



291 North Fireweed
Soldotna, AK 99669
907-262-6454

www.kenaipeninsulaortho.com

Orthopaedic Surgeon:
Henry G. Krull, M.D.

Hand and Wrist Specialist:
Edwin D. Vyhmeister, M.D.

Osgood Schlatter Syndrome

Osgood-Schlatter syndrome, also known as “jumper’s knee” is a type of growing pain that affects adolescents. It is a type of *osteochondrosis* that can affect any growing bone, particularly where tendons attach. Osgood-Schlatter is the most common of the osteochondroses and affects girls in the 10-14 year age range, and boys in the 12-16 year age range. It typically occurs during a growth spurt, and often resolves when the growth spurt slows. With jumper’s knee, there is inflammation where the patellar ligament attaches to the bump in the front of the upper shin bone. It is thought to be due to a differential in growth between the bone and tendon that causes traction (tension) where the tendon attaches to bone. A portion of the bump where the tendon attaches can actually be pulled off of its attachment site. A similar, closely related condition can occur at the lower end of the patella, where the patellar ligament attaches. This type of osteochondrosis is called Sindig-Larsen-Johanssen syndrome and is treated precisely the same as Osgood-Schlatter syndrome.





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Symptoms:

Pain in the front of upper shin, where the patellar ligament attaches is the hallmark of Osgood-Schlatter syndrome. With the related condition Sindig-Larsen-Johanssen syndrome, there is pain over the upper portion of the patellar ligament where it inserts into the lower kneecap. Pain is made worse with running, jumping, and squatting. The condition can be associated with overuse. Injury sometimes causes worsening of symptoms, and can be associated with partial or complete detachment of the ligament from the bone. Symptoms are typically improved with rest.

Cause:

Jumper's knee is a type of growing pain that comes on during a rapid growth spurt. Inflammation where the patellar ligament attaches to the bump in the front of the upper shin bone develops, causing pain. It is thought to be due to a differential in growth between the bone and tendon that causes traction (tension) where the tendon attaches to bone. A portion of the bump where the tendon attaches can actually be pulled off of its attachment site. This results in fragmentation of the tibial tubercle (the bump where the ligament attaches), which can cause symptoms that persist into adulthood.

Diagnosis:

A careful history and physical examination can easily reveal the diagnosis. Plain x-rays are often obtained and can show fragmentation of the tibial tubercle. X-rays are often normal. MRI may be indicated if there is concern for acute fracture of the tibial tubercle, or complete rupture of the patellar ligament insertion.

Treatment:

Most patients with Osgood-Schlatter are treated nonsurgically. Initial treatment starts with activity modification (restricting running and jumping), as well as NSAIDs for symptom relief, and RICE (rest, ice, compression, elevation). Sometimes severe symptoms will warrant crutches and a knee brace, to limit



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bending of the knee. Physical therapy can help to maintain normal range of motion and strength.

PRP injection may be beneficial with Osgood-Schlatter syndrome, for severe symptoms. It may help to heal the inflamed area. Cortisone injections are not typically recommended, other than in adults with residual symptoms.

Surgery is uncommonly indicated for primary treatment of Osgood-Schlatter syndrome, other than cases of acute fracture of the tibial tubercle, or complete rupture of the patellar ligament. Adults may require surgical removal of the painful fragmented tibial tubercle. This is done in an outpatient surgery setting through a small incision over the prominent bump. Treatment is identical for Sindig-Larsen-Johanssen syndrome.