

## Abdominal ultrasound

### Definition

Abdominal ultrasound is a type of imaging test. It is used to look at organs in the abdomen, including the liver, gallbladder, spleen, pancreas, and kidneys. The blood vessels that lead to some of these organs, such as the inferior vena cava and aorta, can also be examined with ultrasound.

### Alternative Names

Ultrasound - abdomen; Abdominal sonogram; Right upper quadrant sonogram

### How the Test is Performed

An ultrasound machine makes images of organs and structures inside the body. The machine sends out high-frequency sound waves that reflect off body structures. A computer receives these waves and uses them to create a picture. Unlike with x-rays or CT scans, this test does not expose you to ionizing radiation.

You will be lying down for the procedure. A clear, water-based conducting gel is applied to the skin over the abdomen. This helps with the transmission of the sound waves. A handheld probe called a transducer is then moved over the abdomen.

You may need to change position so that the health care provider can look at different areas. You may also need to hold your breath for short periods during the exam.

Most of the time, the test takes less than 30 minutes.

### How to Prepare for the Test

How you will prepare for the test depends on the problem. You will likely be asked not to eat or drink for several hours before the exam. Your provider will go over what you need to do.

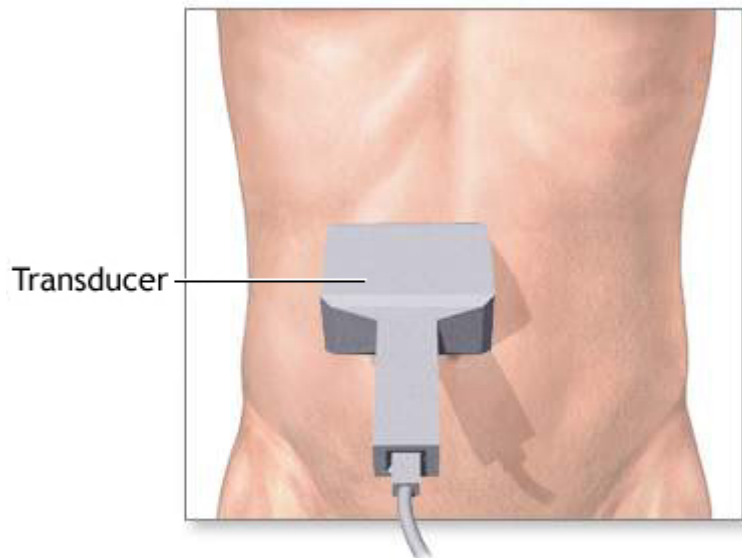
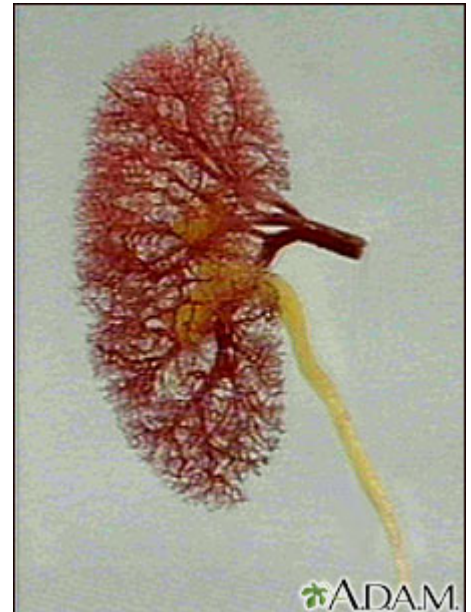
### How the Test will Feel

There is little discomfort. The conducting gel may feel a little cold and wet.

### Why the Test is Performed

You may have this test to:

- Find the cause of abdominal pain



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- Find the cause of kidney infections
- Diagnose and monitor tumors and cancers
- Diagnose or treat ascites
- Learn why there is swelling of an abdominal organ
- Look for damage after an injury
- Look for stones in the gallbladder or kidney
- Look for the cause of abnormal blood tests such as liver function tests or kidney tests
- Look for the cause of a fever

The reason for the test will depend on your symptoms.

### Normal Results

The organs examined appear normal.

### What Abnormal Results Mean

The meaning of abnormal results depends on the organ being examined and the type of problem. Talk to your provider if you have any questions or concerns.

An abdominal ultrasound can indicate conditions such as:

- Abdominal aortic aneurysm
- Abscess
- Appendicitis
- Cholecystitis
- Gallstones
- Hydronephrosis
- Kidney stones
- Pancreatitis (inflammation in pancreas)
- Spleen enlargement (splenomegaly)
- Portal hypertension
- Liver tumors
- Obstruction of bile ducts
- Cirrhosis

### Risks

There is no known risk. You are not exposed to ionizing radiation.

### References

Chen L. Abdominal ultrasound imaging. In: Sahani DV, Samir AE, eds. *Abdominal Imaging*. 2nd ed. Philadelphia, PA: Elsevier; 2017:chap 3.

Cosgrove DO, Eckersley RJ, Harvey CJ, Lim A. Ultrasound. In: Adam A, Dixon AK, Gillard JH, Schaefer-Prokop CM, eds. *Grainger & Allison's Diagnostic Radiology*. 6th ed. New York, NY: Elsevier Churchill Livingstone; 2015:chap 3.

Kimberly HH, Stone MB. Emergency ultrasound. In: Walls RM, Hockberger RS, Gausche-Hill M, eds. *Rosen's Emergency Medicine: Concepts and Clinical Practice*. 9th ed. Philadelphia, PA: Elsevier; 2018:chap e5.

Kim DH, Pickhardt PJ. Diagnostic imaging procedures in gastroenterology. In: Goldman L, Schafer AI, eds. *Goldman-Cecil Medicine*. 25th ed. Philadelphia, PA: Elsevier Saunders; 2016:chap 133.

Wilson SR. The gastrointestinal tract. In: Rumack CM, Levine D, eds. *Diagnostic Ultrasound*. 5th ed. Philadelphia, PA: Elsevier; 2018:chap 8.

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