# Hip Ultrasound

Hip ultrasound uses sound waves to produce pictures of muscles, tendons, ligaments, joints, bone and soft tissues of the hip. It is used to help diagnose abnormalities and may be used in infants to check for developmental dysplasia of the hip. Ultrasound is safe, noninvasive, and does not use ionizing radiation.

This procedure requires little to no special preparation. Leave jewelry at home and wear loose, comfortable clothing. You may be asked to wear a gown. If your child is being examined, your doctor will instruct you on how best to prepare.

## What is Ultrasound Imaging of the Hip?

Ultrasound images of the hip provide pictures of muscles, tendons, ligaments, joints, bone and soft tissues of the hip. In infants, the hip (which has a ball and cup configuration) is composed mainly of cartilage and is easily recognized on ultrasound.

Ultrasound imaging is a noninvasive medical test that helps physicians diagnose and treat medical conditions. It is safe and painless. It produces pictures of the inside of the body using sound waves. Ultrasound imaging is also called sonography (http://www.radiologyinfo.org) . It uses a small probe called a transducer and gel placed directly on the skin. High-frequency sound waves travel from the probe through the gel into the body. The probe collects the sounds that bounce back. A computer uses those sound waves to create an image. Ultrasound exams do not use radiation (http://www.radiologyinfo.org) (x-rays (http://www.radiologyinfo.org) ). Because ultrasound captures images in real-time, it can show the structure and movement of the body's internal organs. The images can also show blood flowing through blood vessels.

## What are some common uses of the procedure?

Hip ultrasound images are typically used to help evaluate:

- abnormalities of the muscles, such as tears and soft-tissue masses.
- foreign bodies, bleeding, infections or other types of fluid collections.
- benign (http://www.radiologyinfo.org) and malignant (http://www.radiologyinfo.org) soft tissue tumors.
- early changes of arthritis.
- Infant ultrasound can be used to check the hips for developmental dysplasia of the hip (DDH), which in infants can range from a shallow cup (bony acetabular dysplasia), to complete dislocation with the ball of the femoral head completely outside the socket.

Ultrasound of the hip can be performed on infants with DDH up to approximately six months of age.

In the case of an infant, it may be helpful to feed the baby just prior to the exam. Please check with the radiologic technologist before feeding. It is also possible to give the baby a pacifier or to bottle feed the infant during the exam. If you are present in the room during the procedure, standing where the infant can see you and hear your voice may make them more relaxed.

## Who interprets the results and how do I get them?

A radiologist, a doctor trained to supervise and interpret radiology exams, will analyze the images. The radiologist will send a


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signed report to the doctor who requested the exam. Your doctor will then share the results with you. In some cases, the radiologist may discuss results with you after the exam.

## What are the benefits vs. risks?

### Benefits

- Most ultrasound scanning is noninvasive (no needles or injections).
- Occasionally, an ultrasound exam may be temporarily uncomfortable, but it should not be painful.
- Ultrasound is widely available, easy to use, and less expensive than most other imaging methods.
- Ultrasound imaging is extremely safe and does not use radiation.
- Ultrasound scanning gives a clear picture of soft tissues that do not show up well on x-ray images.
- Ultrasound provides real-time imaging. This makes it a good tool for guiding minimally invasive (http://www.radiologyinfo.org) procedures such as needle biopsies (http://www.radiologyinfo.org) and fluid aspiration.
- In some cases, ultrasound may be able to evaluate the tendon structure more accurately than MRI.
- The hip joints of infants, unlike those of adults, are largely made of cartilage, which allows excellent views of the entire hip joint using ultrasound.

### Risks

- Standard diagnostic ultrasound (http://www.radiologyinfo.org) has no known harmful effects on humans.

## What are the limitations of Ultrasound Imaging of the Hip?

Ultrasound has difficulty penetrating bone and, therefore, can only see the outer surface of bony structures and not what lies within (except in infants who have more cartilage in their skeletons than older children or adults). Doctors typically use other imaging modalities (http://www.radiologyinfo.org) such as MRI (http://www.radiologyinfo.org) to visualize the internal structure of bones or certain joints.

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