



The Ultrasound Examination

Your cat has been scheduled for an ultrasound examination. The purpose of this procedure is to aid in making a diagnosis of the disease that has been causing your pet's illness.

What is an ultrasound machine?

An ultrasound machine emits ultrasound waves that penetrate into your cat's organs. They 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 traditional x-rays, radiation is *not* part of an ultrasound examination.

What types of disease are diagnosed with an ultrasound examination?

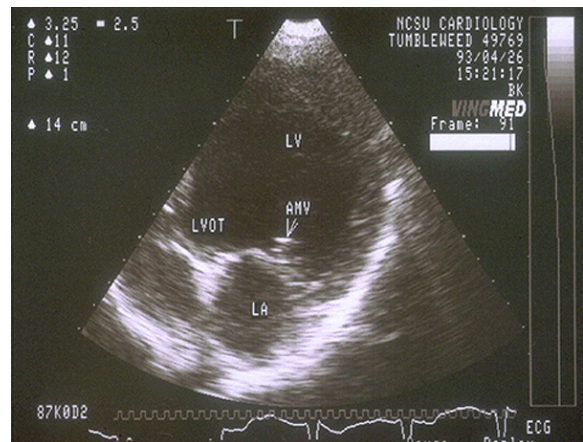
The ultrasound examination permits a detailed view of many of the body's organs. The kidneys, for example, are seen on x-rays, but only their size and shape can be determined. Ultrasound examination permits us to view the internal structures of the kidneys and other organs.

An ultrasound examination is especially helpful for diseases of the heart. It is called an *echocardiogram* or an "echo." The heart's wall thicknesses can be measured, and the size of its chambers can be determined. Motion can be detected so that an assessment can be made of the ability of the heart to pump blood. The heart valves can be examined to determine if they are functioning properly.

Some specific diseases can be diagnosed because they have a specific ultrasound appearance. However, other diseases cause ultrasound findings that are not unique.

What is done in the latter instance?

One of the important features of an ultrasound examination is the ability to identify abnormal areas in organs. This permits precise biopsy of those areas using a technique called an *ultrasound-guided biopsy*. A biopsy gives a pathologist a section of tissue that can be examined under the microscope for more information. In many cases, the pathologist provides the disease diagnosis.



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

No special preparation is needed if the heart is to be studied.

If organs in the abdomen are to be studied, your cat should be withheld from food for twelve hours. The urinary bladder is best visualized if it is full of urine. Therefore, do not let your cat urinate within three to six hours of the ultrasound procedure, if possible.

Is anesthesia required?

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

Is it necessary to shave my cat's hair?

In most cases, yes. Since ultrasound waves are not transmitted through air, it is imperative that the hand-held probe makes complete contact with the skin. Sometimes the hair can be moistened with alcohol, but most ultrasound studies require the area to be shaved.

What organs cannot be studied with ultrasound?

Air is the enemy of ultrasound waves. Since the lungs are air-filled, they cannot be studied. The exception is 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. Obviously, bones cannot be examined with ultrasound.

When will I know the results of the examination?

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

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