

What I have been reading...

Shoulder Impingement Syndrome

Short-term effects of high intensity laser therapy versus ultrasound therapy in treatment of people with subacromial impingement syndrome: A randomized clinical trial Santamato A, et al. *Physical Therapy* 2009; 89(7): 643-652

Authors Conclusions: Participants diagnosed with SAIS showed greater reduction in pain and improvement in articular movement, functionality, and muscle strength of the affected shoulder after 10 treatment sessions of HILT than did participants receiving US therapy over a period of 2 consecutive weeks.

Comparison of conservative treatment with and without manual physical therapy for patients with shoulder impingement syndrome: a prospective, randomized clinical trial Senbursa G, Baltaci G, Atay A *Knee Surg Sports Traumatol Arthrosc* 2007; 15(7): 915-921

Authors Conclusions: The patients treated with manual physical therapy applied by experienced physical therapists combined with supervised exercise in a brief clinical trial showed improvement of symptoms including increasing strength, decreasing pain, and improving function earlier than with exercise program.

The Journal of Manual & Manipulative Therapy (June 2009) Cyriax Physiotherapy Versus Phonophoresis with Supervised Exercise in Subjects with Lateral Epicondylalgia: A Randomized Clinical Trial. The results of this study demonstrate that Cyriax physiotherapy is a superior treatment approach compared to phonophoresis and exercise in managing lateral epicondylalgia.

Patellofemoral Pain and Role of Gluteus Medius

The effect of additional strengthening of hip abductor and lateral rotator muscles in patellofemoral pain syndrome: a randomized controlled pilot study Nakagawa TH, Muniz TB, Baldon Rde M, Dias Maciel C, de Menezes Reiff RB, Serrao FV *Clin Rehabil* 2008; 22(12): 1051-1060

Authors Conclusions: Supplementation of strengthening of hip abductor and lateral rotator muscles in a strengthening quadriceps exercise program provided additional benefits with respect to the perceived pain symptoms during functional activities in patients with patellofemoral pain syndrome after six weeks of treatment.

Management of patellofemoral pain targeting hip, pelvis, and trunk muscle function: 2 case reports Mascall CL, Landel R, Powers C J Orthop Sports Phys Ther 2003; 33(11): 647-660

Authors Conclusions: Both patients responded favorably to the treatment parameters. Both had decreased pain from the visual analogue scale, improved trunk, pelvis, and hip strength, improved gait patterns, and reduction of knee valgus for a step-down task. Further research is indicated to better define the relationship between proximal hip muscle weakness and patellofemoral pain, and to identify patients who will best respond to this treatment approach.

Pain and hip lateral rotator muscle strength contribute to functional status in females with patellofemoral pain. Physiotherapy Research International September 2009.

Authors Conclusions: Improving hip lateral rotator strength can decrease pain and improve function in females with patellofemoral pain (pain coming from your knee cap).

Shoulder/Rotator Cuff Rehab

Which is the Optimal Exercise to Strengthen Supraspinatus? Boettcher CE, Ginn KA, Cathers I. Medicine and Science in Sports and Exercise October 2009

Author Conclusions: Using the criteria that the optimal exercise to strengthen supraspinatus should maximize supraspinatus activity while particularly minimizing deltoid activity, this study has shown that the pendant external rotation and prone external rotation exercises are more valid than the "can" and prone elevation exercises.

ACL Injury Prevention

Relationship Between Hip and Knee Kinematics in Athletic Women During Cutting Maneuvers: A Possible Link to Noncontact Anterior Cruciate Ligament Injury and Prevention. Imwalle LE, Myer GD, Ford KR, Hewett TE. Journal of Strength and Conditioning, Oct. 2009.

Author Conclusions: The findings indicate that the mechanisms underlying increased knee abduction measures in athletic women during cutting tasks were primarily coronal plane motions at the hip. Trunk and hip focused strength neuromuscular training may improve the ability of athletic women to increase control of lower-extremity alignment. Therefore, these women may decrease dangerous knee loads that result from increased hip adduction during dynamic tasks, thus decreasing anterior cruciate ligament injury risk.

Hip Abductor Strengthening And It's Affect On Arthritic Knees

Effect of a Home Program of Hip Abductor Exercises on Knee Joint Loading, Strength, Function, and Pain in People With Knee Osteoarthritis: A Clinical Trial.

Sled EA, Khoja L, Deluzio KJ, Olney SJ, Culham EG. Physcal Therapy June 2010

Author Conclusions: Hip abductor strengthening improved function and reduce pain in a group with medial knee OA.

The effects of hip muscle strengthening on knee load, pain, and function in people with knee osteoarthritis: a protocol for a randomised, single-blind controlled trial. Bennell KL et.al. BMC Musculoskeletal Disorders. 2007 Dec 7;8:121.

Authors Conclusions: If the knee adduction moment is reduced, hip strengthening has the potential to slow disease progression.

Ankle Sprain and Plyometrics

Plyometric training versus resistive exercises after acute lateral ankle sprain.

Ismail MM et al. Foot Ankle Int. 2010 Jun;31(6):523-30.

Plyometric training is a widely used method to improve performance in healthy athletes. It is highly recommended in the late stage of rehabilitation of many lower extremity injuries. The objective of the current study was to determine.

CONCLUSION: Plyometrics were more effective than resistive exercises in improving functional performance of athletes after lateral ankle sprain

Running Shoes and Injury Prevention

Injury Reduction Effectiveness of Assigning Running Shoes Based on Plantar Shape in Marine Corps Basic Training. Knapik JJ et al. Am J Sports Med. 2010.

Shoe manufacturers market motion control, stability, and cushioned shoes for plantar shapes defined as low, normal, and high, respectively. This assignment procedure is presumed to reduce injuries by compensating for differences in running mechanics.

CONCLUSION: This prospective study demonstrated that assigning shoes based on the shape of the plantar foot surface had little influence on injuries even after considering other injury risk factors.

Knee Osteoarthritis Treatment with Chondrocyte Implantation

Autologous Chondrocyte Implantation: A Long-term Follow-up. Peterson L, et al. Am J Sports Med. 2010 Feb 24.

BACKGROUND: The medium-term results of autologous chondrocyte implantation (ACI) have shown good to excellent outcomes for the majority of patients who had full thickness cartilage lesions of the knee.

CONCLUSION: Autologous chondrocyte implantation has emerged as an effective and durable solution for the treatment of large full-thickness cartilage and osteochondral lesions of the knee joint. Our study suggests that the clinical and functional outcomes remain high even 10 to 20 years after the implantation.

Platelet Rich Plasma (PRP)

Platelet rich plasma is a hot topic in sports medicine right now. I have included 3 recent studies that show evidence for using PRP in treating tennis elbow/lateral epicondylitis. There is one review of a study showing PRP may be more effective than viscosupplementation (Hyalgan Synvisc) on arthritic knees. However, PRP is not a cure all. A study done in JAMA showed no benefit of PRP for Achilles tendinopathy.

Expect PRP to be researched heavily in the coming years. This treatment may be proven to be an effective treatment for tendinopathies possibly ranging from conditions from lateral elbow tendinopathy, rotator cuff impingement syndrome (supraspinatus tendinopathy), and patellar tendinopathy.

[Am J Sports Med.](#) 2010 Feb;38(2):255-62.

Positive effect of an autologous platelet concentrate in lateral epicondylitis in a double-blind randomized controlled trial: platelet-rich plasma versus corticosteroid injection with a 1-year follow-up.

CONCLUSION: Treatment of patients with chronic lateral epicondylitis with PRP reduces pain and significantly increases function, exceeding the effect of corticosteroid injection. Future decisions for application of the PRP for lateral epicondylitis should be confirmed by further follow-up from this trial and should take into account possible costs and harms as well as benefits.

[Am J Phys Med Rehabil.](#) 2010 May 11. [Epub ahead of print]

Autologous Blood Versus Corticosteroid Local Injection in the Short-Term Treatment of Lateral Elbow Tendinopathy: A Randomized Clinical Trial of Efficacy.

CONCLUSIONS:: Autologous blood was more effective in short term than the corticosteroid injection.

[Am J Sports Med.](#) 2006 Nov;34(11):1774-8. Epub 2006 May 30.

Treatment of chronic elbow tendinosis with buffered platelet-rich plasma.

CONCLUSION: Treatment of patients with chronic elbow tendinosis with buffered platelet-rich plasma reduced pain significantly in this pilot investigation. Further evaluation of this novel treatment is warranted. Finally, platelet

[Am J Sports Med.](#) 2008 Jun;36(6):1171-8. Epub 2008 Mar 7.

Can platelet-rich plasma enhance tendon repair? A cell culture study.

CLINICAL RELEVANCE: In vivo use of PRP, but also of PPP to a certain extent, in tendon injuries might accelerate the catabolic demarcation of traumatically injured tendon matrices and promote angiogenesis and formation of a fibrovascular callus. Whether this will also be beneficial for degenerative tendinopathies remains to be elucidated.

[JAMA.](#) 2010 Jan 13;303(2):144-9.

Platelet-rich plasma injection for chronic Achilles tendinopathy: a randomized controlled trial.

CONCLUSION: Among patients with chronic Achilles tendinopathy who were treated with eccentric exercises, a PRP injection compared with a saline injection did not result in greater improvement in pain and activity.

Lower Extremity Review 2010 April

Triple-dose platelet rich plasma bests viscosupplementation for pain relief:

PRP injections may be more effective than viscosupplementation in patients with early knee OA, according to research from Italy presented in March at the AAOS meeting.