

# Osgood Schlatter Disease

## What is it?

Osgood Schlatter (OS) disease refers to an irritation of the bony growth plate in the shin bone (tibia) below the knee cap. The large muscle on the front of the thigh (quadriceps) attaches to the shin bone via the patellar tendon.

The function of this tendon (see figure 1) is to transmit forces produced by the thigh muscle to the shin to support and move the knee joint. In children, the portion of the shin bone into which the patellar tendon inserts is separated from the bulk of the shin bone by a growth plate. This growth plate enables bone growth to occur. However, it also represents a site of weakness in the bone which is easily stressed, irritated and subsequently becomes painful.

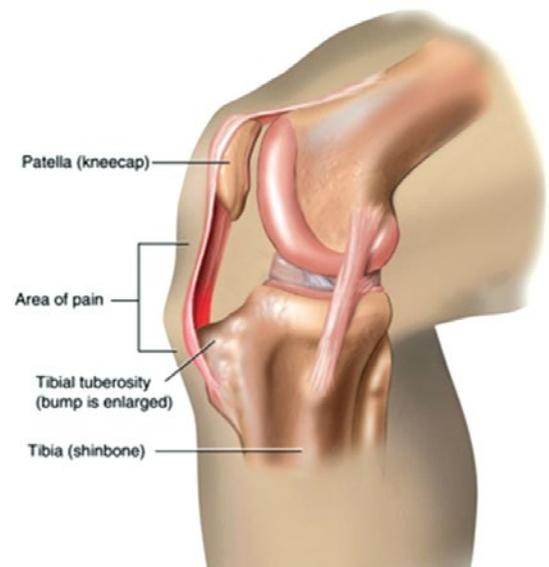


Figure 1

## What are the symptoms?

The most common symptom is pain at the front of the shin bone immediately below the knee. This is the site where the patellar tendon attaches to the shin bone and this is the location where people suffering Osgood Schlatter disease will feel pain. The painful site is just below the kneecap in

the bony bump on the front of the shin, called the tibial tuberosity (see figures 1 and 2 which provides both an anatomical view plus an actual view of what it may appear on someone suffering from this disease).

Pain is felt most commonly during activity or exercise. The tibial tuberosity may also be swollen and tender to touch.

## What should I do?

If your child has pain below the kneecap and you think it may be Osgood-Schlatter disease, you should consult a medical professional or physiotherapist for an examination to rule out other causes of knee pain including juvenile arthritis.

Rest and ice may help alleviate the symptoms. Complete rest is not necessary but avoiding activities that cause pain will be useful.

Ice is very useful initially and helps decrease the amount of swelling. Usually 10 mins on, 10 mins off, 10 mins on every 2 hours is effective and decreases the likelihood of nerve damage from ice burn.



Osgood Schlatter disease is prevalent in young adolescents and some sports requiring running and jumping do present risk factors which can aggravate the condition.

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## How is a diagnosis made?

A diagnosis can confidently be made on the history of the injury and examination findings. Usually x-rays are not necessary but they can sometimes be used to rule out other causes which may mimic Osgood Schlatter disease.



Figure 2

## What does rehab involve?

It is important to recognise that Osgood Schlatter is a generally benign self-limiting condition. O.S. is a condition of pain and irritation rather than traumatic injury. The knee is structurally intact so continuing to play sport on the knee will flare pain but not lead to long term disease. The pain always goes away when the growth spurt has stopped, unfortunately that is sometimes many years away.

It is often useful to decrease the amount of weight bearing activity by 50%. Each hour of weight bearing activity can be considered one unit.

It is important to decrease the total weekly units of weight bearing activity by 50% while not neglecting school based activity. If we only look at a child's focussed training exposure, it might be 3 times per week in the afternoons and then a weekend game. Cutting that down by 50% will be insufficient if they are running and jumping before school, at recess and lunch and after school every school day.

The 50% number is just a guide that works well for the majority. If it is well tolerated, activity can slowly be added in. If there is still significant pain then of course it is necessary to further decrease activity.

In addition to activity modification it is necessary to increase the length of the musculature with flexibility training. As mentioned earlier during rapid growth the muscles become tighter as the bones lengthen. It is important to stretch the entire lower leg musculature. When one muscle group is tight other groups tend to tighten up also, so you need to focus on more than just stretching the quadriceps.

Sometimes medications in the form of tablets, patches or injections are useful. These are only used in more severe cases though and can be avoided most of the time.



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