

Ultrasound

**What is an ultrasound machine?**

An ultrasound machine emits ultrasound waves that penetrate into your pet’s organs. These waves are reflected back into the hand-held probe that is placed on the skin. The pattern of the reflected sound waves creates an image that is viewed on a screen.

**Is radiation involved?**

No. Unlike X-rays, radiation is not part of an ultrasound examination.

**Which types of disease are typically diagnosed with an ultrasound examination?**

The ultrasound examination permits a detailed view of many of the body’s organs. For example, the kidneys can be seen on X-rays, but only their size and shape can be determined. Ultrasound allows us to actually view the internal structures of these and other vital organs.

An ultrasound examination is especially helpful for diseases of the heart. An ultrasound of the heart is called an echocardiogram or “echo.” Via ultrasound, the heart’s wall thicknesses and the size of its chambers can be determined. Visualization of the valves determines whether they are functioning properly. Motion can also be detected, which gives us an assessment of the heart's ability to move blood.

Some diseases can be diagnosed with this method because they have a specific ultrasound appearance. Others, however, produce ultrasound findings that are not definitive.

**What is done in the latter instance?**

One of the important features of an ultrasound examination is the ability to find abnormal areas in the organs. This permits precise biopsy of those areas. A pathologist then examines the biopsied section of tissue under a microscope to gain more information. In many cases, the ultimate diagnosis is made by the pathologist.

**What steps need to be taken to prepare for an ultrasound exam?**

Special preparation is not necessary for an echocardiogram. If organs in the abdomen are to be studied, your pet should be withheld from food for 12 hours. The urinary bladder is best visualized if it is full of urine. Therefore, your pet should not urinate within three to six hours of the study, if possible.

**Is anesthesia required?**

If your pet is cooperative, no anesthesia or sedation is needed to perform an ultrasound on the heart or the abdomen. However, if biopsies are to be taken, a short-acting anesthetic will be needed to help prevent complications.

**Is it necessary to shave my pet's hair?**

In most cases, yes. It is important that the hand-held probe makes complete contact with the skin. Sometimes the hair can be moistened with alcohol, but most studies require hair removal.

**Which organs cannot be studied with ultrasound?**

Air is the enemy of ultrasound waves. Since the lungs are filled with air, they cannot be studied. An exception is made for a mass that is located within the lungs. Bone also stops ultrasound waves, so the brain and spinal cord are not seen with an ultrasound study. The skeletal system itself is also not examined with ultrasound.

**When will I know the results of the examination?**

Since an ultrasound study is performed in real time, the visual results are known immediately. In some cases, the ultrasound images are sent to a veterinary radiologist for further consultation. If this happens, the final report may not be available for a few days.