



## Human real time ultrasound

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Using Real-Time Ultrasound to help (human) back pain

Back pain in riders is far more common than it should be... or than it needs to be! The term 'back pain' refers to any pain in the spine, pelvis or hips. Pain anywhere in the back, hip or pelvis area negatively alters core muscle activation, affects balance, body position, and impairs the ability to ride with symmetry and fluidity.

Nobody is immune to the effects of pain on the central nervous system, no matter how well they think they are managing to cope with it. If horses could talk, they would concur. The effects of these factors on the ability to ride well are sometimes subtle and sometimes not. The methods of compensation that riders use to avoid their back pain become habits and lead to riding techniques and positions that may cause further spine damage and a downward spiral!

In my work as a physiotherapist I postulate that 100% of riders with back pain have core muscle weakness and/or imbalance. What is known as the 'core' is a group of deep muscles that work together to form a corset around the spine and hips. They are the deepest layer of muscles, so are difficult to feel, see or touch. By using the **Real-Time Ultrasound** machine as a visual aid to 'see' these core muscles, their insufficiencies can be detected. A riding position or movement that does not involve good core muscle activation is a significant cause (or effect) of back pain. Contrary to popular belief, the ability to do sit-ups is NOT an indication of core strength!

So why is the back pain there in the first place? Accidents or falls are often to blame, as injury to any part of the legs, hips or spine can contribute to the pain. Often the exact cause is unknown (after all, which of the 20 plus 'bad falls' does one blame?) and all that is often said is, "just don't ride" – like that is going to happen! Sometimes the actual riding position is to blame and, as with poor technique in any sport, this leads to body breakdown. This can start at a very early age and only gets worse with time. In children, just growing too fast can cause muscle imbalances that lead to back pain.

The research has indicated that once core muscles have weakened they must be specifically retrained to return to normal function. The **Real-Time Ultrasound** is a very useful tool to help identify and correct core muscle imbalances. Back pain is reversible, core muscles are trainable and position faults are correctable. It is as important for the rider as it is for the horse to see a professional that is specifically trained in the assessment and treatment of biomechanical problems. For the sake of the horse and the rider, back pain should not be accepted as 'normal', nor should it be ignored.

So next time you think you must live with your back pain, or must just 'ride through it', think again!