Core Stability

For information on all types of injuries visit:
http://www.cssphysio.com.au/Doctors/fordoctors.html

Concord Sport & Spine Physiotherapy

Real-time US for Core & Pelvic Floor Exercises

Our physiotherapist Ann-lise Domingue has a special interest in pelvic floor and core retraining. One of the tools she employs for education and exercise is real-time ultrasound. This is used to assess the contraction of certain deep muscles, or identify incorrect muscle activation. It provides an effective form of biofeedback to the patient in the early stages of motor relearning.

We use real-time US to help retrain the following major muscle groups:

Pelvic Floor

It is known that weakness develops after pregnancy & childbirth, but less well recognized that the pelvic floor often becomes weak in people with chronic LBP, in those with chronic airway disease, and obesity. Sometimes, over-activity or excessive bracing of the abdominals can exert unnecessary pressure on the pelvic floor.

As well as weakness, some patients have hypertonicity of these muscles. This can be brought on by pain in joints close to this region, such as the hip, lumbar spine and SIJ. Clues for an overactive pelvic floor include dyspareunia, difficulty wearing tampons, and delayed micturition.

Placing the US probe low down in the abdomen, the bladder is imaged with the pelvic floor and bladder-neck at the bottom of the screen. The muscles are assessed for their ability to

contract evenly side to side, to relax fully, for their capacity to sustain a contraction, and for their ability to maintain contraction with pressure exerted from surrounding muscles.

Transversus abdominis (TA)

Retraining of the deep abdominal layer is part of pelvic floor rehabilitation, as well as core strengthening for chronic lumbo-pelvic disorders. TA activation has been often shown to be delayed, inconsistent, or of lower magnitude in chronic LBP patients.

The US probe is positioned superior to the ASIS where the TA muscle belly is clearly visible. Assessment includes the quality of contraction side to side, endurance with repeated and sustained

activation, signs of over-activity of the superficial abdominals (external & internal oblique – 2nd image), and the ability to dissociate breathing from core contraction. The screen image is used to help the patient to learn how to palpate for an effective TA contraction.

Quadratus femoris

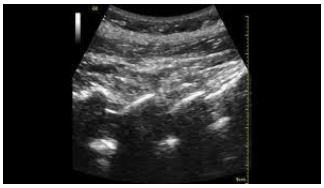
This muscle is an important hip stabilizer, and dysfunction affects biomechanics of the whole lower limb. It is frequently deficient in chronic lower limb conditions such as groin pain, trochanteric pain, patellofemoral pain, and shin splints.

This muscle is very deep and difficult to palpate, particularly in overweight patients. Ultrasound is often the only reliable way to determine if the

patient is achieving an effective contraction. The probe is positioned between the greater trochanter and ischial tuberosity, and the muscle is imaged below gluteus maximus. The cue for activation is squeezing the heels together.

Lumbar multifidus

This is another muscle group that has been shown to display weakness in chronic and recurrent LBP. This muscle is particularly difficult for the patient to feel, so US imaging can be very effective. The probe is placed transversely or longitudinally over the lower lumbar or sacral regions. Various cues are used for muscle activation



Please contact us if you would like a printable copy of this document.

For information for doctors on physiotherapy management of all types of injuries visit: http://www.cssphysio.com.au/Doctors/fordoctors.html

Information for patients is at: http://www.cssphysio.com.au/forpatients.html

Concord Sport & Spine Physiotherapy

Concord Sport & Spine Physiotherapy
202 Concord Road
Concord West, NSW 2138
Sydney, Australia.
Ph (02) 9736 1092
Email: info@cssphysio.com.au
Web: www.cssphysio.com.au