Put a stethoscope on the trachea and count the in breathes **2**
- Watch the nostril movement and count the out breathes **3**
- Place a hand near the nostril so you can feel the out breathe

Reported normal values as breathes per minute (bpm)

Horses and mules:

12 to 30 bpm

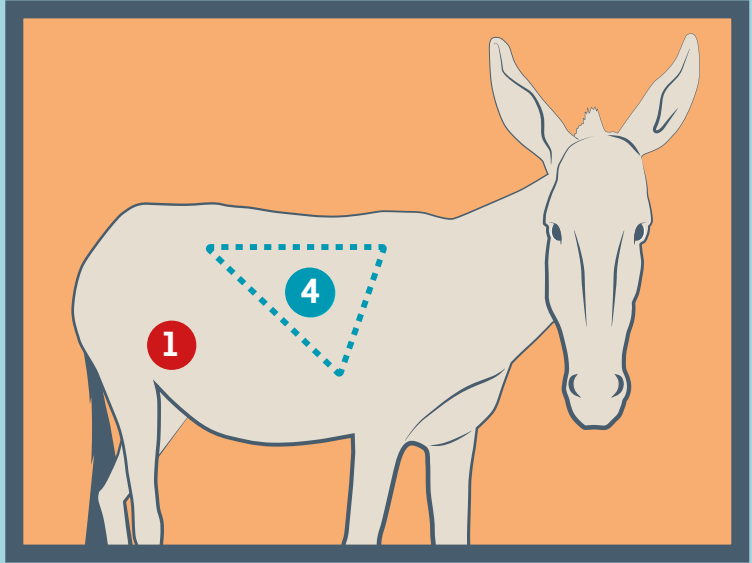
Donkey:

14-36 bpm



Count over 15 seconds and multiply by 4.

Or count over 30 seconds and multiply by 2.



Auscultating the lungs

Normal equine lungs should have no crackles or wheezes with very minimal breath sounds.

The lung fields are large and form a triangle **4** on each side of the animals thorax.

- cranial boarder = the scapula / shoulder
- dorsal boarder = the epaxial / back musculature
- Caudoventral boarder = caudoventral line from intercostal space 17 at the level of the tuber coxae t o the point of the elbow



It can help to watch the flank **1** as you listen.

Ensure you hear at least one inhale and exhale at 4 locations within both the left and right lung fields.

For more information please visit
thebrooke.org/our-work/working-equid-veterinary-manual



Selecting appropriate medication

For all medication choices consider the following:

What medication is required and why?

Your answer will be based on your clinical exam findings and history.

- If the animal is showing signs of pain then they require pain relief to alleviate the pain and make them more comfortable
- If you suspect a bacterial infection then antibiotics may be required to treat the infection
- If there are signs of an allergic reaction then steroids may be needed to reduce the effect of the allergy

Are antibiotics really needed?

Antibiotics should only be used if a bacterial infection is likely.

Some indicators of a bacterial infection include:

- A wound that is dirty or likely to become dirty
- Evidence of pus (except foot abscesses)
- A high temperature that is not due to exercise/work or warm conditions

How should the medication be given?

- Some drugs can be deadly if administered incorrectly
- Other drugs may not work well if they are given incorrectly



Will the animal need a course of medication?

- If yes how much, how often and who will administer it?
- How will they administer it? Is that possible?

Useful medications to have available

- Antibiotics (oral and injectable)
- Pain relief (oral and injectable)
- Steroids
- Antibiotic eye medication
- Antiseptic solution

Remember the medication packaging can help you decide which medication to use and how and also how to store it correctly.



Ensure that your medications are in date, correctly labelled and correctly stored.



For more information please visit

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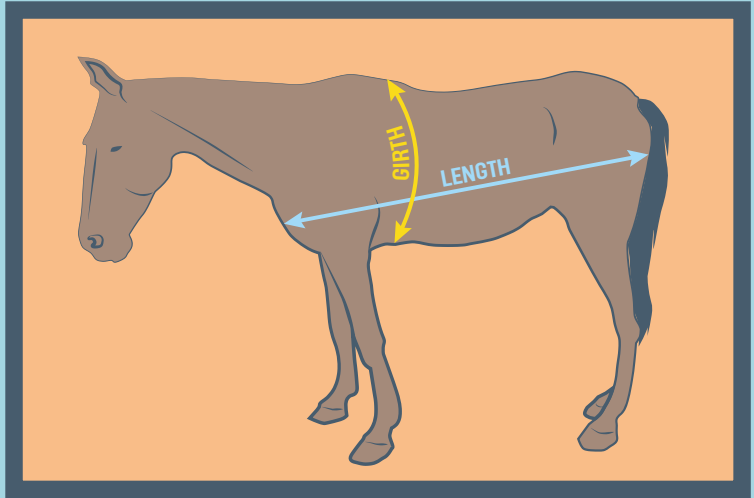
Calculating medication doses

Formula:

$$\frac{\text{Weight of the animal} \times \text{Dose rate}}{\text{Dose concentration}}$$

The basic formula will be the same no matter what the form of the medication is: liquid, tablets, capsules, powder, or paste.

Weight of the animal



Unit weight e.g. kg. It is best practice to estimate weight using a measuring tape and the equation below:

$$\text{weight (kg)} = \frac{\text{girth}^2 \times \text{length (cm)}}{11900}$$

If a measuring tape is not available then estimate the weight based on local information and observation.





Remember the generic drug name refers to the active ingredient in the medication e.g. Flunixin meglumine. Use the generic name to look up dose rates.

Dose rate

How much drug is needed per unit of body weight e.g. mg/kg

You find this information in:

- Medication packaging
- Veterinary formulary
- Research papers

Dose concentration

How much active drug is included in each unit of measurement of the medication e.g. mg/ml or mg/tablet

Example:

A 400kg horse requires pain relief to be administered. You have injectable flunixin meglumine available. The drug concentration is 50mg/ml and the dose is 1.1mg/kg.

How much do you need to inject?

First calculate the total amount of active ingredient required for the animal.* Then calculate the volume of the medication needed.**

$$\text{Weight of the animal} \times \text{Dose rate}$$

Dose concentration

e.g.

$$400\text{kg} \times 1.1\text{mg/kg} = 440\text{mg}^*$$

$$\frac{440\text{mg}}{50\text{mg/ml}} = 8.8\text{ml}^{**}$$



Record the dose and the route of the medication given to the animal.

For more information please visit thebrooke.org/our-work/working-equid-veterinary-manual

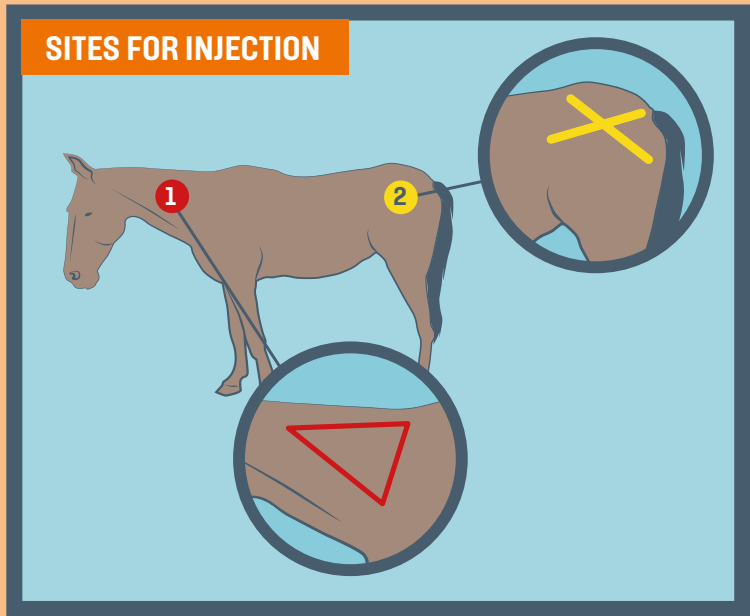
Intramuscular injections



Ensure that the medication is suitable for intramuscular administration in equids.

Prepare the drug aseptically using an appropriately sized new needle and new syringe.

Identify how much medication can be given at one site.



1 Neck – recommended

Avoid spine and nuchal ligament.

Locate cranial border of scapula and measure a hands width cranial to this in the muscular portion of neck.

2 Gluteal

If the neck is unsuitable due to pain or recent use for injection.

Can be more suitable for very large volumes of medication.

Draw a line from the tuber sacral to the tuber ischium and another from the tuber coxae to the base of the tail. X marks the spot for injection.

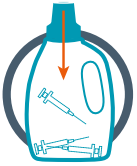
Alternate sites if a horse is on a course of intramuscular injections.



Intramuscular injections

Step by step guide:

- 1** Ensure a competent handler is holding the animal and standing on the same side as you
- 2** Wipe the area clean
- 3** In a controlled and firm manner insert the needle at 90° to skin surface
- 4** Always advance the needle to the hub and draw back to check for blood
- 5** If blood is identified the injection should be given in a different site and a new needle should be used
- 6** After, provide a gentle massage at the injection site



Remove the needle and safely dispose of it and the syringe.



Record the medication, dose, route (including the injection site if appropriate).

For more information please visit

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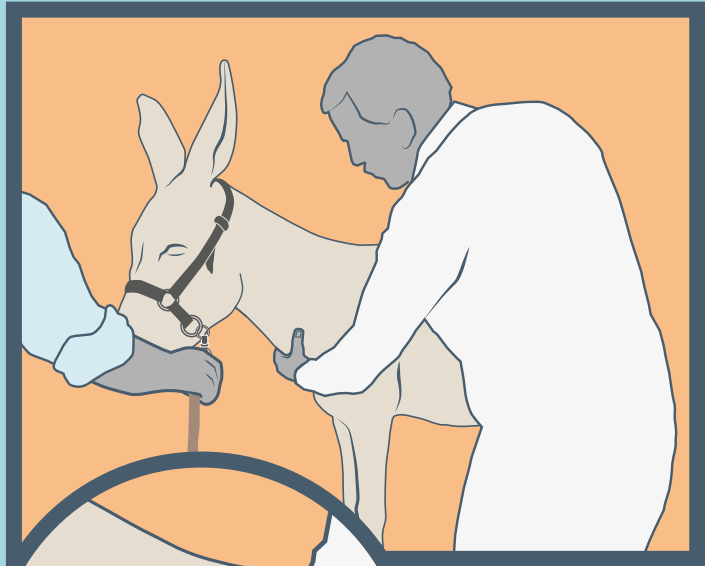
Intravenous injection



Ensure that the medication is suitable for intravenous administration in equids.

Prepare the drug aseptically using an appropriately sized new needle and syringe.

Ensure a competent handler is holding the animal and standing on the same side as you.



– **Location is key!**

Use the top third of the jugular vein to avoid the carotid artery and nerves

- Ensure the area is clean and dry
- Hold the needle and the syringe in your dominant hand and ensure the bevel of the needle is facing you
- locate the jugular groove and raise the vein with the thumb of your non-dominant hand **1**

Note: You can insert the needle and then attach the syringe or insert the needle with the syringe already attached.





WARNING!

If you put a needle into the carotid artery blood will squirt out with force. It will be bright red. If the syringe is already attached you may feel the force of the blood pushing the plunger back.

Remove the needle, and apply firm pressure on the area until bleeding stops.

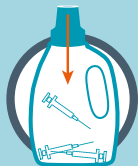
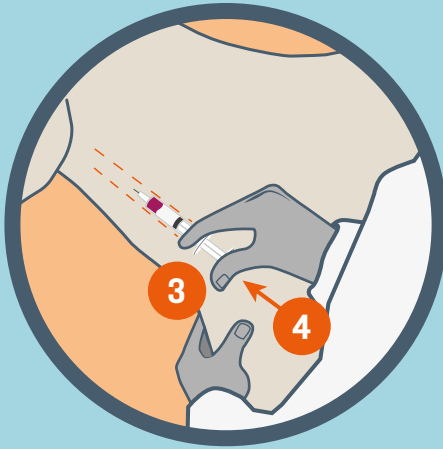
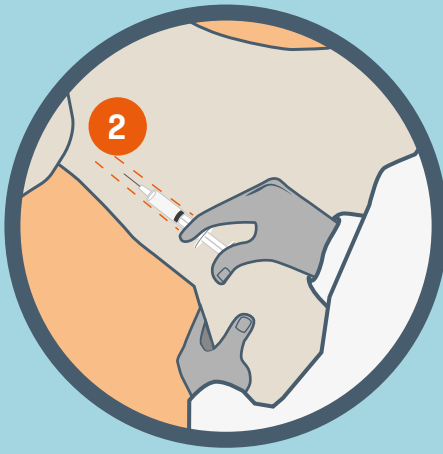
Use the other side of the neck for the injection.



TIPS AND PRACTICE

Raise and lower the jugular vein to appreciate its location.

Get used to drawing back and depressing the plunger of the syringe with one hand.



- Whilst raising the vein and with the needle at a slight angle push the needle through the skin and into the vein taking care to follow the route of the jugular vein **2**
- Redirect if necessary but do not come completely out of the skin
- Attach syringe if not already attached
- Ensure the needle is securely in place and draw back a little on the syringe, if blood enters the syringe or drips from the needle hub then it is located correctly in the vein **3**
- Inject the medication **4**
- Keep the injecting hand close to horse to maintain the needle position even if the animal moves
- Remove the needle and safely dispose of it and the syringe

For more information please visit
thebrooke.org/our-work/working-equid-veterinary-manual

Acknowledgements:

The content presented in this pocket book guide is a synthesis of the veterinary experience and expertise from across Brooke Programmes and Partnerships, and critical appraisal of the best available evidence for working equid veterinary consultations.

A huge thank you is extended to the following teams for their invaluable contributions: Brooke Pakistan, Brooke India, Brooke Ethiopia, Brooke West Africa, and Brooke East Africa and their partner organisation, Farming Systems Kenya.

The Global Animal Health Team developed and edited the content and are grateful to The Global Animal Welfare Team who created the 'Handling Challenging Animals' section and allowed it to be reproduced here.

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Citation:

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Brooke (2022) 'The pocket guide to working equid veterinary consultations'.

Additional resources:

- 1 Gleerup, K.B. and Lindegaard, C. (2016). Recognition and quantification of pain in horses: A tutorial review. *Equine Vet Educ*, 28: 47-57. <https://doi.org/10.1111/eve.12383>
- 2 Wathan, J., Burrows, A. M., Waller, B. M. and McComb, K. (2015). EquiFACS: The Equine Facial Action Coding System. *PLoS one*, 10 (8), 0131738. <https://doi.org/10.1371/journal.pone.0131738>
- 3 The Brooke (2013). *The Working Equid Veterinary Manual*. Whittet Books: Essex. <https://www.thebrooke.org/our-work/working-equid-veterinary-manual>
- 4 Evans, L. and Crane, M. (2018). *The Clinical Companion for the Donkey*. The Donkey Sanctuary. Troubador Publishing Ltd: Leicestershire. <https://www.thedonkeysanctuary.org.uk/what-we-do/for-professionals/resources/clinical-companion>



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