

# CLINICAL DECISION MAKING AND TREATMENT IN A RUNNER WITH HIP PAIN AND NEUROMUSCULAR CONTROL DYSFUNCTION: A CASE REPORT

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## ABSTRACT

**Background and Purpose:** The incidence of running related injuries remains high despite numerous efforts to understand the mechanical contributors to the etiology of these injuries. In light of continued running injury, theories of neuromuscular control, or movement patterns, have been suggested as possible contributors to running related injuries. However, the clinical decision making determining when altered neuromuscular control strategies may be affecting a runner's symptoms has not been described. Therefore, the purpose of this case report is to describe the clinical reasoning within the ICF framework for a runner with hip pain and neuromuscular control dysfunction.

**Case Description:** A 47-year-old, experienced, female runner presented with posterior hip pain and radiating posterior thigh pain limiting her ability to participate in running and threatened her goal to run in an upcoming marathon. Several features of her examination indicated soft tissue muscular irritation of the posterior hip complex related to impaired balance and control of the lower quarter during functional movement and running activities consistent with a neuromuscular control dysfunction. Her initial Focus on Therapeutic Outcomes (FOTO) score was 69 with predicted change score of +7.

**Outcomes:** The subject was able to achieve her goals including a return to participation in her weekly running routine and competing in a marathon race. Objective examination features of range of motion, strength, and control of movement were all improved. Her reported function was greatly improved with a final FOTO score 98.

**Discussion:** The diagnosis and treatment of running related injuries remains a clinical challenge. This case report describes the examination and clinical reasoning in diagnosing neuromuscular control dysfunction and proposes a treatment progression to address this functional limitation. The decision making scheme is also structured to follow the International Classification of Functioning, Disability, and Health.

**Level of evidence:** 4

**Key words:** Hip, movement system, piriformis syndrome, running

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