



# Quadriceps Injury in a Collegiate Football Player

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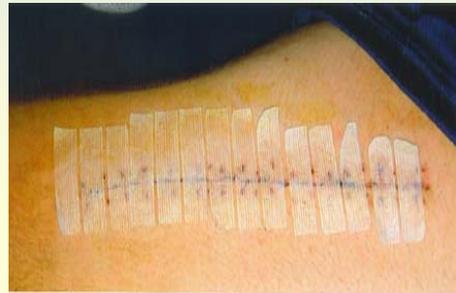
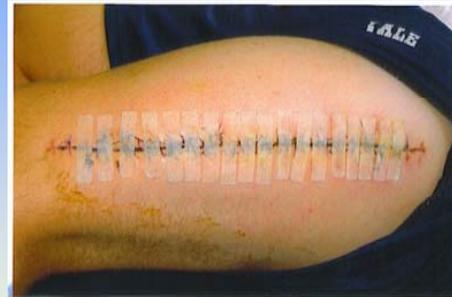
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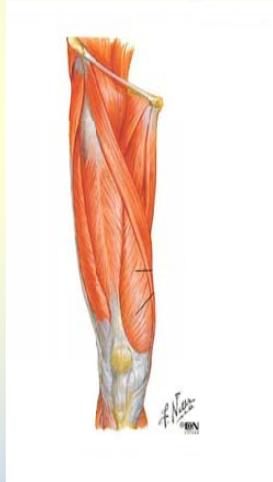
## Introduction / Personal Data:

- Athlete is a 21 year-old male division I football player.
- Was struck to the lateral side of his left quadriceps by an opposing player's knee.
- Chief complaint is a "thigh bruise".
- No previous history of injury to the left quadriceps.
- Athlete continued to play and received ice and a light stretch following practice.



## Operating Room Notes:

- Patient was taken to the OR for a fasciotomy.
- A 13.5" lateral incision was made along with a 7.5" medial incision and the fascial compartments were then released.
- Compartment pressures were re-measured revealing:
  - 5 mmHg in the lateral compartment
  - 3 mmHg in the medial compartment
  - 10 mmHg in the posterior compartment
- Wounds were left open, copiously irrigated, and covered with dressing and an ace wrap.
- Wound tension was provided with vessel loops.
- The wound was slowly tightened over the course of the next eight days.
- Once the wound was ready to be closed the athlete was taken to the OR for irrigation, debridement, and primary wound closure.



## Rehabilitation and Recovery:

- Rehabilitation began immediately taking care not to overstress the scar area.
- Two weeks post op the stitches were removed and a slight infection of the proximal lateral scar was treated with antibiotics.
- Three weeks post op the athlete complained of increased medial knee pain, and an MRI was scheduled.
- The results of the MRI showed the athlete sustained a full thickness articular cartilage defect of the medial patellar facet with associated subchondral marrow changes.
  - The injury to the knee was attributed to a possible subluxation at the time of injury.
  - Rehabilitation continued with knee taping pulling the patella laterally.
- At five weeks the athlete began performing functional drills.
- At nine weeks the athlete was cleared to return to football full go.

## Physical Signs and Symptoms:

- Two hours post practice the athlete returned complaining of increased pain while walking, especially when climbing stairs.
- He reported taking 800mg of Ibuprofen.
- Upon inspection he had significant swelling in the quadriceps as well as into the knee capsule.
- Quadriceps was stiff to the touch and point-tender along the distal-medial aspect.
- Active knee flexion was below 90° and painful, active knee extension was WNL but painful, active hip flexion/extension was not WNL due to pain.
- Passive ROM was limited secondary to pain. Distal pulses were strong and sensation was normal.
- Special tests of the knee were inconclusive because of increased inflammation.

## Differential Diagnosis:

- Differential diagnosis at this time include:
  - quadriceps contusion
  - fracture of the femur
  - knee pathology
  - quadriceps compartment syndrome
- Treated with ice and electrical-stim.
- He was sent home with crutches and a compression wrap.
- Athlete was instructed not to take any more medication and to report any increase in symptoms to the health center.
- When symptoms worsened the athlete was taken to the ER.

## Diagnostic Imaging:

- X-ray was determined to be negative.
- Preoperative left compartment pressures were measured:
  - anterolateral compartment was 112 mmHg
  - posterior compartment was 80 mmHg
  - medial compartment was 70 mmHg
- The final diagnosis was quadriceps compartment syndrome.

