

# Osgood-Schlatter Disease

## What is Osgood-Schlatter disease?

Osgood-Schlatter disease is a painful enlargement of the bump of the shin bone just below the knee. It is caused by inflammation of the tendon below the kneecap where it attaches to the shinbone (tibia). 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. You or your 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 the pain still lasts into adulthood. The bump may remain painful and some activities, such as kneeling, may be difficult.

## How is it diagnosed?

Your child's healthcare provider will examine the knee and review your child's symptoms. Your child may need an X-ray. 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. To treat this condition:

- Put an ice pack, gel pack, or package of frozen vegetables, wrapped in a cloth on the area every 3 to 4 hours, for up to 20 minutes at a time.
- Raise the knee on a pillow when your child sits or lies down.
- Use a special padded brace as directed by your child's provider.
- Follow your provider's instructions for exercises to help your child recover.

Your child's provider may prescribe an anti-inflammatory medicine.

## How long will the effects last?

As your child gets older and past the growth spurt, symptoms of Osgood-Schlatter disease go away. This commonly takes about 6 to 24 months from the start of the symptoms. The best way to prevent pain is to use exercise to build muscle strength and avoid overtraining.

Your child will always have a bump even after the pain has gone away. It is possible for your child to sometimes have pain in the area of the bump even after he or she is an adult. Adults with persistent pain from bony fragments around the knee need to have the fragments surgically removed.

## **When can my child return to his or her normal activities?**

Everyone recovers from an injury at a different rate. Return to your activity depends on how soon your child's knee recovers, not by how many days or weeks it has been since the injury has occurred. In general, the longer your child has symptom. The goal of rehabilitation is to return your child to normal activities as soon as is safely possible. If your child returns too soon he or she may worsen the injury.

Your child may safely return to his or her sports or activities 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.
- 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.

## **How can Osgood-Schlatter disease be prevented?**

Osgood-Schlatter disease may be difficult to prevent. The best way to prevent pain is to use exercise to build muscle strength. Proper warm-up and stretching exercises of the thigh, hamstring, and calf muscles may also help. Your child should avoid overtraining by limiting activity as soon as he or she notices the painful bump on the top of the shin bone.

## **Osgood-Schlatter Disease 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 shin, you can do the rest of the exercises.

- **Hamstring stretch on wall:** Lie on your back with your buttocks close to a doorway. Stretch your uninjured leg straight out in front of you on the floor through the doorway. Raise your injured leg and rest it against the wall next to the door frame. Keep your leg as

straight as possible. You should feel a stretch in the back of your thigh. Hold this position for 15 to 30 seconds. Repeat 3 times.

- **Standing calf stretch:** Stand facing a wall with your hands on the wall at about eye level. Keep your injured leg back with your heel on the floor. Keep the other leg forward with the knee bent. Turn your back foot slightly inward (as if you were pigeon-toed). Slowly lean into the wall until you feel a stretch in the back of your calf. Hold the stretch for 15 to 30 seconds. Return to the starting position. Repeat 3 times. Do this exercise several times each day.
- **Quadriceps stretch:** Stand an arm's length away from the wall with your injured leg farthest from the wall. Facing straight ahead, brace yourself by keeping one hand against the wall. With your other hand, grasp the ankle of your injured leg and pull your heel toward your buttocks. Don't arch or twist your back. Keep your knees together. Hold this stretch for 15 to 30 seconds.
- **Straight leg raise:** Lie on your back with your legs straight out in front of you. Bend the knee on your uninjured side and place the foot flat on the floor. Tighten the thigh muscle on your injured side and lift your leg about 8 inches off the floor. Keep your leg straight and your thigh muscle tight. Slowly lower your leg back down to the floor. Do 2 sets of 15.
- **Prone hip extension:** Lie on your stomach with your legs straight out behind you. Tighten the buttocks and thigh muscles of the leg on your injured side and lift the leg off the floor about 8 inches. Keep your leg straight. Hold for 5 seconds. Then lower your leg and relax. Do 2 sets of 15.
- **Knee stabilization:** Wrap a piece of elastic tubing around the ankle of your uninjured leg. Tie a knot in the other end of the tubing and close it in a door at about ankle height.
  1. Stand facing the door on the leg without tubing and bend your knee slightly, keeping your thigh muscles tight. Stay in this position while you move the leg with the tubing straight back behind you. Do 2 sets of 15.
  2. Turn 90 degrees so the leg without tubing is closest to the door. Move the leg with tubing away from your body. Do 2 sets of 15.
  3. Turn 90 degrees again so your back is to the door. Move the leg with tubing straight out in front of you. Do 2 sets of 15.
  4. Turn your body 90 degrees again so the leg with tubing is closest to the door. Move the leg with tubing across your body. Do 2 sets of 15.

Hold onto a chair if you need help balancing. This exercise can be made more challenging by standing on a firm pillow or foam mat while you move the leg with tubing.

- **Side-lying leg lift:** Lie on your uninjured side. Tighten the front thigh muscles on your injured leg and lift that leg 8 to 10 inches away from the other leg. Keep the leg straight and lower it slowly. Do 2 sets of 15.
- **Clam exercise:** Lie on your uninjured side with your hips and knees bent and feet together. Slowly raise your top leg toward the ceiling while keeping your heels touching each other. Hold for 2 seconds and lower slowly. Do 2 sets of 15 repetitions.

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This content is reviewed periodically and is subject to change as new health information becomes available. The information is intended to inform and educate and is not a replacement for medical evaluation, advice, diagnosis or treatment by a healthcare professional.

[References](#)

[Pediatric Advisor 2011.2 Index](#)

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# Osgood-Schlatter Disease Rehabilitation Exercises



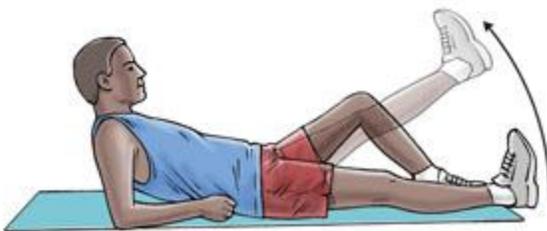
Hamstring stretch on wall



Standing calf stretch



Quadriceps stretch



Straight leg raise



Prone hip extension

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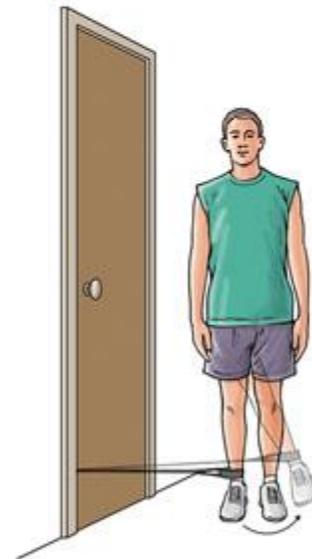
Knee stabilization: A



Knee stabilization: B



Knee stabilization: C



Knee stabilization: D



Side-lying leg lift



Clam exercise