

Acute Compartment Syndrome: A Sideline Diagnosis



I actually kept playing. I played probably 3 or 4 more plays, and then I remember describing it to my trainer like a rubber band wrapped around my leg, and she actually mentioned compartment syndrome first."

CASE HISTORY

High school football player, Evan Kroeze was hit during the first scrimmage of his senior year. Kroeze went down on his back and someone's knee hit his upper thigh. Initially, he thought it was a charley horse, but the final diagnosis was Acute Compartment Syndrome (ACS).

DIAGNOSIS

The patient's trainer recognized symptoms of ACS. After several hours of increased pain and swelling, the patient was brought into the ER, tested and diagnosed with ACS.

TREATMENT MODALITY

Following the diagnosis, the patient underwent an emergency fasciotomy. The surgery resulted in 48 staples, 2 weeks of hospital visits, 10 weeks of of physical therapy and a scar stretching from 2 inches above his knee to his hip. The emergency surgery may have saved his leg and football career.





Ultimately, the patient underwent an emergency fasciotomy to address ACS.





PROGNOSIS

Due to the delay between initial diagnosis and treatment, the patient's injury resulted in minor nerve damage. While the patient's pain has subsided, he continues to notice a difference in strength. During physical activity, the patient eases the side effects by wearing a compression sleeve.

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.

A timely and accurate diagnosis of compartment syndrome is critical to your patient outcomes. Use the STIC Pressure Monitor, previously from Stryker and now available through C2Dx to aid in a definitive, data-based diagnosis.

THE OUTCOMES FOCUSED ON TIME



	MUSCLE		NERVE
Hours	DAMAGE	Hours	DAMAGE
3-4 hrs •	Reversible	1-2 hrs ←	Decrease Conduction
4-8 hrs ←	Variable		Neuropraxia
8+ hrs •	IRREVERSIBLE	6+ hrs •	IRREVERSIBLE

DELAYED TREATMENT

3x mortality & amputation 46%

4+ ISCHEMIC
hrs INJURY TO
MUSCLE/NERVES

EARLY DETECTION

 $\frac{5.5 \downarrow \%}{\text{Overall}} \qquad \frac{2.4 \downarrow \%}{\text{in the ICU}}$

^{*} Data based on several clinical studies assessing how time to diagnosis and treatment affects patient outcomes.





