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**PATELLOFEMORAL PAIN
SYNDROME WITH
MCCONNELL TAPING**

What is patellofemoral Pain syndrome?

- “Patellofemoral Syndrome can be defined as retropatellar or peripatellar pain resulting from physical and biochemical changes in the patellofemoral joint.” (Juhn, 1999)
- In other words, when the patella (knee cap) does not track in the trochlear groove, pain can occur
- Also referred to as “runners knee”

What to expect?

- Patients who are diagnosed with this syndrome typically complain of pain in the anterior region of the knee
- A trigger of increased pain is normally due to increased activity or prolonged sitting

What to expect?

- Patients who have patellofemoral pain syndrome often experience pain while descending stairs or steep declines
- It is not unusual for both knees to be affected by this syndrome which is not caused entirely by one factor alone

Alignment of the Patella

- Some people who have patellofemoral pain syndrome have a patella that is out of alignment.
- If so, “vigorous activities can cause excessive stress and wear on the cartilage of the patella” (AAOS, 1995-2012)
- Stress and wear on the cartilage of the patella can lead to softening and breakdown of the cartilage on the patella (chondromalacia patella) and cause pain in the underlying bone and irritation of the joint lining” (AAOS, 1995-2012)

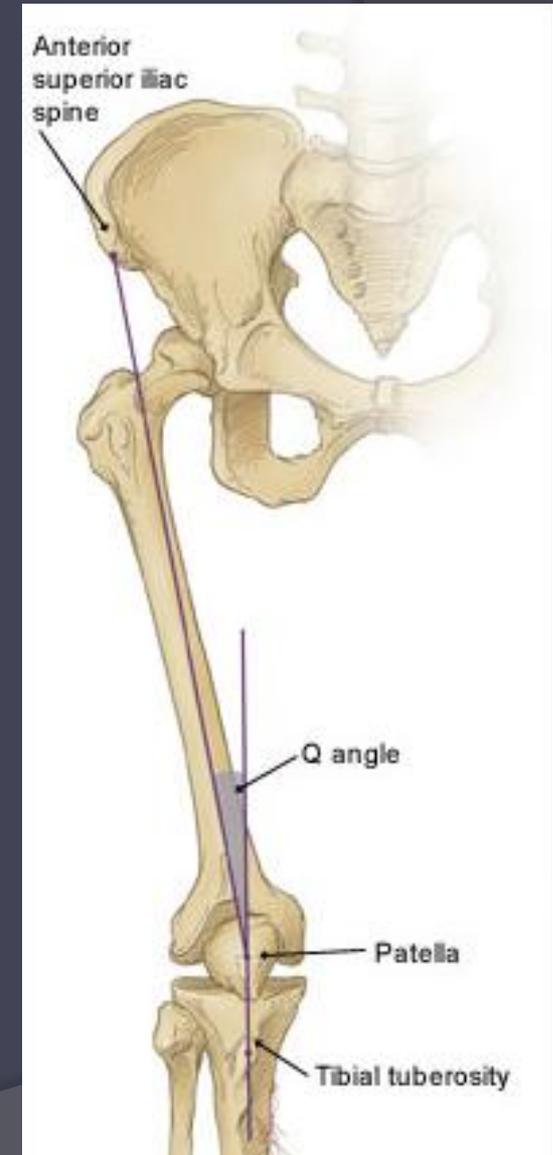
Contributing Factors

- ⦿ There are a few factors which are believed to be main causes of patellofemoral syndrome
- ⦿ Factors to cause lateral tracking are:
 - Pes Planus (flat foot)
 - Pes Cavus (high arched foot supination)
 - Q Angle
 - Weakness
 - Muscle imbalance

Pes Planus



Pes Cavus



Prognosis

- Patients are usually expected to recover well from this injury
- Precautions given by doctor must be followed (i.e. temporarily discontinue strenuous activity)

Prognosis

- Acute patellofemoral pain will normally resolve in 6-8 weeks if given sufficient rest from prolonged walking, running, jumping, and other aggravating activities (US Army Medical, 2010)
- Chronic patellofemoral pain (cases in which athletes continue to push through the pain with symptoms lasting longer than 6-8 wks) can take 6 months or longer to heal (US Army Medical, 2010)

Treatment

- ⦿ RICE
 - Rest
 - Ice
 - Compression
 - Elevation
- ⦿ Anti Inflammatory medications as directed by a doctor
- ⦿ Orthotics in footwear

McConnell Taping

- A taping technique designed by an Australian PT by the name of Jenny McConnell in 1984
- Utilized two types of tape
- Tape acts to alter the tilt and position of the patella
- Laterally tracking patellas are assisted to shift medially

McConnell Taping

- Benefits of taping:
 - Decrease pain during physical activity
 - Correct patella alignment
 - Improve activation of VMO (Vastus Medialis Oblique)
 - Allow earlier return to activity

<http://www.youtube.com/watch?v=dGsy9n-Fadc>

How to Properly Tape

- ⦿ Before starting, be sure area is clean and dry
 - If there is lotion on the skin wipe clean with rubbing alcohol
- ⦿ A bottom layer of tape will be applied first
 - This tape protects skin from the top layer of tape

How to Properly Tape

- Hypafix tape is one brand name of tape that can be used.
- Hypafix tape should be applied from lateral aspect of patella to the medial aspect; centered between the superior and inferior points of the patella
- After applying the Hypafix tape a thicker tape will be applied over top

How to Properly Tape

- ⦿ This tape has many makers
- ⦿ One brand commonly used is Leukotape
 - Applied starting at the lateral edge of the patella
 - This tape will be pulled over the patella while gently gliding patella medially and anchoring on the medial aspect of the knee
 - There should be visual skin folds on the medial aspect of the patella

Taping

- Most patients notice an immediate relief of pain after taping
- This taping method can be taught to patients to apply at home



Taping with Exercise

- McConnell taping can be used in conjunction with an exercise program
- This program will most likely include the following:
 - Strengthening of the Quad muscles
 - Simple quad sets
 - TKE for VMO strengthening
 - Squats (for more advanced patients)
 - Strengthening of hip abductors
 - Bridges
 - Monster walks with theraband
 - Standing hip abduction with ankle weight

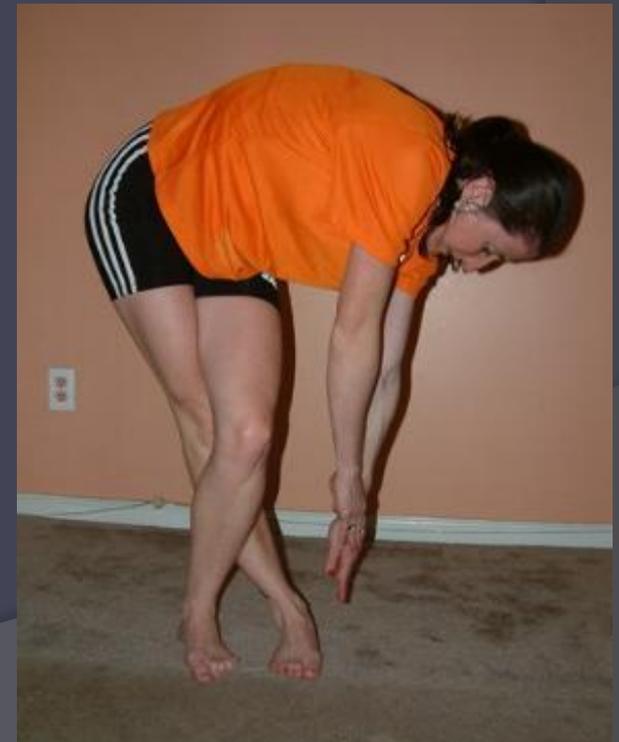
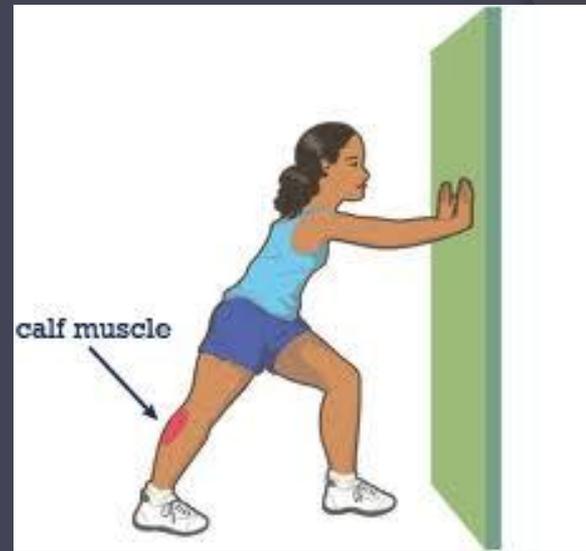


Exercises

Stretching

- In addition to taping and strengthening it is very important to stretch the muscles that are associated with the patella
 - Hamstrings
 - Calves
 - Quads
 - IT bands

<http://www.youtube.com/watch?v=rRRV9MfGIFE>



Resources

- US Army Medical Department. November, 2010. Early Management of Jumper's Knee. December 1, 2012.
http://www.polk.amedd.army.mil/content/docs/pt/Early_Management_of_Runner's_Knee.pdf
- The American Orthopaedic Society for Sports Medicine (AAOS), 1995-2012. Runner's Knee (Patellofemoral Pain). December 1, 2012.
<http://orthoinfo.aaos.org/topic.cfm?topic=a00382>
- Juhn, Mark, Nov 1, 1999. Patellofemoral Pain Syndrome: A Review and Guidelines for Treatment. American Family Physician. December 4, 2012
<http://www.aafp.org/afp/1999/1101/p2012.html>
- Livestrong
<http://www.livestrong.com/article/155927-exercises-for-patellofemoral-pain-syndrome/>