Background: A 22-year old male athlete presented with a “giving out” sensation after performing a cut maneuver in football practice. The athlete was evaluated following practice. The initial history revealed the athlete had suffered a lateral calf strain during practice a week earlier. The athlete was unable to fully bear weight. There were no obvious deformities but limited swelling of the lateral leg was noted. Palpation of the area revealed warmth and point tenderness. Neurovascular assessment was unremarkable. The athlete was sent home with a compression wrap and crutches and instructed to ice and elevate and report back to the athletic training room in the morning. The next morning the athlete complained of numbness in his foot which started the previous night and continued to progress up his leg. The athlete also described a throbbing pain as “the worst pain I’ve experienced in my life” which prevented sleep. The athlete was immediately lead to the team physician’s office. The team physician suspected lateral compartment syndrome and the decision was made to transport the athlete to the local hospital. Upon admission to the emergency room a previous history revealed no prior significant medical problems, chronic medication, recent illnesses, or known allergies. Muscle compartment pressure readings were taken. The posterior and deep posterior compartments measured 15 mmHg and 25mmHg, respectively. However, the lateral compartment pressure was approximately 80 mmHg while the anterior compartment pressure was approximately 60 mmHg. The decision to perform emergency anterior and lateral compartment fasciotomies was made. Differential Diagnosis: Lateral lower leg muscle strain, peroneal compartment syndrome. Treatment: Following general anesthesia, the patient was fitted with a tourniquet over the left thigh. A 10 cm longitudinal incision was made anterior to the lower one-third of the fibula. Subcutaneous tissue was dissected and a fasciotomy of the anterior and lateral compartments was performed. During incision, there was an immediate herniation of the peroneus brevis and longus muscles. The muscle appeared flaccid and a darker red in color. A 6 x 4cm segment of the proximal portion of the peroneus longus muscle was debrided. Sterile gauze was placed over the wound with partial re-approximation. The athlete returned 4 days later for delayed primary closure. The surgeon removed more of the peroneus longus muscle. The wound was closed. The patient’s foot was placed in a Robert Jones type splint in a neutral position. At 8 days post-operation, there was moderate swelling with significant hyperesthesia dorsally over the foot with less along the lateral border. The athlete was instructed to bear weight as comfortable and was to start light exercise in a non-weight bearing walking boot. Eight weeks post-operative the athlete was walking without assistive devices. Twelve weeks post-operative the athlete began plyometric exercise followed by cutting and agility drills at 14 weeks. The athlete progressed to agility training and was able to participate in unrestrictive football 4 months post injury. Uniqueness: While information on anterior compartment syndrome is prevalent in the literature, case reports and information related to peroneal compartment syndromes are less common. Based on the rarity of peroneal compartment syndrome and the lack of information available, it is important to supplement the clinician’s knowledge base in effectively managing peroneal compartment syndrome. Conclusions: Although an initial impression of a minor injury may be rather benign, an accurate, thorough, and continued physical examination may reveal important clues in assessing injuries. These clues may reveal abnormal findings which ultimately could lead to immediate referral or
emergency intervention. Surgical intervention is often indicated in lateral compartment syndrome, but with proper post-operative treatment and rehabilitation an excellent outcome and return to activity can be expected.

**Key Words:** leg injury, emergency surgery, compartmental pressures