

## **Femoral Neck Stress Fracture in a Female Triathlete: Clinical Presentation and Management**

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### **ABSTRACT**

**CASE HISTORY:** A 31-year-old female triathlete developed R+ hip pain during a training run in preparation for a full Ironman. The athlete experienced an immediate onset of R+ anterior hip pain as she began to increase pace while running intervals. She stopped immediately and was unable to run or walk without R+ hip pain. The patient was referred to physical therapy. **PHYSICAL EXAM:** Initial examination in the outpatient physical therapy clinic revealed hip AROM within normal limits and PROM of the R+ limited in both flexion and internal rotation. Resisted strength testing revealed weakness and pain of R+ hip flexors. No neurological signs or symptoms with screening of the lumbar spine. Flexibility testing revealed significantly tight quadriceps and hamstrings bilaterally. Positive anterior hip impingement test bilaterally. Single leg stance revealed compensated trendelenburg sign bilaterally. Gait analysis revealed shortened stride length and decreased stance time on R+. First follow up examination revealed decreased anterior hip pain with posterior hip capsule mobilizations and decreased pain while running in anti-gravity treadmill with increased cadence. Second follow up examination revealed increased R+ hip pain with weight bearing activities and decreased R+ AROM and PROM secondary to pain. Decreased R+ pain reported with distraction and walking in anti-gravity treadmill. **DIFFERENTIAL DIAGNOSES:** 1. Hip Flexor Strain 2. Femoro-acetabular Impingement 3. Hip Labral Tear 4. Femoral Stress Fracture **TESTS & RESULTS:** Pelvis anterior-posterior and R+ Hip neutral and flexion anterior-posterior radiographs: Femoral heads and necks intact; Femoro-acetabular joint space preserved bilaterally; Bony pelvis intact and unremarkable; Hip MR without contrast; Minimally displaced anterosuperior labral tear present; Edema in R+ femoral neck region; Non-displaced fracture involving the medial margin of the femoral neck on R+ **FINAL DIAGNOSIS:** R+ femoral neck medial aspect non-displaced stress fracture with adjacent stress edema. **DISCUSSION:** Femoral neck stress fractures are often misdiagnosed as signs and symptoms can mimic those of more commonly seen disorders. Early consideration in the differential diagnosis of hip pain is required to avoid potential loss of training time and further injury. **OUTCOME OF THE CASE:** NWB for 6 weeks; Cleared to start WBAT at 6 week MD follow-up; referred to physical therapy after MRI at 3 months. **RETURN TO ACTIVITY AND FURTHER FOLLOW-UP:** Rehabilitation included hip mobility, LE strengthening, and plyometric progression. Ran 2 miles independently with minimal to no pain at 3.5 months and discharged with return to running program.