

Osgood-Schlatter Apophysitis

What Is It?

- A **common knee condition** in active kids during growth spurts.
- Caused by **pulling of the patellar tendon** on the shinbone, leading to pain and inflammation.
- Often triggered by **sports involving running and jumping**.

Who Gets It?

- Most common in **kids aged 9–14**.
- More likely in active children or young athletes.
- May affect **one or both knees**.

Symptoms

- Pain just below the kneecap, especially after activity
- Swelling or tenderness over the shinbone bump
- A visible or palpable bump
- Pain with kneeling, jumping, sprinting, or using stairs

Key Facts

1. **Not dangerous** – it's a temporary condition, not permanent.

2. **Goes away with growth** – often resolves after puberty.
3. **Activity is okay** – as long as it doesn't increase pain.

How to Manage

- **Ice after activity** to reduce pain
- **Topical pain relief** (e.g., diclofenac cream) if recommended
- **Modify sports** during flare-ups
- **Stretching and strengthening** to ease tendon tension
- **Knee straps** may help during activity
- Use **supportive shoes** and play on soft surfaces when possible

Returning to Sports

- Return **gradually** as pain improves
- Follow a structured **rehab program**
- **Don't rush**—resting when needed helps long-term recovery

Exercises are most effective when guided by a qualified professional, such as a physiotherapist, athletic therapist, or strength and conditioning coach. If you have any concerns, it's always a good idea to consult with an expert.

Phase 1: Acute Phase - Pain Inflammation

Goals:

- Reduce pain and inflammation
- Avoid aggravating activities

Interventions:

- Rest from high-impact activity (jumping, sprinting, kneeling)
- Ice therapy (15–20 min, 2–3x/day)
- NSAIDs if prescribed
- Compression and elevation
- Activity modification (e.g., cycling instead of running)

Can Progress to Phase 2 When:

- Pain at rest is gone
- Mild or no pain with walking and daily activities
- No swelling around the tibial tubercle

1. Quadriceps Release (Foam Roller)

Duration: 3-5 minutes | Frequency: Daily

Preparation:

- Position yourself on foam roller as shown

Execution:

- Roll up and down on the foam roller to release the muscles on the front of the thigh



Start Position



If you feel a tender point, you can hold and allow the muscle to relax

2. Hamstring Release (Foam Roller)

Duration: 3-5 minutes | Frequency: Daily

Execution:

- Roll your the back of thigh as shown
- Stop on tight portions of the muscle to allow them to release.



Roll back of thigh on foam roll



Stop over tight areas and let them melt away



Continue rolling

3. Gluteus Release (Foam Roller)

Duration: 3-5 minutes | Frequency: Daily

Execution:

- Roll your buttock muscles out on the foam roll.
- Stop on tight portions of the muscle to allow them to release.



Roll buttock muscles on foam roll



Stop over tight muscles

4. Thigh Release (Foam Roller)

Duration: 3-5 minutes | Frequency: Daily

Execution:

- Position foam roll beneath hip, as shown.
- Roll along the foam, towards your knee.
- Whenever you find a sore spot, pause for as long as you can, to stretch this area out.

Note: This exercise is normally quite uncomfortable. If it gets to be too much, give yourself a break.



Start Position



Roll out along foam

5. Cycling Stationary Bike

Duration: 15-30 minutes | Frequency: 3-4x/week

Cycling Stationary Bike



Cycling Stationary Bike

Phase 2: Stretching and Mobility

Goals:

- Improve flexibility of surrounding muscle groups (quads, hamstrings, calves)
- Decrease tension on the tibial tubercle

Key Stretches:

- **Quadriceps stretch** (standing or prone)
- **Hamstring stretch** (standing or seated)
- **IT band stretch**
- **Calf stretch**

Can Progress to Phase 3 When:

- Stretching can be done **without pain**
- Knee remains pain-free during daily activities and light stretching
- Full range of motion (ROM) in the knee without discomfort

1. Quads Stretch (Wall)

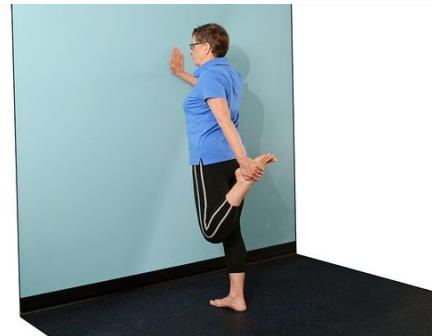
Sets: 3 | Duration: 30-90sec | Frequency: Daily

Preparation:

- Stand tall with one hand on wall
- Grab your foot with the other hand

Execution:

- Pull your heel towards your buttock to stretch the front of the thigh



Avoid arching through the lower back, keep tailbone tucked

2. Quad Stretch Prone

Sets: 3 | Duration: 30-90sec | Frequency: Daily

Preparation:

- Lie on stomach
- Hold ankle with hand

Execution:

- Gently pull ankle toward the buttock
- You should feel a stretch in the front of your thigh



Gently pull ankle toward the buttock

3. Hamstring Stretch (Stool)

Sets: 3 | Duration: 30-90 sec | Frequency: Daily

Preparation:

- Child stands tall with leg straight and heel on a stool

Execution

- Child stretches the back of the leg by bending forwards
- Leg stays straight and back stays flat as the child bends forward



Heel on stool and leg straight



Lean forward while keeping your back straight

4. Hamstring Stretch

Sets: 3 | Duration: 30-90 sec | Frequency: Daily

Preparation:

- Sit on the floor, one leg out front, other leg bent with foot tucked into upper thigh

Execution:

- Bending at your hips and keeping your back straight, reach gently over front leg to feel a stretch in the back of your thigh



Sitting tall, lean forward from the hips, keeping lower back flat

5. Gluteus Stretch (Wall)

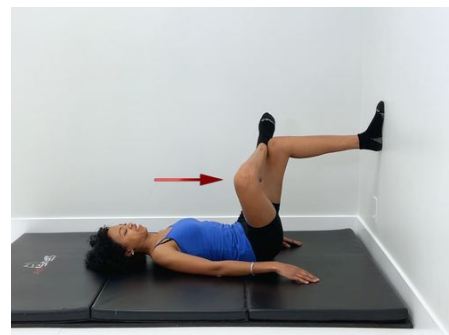
Sets: 3 | Duration: 30-90 sec | Frequency: Daily

Preparation:

- Lie on back, knees and hips bent, feet flat on wall

Execution:

- Rest ankle on top of opposite knee
- The closer you are to the wall, the more intense the stretch will be
- You can push your knee toward wall for a more intense stretch



Cross ankle over leg. Push knee toward wall for a more intense stretch

6. Seated Twist

Sets: 3 | Duration: 30-90 sec | Frequency: Daily

Execution:

- Sitting tall grounded through sit bones
- Bring one leg up and cross it over the other
- Reach opposite arm around the leg
- Twist through the upper back



Cross one leg over



Twist through upper back



Back is tall grounded firmly through sit bones



Inhale grow tall, exhale twist further

7. Calf Stretch (Wall)

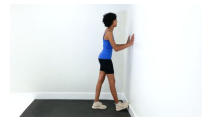
Sets: 3 | Duration: 30-90 sec | Frequency: Daily

Preparation:

- Stand close to a wall
- Place bottom of foot up on the wall
- Heel is on the floor

Execution:

- Lean forward until you feel a stretch in your upper calf
- Bend knee while leaning forward to feel a stretch in your lower calf



Toes against wall, heel on floor



Lean forward with knee straight to stretch upper calf



Bend knee to stretch lower calf

8. Cycling Stationary Bike

Duration: 20-40 minutes | Frequency: 3-4x/week

Cycling Stationary Bike



Cycling Stationary Bike

Phase 3: Strengthening

Goals:

- Strengthen quads, hamstrings, glutes, and core
- Improve stability around the knee

Key Exercises:

- Straight leg raises
- Clamshells
- Wall sits (short duration to start)
- Mini squats (pain-free range)
- Step-ups
- Glute bridges
- Continue stretches from Phase 1-2

Dosage: 2–3 sets of 10–15 reps, 3–4x/week

Can Progress to Phase 4 When:

- Exercises can be completed **without pain**
- Good control during strength and balance tasks
- Knee is pain-free with stairs, walking, and light jogging

1. Straight Leg Raise (Block)

Sets: 3 | **Reps:** 10-15 | **Frequency:** 3-4x/week

Preparation:

- Sit on the floor with your legs straight out in front of you
- Place an object between your legs

Execution:

- Lift your leg straight up and over the object
- Lower leg on the other side of the object
- Lift leg back up and over the object back to the start position
- Repeat



Start Position



Lift leg straight up and over object



Lower leg on the other side of the object

2. Clamshell

Sets: 3 | **Reps:** 10-15 | **Frequency:** 3-4x/week

Preparation:

- Lie on your side with your hips at 45 degrees and your knees at 90 degrees
- Position your hand on your front hip and buttock muscles

Execution:

- Lift your top knee keeping your feet together
- Keep your pelvis stable while you lift your leg



Start position



Contract buttock muscle



Lift top knee up (open like a clam) keeping your pelvis stable

3. Wall Sit

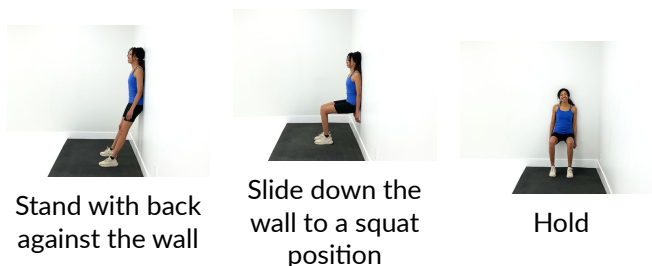
Sets: 3 | Hold: 20-60 sec | Frequency: 3-4x/week

Preparation:

- Stand with back against the wall
- Position feet away from the wall

Execution:

- Slide down the wall in a squat position
- Squat as far as you can and hold



4. Squat | Hand Support (Counter)

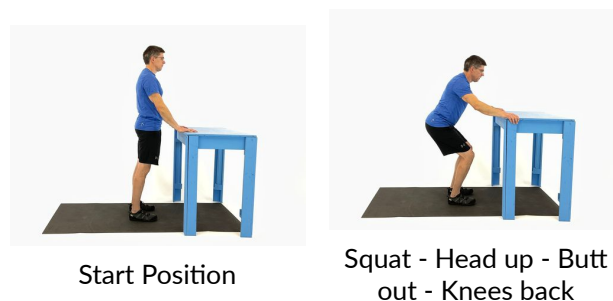
Sets: 3 | Reps: 10-15 | Frequency: 3-4x/week

Preparation:

- Stand with good posture
- Feet shoulder width apart, knees slightly bent
- Rest hands on chair or counter for support

Execution:

- Initiate squat by bending at the hip
- Squat as low as you can under control
- Rise up straight using the back of your hips



5. Step Up

Sets: 3 | Reps: 10-15 | Frequency: 3-4x/week

Preparation:

- Stand in front of a box or step

Execution:

- Step up onto the box
- Lower down in a controlled manner
- Repeat, alternating legs



6. Bridge | Arms Flat

Sets: 3 | Reps: 10-15 | Frequency: 3-4x/week

Preparation:

- Lie flat on your back with your arms straight beside you
- Bend knees with your feet flat on the floor

Execution:

- Lift your hips up in the air to make a bridge
- Lower down in a controlled manner



7. Cycling Stationary Bike

Duration: 30-60 minutes | **Frequency:** 3-4x/week

Cycling Stationary Bike



Cycling Stationary Bike

Phase 4: Functional and Return to Sport Training

Goals:

- Gradual return to running, jumping, and sport-specific drills
- Prevent recurrence of symptoms

Activities:

- Jogging → Running → Sprinting (progress gradually)
- Agility drills (e.g., lateral movements, ladder drills)
- Jumping/landing mechanics
- Sport-specific practice (non-contact to full play)
- Continue stretches from Phase 1 and 2

Return to Sport When:

- Full strength and flexibility compared to the other leg
- No pain with running, jumping, or sport-specific movements
- No tenderness at the tibial tubercle
- Cleared by a physician or physiotherapist (if needed)

1. Graduated Return to Jogging

Graduated return to running suggested program: Week 1:
(start and finish with 5 min walk)

- 4x (1' run / 1' walk)
- 5x (1' run / 1' walk)
- 6x (1' run / 1' walk)
- 8x (1' run / 1' walk)

Week 2: (start and finish with 5 min walk)

- 10x (1' run / 1' walk)
- 11x (1' run / 1' walk)
- 13x (1' run / 1' walk)
- 4x (2' run / 1' walk)

Week 3: (start and finish with 5 min walk)

- 4x (2' run / 1' walk)
- 5x (2' run / 1' walk)
- 6x (2' run / 1' walk)
- 7x (2' run / 1' walk)



Graduated Return to Jogging

2. Clamshell (Band)

Sets: 3 | Reps: 10-15 | Frequency: 3-4x/week

Preparation:

- Lie on your side with your hips at 45° and your knees at 90°
- Band around you knees

Execution:

- Open your top knee up against the resistance of the band keeping your feet together
- Lower knee back down with control



Hips slightly bent, knees bent to 90 degrees



Open top knee up like a clamshell

3. Bridge + LE Stabilization (Band)

Sets: 3 | Reps: 10-15 | Frequency: 3-4x/week

Preparation:

- Lie flat on your back
- Bend knees with your feet flat on the floor
- Put a resistive band around your knees

Execution:

- Push your knees out against the belt around your legs
- Lift your hips up in the air to make a bridge
- Lower down in a controlled manner



Start Position, band above knees



Lift hips off the floor keeping your knees apart

4. Squat - add in a jump once able

Sets: 3 | Reps: 10-15 | Frequency: 3-4x/week

Preparation:

- Stand with good posture, feet are shoulder width apart

Execution:

- Perform a squat by bending at the hip
- Stop at the point where you cannot keep your lower back flat
- Rise up by straightening at the hip



Feet shoulder width apart



Squat down keeping your knees apart



Rise up using your hips



Bend at your hips



Continue to lower keeping back flat and pelvis in neutral

5. Single Leg Squat

Sets: 3 | Reps: 10-15 | Intensity: 3-4x/week

Preparation:

- Stand with good posture on one leg

Execution:

- Begin to squat with one leg by bending at the hip and knee
- Rise up by straightening at the hip



Start position



Squat - Keep opposite leg knee bent



Rise up using your hip



Keep knee in line with your toes

6. Lateral Lunge (Bosu)

Sets: 3 | Reps: 10-15 | Frequency: 3-4x/week

Preparation:

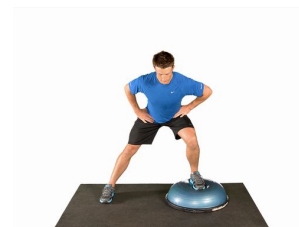
- Stand with good posture

Execution:

- Lunge to the side onto the blue side of a Bosu
- Keep your hip and knee aligned with your middle toe



Start Position



Keep hip and knee inline with foot

7. Lateral Forward Bounding

Sets: 3 | Reps: 10-15 | Frequency: 3-4x/week

Preparation:

- Stand balancing on one foot

Execution:

- Perform a small single leg squat
- Take a small hop forward and to the side onto the other foot
- Absorb the shock by bending at the hip, knee and ankle (triple flexion)
- Immediately hop forward and to the side back onto other foot with control



Start position



Load and hop forward and to the side onto the other foot



Quickly hop back onto the other foot continuing forward and to the side



Stay in control while increasing your speed and distance

Sport Specific Training

Activities:

- Jogging → Running → Sprinting (progress gradually)
- Agility drills (e.g., lateral movements, ladder drills)
- Jumping/landing mechanics
- Sport-specific practice (non-contact to full play)
- Continue stretches from Phase 1 and 2