

Ultrasonography in Horses

An ultrasound machine allows us to examine structures inside the body. The machine sends out high-frequency sound waves via the transducer and these reflect off surfaces inside the body. These are received back by the machine and converted into a picture on the screen.



Ultrasound does not use any form of radiation so is very safe and non-invasive.

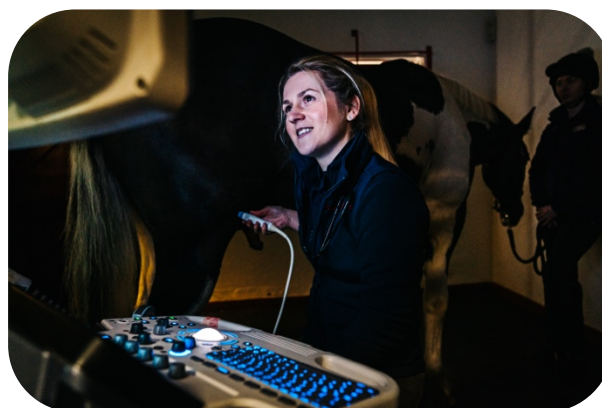
Ultrasound images are seen in black and white, and all shades of grey; there are 256 shades of grey (not 50!). Fluid is seen as black and solid structures such as bone are white. There are great variations in ultrasound machines in the market. Not all ultrasound machines are the same. At Scarsdale Vets we always invest in excellent quality ultrasound because of the high volumes of lameness work that we do. The better quality machines see greater numbers of shades of grey, allowing you to focus the ultrasound beam on narrow areas if needed. Flexible options in the set-up functions to allow you to set the machine up for the structure you are visualising. These details are important when you are looking for subtle injuries in tendons and ligaments.

Ultrasound is used at different frequencies and different probes are used to achieve this. If you are looking at a superficial structure such as a tendon then you will use a high frequency probe that does not need to penetrate far and these provide excellent details.

If you are, however, looking at something inside the abdomen, then you would use a lower frequency probe with a larger surface area.

What prep work is needed before an ultrasound examination?

Ultrasound doesn't travel well through air and dirt so to get the best images the patient has to be prepped appropriately. This generally involves clipping the affected area, cleaning it thoroughly and applying a gel that allows the waves to travel through it.



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What cases is ultrasound used on?

Ultrasound is used as a diagnostic tool in many cases including:

- Tendons and ligaments to assess e.g. size, shape and fibre pattern
- Joints: to look inside for changes in the internal structure of joints
- Wounds to look for foreign bodies such as wood that would not be seen on x-ray and also to look at the edges of bone for damage
- Backs and necks to assess the small joints deep under muscle
- Abdomen e.g. in colic cases to look for excess fluid, position of abdominal organs, size and motility of the intestines
- Reproductive tract for pregnancy diagnosis and fertility
- Hearts to assess e.g. size, shape, contractility and to look at the function of the valves
- Eyes – if the eyelids can't be opened or the front of the eye is opaque then we can assess the back of the eye
- Blood vessels

Overall, it is a very useful tool to assist us in diagnosis.

Why would cases need more than one ultrasound?

One of the most common reasons for this is in tendon and ligament injuries. Once the extent of the initial injury is diagnosed, ultrasound is an excellent monitoring tool. We can measure the size and shape of injuries and see how they are responding to exercise and management. For tendon injuries we usually rescan at 4-6 week intervals and base the rehabilitation programme around the results of the scans in conjunction with how the horse is doing clinically.

MKTG/Equine/Collateral/EquineInformation/Ultrasound in Horses



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