

# Osgood-Schlatter disease

## what is Osgood-Schlatter disease?

Osgood-Schlatter is an overuse condition found in child/adolescent athletes. It is characterized by inflammation and pain around a growth plate where the patellar tendon (this tendon straightens your knee) attaches to the front of the shinbone (tibia). This is just below the kneecap at an area called the tibial tubercle. The pull of the tendon creates tension on the area of the growth plate. In some child/adolescent athletes, this may lead to inflammation, local swelling and then pain with activities. Some patients may also develop a limp. This discomfort may last over a period of months.

## who is at risk?

- Most common in males between the ages of 10-15 years old.
- Females between the ages of 8-13 years old.
- Children/adolescents participating in running, jumping, stair stepping, kneeling or squatting activities (i.e. volleyball, football, basketball, soccer, track, hockey, gymnastics, dance, etc.).
- Children/adolescents with poor flexibility (tight muscles) in the legs during rapid growth.

## what are the symptoms?

- The child/adolescent will complain of pain/tenderness/swelling at the insertion site of the patellar tendon on the tibial tubercle (shinbone).
- The child/adolescent will complain of pain with activity and immediately following activity.
- Muscular tightness in the quadriceps/hamstrings (thigh) muscles and gastrocnemius/soleus (calf) muscles.
- Limited range of knee motion in some patients because of pain.
- The child/adolescent will have poor tolerance to having the knee in a bent position.

## what are the treatment options?

### Conservative/non-surgical treatment:

- Rest from aggravating activities or "relative" rest.
- Ice the area after activity and when painful for 10 to 20 minutes up to once an hour.
- Muscle stretching to improve flexibility.
  - Stretching should be done both before and after activity.
  - Concentrate on hamstring (back of thigh), quadriceps (front of thigh) and gastrocnemius/soleus (calf) stretching.
- Patellar (knee) braces or patellar tendon straps for compression may be beneficial.
- If the condition does not improve, a referral to physical therapy to address pain, swelling, range of motion, flexibility, strength, gait, bracing and a return to sport training program will usually improve symptoms.

- This is a self-limiting condition that resolves with time, muscle stretching and patience. It may require 10-24 months of a conservative treatment protocol. Once the growth plate stops growing and fuses to the underlying bone, the symptoms typically resolve.

### Surgical treatment:

- Occasionally a persistent area of inflammation persists after all growth has stopped. In some cases, excision of this inflamed area is helpful.

## what is the time frame for returning to activity/sport?

Patients may continue with activity if the symptoms are mild by increasing their flexibility with muscular stretching and using ice after activity. For more severe symptoms rest from activity is required to improve the pain. In severe cases, rest may be followed by several months of activity modification.

## what are the long-term side effects?

Patients have an enlarged tibial tubercle (bump) from the human body's efforts to make this area of the growth plate stronger. Once the growth plate is fused, resolution of pain is normal, but some individuals might have discomfort with kneeling and/or strenuous knee extension (straightening).



Side View of Knee