Background: 20-year-old field hockey player presented with posterior thigh/ buttock pain midway through her fall season. Athlete had a previous history of left hamstring strain and low back pain. Athlete complains of left hamstring pain when walking, stepping off a curb, reports no pain with sitting although she experiences right lower back pain when sitting on a stationary bike. Complains of radicular nerve paresthesia down posterior thigh that never passes the knee joint. Her primary complaint is that she continues to have re-current pain in her left buttock and lower back that impedes her ability to play field hockey. The athlete has decreased ROM of left hamstring with associated complaints of pain with stretching. Athlete is unable to run full speed or change direction without pain. Plyometrics recreate the left leg pain and she feels as if her “hip was off.” On initial evaluation the Athlete’s AROM testing findings include; full lumbar flexion, right side bending is limited and produces discomfort at end-range, 50 % of full AROM was noted with both extension and left rotation. Negative SI joint screen, SLR test, and Slump test. Positive prone instability test at vertebral level L4.

Differential Diagnosis: Left hamstring strain, SI joint dysfunction, piriformis syndrome. Treatment: Physician diagnosed left proximal hamstring syndrome. Treatment involved functional mobilization of coccyx, opening mobs over right L5, deep soft tissue mobilization at proximal insertion of left hamstring, bilateral stretching of psoas, rectus femoris, and right TFL. Additional treatment interventions included: “Seek and destroy” electrical stimulation, lumbopelvic manipulation, unloading hamstring tape technique, and core training. MRI imaging was normal. Physician suggests surgical release of proximal hamstring from the ischial tuberosity after the field hockey season. Surgery performed April 2009. Patient reported that her pain decreased dramatically and was genuinely satisfied with the post surgical outcome of the procedure. Instructed to increase jogging and eliminate closed chain activity due to recurrent symptoms following the initiation of these exercises. In October 2009 an isotonic strength test (hamstring curl) was performed to satisfaction. Uniqueness: Tethering of the sciatic nerve to the proximal hamstring tendons can cause pain at the insertion of proximal hamstring with pain/paresthesia radiating to the popliteal fossa. When the hamstring is contracted, traction is produced on the sciatic nerve causing symptoms. Proximal hamstring syndrome is isolated around the ischial tuberosity. This differs from those with hamstring tears where the pain is isolated in the muscle belly itself. Piriformis syndrome differs clinically with tenderness located more proximally upon deep gluteal palpation just lateral to the greater sciatic notch over the belly of piriformis. Conclusion: Proximal hamstring syndrome occurs in athletes participating in exercises involving sprinting and/or high velocity movements. With sprinting the hamstring muscles work to decelerate the tibia as it swings forward. A past history of strain and lack of strength is linked to hamstring injury. Nerve impingement in L5-S1 can lead to hamstring weakness. Athletes experience impaired performance with acceleration or maximum speed when running. When a player is fatigued they lose coordination between certain muscle groups causing a misfiring in the two nerves (sciatic-tibial & sciatic-common peroneal) innervating the biceps femoris which can result in chronic hamstring strains. Surgical release of the proximal hamstring tendons, in particular the sciatic nerve, is performed when the two have become tethered by adhesions or scar tissue. Word Count: 548