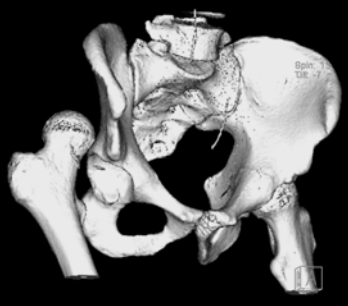
*HIP DISLOCATIONS **

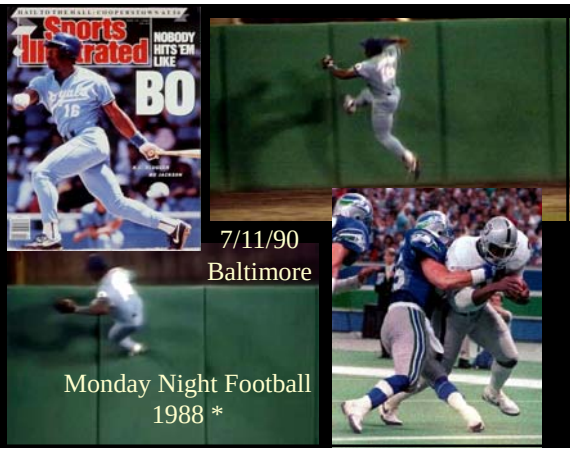
and
Associated
Injuries

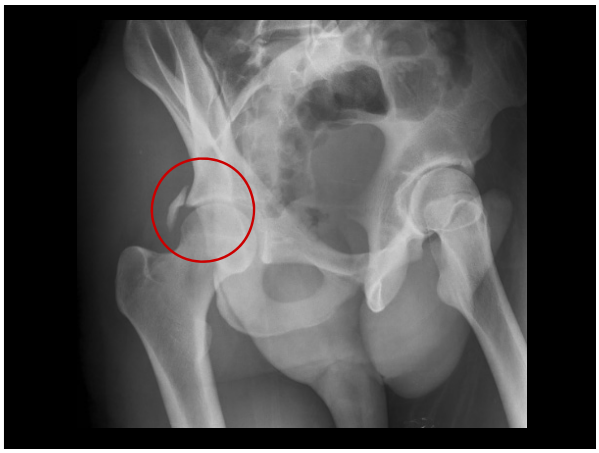


Payam Tabrizi, MD

25th ANNIVERSARY

"Could Today's Medicine Have Done Anything Differently?"





Jackson's Case is Dividing the Doctors

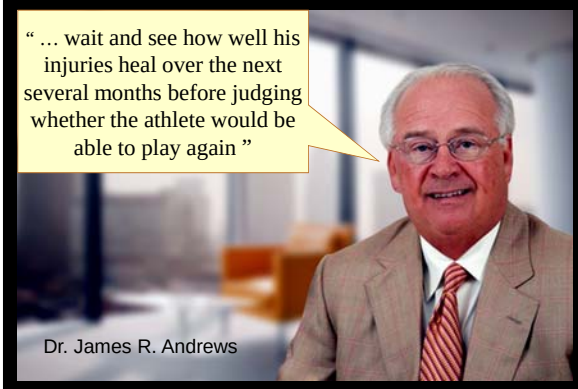
The New York Times

Lawrence K. Altman
March 20, 1991

Dr. Russell Warren

"Jackson's injury, while serious, might not end his playing career"

" … wait and see how well his injuries heal over the next several months before judging whether the athlete would be able to play again "



Dr. James R. Andrews

Dr. Steven Joyce

"Jackson's prognosis for returning to competitive athletics is uncertain…."

" Would not be able to play baseball this season "

- Release by the Royals

Picked up by the White Sox, but his natural hip deteriorated rapidly after only 23 more games in 1991

Lead to THR in spring of 1992

In his 1st game back in 1993, Jackson pinch-hit a home run off the Yankees Neal Heaton

- Although he hit 16 home runs that year, he batted just .232
- White Sox released him

He then hit a career-high .279 with 13 home runs in 201 at-bats for the Angels in 1994

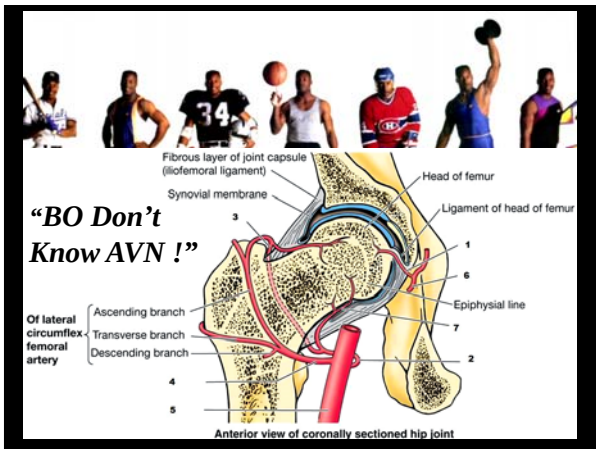
His career ended all too quietly when season cut short by a player's strike

"If the blood supply is cut off to the area, there's nothing you can do about it .... whenever you lose blood flow to your hip, you're going to develop AVN.
Everyone that has a hip injury doesn't need a replacement or need to end their careers. I know a lot of people that have dislocated their hips and come back and been fine."

"One of my teammates, (running back) Lionel James dislocated his hip his sophomore year at Auburn and kept playing."

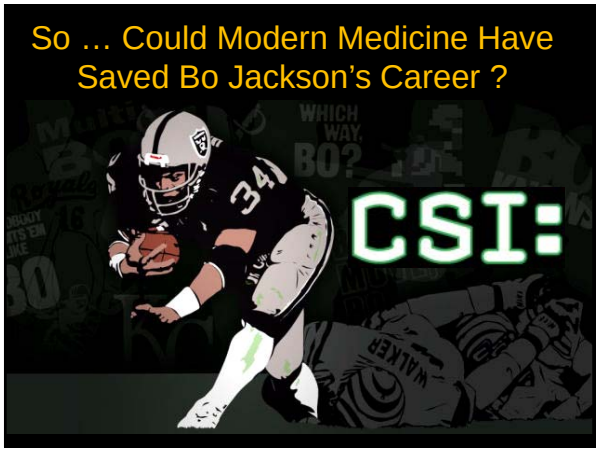
James states that he did develop AVN but was able to keep playing with the Chargers from 1984-88.

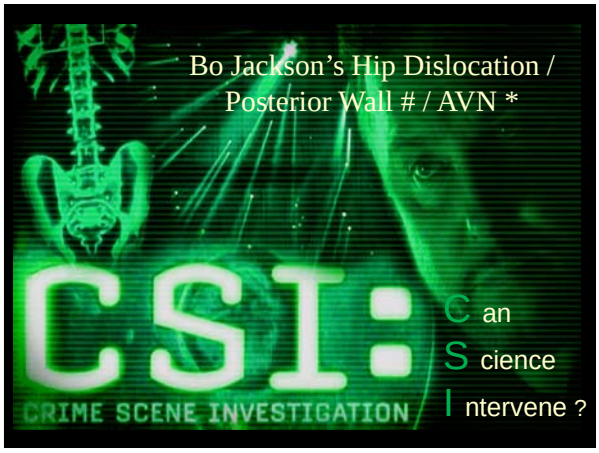
He was able to build up the muscles around his hip & take meds that over the years caused him a serious attack of pancreatisis.
He received a THR a few years ago.



"BO Don't Know AVN !"

So … Could Modern Medicine Have Saved Bo Jackson's Career ?



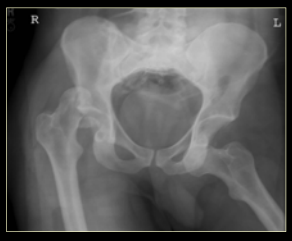


Bo Jackson's Hip Dislocation / Posterior Wall # / AVN *

C an
S cience
I ntervene ?

Epidemiology of Hip Dislocations

- Increasingly common injury
  - 1% bilateral
- Orthopaedic emergency



  - Resuscitation of life threatening injuries
  - Identification & Rx of associated injuries

Epidemiology

- Mechanism often secondary to major forces
  - 83.9% traffic accidents *
    - MVA
    - MCA
    - Peds vs car
  - Falls

* Sahin et al, J Trauma, 2003

Yes, medically, football is like a car crash

Professional Football is terrifying

- Congenital ABNL may predispose to instability
- People with less anteversion more prone to posterior dislocation

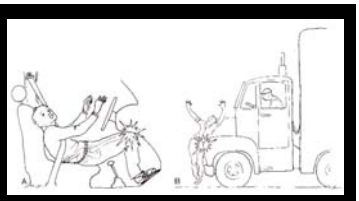
- Don't know about his boney anatomy, but certainly his legs as strong as anyone ever in the history of professional sports

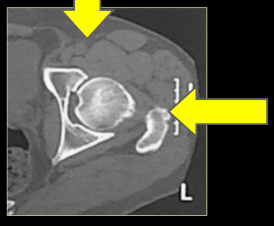
Upadhyah et al, JBJS(B), 1985

*Force Vector Can Predict # Pattern **

Direction, magnitude & point of application of force determines exact injury pattern

Head on crash * (knee vs. dashboard)



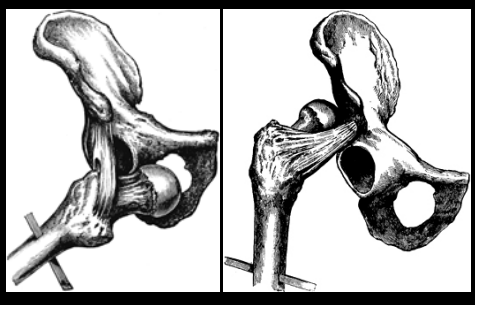


Intersection "T-bone" crash or Falls in elderly

Force Vector

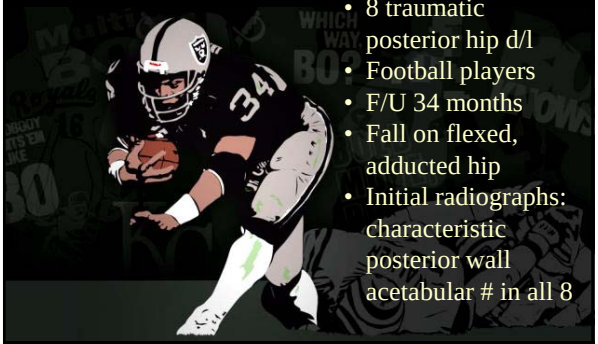
So what can we assume is the Force Vector with Bo?

Anterior vs Posterior Dislocation or no Dislocation at all?

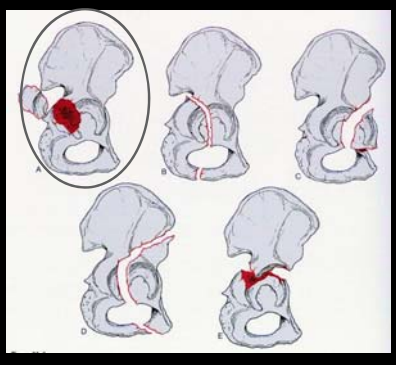


Moorman, Warren et al, JBJS(A), 2003

- 9 year period
- 8 traumatic posterior hip d/l
- Football players
- F/U 34 months
- Fall on flexed, adducted hip
- Initial radiographs: characteristic posterior wall acetabular # in all 8



Posterior Wall - Simple Most Common



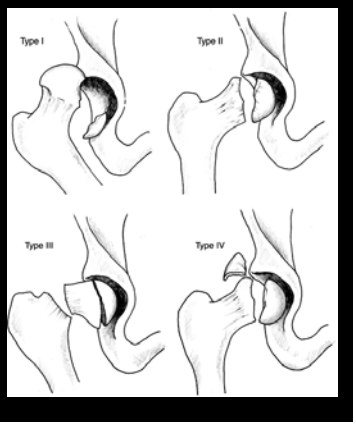
Time to Reduction

- **Early relocation most important factor in prognosis**
- Bo stated that he felt his hip go and then popped it back in (instant reduction?)

Did Jackson actually dislocate his hip?

- Despite his observed mythos, reduction of a pure hip dislocation has to be impossible
- A mortal human being, can't do that
  - More likely partial dislocation or subluxation which slid back into place

Or did Bo have a Femoral head #



Incidence

- 7-15%

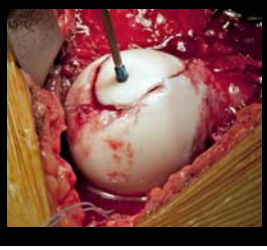
Rx of Femoral Head #'s

Indentation

- No surgical Rx
- Traction & early ROM after CR

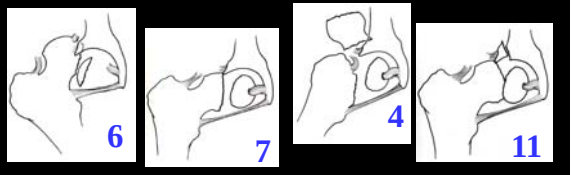
Trans-Chondral

- Excision if small & not involving w.b surface
- ORIF if > 1/3
  - **Buried screws**



Long Term Outcome of Fem. Head #

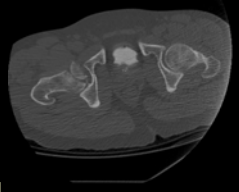
- 32 pts (24 MVA; 23 with ass. injuries)
  - 28 with postero-superior dislocation
  - 1 postero-inferior 3 anterior



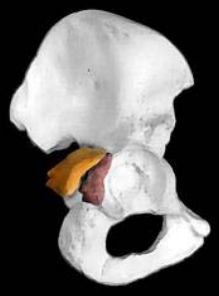
Dreinhofer et al, Unfallchirurg, 1996

- All C.R. by 4 hours (mean = 105 min)
  - 11 pts: no further Rx
  - 10 removal of fragments head
  - 7 ORIF femoral head
  - 3 ORIF acetabulum
  - 1 THR (Pipkin III)
- OA
  - Mild : 4 Mod OA: 2
- AVN
  - Partial: 4 / Subchondral collapse: 1
- H.O.: 8
- 15/26 pts with fair / poor results

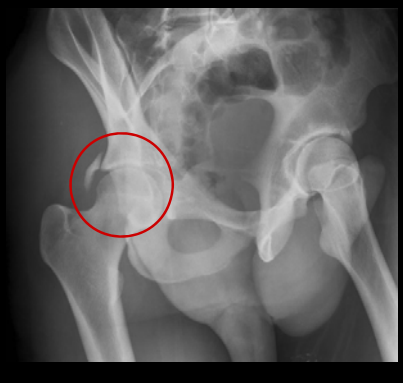
F/U = 5 years (26 pts)



- My guess is that Bo had a posterior hip subluxation that spontaneously reduced
- Unfortunately, it probably caused a small posterior wall fracture
- Did this need surgery, even if it was small?

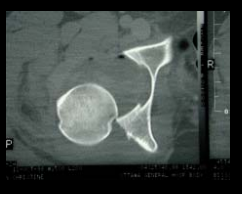


Should Bo have undergone Operative Rx?



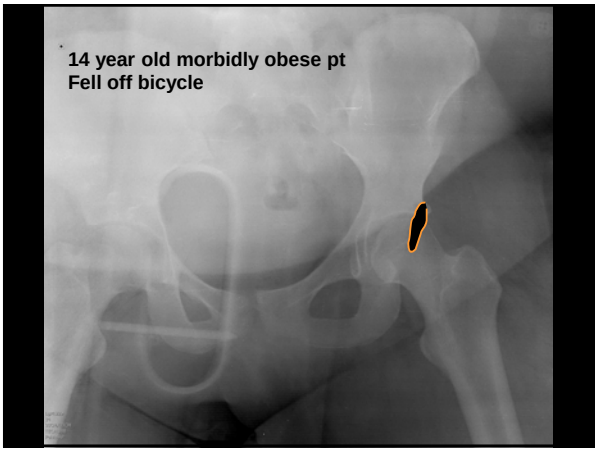
<u>Instability likely due to variety of factors:</u>

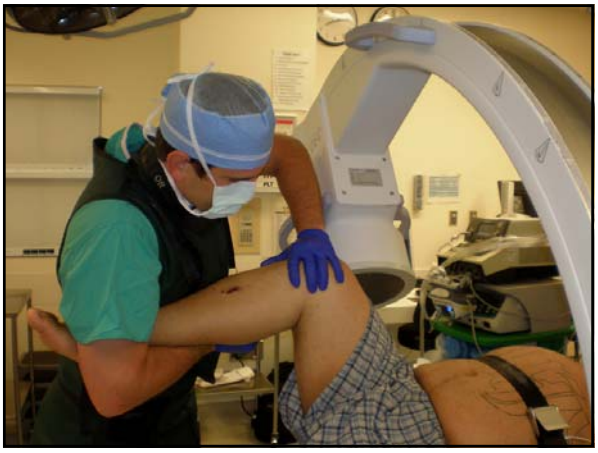
1. Capsular rent or laxity
2. Labral lesion
3. Deficient acetabular rim
   - Remaining intact part of acetabulum too small to maintain hip joint stability / congruity
4. Inadequate immobilization

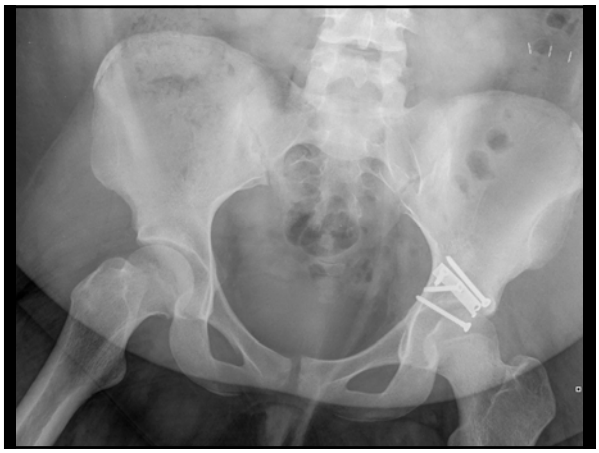


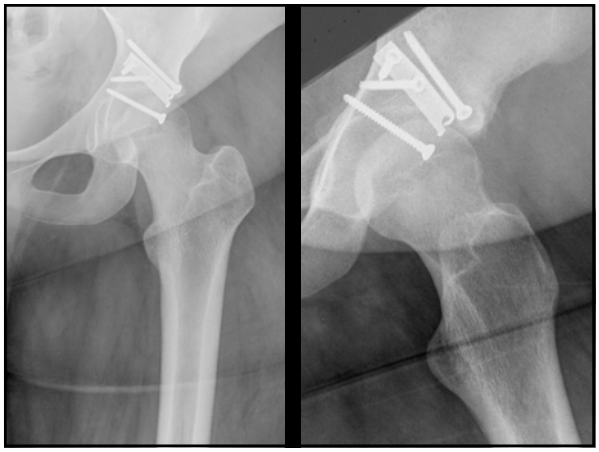
Dynamic instability of hip

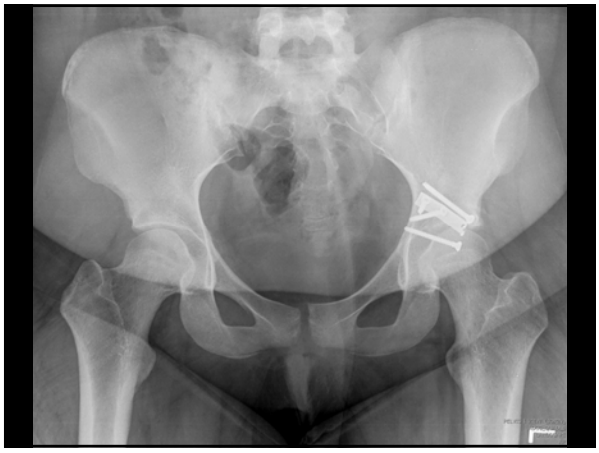
1. Stress test to assess need for operative Rx in small & indeterminate size # fragments of posterior wall
2. If stable, early mobilization
3. If unstable, early ORIF
4. Undiagnosed: can lead to OA







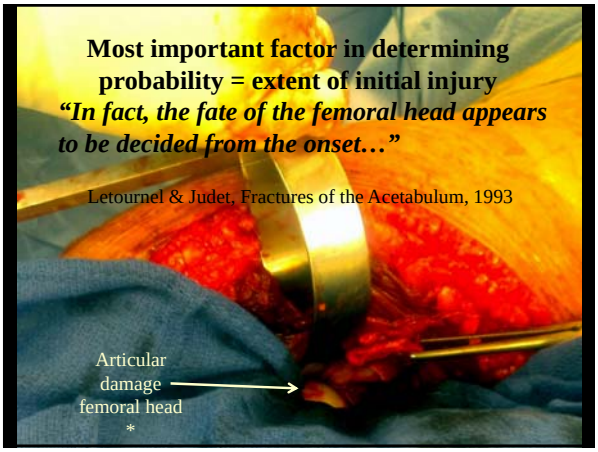




Prognosis
Posterior Wall # / Dislocations

Long-term outcome not great

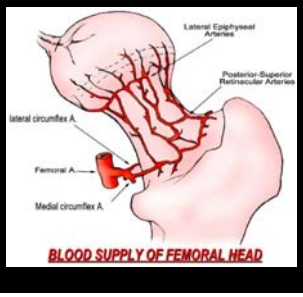
- Even in experience hands & with anatomic reductions, a rapidly reduced posterior traumatic # / dislocation gives G/E results > 75%
- However, unsatisfactory in > 80% Rx non-op if unstable



AVN of Femoral Head *

- 6-40% incidence (8% of anterior dislocation)
  - Increase with # / dislocation

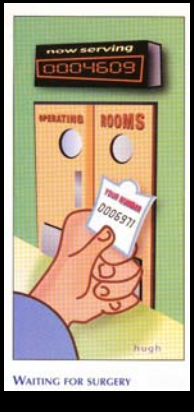
Thompson & Epstein, JBJS(A), 1951 & CORR, 1973



AVN Rates:

- 4.8% if hip reduced < 6 h
- 52.9% if reduced > 6 h

Hougaard & Thomsen,
Arch Orthop Trauma Surg,
1986



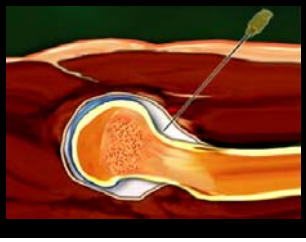
*Prevention = First line of defense **

- When Bo's injury occurred in 1991, the possible complications of # / dislocations of the hip were known
- Methods of diagnosing AVN established, but the process was still unrefined
- If Jackson was playing today, that period immediately following injury is when modern medicine could have possibly saved his hip / prolonged his career

Best chance today's medical community could have given Bo for a full career would've been:

- Prevention of sequelae of AVN (collapse) & OA thru improved imaging techniques & early medical & surgical Rx

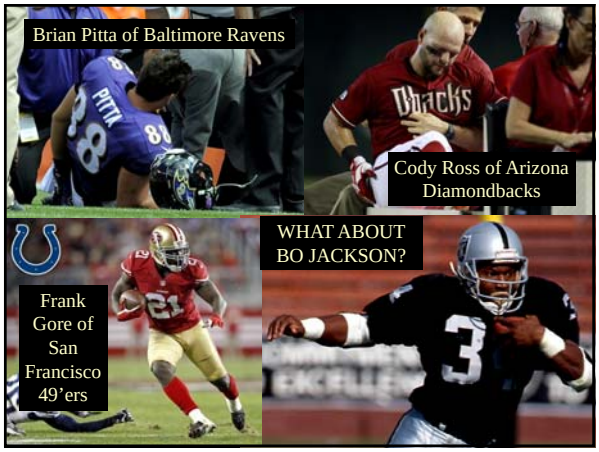
Hip aspiration urgently in locker room ?



Protocol

- 6 wk regimen of toe-touch w.b / crutches
  - Repeat MRI at 6 wks:
    - If no early AVN: gradual return to sports
    - If AVN: risk for collapse & OA: advised against return to sports
- 6/8 returned to previous level competition
  - Remaining 2 severe AVN -> THR

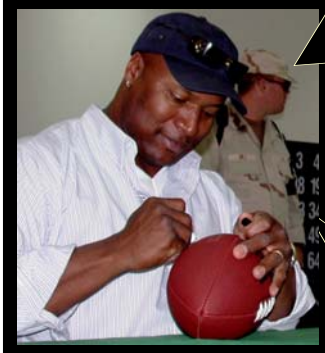
Moorman, Warren et al, JBJS(A), 2003



Jackson states his THR affords him a fairly NL life

I have no problems with my hips. I can still do the things that I used to do. I can run, I'm just not the fastest person on the field anymore.

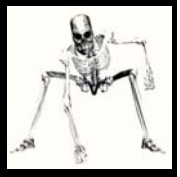
"The only drawback I have is going thru the freaking airport. I have to strip naked every time. The women at security love me."

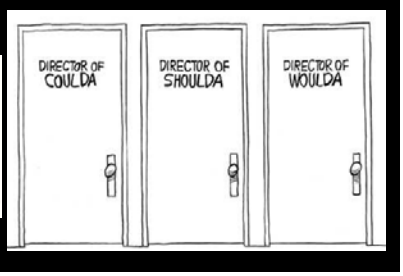


"God has his way of opening our eyes to see reality. The way He opened my eyes is to allow me to have this hip injury."

"That is a rough way to go, but I had to accept the fact."

- Maybe things could have been done differently
- But it's likely his prognosis would only be slightly improved today





CONCLUSION


Payam Tabrizi shared a link.
Yesterday at 6:48 AM
Bo Jackson injury
dailymotion.com
Like
Comment
Share
Chip Routt
axial load, flexed hip - maybe a bit adducted, and strong as bull - one tiny vessel - and that'll be that.
Yesterday at 7:40 AM · Like