Objective: To present unique neurologic involvement in the lower extremity of a collegiate athlete. Background: At 15-years, during the fall of her high school freshman year, the athlete experienced pain, swelling, moderate tingling and mild cramping on the anterior portions of both lower legs. She was diagnosed with chronic anterior compartment syndrome (ACS) and underwent simultaneous, bilateral anterior compartment releases. The surgery was successful and the athlete had been without incidence. At 19-years, the athlete began experiencing pain and tingling on the anterolateral portion of her left lower leg/foot following the 2003 fall field hockey season. Symptoms onset 10-15 minutes into off-season practice/conditioning, and during strenuous activity. The symptoms would progress to include numbness and eventually drop foot, varying directly with the difficulty of the practice. No changes in skin color, swelling or ecchymosis occurred. During evaluation, PROM and AROM of the knee, hip, and ankle were full except when symptoms were present; there was no active DF. RROM was normal except for DF, which exhibited mild weakness, which progressed to severe weakness during episodes. Dorsalis pedis pulse was WNL. An evaluation of the lumbar spine was unremarkable.

Differential Diagnoses: Re-occurrence of ACS, compression of the deep peroneal nerve (DPN), or fibular stress fracture.

Treatment: The athlete was referred to the team physician and radiograph, bone-scan and Magnetic Resonance Image (MRI) were performed; all tests were negative. Following the start of a conservative strengthening program with no improvements, she was instructed by the MD to take 3 weeks off from all activity. After the 3 weeks of rest, the athlete was permitted to jog. Eight minutes into the first jog, her left lateral lower leg/foot experienced numbness and drop foot. The symptoms did not resolve for 24 hours. The athlete was then referred to an orthopedist proficient in nervous injuries. This physician performed a nerve conduction velocity (NCV) test, identifying a disruption of the common peroneal nerve (CPN) in the vicinity of the fibular head. Surgical intervention was deemed necessary and in January 2004 debridement identified scar tissue surrounding the CPN. Post-surgical rehabilitation was performed until strength was approximately 75% compared to the uninvolved. However, the onset of identical symptoms began to occur in the contralateral leg. As per the team MD, the athlete was allowed to RTP with modifications and limitations in March 2004. During March, the athlete was referred back to the MD. A NCV test revealed a disruption to the CPN in this extremity. During May 2004, a debridement of the right leg was performed. A larger amount of scar tissue was identified around the CPN when compared to the left. Post-surgical rehabilitation mirrored that of the previous surgery. At 4 months s/p, the athlete reports 90-95% of normal on bilateral lower leg strength and has RTP without limitations. She does experience mild muscular weakness and fatigue while running steep hills and on sand, but no pain.

Uniqueness: After any surgery, the formation of scar tissue is certain, but the circumstances in which it causes such disabling effects are rare. In this case, the resulting scar tissue from previous surgeries had deemed the muscles physically unable to be utilized during exercise. This result of bilateral nervous involvement, and that the symptoms were not indictors of the true injury are what makes this case unique.

Conclusions: In order to identify this situation in another athlete, athletic trainers should be aware of pain, numbness and loss of function, which vary directly with the intensity of team practice or exercise. Understanding a case, but not prematurely focusing on an assessment is an imperative attribute of an athletic trainer.