

## Osgood-Schlatter's Disease

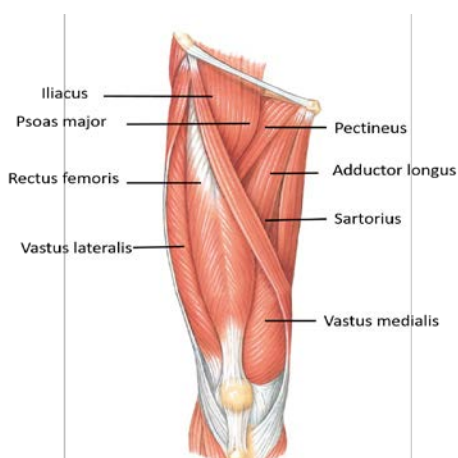
### What is Osgood-Schlatter's Disease?

Osgood-Schlatter's disease (OSD) is a term used to describe localised pain felt below the knee cap on the shin bone (tibial tuberosity) where the patellar tendon inserts. It mainly presents in young people who participate in regular high impact sports and are going through a growth spurt (1).

The large quadriceps muscle on the front of the thigh facilitates straightening the knee by pulling on the kneecap (patella) and the patellar tendon which attaches to the front of the shin bone. Continued stress and traction from the quadriceps muscle in the area of this attachment can cause pain and swelling. As this heals a hard bony bump may develop (2).

Osgood-Schlatter's usually presents on the one knee but both can be affected. It has a gradual onset and is commonly exacerbated by sporting activities, growth spurts, and kneeling.

#### Thigh muscles- front view



#### Knee joint- front view



### What are the symptoms of Osgood- Schlatter's?

The most common symptoms of OSD are pain and swelling at the bony part of the top of the shin bone, under the knee with a tenderness to touch. It is commonly not painful unless taking part in certain sports or when you kneel. Symptoms usually appear around puberty (10-14 years) when growth spurts occur. Diagnosis is often clear from the typical symptoms and no x-rays or scans are routinely needed.

The routine management strategies for this condition are:

- Pain relief medication (as advised by your doctor or pharmacist)
- Pacing the amount of activity that you do and introducing rest periods into activity as not to exacerbate your knee pain
- Using ice packs (caution of ice burns) on the sore area after activity
- Participating in the below course of physiotherapy exercises.

The symptoms will commonly improve as growth slows over 12-24 months (3).

## **Physiotherapy for Osgood- Schlatter's**

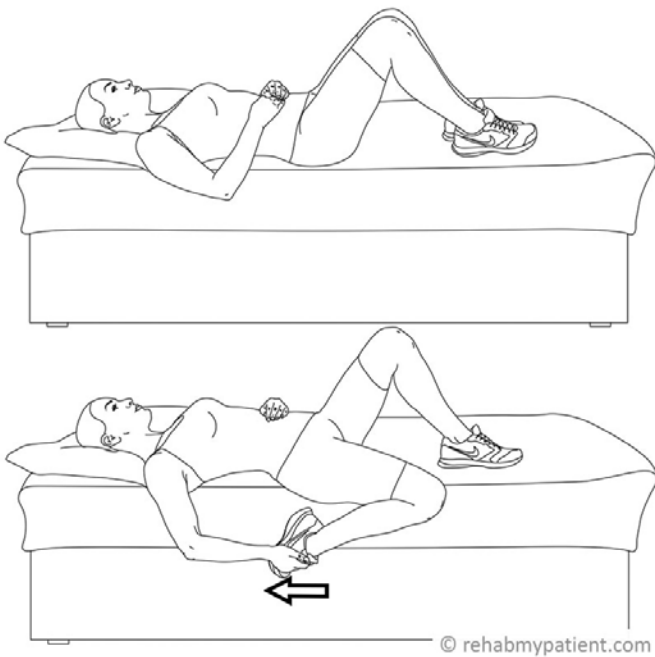
The best way to manage OSD is to stretch the tight muscles to reduce stress and irritation at the area of the quadriceps insertion below the kneecap. The physiotherapy exercise should not exacerbate the pain but a stretch sensation should be felt in the muscle.

If the stretches are irritating the knee pain try completing them after a warm bath or shower. If the exercises still continue to cause knee pain then a full assessment with a physiotherapist would be recommended to review the knee pain further.

Additional physiotherapy management strategies also include massage, taping, bracing and review of muscular imbalances.

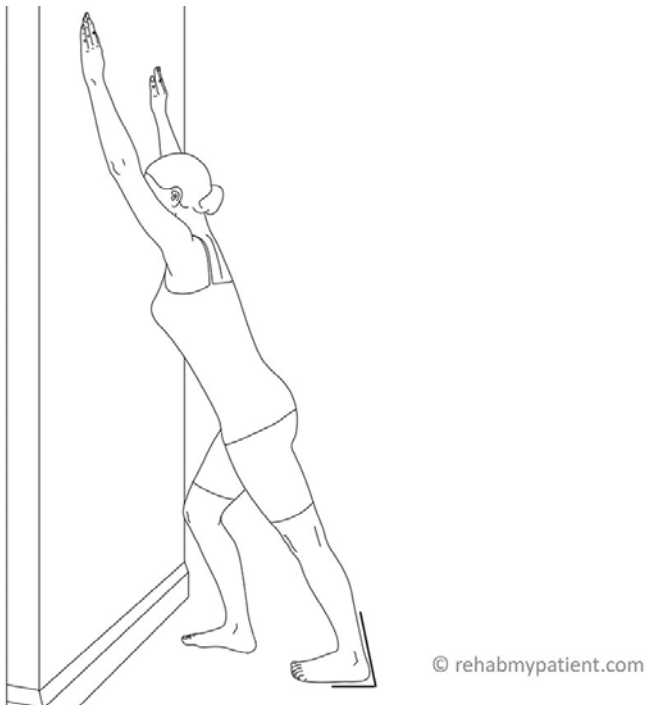
The exercises should be completed daily, preferably morning and evening and especially before any physical activity.

## Exercise 1 – Quadriceps (thigh) stretches



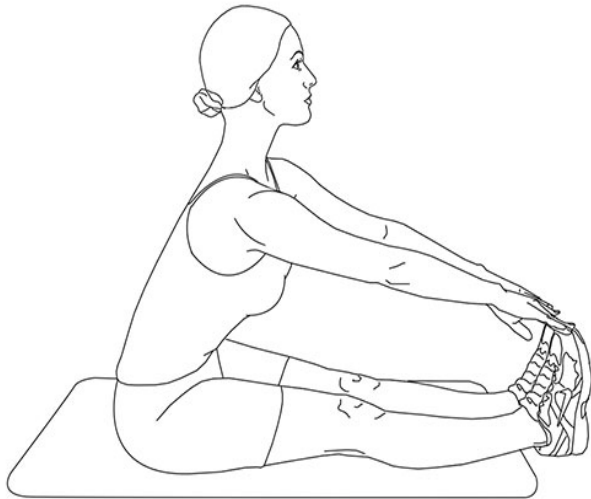
- Lie on your back on a bed/table.
- Bend your knees and drop one leg over the side of the bed. Hold onto your ankle or a towel/band around your ankle.
- Gently draw your foot towards your buttock. You should feel the stretch in the front of your thigh.
- Hold for 30 seconds. Repeat 3 times a day on each leg.

## Exercise 2 – Gastrocnemius (calf) stretch



- Place your hands against a wall for stability. Bend the right leg and step the left leg back at least a foot's distance, keeping it straight. Both feet should be flat on the floor.
- The left calf muscle is stretched by keeping the left leg as straight as possible and the left heel on the floor.
- Repeat with the opposite leg.
- Hold for 5 seconds.
- Repeat 5 times each leg, 3 times a day.

### Exercise 3 – Hamstring stretch



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- Sitting on the floor, keep your legs straight in front of you, and reach forwards to touch your toes.
- Go as far as feels comfortable.
- You will feel a stretch in your Hamstrings (at the back of your thigh) and maybe your lower back as well.
- Repeat with the opposite leg.
- Hold for 5 seconds.
- Repeat 5 times each leg, 3 times a day.

### How quickly will my exercises start to make a difference?

Usually, you will not feel any noticeable difference for at least 3 weeks, but your knee should start to feel more comfortable after about 8 weeks. Unfortunately, some symptoms can last for 12-24 months as growth slows. If you find the exercises increase your knee pain or it hurts your knee to do them then you should stop doing them. If the exercises fail to work, you should see your Consultant or GP to ask for a referral to physiotherapy for a more in-depth assessment and individualised treatment programme.

Flare up management – This knee pain can sometimes return with another period of growth or sharp increase or decrease in activity and therefore the initial advice would be to restart the exercises.

### How soon will I be able to return to normal activities?

Sport or physical activity is not likely to cause any permanent damage but may make your pain worse. If the pain is affecting how you do your sport, you may need to think about how often you train. Reducing strenuous or vigorous sport may be sensible until the pain lessens to a level you can cope with. You should aim to reduce how long, how often and how much exercise you do when the knee is very painful. This is especially important if this exercise includes running or jumping. You may need to consider a complete break from sport for a while if pain remains severe. After a few weeks slowly reintroduce the exercises and sport and pace your return to previous level.

## Additional sources of information

- [https://apcp.csp.org.uk/system/files/osgood\\_schlatters\\_disease\\_2015.pdf](https://apcp.csp.org.uk/system/files/osgood_schlatters_disease_2015.pdf)

## Important information

The information in this leaflet is for guidance purposes only and is not provided to replace professional clinical advice from a qualified practitioner.

## Disclaimer

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After reading this information are there any questions you would like to ask? Please list below and ask your nurse or doctor.

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## References

- (1) Osgood-Schlatter disease | Health topics A to Z | CKS | NICE. (2021). Retrieved 12 February 2021, from <https://cks.nice.org.uk/topics/osgood-schlatter-disease/>
- (2) Association of Paediatric Chartered Physiotherapists. (2015). Osgood Schlatter's Disease information for parents and young people [Ebook]. Retrieved from [https://apcp.csp.org.uk/system/files/osgood\\_schlatters\\_disease\\_2015.pdf](https://apcp.csp.org.uk/system/files/osgood_schlatters_disease_2015.pdf)
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doi:<http://dx.doi.org.ezproxy.brighton.ac.uk/10.1007/s12306-017-0479-7>

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