



## Musculoskeletal Ultrasound Information

Ultrasound is safe and painless, and produces pictures of the inside of the body using sound waves. Ultrasound imaging, also called ultrasound scanning or sonography, involves the use of a small transducer (probe) and ultrasound gel placed directly on the skin. High-frequency sound waves are transmitted from the probe through the gel into the body. The transducer collects the sounds that bounce back and a computer then uses those sound waves to create an image. Ultrasound examinations do not use ionizing radiation (as used in x-rays), thus there is no radiation exposure to the patient.

Ultrasound images of the musculoskeletal system provide pictures of muscles, tendons, ligaments, joints, and soft tissues throughout the body

### **What are some common uses of the procedure?**

Ultrasound images are typically used to help diagnose:

- tendon tears, or tendinitis of the rotator cuff in the shoulder, Achilles tendon in the ankle and other tendons throughout the body.
- muscle tears, masses or fluid collections.
- ligament sprains or tears.
- inflammation or fluid (effusions) within the bursae and joints.
- early changes of rheumatoid arthritis.
- nerve entrapments such as carpal tunnel syndrome.
- benign and malignant soft tissue tumors.
- ganglion cysts.
- hernias.
- foreign bodies in the soft tissues (such as splinters or glass).

### **How is the procedure performed?**

- For most ultrasound exams, you will be positioned lying face-up on an examination table that can be tilted or moved. Patients may be turned to either side to improve the quality of the images.
- After you are positioned on the examination table, the sonographer will apply a warm water-based gel to the area of the body being studied. The gel will help the transducer make secure contact with the body and eliminate air pockets between the transducer and the skin that can block the sound waves from passing into your body. The transducer is placed on the body and moved back and forth over the area of interest until the desired images are captured.
- There is usually no discomfort from pressure as the transducer is pressed against the area being examined. However, if scanning is performed over an area of tenderness, you may feel pressure or minor pain from the transducer.
- Once the imaging is complete, the clear ultrasound gel will be wiped off your skin. Any portions that are not wiped off will dry quickly. The ultrasound gel does not usually stain or discolour clothing.

## Risks

- For standard diagnostic ultrasound, there are no known harmful effects on humans.
- That being said it is possible that there is a small risk of a heating affect of **prolonged scanning** over tissues in the same area, this is usually only considered of concern in examinations where a fetus is involved which does not apply in this case. However, It is for this reason that all sonographers in all exams generally use a principle called ALARA (As Low As Reasonably Achievable) and so will minimise their scanning time of the same area for prolonged periods of time.