



Orthopaedic Surgery
& Sports Medicine

Tibial tubercle apophysitis (Osgood-Schlatter disease)

Description

Osgood-Schlatter disease is characterized by inflammation of the growth plate of the leg just below the knee at the tibial tubercle, a prominence just below the kneecap. The tibial tubercle is the bony attachment on the large bone of the lower leg (tibia) of the big, powerful thigh muscle (quadriceps). The growth plate is an area of relative weakness, and injury to it occurs due to repeated stress or vigorous exercise. It is a temporary condition of the tibial tubercle that is uncommon after age 16.

Common signs and symptoms

- A slightly swollen, warm and tender bump below the knee
- Pain with activity, especially straightening the leg against force (stair climbing, jumping, deep knee bends, or weight-lifting) or following an extended period of vigorous exercise in an adolescent. In more severe cases, pain occurs during less vigorous activity.

Causes

- Stress or injury to tibial tubercle growth plate, causing a flare-up
- Repeated stress or injury will interfere with development, causing inflammation

Risk of further injury

- Overzealous conditioning routines, such as running, jumping, or jogging too much too quickly
- Being overweight
- Boys between 11 and 18
- Rapid skeletal growth
- Poor physical conditioning (strength, endurance, and flexibility)

Initial treatment

Treating apophysitis consists of medications and ice to relieve pain, stretching and strengthening exercises (particularly of the quadriceps and hamstrings), and modification of activities. Specifically, kneeling, jumping, squatting, stair climbing and running on the affected knee should be avoided. The exercises can all be performed at home for acute cases. Chronic cases often require a referral to a physical therapist or athletic trainer for further evaluation or treatment. Uncommonly, the affected leg may be immobilized for 6 to 8 weeks with a reinforced elastic knee support, casting, or a splint. A patellar band (a brace between kneecap and tibial tubercle on top of the patellar tendon) may help relieve symptoms. Surgery is recommended in the growing patient in the rare incidence of failed conservative treatment. Surgery is occasionally necessary after skeletal maturity if the ossicle becomes painful.

Medication

Nonsteroidal anti-inflammatory medications such as aspirin and ibuprofen (do not take within 7 days before surgery), or other minor pain relievers such as acetaminophen, are often recommended. Take these as directed by your physician. Contact your physician immediately if any bleeding, stomach upset or signs of an allergic reaction occur. Cortisone injections are rarely, if ever, indicated. Cortisone injections may weaken tendons, so it is better to give the condition more time to heal than to inject.

Heat and cold

- Cold is used to relieve pain and reduce inflammation. Cold should be applied for 10 to 15 minutes every 2 to 3 hours for inflammation and pain and immediately after any activity which aggravates your symptoms. Use ice packs or an ice massage. Ice should be used for the first 72 hours after initial injury.
- Heat may be used before performing stretching and strengthening activities prescribed by your physician, physical therapist, or athletic trainer. Use a heat pack or a warm soak. Heat should not be used if inflammation (swelling) is present.