

Chronic Exertional Compartment Syndrome in Athletes: A Long Road to Diagnosis



"I had been struggling with my shins for so long. I did all the things I knew you could do for shin splints but nothing worked. The doctors I saw initially seemed reluctant to test for compartment syndrome. I was really lucky that my trainer knew about it enough to guide me."

CASE HISTORY

Female collegiate soccer player, Maddie Fouts discovers that what she thought was years of recurring shin splints is actually Chronic Exertional Compartment Syndrome (CECS). The delayed diagnosis cost her years of additional pain and anxiety.

DIAGNOSIS

The patient's college trainer recognized symptoms of CECS and referred her to an orthopedic surgeon. Diagnosis included testing the patient's compartment pressure at rest and following exercise on a treadmill utilizing an intra-compartmental pressure monitor. Results showed elevated pressure in the anterior and lateral compartments of both legs.

TREATMENT MODALITY

Following the diagnosis, the patient underwent a double fasciotomy followed by physical therapy with a return to full functionality without pain or further symptoms following recovery. Proceeding two years of pain-free activity, symptoms of CECS returned and the patient was again tested for elevated compartment pressure. Results confirmed a repeat occurrence of CECS, and a second double fasciotomy was performed successfully.



Ultimately, the patient underwent a double fasciotomy to address CECS.



PROGNOSIS

After experiencing pain and symptoms for several years, the opportunity for an early diagnosis was delayed. Today, this patient continues to experience lack of sensation in her feet despite undergoing two successful fasciotomy surgeries and subsequent physical therapy.

IMPLICATIONS FOR CLINICIANS

Education and awareness of compartment syndrome should be a priority for orthopedic, sports medicine, athletic training, and physical therapy practitioners. Early suspicion and testing could help prevent delayed or missed diagnoses, quicken the time to proper treatment, and get athletes back to doing what they love.

Persistent and recurrent symptoms of leg pain, cramping, and tightness in any athlete warrants consideration of CECS. Use the STIC Pressure Monitor, previously from Stryker and now available through C2Dx, to aid in a definitive, data-based diagnosis.

Diagnostic Differentiators

	CECS	SHIN SPLINTS
Location of Pain	Pressure/pain is often experienced on the outside front of the lower leg.	Pain is generally on the inside front of the lower leg, or the outside of the upper leg.
Nerve-Related Symptoms	Numbness and/or tingling on the top of the foot.	No symptoms related to nerves.
Diagnostic Process	Intra-compartmental pressure measurements using a pressure monitor is the only definitive, data-based clinical diagnosis.	In some cases, an X-ray or other imaging studies can help identify stress fractures associated with shin splints.

