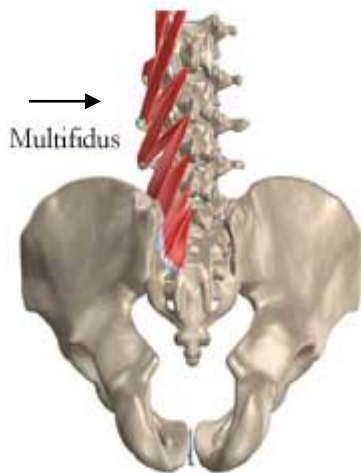
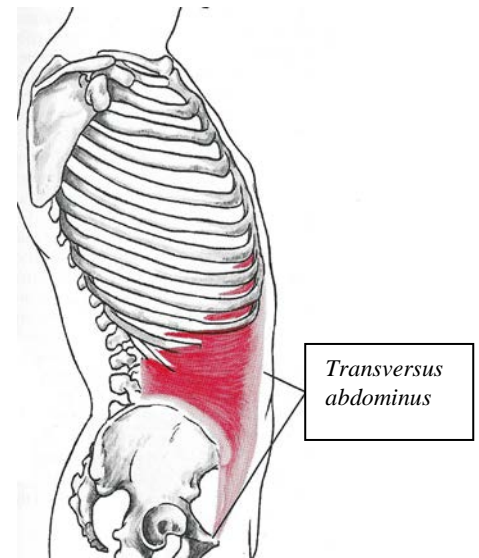


STABILISING EXERCISES FOR LOW BACK PAIN

PATIENT INFORMATION

Recent research into the causes of persistent low back pain has shown that many sufferers of this common problem have an associated weakness of the muscles surrounding their lumbar spine. The two main muscles that are thought to be involved here are the small *multifidus* muscles, located behind your vertebrae, and the *transversus abdominus* muscles, located in front of the vertebrae underneath your abdominal muscles



Throughout the day, these muscles normally act like a corset or brace around your low back protecting the vertebrae from moving too much on one another – as you sit, walk, run, lift, or do any sort of physical activity. Their action is very subtle and usually occurs without any conscious thought or effort.

Contraction of these muscles doesn't result in any noticeable movement (*an isometric co-contraction*) – their role is to *stabilise* your spine – keeping bones, joints and ligaments aligned properly with one another.

There are several reasons why these *lumbar stabilising muscles* may become weakened and cease to perform their important role on the lumbar spine:

- The pain associated with an initial injury to the back
- Lack of use while trying to recover from a back injury
- Individual predisposition

The *lumbar stabilising exercises* involve performing a *co-contraction* of the transversus abdominus and multifidus muscles. This co-contraction needs to be performed at a very gentle level so that the action can be held for as long as possible and repeated many times throughout the day – since this is the normal way in which these muscles function.

The program is usually started in the easiest positions possible to achieve the co-contraction of the lumbar stabilisers – kneeling on hands and knees or lying on your stomach.

- Position your back in a *neutral* position, not arched or slumped down in the middle
- Gently draw your lower abdomen *up* and *in* – imagine pulling your navel up towards your spine.
- Concentrate on performing a gentle action – try to keep your other abdominal muscles relaxed.
- Try to hold the contraction for as long as possible – aim for 10 seconds, then relax.

Two common pitfalls associated with performing this action need to be kept in mind:

- Don't "suck in" your abdomen muscles as if you were doing a sit up, keep them relaxed.

The ultimate goal of the program is to develop an ability to maintain gentle co-contraction of your lumbar stabilisers throughout the day without having to consciously think it. In this way you develop a muscular brace that protects your spine, allowing it to move normally and avoid further injury and pain.

Adapted from: Richardson CA and Jull GS (1995): Muscle control – pain control. What exercises would you proscribe? *Manual Therapy Journal* 1 : 2 – 10

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