

# MSK Newsletter: Beware of Subtle Hip Subluxation

By William Renner, M.D.



## Bo Jackson

When Bo Jackson was 29 years old he was one of the most famous US athletes of all time. He is the only player to be named an All-Star in both professional baseball and professional football. In 1991 while playing football against the Cincinnati

Bengals he sustained a hip dislocation. He said later he reduced the hip dislocation himself. Within one year, he developed avascular necrosis of the hip and underwent total hip replacement, ending his football career. This has led to the speculation that the dislocation was only partially reduced. He was able to play professional baseball for three more years.

## Hip Dislocation and Subluxation

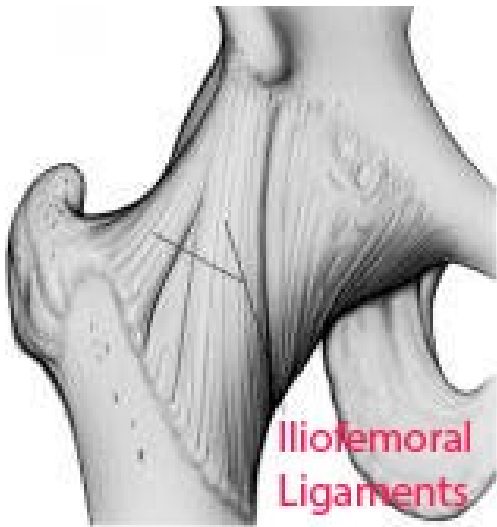
While hip dislocation is dramatic, hip subluxation may be very subtle. This devastating injury can be misdiagnosed as a hip strain leading to avascular necrosis. It is very important to be suspicious of a hip subluxation since it is often under

diagnosed. **Early reduction is critical to prevent the long-term complication of AVN!**

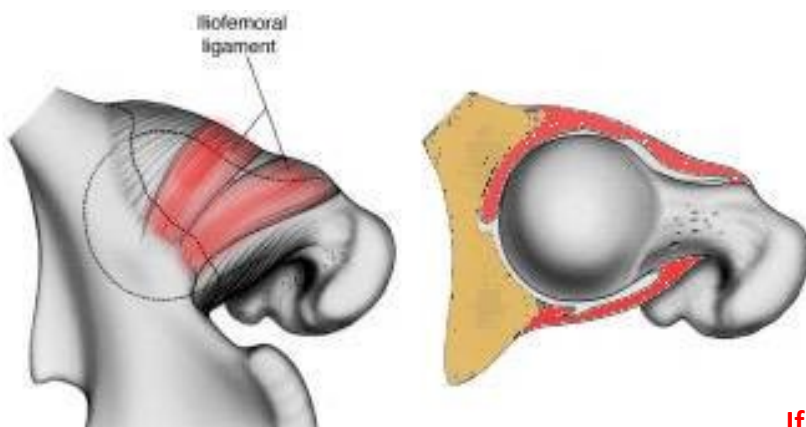
## Dislocation and subluxations

Approximately 5 to 40% of patients with hip dislocation develop avascular necrosis. If the hip dislocation is reduced within six hours, the incidence of AVN reduces to less than 10%. In patients with a mean time of reduction of approximately 15 hours, the incidence of avascular necrosis of the hip was reported at 26%. Avascular necrosis of the hip may develop 2 to 5 years after the dislocation.

Closed reduction under anesthesia within six hours is the usual treatment. After closed reduction, a CT exam with 3 mm cuts should be obtained to document complete reduction of the hip as well as any acetabular fractures or small intra-articular fragments. If you suspect a hip subluxation which has been reduced, then an MR should be done in 6-12 weeks to look for signs of AVN.



*Coronal Diagram of Normal Iliofemoral lig-*



*Axial Diagram of Normal Iliofemoral ligament*

MR findings of dislocation are a triad of MR findings that include hemarthrosis, posterior acetabular lip fracture, and iliofemoral ligament disruption.

**Most consistent MR findings acutely are**

**Joint effusion 100%,**

**Capsular rupture with surrounding muscle injury greatest in the gluteal and medial compartment**

**Posterior Acetabular Lip Fracture**

**Iliofemoral ligament injury 85%**

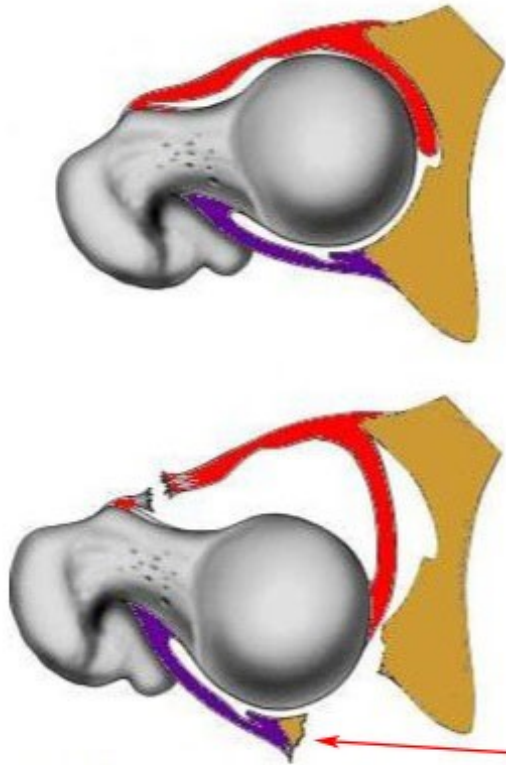
**Labral tear 7%,**

**Ligament of teres entrapment 7%**

*Axial Diagram of Normal Hip Capsule*

**If worried about a hip subluxation, do CT exam with 3 mm cuts or MR!**

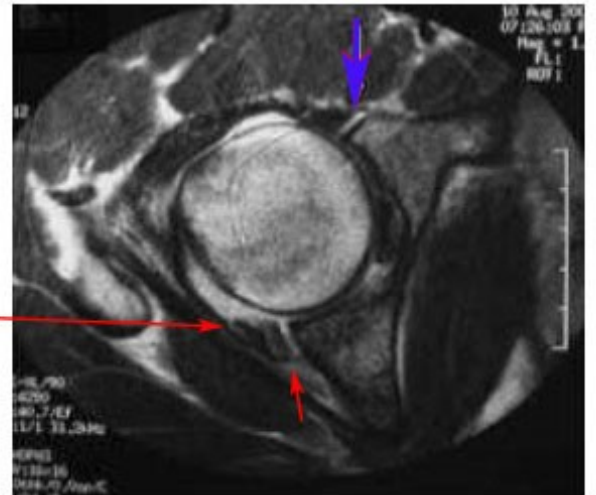
*Axial Diagram of Normal Hip Capsule*



*Axial Diagram of Capsular disruption With posterior acetabular lip fracture.*



*Axial MR of Patient with recent posterior subluxation showing posterior rim fracture*



*Axial MR of Patient with recent posterior subluxation showing anterior capsular injury (blue arrow).*

**If you see a posterior acetabular lip fracture think of hip subluxation!**



*Sagittal MR of Patient with recent posterior subluxation showing chondral injury of femoral head*



*Coronal MR of Patient with recent posterior subluxation showing chondral loose bodies*

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## What's New in 2018: New Cases, New lectures and New Videos of Sports Injuries

I am very excited about the course this year. I am emphasizing practical interpretation of scans, what the surgeon wants to know from the scan and briefly reviewing new surgical treatments. I am showing cases that illustrate important teaching points. The course has received great reviews in the US. Please join us!

Topics include Shoulder, Knee, Hip, Wrist and Foot/ Ankle MR with Videos of Sports Injuries.

Two Printed Workbooks Included Free with the Course:

Free: "Musculoskeletal MR Workbook" - Basic MSK MR Anatomy and Pathology

Free: "Cases in Musculoskeletal MR" - A New Workbook of Cases with Discussions

## Reason to Attend Conference:

### Special Sessions: The Hip/ The Wrist/ The Foot

What's New in Orthopedic Surgery- With Emphasis on Arthroscopic Surgeries, Videos of Sports Injuries: The Mechanisms of Injury

MRI of the temporomandibular joints

New Sequences and When to Use Them

How to Find the Spring Ligament and What Does A Tear Mean

TFCC Tears: Diagnosis and Treatment - When Do You Need Arthrography Hip Labrum and What's New

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Special Sessions the Foot, Including Ligaments and Tendon Tears

Learning the Finger: Anatomy and Common Injuries

MCL Tears that Requiring Knee Surgery

Meniscal! Pitfalls - How I Call a Tear

Biceps Tendon Tears Recently Described