

Diagnostic Ultrasound



Ultrasound machines were first developed during World War I to detect submarines, and nowadays physiotherapists use Ultrasound to stimulate the repair process in injured tissue. It has been shown to increase metabolic activity, increase circulation and reduce inflammation. Diagnostic Ultrasound scanning (as is used to image an unborn baby) is generated in the same way but uses higher frequencies. This mode of imaging is increasingly being used as a biofeedback and assessment tool in physiotherapy.

WHAT IS DIAGNOSTIC ULTRASOUND?

It is a machine that uses soundwaves to show soft tissue moving under the skin.

- Ultrasound above the level of normal hearing (>20 000Hz)
- diagnostic purposes (1.5 – 15MHz)
- therapeutic purposes (0.75 – 3MHz)

My personal interest in real-time ultrasound imaging (RTU) began as a diagnostic technician working in Queensland imaging heart defects. I then completed an undergraduate diploma in medical ultrasound and worked for 10 years in a radiology clinic imaging a whole range of body parts (eg. liver, arteries, veins, prostate etc.)

Now as a physiotherapist I see the enormous potential for the use of RTUI to assist in the treatment of musculoskeletal injuries.

Ultrasound is useful for imaging:

- Muscles
- Tendons
- Joints
- Ligaments
- Bursae
- Guiding the injection of therapeutic drugs such as cortisone

Ultrasound is also showing great potential in the rehabilitation of lower back sufferers, it enables the stabilising muscles of the spine to be shown as images. This information can then be viewed by the patient via a monitor, allowing them to understand how to use their muscles correctly and so stabilise their spine more effectively. Recent research looked at the effect of using real-time ultrasound to retrain abdominal stabilisers versus normal medical treatment.

The results were:

- 84% recurrence in low back pain within one year for the 'normal treatment'
- 30% recurrence only for those given the retraining exercises.

Diagnostic Ultrasound has many uses in sports medicine including the assessment of:

- Shoulder impingement and rotator cuff injuries
- Achilles tendonitis
- Ankle ligament injuries
- Carpal tunnel syndrome and other nerve related problems
- Lower back pain
- Plantar fasciitis



Wakefield Sports Clinic

Crows – 36ERS – United – Thunderbirds – Olympic & Commonwealth Games Teams
270 Wakefield St, Adelaide 8232 5833 www.wakefieldsports.com.au