Osgood-Schlatter Disease (Tibial Tubercle Apophysitis)

Osgood-Schlatter disease involves apophysitis of the proximal tibial tubercle often due to overuse. Active, young boys who have experienced a recent growth spurt and partake in running and jumping activities are most at risk for this condition. Osgood-Schlatter disease is a clinical diagnosis based on history; additional signs and symptoms include anterior knee pain that increases over time, an enlarged tibial tubercle, and localized edema. Since this condition is often self-limiting, treatment is conservative and consists of rest, activity restriction and NSAIDs.



PLAY PICMONIC

Pathophysiology

Apophysitis of Tibial Tubercle

Inflammation of Tibetan-monk Tube

An apophysis is the insertion site on a bone for a tendon; it eventually undergoes secondary ossification as a person grows. When overuse occurs, the apophysis of the tibial tubercle where the patellar tendon inserts becomes inflamed, and Osgood-Schlatter disease develops.

Active, Young Boys

Young Boys being Active

Young boys are more at risk for this condition because they are often very active with sports participation. However the condition can occur just as easily in young girls who are also highly active.

Running and Jumping

Running and Jumping

Repetitive running and jumping activities place the greatest strain on the apophysis of the tibial tubercle. If proper rest is not obtained between these activities, the condition is more likely to develop.

Overuse Injury

Overtime Injury

Repetitive running and jumping activities place the greatest strain on the apophysis of the tibial tubercle. If proper rest is not obtained between these activities, the condition is more likely to develop.

Recent Growth Spurt

Sudden Growth

Children who have rapidly grown over a short period of time are more at risk for Osgood-Schlatter disease. Because girls undergo puberty before boys and experience their growth spurt earlier, they will usually develop the condition before boys even if physical activity level is the same.

Signs and Symptoms

Diagnosis Made on History

Making History with Dx

Osgood-Schlatter disease can be diagnosed clinically based on a good history, so imaging is unnecessary.

Anterior Knee Pain

Ant-eater Knee with Pain-bolt

Being one of the most common causes of anterior knee pain in young adolescents, Osgood-Schlatter patients typically complain of pain that increases over time, and is exacerbated by knee flexion.

Sign up for FREE at picmonic.com

Enlarged Tibial Tubercle
Enlarged Tibetan-monk Tube
Physical exam and imaging may both demonstrate an enlarged tibial tubercle.

Edema
Edamame
Localized tissue swelling can be seen around the area of the tibial tubercle.

Treatment

Rest
Resting on stretcher
Refraining from the activity that initially caused the condition is essential. Decreasing intensity of physical activity is indicated in both the short-term following injury, and in the long-term for one to two years. However, the patient should still remain physically active to strengthen surrounding muscles.

NSAIDs
N-sad
Non-steroidal anti-inflammatory drugs, or NSAIDs, work by reversibly inhibiting the COX enzymes to decrease localized inflammation. Although they are not known to accelerate healing, they may provide pain relief.

Activity Restriction
Activity Restricted by Belts
Refraining from the activity that initially caused the condition is essential. Decreasing intensity of physical activity is indicated both short-term following injury, and long-term for one to two years. However, the patient should still remain physically active to strengthen surrounding muscles.

Self-limiting
Selfie Limited
Since the apophysis is a secondary ossification center, the inflammation associated with Osgood-Schlatter disease will self-resolve once ossification of the site occurs.

Sign up for FREE at picmonic.com