Osgood-Schlatters Disease (Knee Pain).

What is Osgood-Schlatters disease?

Osgood-Schlatters disease is a common form of “growing pains” or over-use in early adolescence involving the shinbone and the knee. The shin bone (tibia) has a raised area just below the kneecap called the tibial tubercle (See Figure 1). The tibial tubercle has two major roles:

1) It contributes to the growth of the leg
2) It is where the thigh muscle attaches to the shinbone through the tendon that runs over the knee cap (the patellar tendon)

What are the Symptoms?

Osgood-Schlatters disease is extremely common in adolescents at the time of a growth spurt. It is usually associated with a high level of physical activity, especially in sports involving running and jumping, such as football. The symptoms of Osgood-Schlatters disease include swelling over the tibial tubercle and in the surrounding soft tissues (muscles). The enlargement (growth) of the tubercle and pain are common in children (See Figure 2). When symptoms are severe the player may also start limping. Pain around the tibial tuberosity is aggravated by exercise.

What causes Osgood-Schlatters Disease?

Osgood-Schlatters disease is caused by the constant pulling of the patellar tendon on the tibial tubercle where the tendon attaches. This is often a result of playing sports such as football and can also be due to too much training and playing.

Osgood-Schlatters disease is commonly seen in the growing and adolescent soccer player at an age where bones and muscles are typically growing at different rates. As a result the muscles and tendons have a tendency to become tight.

Risk factors/ prevention.

There are some risk factors that put certain players at risk. Those players who participate in a large amount of sports such as football can be at risk (i.e. 5 or more training sessions/ games per week). Players that have
tight quadriceps (front thigh muscles) or tight hamstrings (back thigh muscles) can also develop Osgood-Schlatters disease. Stretching these muscles can help (See Figure 3).

**Figure 3: Quadriceps and Hamstring Muscle - Stretches.**

What can a sports injury professional do?

The player should seek medical advise from a sports doctor or physiotherapist. The sports injury professional will be able to make an accurate diagnosis. Once the diagnosis is made, the initial treatment will be aimed at reducing the severity or intensity of the pain and swelling.

Treatment of the initial symptoms can include RICE (rest, ice, compression, elevation), activity and training/game modifications, physiotherapy (for stretching and strengthening exercises), sports massage techniques to any tight muscles and if the pain is severe, medications. Sometimes the sports doctor may order an x-ray but this is usually not necessary.

Management of Osgood-Schlatters disease requires activity modification. While there is no evidence that rest accelerates the healing process, a reduction in activity will reduce pain. Osgood-Schlatters disease occurs in young players with a high level of physical activity, it may be useful to suggest that the player eliminate one or two of the other sports they generally play, to help the symptoms settle down. There is no need to rest completely. Pain should be the main guide as to the limitation of activity. A sports doctor or physiotherapist will be able to help you with a management plan.

Osgood-Schlatters Disease often resolves with time, it may last from as little as 2 weeks to 2 – 3 years. Occasionally there may be a long-term thickening and prominence of the tubercle. The most important thing for the player to remember is that training and game restrictions will help settle the pain. Once the pain has settled then the player can gradually resume training and playing - almost always with no long-term affects.

**Figure 4: Ice.**