

## **Chronic Exertional Compartment Syndrome — Female Soccer Player**

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### **ABSTRACT**

**HISTORY:** An 18-year-old female soccer player reported experiencing a dull ache and sensation of tightness in her right leg, accompanied by a burning pain, during a match. Post-match, she noticed tingling in the dorsal aspect of her right foot. The athlete sought consultation from a general practitioner (GP), who found no evidence of tenderness or swelling during the clinical assessment. The GP recommended rest and prescribed anti-inflammatory medication.

**PHYSICAL EXAMINATION:** Persistent discomfort and significant weakness in dorsiflexion prompted the athlete to consult an orthopedic physician. Clinical examination revealed no localized pain or other symptoms. Initial radiographs were unremarkable. Given the athlete's persistent complaints, an MRI and a STIC intra-compartmental pressure measurement were ordered.

#### **DIFFERENTIAL DIAGNOSIS:**

1. Stress fracture
2. Gastrocnemius/soleus strain
3. Medial tibial stress syndrome
4. Popliteal artery entrapment
5. Lumbar disc herniation

#### **TESTS AND RESULTS:**

- MRI: T2-weighted imaging showed increased signal intensity within the affected compartment
- Compartment pressure testing: Needle insertion into the muscle pre- and post-exercise revealed elevated pressures (> 15mm Hg)

**FINAL/WORKING DIAGNOSIS:** Chronic exertional compartment syndrome

**TREATMENT AND OUTCOMES:** Management included NSAIDs, diuretics, compression therapy, stretching exercises, orthotic supports, massage, extended rest, modifications to training surface and footwear, heat therapy, electrostimulation, and hydrotherapy. Surgical intervention via fasciotomy was determined to be the most effective treatment, aiming to decompress the affected compartments. Post-surgery, the patient utilized crutches for initial mobility, followed by non-impact aerobic exercises ranging for 4 weeks, with a gradual return to sport-specific training in 3 months.