The Achilles Heel of Sports: Injury and Treatment Options

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Disclosures: No Conflict

- The Views expressed in these slides and today’s discussion are mine
- My views may not be the same as my company’s or colleagues
- Participants must use discretion when using the information contained in this presentation

New Kid on the Block - THANK YOU for having me!

- Disclaimer:
- East Tennessee Roots
About Me

Holy Cross College – BA, English
University of Tennessee Med School
UConn Ortho 2000-2005
Baylor University Medical Center, Dallas: Foot and Ankle Fellowship
13 Years in Springfield MA
August 2020 ORTHOPEDIC ASSOCIATES OF HARTFORD, PC
Seeing Patients in:
ENFIELD, HARTFORD, PLAINVILLE

The Flavors of Achilles Disorders

Spectrum of Achilles pathology
- Deep Fascial pain
- Shin splints
- Plantar Fasciitis
- Retrocalcaneal Bursitis
- Achilles Tendinitis
- Nodular Achilles Tendons
- Distal Insertional Calcific Achilles Tendons

Zones of Pathology, Areas of Anatomy
In School, we learn about specific anatomic structures. In Clinical Practice, we understand an interconnected system of anatomy.

- Complex Math
  - Confluence of Pathology
    - Trauma
    - Instability
    - Contracture
    - Gait Cycle
    - Mechanics
    - Alignment
  - PAIN
Root of All Evil

- Calf Tightness!
- Gastrocnemius Contracture

Gastrocnemius Recession

- Plantar Fasciitis
- PSA: An effective surgical cure for Plantar Fasciitis is GASTROCNEMIUS RECESSION
“85% chance of 85% relief”

- Early and dramatic clinical pain relief
- 1 week in a boot, 6 weeks in a night splint, 6 weeks of clinical progression
- Very low rate of failure
- Hard to make patients worse (Saphenous Neuritis, small scar, aggravation of lost hope)

POINT:
- Become a Calf-Stretching MANIAC
- If that doesn’t work, call me...

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Achilles Rupture

- How to Diagnose It?
- Does it need Surgery?
- The Classic Teaching
- Some Recent Literature
- What’s Evolved in Surgical Management

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Achilles tendon spirals counterclockwise 30-130 degrees towards its insertion at the calcaneus.

- Allows for propulsion and elastic recoil, facilitating storage and release of energy.
- Tendons are stiff but have high tensile strength.
- Stretch 4%, rupture at 8%.
- Watershed vascularity, 2-6cm.
- Female Achilles have a smaller cross-sectional area, and therefore a lower generation/transmission of force.
What about Ultrasound?
-How Does Imaging Mesh with Surgical Decision Making?

Yassin et al. Bone Joint J Nov 2020
82 patients managed non-op
All managed with functional rehab protocol
-Stratified activity level, functional scores, gap size (measured by USG in plantarflexion)
-Increasing gap size
  > 5mm in Active patients
  > 10mm in Inactive patients
-Predicts lower patient-reported outcome

What about Gap Size? Does it Matter?
-All patients managed non-op
-All managed with functional rehab protocol
-Stratified activity level, functional scores, gap size (measured by USG in plantarflexion)
-Increasing gap size
  > 5mm in Active patients
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-Predicts lower patient-reported outcome
**Surgical vs. Nonsurgical**

- Traditional orthopedic teaching has always centered around an analysis of patient age, activity level, surgical risk factors, and mutual decision making.
- Risk vs. benefit analysis
- In balance, the rationale for surgery: operative management may lower the risk for re-rupture.
- That risk has always been hard to define (15%???)
- Clinically, nonoperative management results in patients on two ends of the spectrum: Perfectly Fine, or Miserable
- Rising trend of nonoperative management in the UK

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**Return to Sport and Patient Satisfaction at 5-year Follow-up After Nonoperative Treatment for Acute Achilles Tendon Rupture**
Lerch et al, FAI June 2020

- 5-year data after nonoperative treatment for Achilles tendon rupture showed 94% overall patient satisfaction.
- Stratified into 2 activity levels: 91% of patients with low preinjury activity level were able to return to same level. ONLY 67% OF PATIENTS WITH A HIGH ACTIVITY LEVEL WERE ABLE TO DO THE SAME

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**How Do Patients Do with Surgery?**

- Study looked at 62 pro athletes across NBA, NFL, MLB
- 30% did NOT return to sport
- Those who did played fewer games, performed at lower level
- Evident at 1 year post-op, but not at 2 years
- Suggests that if an athlete can RTS and endure beyond the 1st season, they may be able to perform as well as uninjured controls
So…..

After all this time, in 2021:
- Achilles tendon ruptures STILL require a balanced discussion of available options
- Medicine is still Medicine
- Requires interpreting and balancing Who the Patient is with Who the Patient Wants to be
- Assessing THEIR Anatomy within the context of THEIR Fear, Hope, and Desire

There HAS been some Evolution
Modern Definition of Achilles Surgery

As in virtually all of Orthopedic Sports Medicine, the science and Surgical perspective on Achilles repair has evolved into a Minimalistic Approach.
Modern Achilles Surgery reflects an Evolution in...

- Technology
- Thinking
- Away from "biomechanical strength to failure"
- Towards blending biologic preservation with Dynamic Rehab protocols
- Focus on oppositional alignment of soft tissues and postoperative protection

Take Aways:

- Diagnose It!
- Mind the Gap
- Keep it simple; Treat the Patient, not the image - Assess their activity level
- Give the patient options
- Set Realistic rehab goals and timelines
- Evolve to a Minimal Surgical approach

www.orthobootsmd.com
Thankyaverymuch!
References


3. Maempel JF. Operative repair of acute Achilles tendon rupture does not give better patient-reported outcomes than nonoperative management. The Bone & Joint Journal Vol. 102-B
