

Tendinopathies of the Lower Extremity

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April 28, 2016

Lower Extremity Tendinopathy

- Patellar Tendon
- Achilles Tendon
- Proximal Hamstring Tendon
- Gluteal Tendon

Symptoms

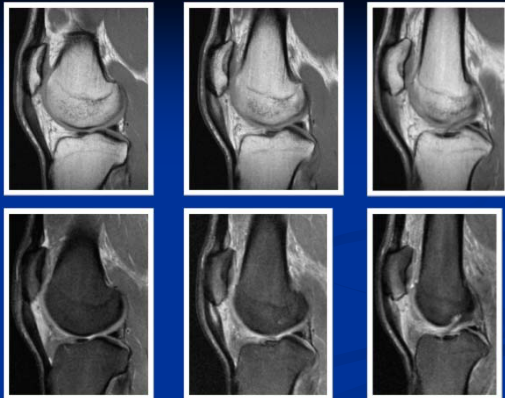
- Pain
- Tendon thickening
- Loss of motion
- Loss of function
- Decreased performance

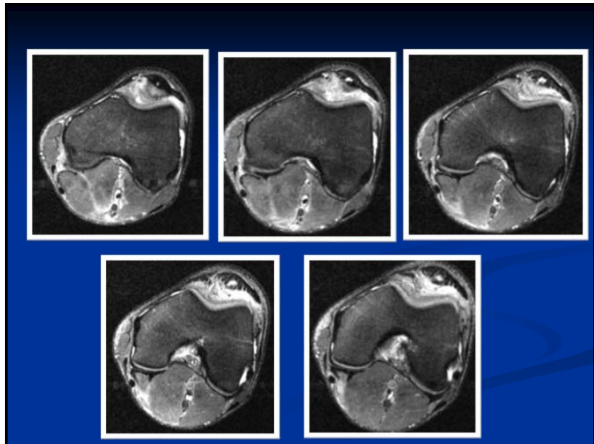
Treatments

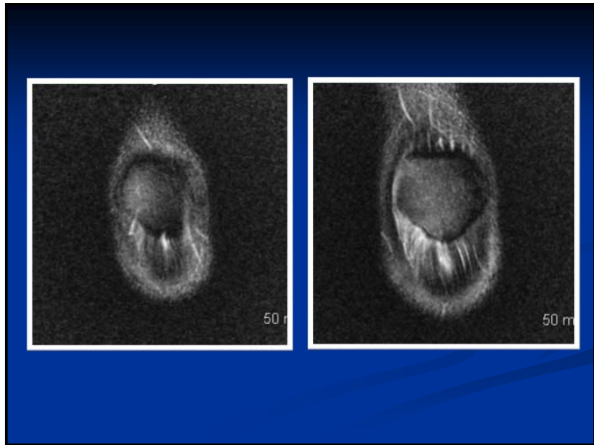
- Rest
- Ice
- Activity modification
- Physical Therapy
 - Eccentric exercises
- Medications
 - Anti-inflammatories
 - Oral Steroids
- Local injections
 - Cortisone
 - PRP
 - Stem cells
- Extracorporeal Shock Wave Therapy
- Surgery

Patellar Tendinopathy

- Junior DI varsity soccer player who has had anterior knee pain x 4 months
- Complains of pain with running, decreasing his effectiveness
- Had anti-inflammatories, cryotherapy and physical therapy







Patellar Tendinopathy

- Responded well to short course of oral steroids prior to the Spring season
- Doesn't want to take any significant time off as he is competing for playing time

Injection Chronic PT

- Resteghini et al, Clin J Sport Med 2016
- DB RCT Autologous blood versus saline
- London
- 12 mo f/u
- Both groups experienced significant decrease in symptoms but no stat sig diff

PRP for PT- DB RCT

- Dragoo et al, AJSM 2014
- PRP versus dry needling
- Results
 - PRP group sig improved more than DN at 12 weeks but difference was not significant at 26 w.
 - Lysholm scores were not sig diff at 12 weeks, but at 26 weeks were sig better for DN group (p=.006)
 - 3 DN patients crossed over to PRP mid study

ESWT

- The Effectiveness of Extracorporeal Shock Wave Therapy in Lower Limb Tendinopathy: A systematic review
- Mani-Babu et al, AJSM 2015
- London
- 13 studies
- Greater Trochanteric Pain Syndrome(Gluteal tendinopathy), Patellar Tendinopathy and Achilles Tendinopathy
- Conclusions-ESWT is effective and should be considered esp when other non op mod have failed

PRP vs ESWT in Athletes for PT

- Smith J, Sellon *Clin J Sport Med*, 2014
- Rome
- 46 patients, w U/S PT
- 2 PRP shots a week apart vs 3 ESWT treatments
- 12 m f/u
- Results
 - Victorian Institute of Sport Assessment-Patella(VISA-P) scores improved for both groups although PRP was sig greater at 6 and 12 mo.
 - 12 mo- 91% PRP vs 61% ESWT good/excellent results (p=.035)

Systematic Review-PRP for PT

- Liddle AD, Rodriguez-Merchán EC *AJSM*, 2015
- 11 studies (2 RCT and 1 prospective, non randomized cohort study)
- Results
 - Non comparative studies-all demonstrated improvement in pain and function
 - Comparative studies-inconclusive and superiority over control treatments could not be demonstrated
- Conclusions
 - Promising yet is not definitely better than PT

Surgical Results: Systematic Review

- Brockmeyer et al, *Arthroscopy* 2015
- Results of Surgical Treatment of Chronic Patellar Tendinosis (Jumper's Knee): A Systematic Review
- Results
 - Ave success open treatment 87%
 - Ave success arthroscopic 91%
 - Open return to sport 8-12 mo and some no return to sport
 - Scope return to sport 3.9 mo
- Conc-Arthroscopic tx faster return to sport

Achilles Tendon-PRP vs Saline

- de Vos, et al, JAMA 2010
- DB RCT for non insertional Achilles Tendinopathy
- The Netherlands
- Eccentric exercises plus injection
- 54 patients, 27 in each group
- Eval 6, 12, 24 w
- PRP did not result in greater improvement in pain and activity

Injections for Achilles Tendinopathy

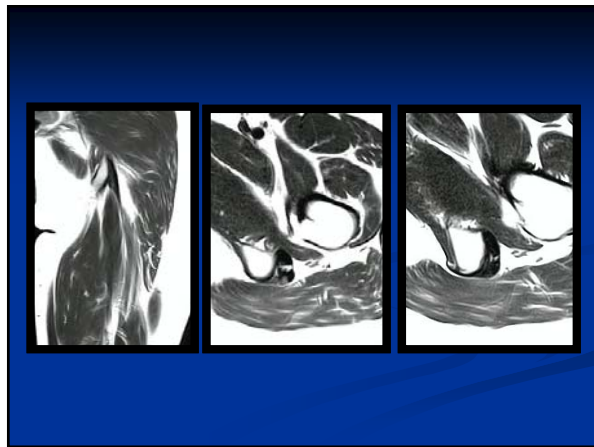
- Kearney et al 2015
- Cochrane Database Systematic Review
- 18 studies, 7 exclusively in athletes
- RCTs
- Conclusions-insufficient evidence to draw conclusions or support the routine use of injections for AT. However, placebo controlled trials are most appropriate going forward.

Surgical Tx Mid Achilles Tendinopathy-Systematic Review

- Baltes et al, Knee Surg Sports Traumatol Athrosc, 2016
- 23 studies with a variety of techniques
- Results
 - 69-100% satisfaction rate
 - None of the surgical techniques compared to nonsurgical or placebo
- Conclusions
 - Minimally invasive/endoscopic techniques yield similar patient satisfaction with less complications

Proximal Hamstring Tendinopathy

- 18 year old female hurdler with intermittent bilateral buttock pain
- Right side resolved with HEP and anti inflammatory medications
- Left side responded well to local cortisone injection prior to State meet as a senior. Symptoms returned and she managed it with activity modification
- Wishes to compete at DI level in college



Conclusions

- Most lower extremity tendinopathies are self limiting
- Respond to conservative treatment and activity modification
- May be some promise for PRP in patellar tendon
- Recalcitrant cases may be surgical candidates
- Endoscopic or minimally invasive procedures may be the wave of the future with shorter times to return to sport or function.

