

Can exercise therapy reduce symptoms in individuals with piriformis syndrome?

To answer this question, we performed a comprehensive search of the PubMed database (July 2011) for randomized, controlled trials (RCTs) and systematic reviews that addressed this specific research question. -

Currently, there are no published RCTs examining the effect of exercise therapy for piriformis syndrome (PS). For this review, the best available published peer-reviewed literature was evaluated including three review articles pertaining to diagnosis and treatment (2,3,5); one longitudinal cohort study (4); and one case report (1).

From all publications, it was clear that PS remains a controversial and debated diagnosis, generally considered one of exclusion for such conditions as lumbosacral degenerative disease, radiculopathy, and greater trochanteric syndrome. Treatment for PS has traditionally included physical modalities (ultrasound, heat, cryotherapy), stretching, and a

combination of local anesthetic, corticosteroid and botulinum toxin injections into the piriformis muscle belly, muscle sheath, or sciatic nerve sheath (2-5). Soft tissue mobilization, positional release, and joint manipulation have also been advocated (3). Such treatment programs are generally recommended to be performed 2-3/wk for 3 mos (24-36 sessions total).

Piriformis syndrome is often attributed to a shortening or spasm of the piriformis, leading to sciatic nerve compression (2-5). A recent case report provided an alternative mechanistic theory: the sciatic compression is secondary to an overworked piriformis due to weakness of the agonist muscles (gluteus medius and maximus) (1). Through a progressive program of strengthening and movement reeducation, full symptom resolution occurred within 8 treatment sessions over a 3 mos period (1).

Due to the lack of RCTs available for review, uncertainty remains as to the specific type of exercise therapy that is most effective for patients with PS. However, the studies that have been reviewed provide exercises that may help to improve the symptoms of PS.

Check with the provider of this newsletter to learn more about exercises appropriate for this condition.

1. Tonley JC, Yun SM, Kochevar RJ, Dye JA, Farrokhi S, Powers CM. Treatment of an individual with piriformis syndrome focusing on hip muscle strengthening and movement reeducation: a case report. *J Orthop Sports Phys Ther.* 2010 Feb;40(2):103-11. PubMed PMID: 20118521.
2. Kirschner JS, Foye PM, Cole JL. Piriformis syndrome, diagnosis and treatment. *Muscle Nerve.* 2009 Jul;40(1):10-8. Review. PubMed PMID: 19466717.
3. Boyajian-O'Neill LA, McClain RL, Coleman MK, Thomas PP. Diagnosis and management of piriformis syndrome: an osteopathic approach. *J Am Osteopath Assoc.* 2008 Nov;108(11):657-64. Review. PubMed PMID: 19011229.
4. Fishman LM, Dombi GW, Michaelsen C, Ringel S, Rozbruch J, Rosner B, Weber C. Piriformis syndrome: diagnosis, treatment, and outcome--a 10-year study. *Arch Phys Med Rehabil.* 2002 Mar;83(3):295-301. Review. PubMed PMID: 11887107.
5. Halpin RJ, Ganju A. Piriformis syndrome: a real pain in the buttock? *Neurosurgery.* 2009 Oct;65(4 Suppl):A197-202. Review. PubMed PMID: 19927068.