



# The Relevance of Piriformis

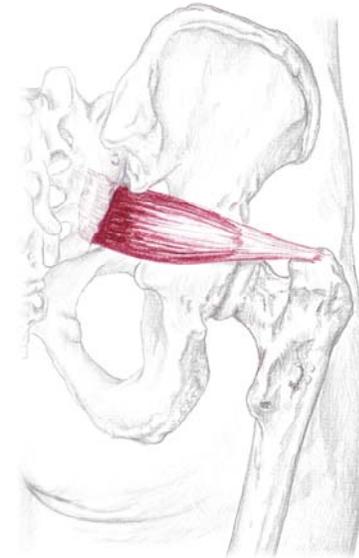
by *Caroline Barrow*

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Do you treat people with lower back pain, leg pain and/or sciatica? Then you may be aware of the potential contribution of the piriformis muscle to this not uncommon problem. In the United States alone, 1.2 million MRI scans fail to find the reason for this type of pain while around 300,000 lumbar spine operations are carried out to relieve back and leg pain – yet 25% fail to make any impact on patients' pain. How many of those might respond to some 'piriformal' treatment and why should we consider it?

It attaches to the middle three fused sections of the sacrum – on the anterior side – i.e. the inside of the bone that you can't reach when you massage! Meaning 'pear shaped' the muscle is widest and bulkiest at its insertion and first third of fibres, then narrows to its other insertion point on the posterior tip of the greater trochanter (after passing through the greater sciatic foramen).

What movement do these points of insertion enable? If the pelvis is still, contraction of either muscle will externally rotate the femur (recall its posterior point of insertion on the greater trochanter). But also imagine this: picture the femur/s staying still but the spine moving to one side. If the upper spine is moving to the right, say, the lower part of the sacrum will tend to move to the left, since it is allowed a degree of movement by the sacroiliac joints (SIJs). What will piriformis do then? It will help to resist too much movement at the SIJs, the left one contracting when the spine goes to the right and vice versa. From this perspective it may not be surprising that people with greater flexibility in their SIJs than others may be more likely to have a piriformis related problem – dancers and people overdoing certain yoga postures for example!



But for the rest of us not commonly straining our SIJs, a sudden or more severe twist, torsion or action of the upper spine, can be what triggers piriformis to 'grab' the sacrum, one side or both in order to hold on tight... This may be when the strain sets in, especially if it was a sudden movement that was quickly corrected in some way therefore not allowing the muscle the time to relax its fibres after the sudden contraction. This can then pull the sacrum forward, the SIJs and lumbosacral junction out of alignment and sometimes affect the coccyx.

But why could this potentially be such a problem? Because of the other key aspect of the anatomy: the proximity of the sciatic nerve. In most people the nerve travels from its exit points of the sacrum, directly beneath the muscle, becoming more superficial below it. So if piriformis is holding strain then it can potentially affect any of the nerve fibres and, since strains in muscles can also move slightly, there may be shifting areas of pain. So the relationship is close... Yet in about 15% of people it is even closer – their sciatic nerves actually pass through the muscle as they traverse the inner buttock! This enhances the likelihood of problems anywhere down the sciatic nerve if piriformis is tight. Hence, sciatica from this cause is known as piriformis syndrome.

So what can we do? Think back to piriformis' insertion points... While the superficial gluteus maximus covers most of it, it is possible to get through it to piriformis, especially if the latter is tight and in strain as it can clearly feel like a tight cord deep under your fingers. Working just in from its attachment at the greater trochanter can also be a point of access, roughly in the middle of the buttock's dimples! Deep tissue work, fascial techniques, frictions (may be very painful!) even simply sinking in and following where the tissue leads to help facilitate a release can be helpful to turn off those 'highly-strung' fibres.

It can also be helpful to stretch it. The easiest way to encourage your clients to stretch it for themselves is to sit up straight and cross the leg on the side they have the restriction.

The body may have started to rely on it to contribute to spinal stability, as well as hip stability so though our therapeutic interventions may be able to relax it while the client is on the table, how often do they get back out into their habitual movement patterns and set it off again, back into its strain pattern. If this is the case it can be helpful to work on the abdominal muscles for spine support as well as the pelvic floor to help hold the SIJs – it may be helpful to recommend a good Pilates instructor to work with overall muscle balance in these cases. However, if the problem has arisen from an injury, I have often found that once released, the body will remember its original pattern and not cause too many more problems.

So if clients come with sciatica, don't rule out the possible contribution of this muscle!

### **About Caroline Barrow**

Caroline Barrow BSc is a Shiatsu and Cranio-sacral practitioner. She is also the founder of the College of Body Science which specialises in running a variety of courses for complementary health practitioners to study anatomy (for real!), physiology, pathology and aspects of biomedical science. The vision is for high quality, on-going teaching, support and exchange to be available and suitable for practitioners at different stages of understanding, enabling a truly holistic approach to health. She can be contacted on Tel: 0845 108 1088; [carob@collegeofbodyscience.com](mailto:carob@collegeofbodyscience.com) [www.collegeofbodyscience.com](http://www.collegeofbodyscience.com)

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