

# The Effects of Active Straight Leg Raising on Tonicity and Activity of Pelvic Stabilizer Muscles

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Receive date: 5/1/2009

Accept date: 15/7/2010

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## Abstract

**Objective:** Active straight leg raising (SLR) test is advocated as a valid diagnostic method in diagnosis of sacroiliac joint (SIJ) dysfunction that can assess the quality of load transfer between trunk and lower limb. The aim of this study is Comparison of changes in tonicity and activity of pelvic stabilizer muscles during active SLR, between healthy individuals and patients with sacroiliac joint pain.

**Materials & Methods:** A case-control study was designed in 26 women (19-50 years old). With use of simple sampling, surface electromyography from rectus abdominis, external oblique, internal oblique, adductor longus, erector spine, gluteus maximus and biceps femoris was recorded in 26 subjects (15 healthy females and 11 females with sacroiliac pain) in resting position and during active SLR test. Resting muscle tonicity and rms during ramp time and hold time in active SLR test were assessed by non parametric-two independent sample test.

**Results:** Biceps femoris activity in resting position was significantly larger in patients group ( $P<0.05$ ). During the active SLR, the women with sacroiliac joint pain used much less activity in some pelvic stabilizer muscles compared to the healthy subjects ( $P<0.05$ ).

**Conclusion:** The increased resting tonicity of biceps femoris and decreased activity of pelvic stabilizer muscles in subjects with sacroiliac joint pain, suggests an alteration in the strategy for lumbopelvic stabilization that may disrupt load transference through the pelvis.

**Keywords:** Straight leg raising/ Sacroiliac joint/ Muscular tonicity/ Electromyography/ Pelvic muscles