

COURT SIDE

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A Back2Sports Sports Injury Management Newsletter

Pes Anserinus Tendinitis: The main cause of Medial Knee Pain in Runners?

With more Singaporeans taking part in endurance runs, the number of people complaining about knee pain is also increasing. If we actually ask our patients where the exact location of the pain is, they tend to point to the antero-medial aspect of the knee.

Structures in the Antero-medial aspect of the Knee

When patients complain of antero-medial knee pain, the most common diagnosis given is a medial meniscus strain. However, there are a few more structures in the antero-medial aspect of the knee that could be the cause of pain. There is the medial fat pad, which with intensive running or tight quadriceps muscles can get inflamed thus causing pain. There is also the medial plica, which is a layer of synovial fold that can get inflamed with repeated rubbing of the patellar against the medial aspect of the knee. In some cases, medial collateral ligament strains have also been known to refer pain to the antero-medial aspect of the knee. However, the pes anserinus tendon has commonly been forgotten as a possible cause of pain. In researches done as far back as 1930 by Moschowitz¹, pes anserinus had been found to be the number one cause of severe knee pain².

The pes anserinus tendon, or Goose's feet in Latin, is a conjoined tendon formed by 3 muscles that inserts into the medial aspect of the knee, namely Semitendinosus, Sartorius and Gracilis^{1,3,4,5}. The Semimembranosus has also been mentioned in some studies instead of Sartorius^{2,4}. The conjoined tendon inserts into the medial tuberosity of the tibia, inferior to the distal attachment

of the medial collateral ligament (MCL)^{3,4}. Due to the close proximity of the attachment of the tendon to the MCL and medial meniscus, it is not uncommon for us to think it's a medial meniscus strain or MCL strain rather than a pes anserinus tendonitis.

Causes of Pes Anserinus Tendinitis in Runners

The causes of pes anserinus tendonitis in runners are well documented; they tend to have

- moderate to severe pronation of their feet^{2,3},
- weak hamstrings^{2,3,4},
- tight quadriceps^{2,3} and
- they would also have either suddenly increased their running intensity or change the terrain that they run on^{3,4}.

Pes anserinus tendonitis is normally a gradual onset rather than a traumatic one and it's commonly a result of overuse.

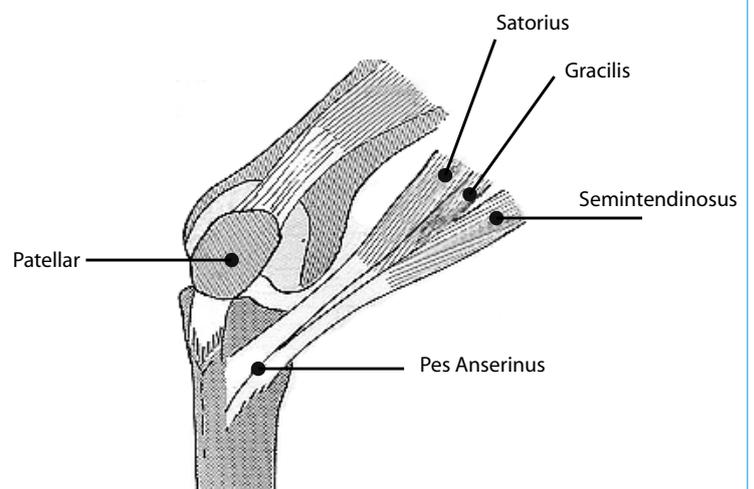
In patients with moderate to severe pronation of their feet, the tibia will be internally rotated, putting strain onto the pes anserinus tendon. As most

runners do not really do strength training, especially for the hamstring, the hamstring is unable to cope with the increase in intensity of running.

Furthermore, with most patients holding a deskbound job, prolonged sitting would lead to tightness in the quadriceps and further weakness of the hamstring muscle. Running at a faster pace, a sudden increase in the frequency in training or adding more hills to one's training regime increases the strain on the hamstring as the hamstring needs to contract stronger and with an increase in frequency of training, it doesn't allow the muscles adequate time to recover.

Diagnosing a Pes Anserinus Tendinitis

Patients presenting with pes anserinus tendonitis normally would come in complaining of pain on climbing stairs^{2,3}, squatting, running and in severe cases, even standing



from a seated position^{3,4}. Taking a good subjective history would be very essential in a proper diagnosis of the problem. Commonly, there would not be any incidence of an acute trauma but patients would normally tell of an increase in their intensity of training or a change of terrain of training, i.e. running more hills or running at a faster pace.

There is normally severe tenderness on palpation over the antero-medial aspect of the knee, approximately 2-5cm below the antero-medial joint line^{4,5}. It has been described as a "jump-off-your-chair" kind of a pain. It's rather intensive and sharp. The valgus stress test would be positive, thus making differentiation between pes anserinus and MCL strain difficult. Pain reproduced with resisted muscle activation of the hamstrings with a medial bias will indicate an involvement of the pes anserinus.

Muscle length test for the hamstring, Gracilis and Sartorius may prove to be tight. X-rays or even MRI may be required to rule out other causes of the knee pain like PFPs, MCL strain or medial meniscus injury. An ultrasound scan could also be done as the sonograph would be able to show the inflammation present on the tendon.

Management of Pes Anserinus Tendinitis

Prescription of NSAIDs would be the normal management of pes anserinus tendinitis together with physiotherapy treatment. Rest should only be encouraged for only the acute stage, which is about the first 24-48hrs. Following that, light physical activity should be encouraged.

Physiotherapy treatment would include:

1. Stretching of the hamstring and quadriceps and strengthening of the gluteus medius and hamstring are essential in managing and preventing recurrence. And myofascial and deep-tissue release for tight muscles.
2. Therapeutic ultrasound and/or TENS would be administered to aid in decreasing the pain.
3. Cryotherapy is also a very good home advise to speed up the recovery.
4. Running gait analysis would be done by the sports physiotherapist to pick up any biomechanical cause that led to the develop-

ment of the tendonitis. The Sports Physiotherapist would also work closely with the patient to work out a proper training program to get them back on track for their training.

5. Orthotics can also be done to correct the over-pronation of the feet to reduce the strain on the tendon.

In severe cases, a dose of NSAID or corticosteroid injection can be administered directly into the area of pain.

Conclusion

To enable us to better diagnose pes anserinus tendonitis, a good subjective history is essential. An accurate and proper diagnosis would enable our patients to return to sports faster and better so that they can enjoy what they like to do.

References

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This newsletter is produced by Back2Sports - a division of Core Concepts

*We can be reached at
T: 6226 3632 or
E: enquiry@back2sports.com.sg
W: www.Back2Sports.com.sg*

