

Osgood Schlatter's Disease



What is it?

The apophysis is the portion of the epiphysis which is attached to a tendon and subjected to tensile forces. In the knee, this is the tibial tuberosity where the patella tendon inserts. Continued traction from the quadriceps can lead to a repetitive injury to the growth plate causing pain and swelling in the region of the tuberosity. This is commonly exacerbated by sports (particularly football) and by kneeling.

Less commonly, children can present with Sinding-Larsen-Johansson syndrome. This is similar in presentation to Osgood Schlatter's but the site of inflammation is the site of insertion of the patella tendon on the inferior pole of the patella.

What are the risk factors?

Rapid growth associated with the adolescent growth spurt, typically 8 – 12 years in girls and 10 – 14 years in boys. Regular high impact sports such as repetitive running, jumping, football and gymnastics causing repeated strain to the growth plate.



What are the clinical features?

Osgood Schlatter's is usually unilateral but may be bilateral. It typically has a gradual onset being intermittently painful after sporting activities, particularly heavy impact such as football. They are tender on palpation over the tibial tuberosity and may have localised swelling or an increase in the size of the bony prominence. It is commonly not painful unless taking part in certain sports and usually lasts for a few years, being exacerbated by growth spurts.

How is the diagnosis confirmed?

History and examination are sufficient to form a clinical diagnosis; X-rays are usually normal. Hip and knee X-rays may be required to rule out the differential diagnoses if clinically indicated.



What else could it be, and what are the alarming symptoms?

1. Bone tumours or infection: **progressive constant pain, night pain, rest pain, systemic features, pain at other sites**
2. Juvenile idiopathic arthritis: **joint swelling and erythema, lymphadenopathy, hepatosplenomegaly**
3. Referred hip pain: Slipped Upper Femoral Epiphysis (SUFE), reactive arthritis, Perthes
4. Trauma
5. Osteochondritis dissecans: **mechanical symptoms (intermittent locking and giving way)**
6. Vitamin D deficiency

Exacerbating factors

- Tight muscles – hamstrings, gastrocnemius and quadriceps
- Vitamin D deficiency
- Heavy contact sports

Management

- Pain relief (ibuprofen) and ice packs
- Stretch out tight muscles to reduce pressure on growth plate and stretch thoroughly before sport
- Check vitamin D level and treat to bring level over 50nmol/L
- Reassurance – will get better as growth slows over 12-24 months

Once the exacerbating features have been dealt with then activity modification is required. Many sports such as swimming will be fine, but activities such as football are likely to flare up symptoms. They are allowed to play all sports but will have to accept that certain activities will be painful. The condition will eventually resolve but until this stage lifestyle changes need to be made to limit symptoms.

References

NHS CKS Osgood-Schlatter's Disease <https://cks.nice.org.uk/osgood-schlatter-disease>

Wilson J & Rodenburg R (2011) Apophysitis of the lower extremities available at <http://contemporarypediatrics.modernmedicine.com/contemporary-pediatrics/news/modernmedicine/modern-medicine-feature-articles/apophysitis-lower-extre?page=full>