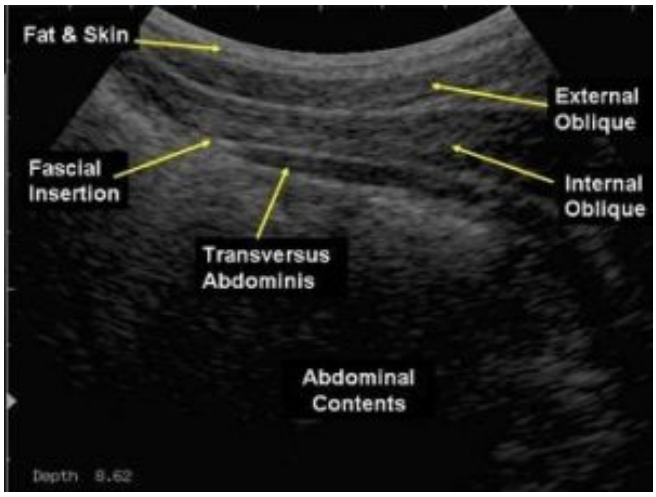
What is Real Time Ultrasound

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Ultrasound uses high frequency sound waves, which travel freely through fluid and soft tissues in the body. The waves are reflected back when they hit more dense tissue, allowing the computer to generate a picture of the tissue through which the sound waves are passing. Diagnostic ultrasound has been used very effectively for some time as a cost effective, safe and non invasive method of assessing the condition of the organs and soft tissues in the body. As the image from the scan is constantly updated, the scan is able to be used to show movement as well as to assess structure. In recent years, ultrasound has been used increasingly as a real time assessment and feedback tool to demonstrate the ability of a muscle in the body to contract effectively. The importance of the deep stabilising system of muscles (core muscles) in the body in generating efficient, well controlled movement is well documented. Research into muscle impairment in low back and pelvic girdle pain shows that there is a specific impairment in these deep muscle of the trunk in this patient population.

Due to the much higher proportion of slow twitch muscle twitch muscle fibers involved, the contractions involved in 'turning on your core' are relative subtle and gentle. This often leads to a degree of confusion from clients as to what an appropriate contraction is, commonly leading to over-bracing strategies utilizing rectus abdominus, obliques and erector spinae. Using real time ultrasound, enables the client to watch the contraction on the screen, providing immediate feedback and allowing much more effective learning as to an appropriate core contraction.

Learning to appropriately recruit and contract the core muscles is essential for enabling appropriate mobility, support and protection to the joints of the trunk. This also ensures the ability for correct breathing patterns to be utilized, providing adequate oxygenation to the tissues. Real time ultrasound remains one of the most powerful tools for therapists to be able to accurately assess the function of the core muscles of the trunk and design an appropriate retraining program for their clients in the presence of dysfunction in one or more of the muscles. Due to the often subtle nature of the contractions involved, its use as a biofeedback tool to assist in teaching clients how to turn on these muscles appropriately, remains invaluable.

At In Balance Physio and Pilates, Real time ultrasound is used extensively to diagnose and re-train dysfunction of the core muscles of the trunk as well as a screening tool to ensure appropriate core contractions prior to joining a Pilates class at the practice.

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