

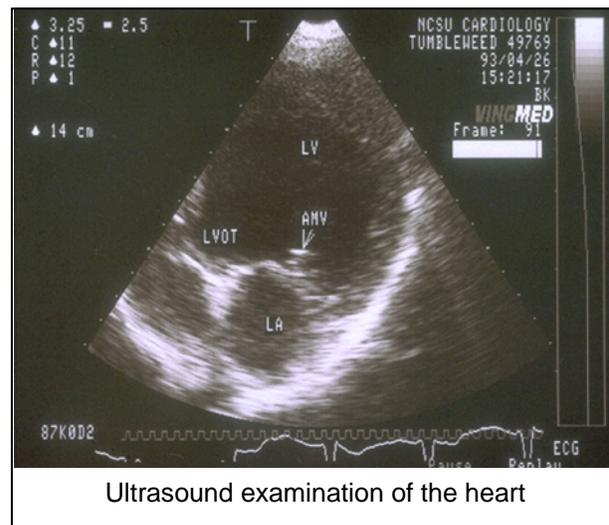
Evaluating Pregnancy via Ultrasound

I have been told I can have my female dog scanned to see if she is pregnant. What does this involve?

An ultrasound examination, also known as ultrasonography or echosonography, is an imaging technique that allows internal body structures to be seen by recording echoes of ultrasonic waves. Unlike x-rays, which are potentially dangerous, ultrasound waves are considered to be entirely safe.

Ultrasound equipment directs a narrow beam of high frequency sound waves into an area of interest. The sound waves may be transmitted through, reflected or absorbed by the tissue toward which they are pointed.

As the beam strikes the interface or boundary between two tissues, some of the ultrasound waves are absorbed and others are reflected back. These reflected sound waves are converted into electrical impulses that are displayed on a monitor. This gives a 2-dimensional "picture" of the tissues under examination.



Ultrasound examination of the heart

The technique is invaluable for the examination of internal organs and was first used in veterinary medicine for pregnancy diagnosis. However, the technique is also extremely useful in evaluating heart conditions and identifying changes in abdominal organs. Ultrasonography is very useful in the diagnosis of cysts and cancers.

Does the technique have any drawbacks?

Ultrasound examinations are of little value in examining organs that contain air. Ultrasound waves will not pass through air and therefore it cannot be used to examine the lungs.

Are there different forms of ultrasound?

Depending on the images produced, ultrasound can take various forms. In veterinary work B-mode ultrasound is the most usual. This gives a two dimensional picture of the organ scanned. M-mode is also used. This is a type of B-mode in which the tracing of the motion of the object scanned is displayed. This is used mainly for the evaluation of heart function.

Doppler ultrasound is a further advance in which measurement and a visual record are made of flow velocity in the vessels being scanned and again is useful in cardiology.

Are ultrasound scans available for evaluation of my dog's heart problem?

More and more veterinary practices are becoming equipped with sophisticated ultrasound equipment that can undertake B-mode, M-mode and Doppler scans, which are ideal for evaluating your pet's heart. Images can be frozen and then printed from the computer to provide a record of the examination.

Will my dog have to have an anesthetic?

Anesthesia is not usually needed for most ultrasound examinations. This is one of the great advantages of ultrasound. The technique is non-invasive but does involve clipping an area of hair and applying a water-soluble jelly on the skin. The technique is totally painless and most pets will lie comfortably while the scan is being performed. Occasionally, if the pet is very frightened or fractious, a sedative may be necessary.

Is the technique affordable?

Although the initial cost of a scan may seem excessive, it has to be equated with the high cost of the equipment, the fact that specialist training is required in order to interpret the images and the time involved in carrying out the examination. Its value, particularly in cases such as pregnancy diagnosis, evaluation of the internal organs, heart function, blood flow and eyes, make it an invaluable, non-invasive diagnostic tool to help protect to your pet's well-being.

*This client information sheet is based on material written by Ernest Ward, DVM.
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