A Collegiate Field Hockey Player with Reflex Sympathetic Dystrophy/Complex Regional Pain Syndrome
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**Background:** An 18-year-old female field hockey player suffered a Grade I inversion ankle sprain with a peroneal strain while running around a cone during practice. Initial examination revealed point tenderness along the lateral aspect of the ankle and peroneals with no apparent swelling or ecchymosis. Pain throughout active ROM and last few degrees of passive plantar flexion and dorsiflexion. Strength 4+/5 with all ankle motions. Athlete had slight pain, but no laxity with Anterior Drawer, Talar Tilt and negative Kleiger. Initial treatment was ice and compression and rehabilitation was advised. The next day the athlete reported to the certified athletic trainer for re-evaluation, which revealed only mild swelling, pain and point tenderness around the lateral malleolus. The athlete was taped and participated in practice but later complained of extreme pain from the ankle sprain and was re-evaluated. **Differential Diagnosis:** Compartment Syndrome, Capsulitis, Bursitis, Achilles Tendonitis, or Reflex Sympathetic Dystrophy/Complex Regional Pain Syndrome (RSD/CRPS).

**Treatment:** Athlete came in for treatment three days post injury. She complained of pulsing pain and tenderness on lateral aspect of ankle, Achilles tendon, and plantar aspect of foot. Active ROM was full, but painful. Minimal swelling and ecchymosis on lateral aspect of ankle. Strength had decreased from initial examination. Cryotherapy, stretching, LLLT laser, and electrical stimulation were performed. Ankle and foot sensitivity increased significantly by day 4 hindering a full evaluation. Treatment was discontinued due to pain and athlete became NWB using crutches. MRI was performed to rule out other conditions and three consulting physicians all diagnosed athlete with RSD. Athlete’s pain was now from her toes into her calf measuring 10 inches from her medial longitudinal arch. Treatment protocols suggested by the RSD Syndrome Association were followed once the diagnosis was confirmed. Treatment consisted of desensitization therapy using hydrotherapy, tactile irritation, active ROM and PWB exercises. A Jones compression wrap was also used for comfort. One month after initial diagnosis the area of sensitivity decreased 1.5 inches and athlete was able to actively move toes without pain. Desensitization therapy continued to increase athlete’s tolerance and increasing amount of weight placed on foot was also initiated and measured using a digital scale. Four months after initial injury area of sensitivity measured 3.25 inches from the medial longitudinal arch. FWB exercises, gait training and strengthening began. Weight room, Biodex, and elliptical exercises began 5.5 months after initial injury. Currently (1 year, 2 months after injury) the athlete has returned to some normal activities, has been able to wear a shoe for the past 2 months, and is able to walk short distances FWB and longer distances with a cane. The area of sensitivity is localized around her midfoot and there is no longer pain in her calf or toes.

**Uniqueness:** RSD/CRPS is a neurological syndrome characterized by severe pain believed to be the result of a malfunction of part of the nervous system that develops in response to an event the body perceives as traumatic (injury or surgery). Symptoms of RSD/CRPS are swelling, abnormal skin color changes, skin temperature, severe pain, limited range of motion, and sweating. **Conclusion:** RSD/CRPS is a rare disorder affecting less than 200,000 people in the United States. Athletic trainers should be aware of the signs and symptoms of RSD/CRPS for an early diagnosis to decrease risk of losing function of the limb or increasing affected area. The long term goal is being free from the hyper-sensitivity to pain and returning to normal daily activities. **Word Count: 597**