

Sinding–Larsen–Johansson Syndrome (SLJ)



What is Sinding–Larsen–Johansson Syndrome?

Sinding–Larsen–Johansson (SLJ) Syndrome is an **overuse injury at the lower end of the kneecap (patella)**, where the tendon from the thigh muscle (quadriceps) attaches to the bone.

- Commonly affects **children aged 10–14**

- Usually occurs in **active adolescents** who play sports involving running, jumping, or kicking (e.g., football, basketball, gymnastics, volleyball)
- It is **not dangerous** and usually resolves with proper care

The condition happens because repetitive stress causes inflammation and irritation at the tendon attachment, sometimes with small bony changes.

Symptoms

Children may experience:

- Pain at the **bottom of the kneecap**
- Pain that **worsens with jumping, running, squatting, or kneeling**
- Tender bump or swelling at the lower patella
- Stiffness after activity or in the morning
- Pain that improves with **rest**

Symptoms often develop gradually over weeks to months.

Causes

SLJ is caused by **repetitive strain on the patellar tendon growth plate** during adolescence:

- Sports with **repeated jumping or sprinting**
- Sudden **increase in training intensity or frequency**
- Tight quadriceps or hamstring muscles
- Weak hip, thigh, or core muscles
- Rapid **growth spurt** during puberty

Diagnosis

- Usually diagnosed by **clinical assessment**: history, physical examination, and tenderness at the lower patella
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- X-rays may be done to **rule out other problems** or confirm small bony changes
 - MRI is rarely needed

Treatment

Treatment focuses on **rest, pain relief, and rehabilitation**:

1. Activity Modification

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- Reduce or stop **painful activities** for 4–6 weeks
 - Avoid repetitive jumping, running, or kneeling
 - Low-impact activity like swimming or cycling may continue if pain-free

2. Pain Management

- Ice: **10–15 minutes**, 2–3 times a day after activity
- Pain relief: paracetamol or ibuprofen (follow dosing instructions)

3. Physiotherapy

A physiotherapy program may include:

- **Stretching** tight quadriceps and hamstrings
- **Strengthening** thigh, hip, and core muscles
- **Patellar tendon soft tissue mobilization**
- **Gradual return to sport** once pain-free

4. Protective Measures

- Patellar straps or cushioned knee pads for sports
- Avoid sudden increases in training intensity

Return to Sport

- Gradual, guided return once pain-free
- Follow the physiotherapist's program carefully
- Usually **3–6 weeks** of modification, longer if severe

Prevention

- Warm up properly before sports
- Stretch quadriceps, hamstrings, and calves regularly
- Strengthen hip, thigh, and core muscles
- Avoid sudden spikes in training intensity

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- Ensure footwear is appropriate and supportive

Prognosis

- Most children **fully recover** with rest, physiotherapy, and proper return-to-sport guidance
 - Symptoms rarely persist into adulthood
 - Ignoring pain or returning to sport too early may cause recurrence or chronic discomfort
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When to Seek Medical Advice Seek

review if:

- Pain worsens despite rest and exercises
 - Knee becomes swollen or red
 - Pain affects daily activities
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- Limp develops
 - You are unsure if the problem is SLJ