

Anatomical variants in the sciatic foramina and their relationship to piriformis muscle syndrome, Proceedings of the 2005 International Research and Philosophy Symposium

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**INTRODUCTION:** The piriformis muscle syndrome is a condition relating to irritation of the sciatic nerve either directly or indirectly as it passes through the sciatic notch adjacent to the piriformis muscle. While there are varying possibilities of entrapment of the sciatic nerve in the sciatic foramina confounding the diagnosis of this condition are normal anatomical variants found in this region. Differential diagnosis will need to account for the affect of piriformis related myofascial adhesions, spasm, and flaccidity/swelling in conjunction with bipartite piriformis muscles, the tibial nerve to passing below the piriformis with the common peroneal passing through it.

**DIAGNOSTIC PROTOCOL:** There are various protocols to diagnose piriformis muscle syndrome which include palpation for pain, functionally evaluating for increased piriformis muscle belly tension, functionally evaluating for increased piriformis tendonous tension at the greater trochanter, lengthening or flaccidity of the piriformis muscle in the sciatic notch, and functional/anatomical leg length differences.

**TREATMENT PROTOCOLS:** Allopathic interventions include surgical sectioning of the piriformis muscle as well as injections of botulism toxin or steroids. Manual medicine or chiropractic can treat the affects of increased piriformis muscle tension at the belly of the muscle and at its tendonous attachment near the greater trochanter as well as lengthening or flaccidity of the piriformis muscle in the sciatic notch. Treatment can also be rendered due to primary or secondary affects of piriformis muscle dysfunction affecting functional/anatomical leg length differences.

**CONCLUSION:** The combination of the rarity of piriformis muscle syndrome along with the rarity of normal variants in the sciatic foramina relating to the passage of the sciatic nerve and piriformis muscle can make

an ultimate diagnosis complex. Some studies have suggested that 3-6 out of fifty patients might be presenting with anatomical variants relating to the piriformis muscle and sciatic nerve. A doctor treating sciatica, low back and pelvic pain should be cognizant of possible normal variants as well as the possible differential diagnosis of a piriformis muscle syndrome.