

Osgood-Schlatter Disease

What is Osgood-Schlatter disease?

Osgood-Schlatter disease is a painful enlargement of the bump of the shin bone (tibia) just below the knee. This bump is called the tibial tuberosity. The tendon from the kneecap (patella) inserts here. Osgood-Schlatter disease is most often seen in children between the ages of 10 and 15 and usually appears during a period of rapid growth.

How does it occur?

Osgood-Schlatter disease is caused by overuse of the knee in normal childhood and sporting activities. It is possible that muscles are too tight in the front of the thigh, the back of the thigh, or in the calf.

What are the symptoms?

Your child will complain of a painful bump below the kneecap. The parents or child may notice a bony enlargement at the top of the shin bone. The pain will sometimes come and go and usually is gone by the time your child has stopped growing. Sometimes young adults can have pain in the area of the bump. Your child will always have a bump even after the pain has gone away.

How is it diagnosed?

Your child's health care provider will do a physical examination of the knee and review your child's symptoms. X-rays show an enlarged tibial tuberosity. An x-ray may also show irregular or loose bony fragments from the tibial tuberosity.

How is it treated?

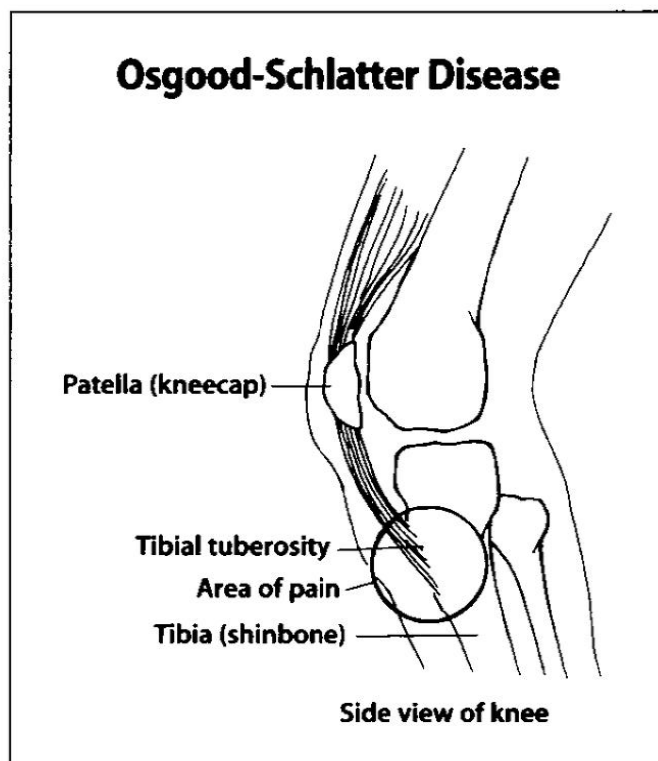
Your child may need to rest or do activities that do not cause knee pain. Ice packs should be applied to the knee for 20 to 30 minutes every 3 to 4 hours for 2 to 3 days or until the pain goes away. If the knee is swollen, it should be elevated by placing a pillow under it. Your child's health care provider may prescribe a special padded brace. He or she may prescribe an anti-inflammatory medication and may recommend exercises.

When can my child return to his or her sport or activity?

The goal of rehabilitation is to return your child to his or her sport or activity as soon as is safely possible. If your child returns too soon the injury may worsen, which could lead to permanent damage. Everyone recovers from injury at a different rate. Return to his or her sport or activity will be determined by how soon your child's knee recovers, not by how many days or weeks it has been since the injury occurred. In general, the longer your child has symptoms before starting treatment, the longer it will take to get better.

Your child may safely return to his or her sport or activity when, starting from the top of the list and progressing to the end, each of the following is true:

- ▶ Your child's tibial tuberosity is no longer tender.
- ▶ The injured knee can be fully straightened and bent without pain.



8. KNEE STABILIZATION: Wrap a piece of elastic tubing around the ankle of your uninjured leg. Tie the tubing to a table or other fixed object.

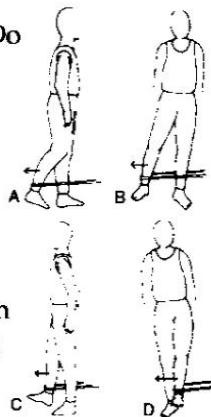
A. Stand on your injured leg facing the table and bend your knee slightly, keeping your thigh muscles tight. While maintaining this position, move your uninjured leg straight back behind you. Do 3 sets of 10.

B. Turn 90° so your injured leg is closest to the table. Move your uninjured leg away from your body. Do 3 sets of 10.

C. Turn 90° again so your back is to the table. Move your uninjured leg straight out in front of you. Do 3 sets of 10.

D. Turn your body 90° again so your uninjured leg is closest to the table. Move your uninjured leg across your body. Do 3 sets of 10.

Hold onto a chair if you need help balancing. This exercise can be made even more challenging by standing on a pillow while you move your uninjured leg.

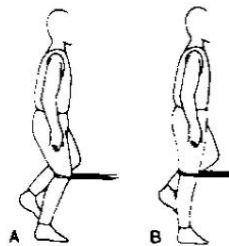


9. RESISTED KNEE EXTENSION: Make a loop from a piece of elastic tubing by tying it around the leg of a table or other fixed object. Step into the loop so the tubing is around the back of your injured leg. Lift your uninjured foot off the ground. Hold onto a chair for balance, if needed.

A. Bend your knee about 45 degrees.

B. Slowly straighten your leg, keeping your thigh muscle tight as you do this.

Do this 10 times. Do 3 sets. An easier way to do this is to perform this exercise while standing on both legs.



- ▶ The knee and leg have regained normal strength compared to the uninjured knee and leg.
- ▶ Your child is able to jog straight ahead without limping.
- ▶ Your child is able to sprint straight ahead without limping.
- ▶ Your child is able to do 45-degree cuts.
- ▶ Your child is able to do 90-degree cuts.
- ▶ Your child is able to do 20-yard figure-of-eight runs.
- ▶ Your child is able to do 10-yard figure-of-eight runs.

- ▶ Your child is able to jump on both legs without pain and jump on the injured leg without pain.

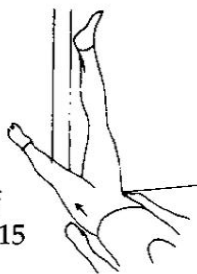
How can Osgood-Schlatter disease be prevented?

Osgood-Schlatter disease may be difficult to prevent. The most important thing to do is to have your child limit activity as soon as he or she notices the painful bump on the top of the shin bone. Proper warm-up and stretching exercises of the thigh, hamstring, and calf muscles may help prevent Osgood-Schlatter disease.

Osgood-Schlatter Disease Rehabilitation Exercises

You can start stretching the muscles in the back of your leg using the hamstring and calf stretches right away. When you have only a little discomfort in the upper part of your lower leg bone (tibia), you can do the rest of the exercises.

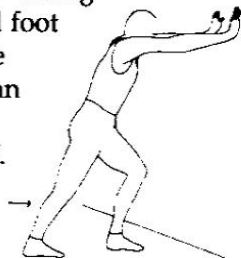
1. HAMSTRING STRETCH ON WALL: Lie on your back with your buttocks close to a doorway, and extend your legs straight out in front of you along the floor. Raise the injured leg and rest it against the wall next to the door frame. Your other leg should extend through the doorway. You should feel a stretch in the back of your thigh. Hold this position for 15 to 30 seconds. Repeat 3 times.



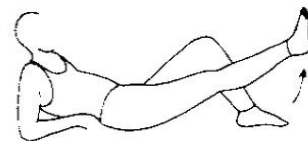
3. QUADRICEPS STRETCH: Stand an arm's length away from the wall, facing straight ahead. Brace yourself by keeping the hand on the uninjured side against the wall. With your other hand, grasp the ankle of the injured leg and pull your heel toward your buttocks. Don't arch or twist your back and keep your knees together. Hold this stretch for 15 to 30 seconds. Repeat 3 times.



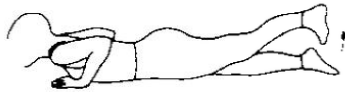
2. STANDING CALF STRETCH: Facing a wall, put your hands against the wall at about eye level. Keep the injured leg back, the uninjured leg forward, and the heel of your injured leg on the floor. Turn your injured foot slightly inward (as if you were pigeon-toed) as you slowly lean into the wall until you feel a stretch in the back of your calf. Hold for 15 to 30 seconds. Repeat 3 times. Do this exercise several times each day.



4. STRAIGHT LEG RAISE: Lie on your back with your legs straight out in front of you. Tighten up the top of your thigh muscle on the injured leg and lift that leg about 8 inches off the floor, keeping the thigh muscle tight throughout. Slowly lower your leg back down to the floor. Do 3 sets of 10.



5. PRONE HIP EXTENSION: Lie on your stomach with your legs straight out behind you. Tighten up your buttocks muscles and lift one leg off the floor about 8 inches. Keep your knee straight. Hold for 5 seconds. Then lower your leg and relax. Do 3 sets of 10.



- 6. KNEE STABILIZATION:** Wrap a piece of elastic tubing around the ankle of your uninjured leg. Tie the tubing to a table or other fixed object.
- Stand on your injured leg facing the table and bend your knee slightly, keeping your thigh muscles tight. While maintaining this position, move your uninjured leg straight back behind you. Do 3 sets of 10.
 - Turn 90° so your injured leg is closest to the table. Move your uninjured leg away from your body. Do 3 sets of 10.
 - Turn 90° again so your back is to the table. Move your uninjured leg straight out in front of you. Do 3 sets of 10.
 - Turn your body 90° again so your uninjured leg is closest to the table. Move your uninjured leg across your body. Do 3 sets of 10.

Hold onto a chair if you need help balancing. This exercise can be made even more challenging by standing on a pillow while you move your uninjured leg.

