Patellofemoral Pain Syndrome

A broad term to describe **pain in the front of the knee and around the patella.** Also known as "runner's knee" or "jumper's knee".

Risk Factors

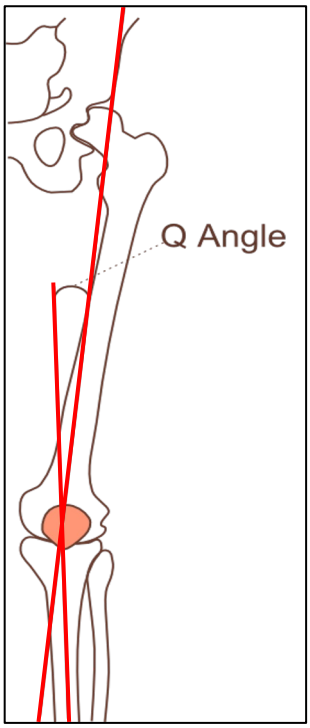
- Female
- Weak vastus medialis
- Weak core
- Tight hamstrings
- Tight iliotibial (IT) band
- Increased Q angle

Presentation

- Anterior knee pain with **activity**
- Anterior knee pain after **sitting for prolonged periods** with bent knees
- Difficulty going up or down stairs
- Difficulty with squatting or lunges
- Pain related to a **change in activity intensity, playing surface,** or **equipment**

Physical Exam

- **SEADS**: inspection for **s**welling, **e**rythema, **a**trophy, **d**eformity, and **s**cars
- **Alignment**
- Strength, flexibility, and tone
- Knee stability
- ROM of knees and hips
- **Patellar grind**
- **Clark's test** (press patella inferiorly while patient contracts quads, positive test is pain)



Pathophysiology

PFPS occurs when nerves sense pain in the soft tissues (tendons, patellar fat pad, synovial tissues) and bone around the patella, caused by a muscle imbalance. **Vastus lateralis is often stronger than vastus medialis causing malalignment of the patella as it tracks along the trochlear groove of the femur.**

- **Overuse:** repeated stress on the knee from physical activity
- **Patellar malalignment:**
  - Malalignment of the leg between the hips and the ankles
  - Muscular imbalances or weaknesses, especially in the quadriceps muscles at the front of the thigh

Diagnosis

Patellofemoral syndrome is a <u>CLINICAL DIAGNOSIS</u>

- Generally, investigations are unnecessary; however, in situations where a definitive diagnosis remains elusive, consider imaging
- **X-ray:** to rule out other potential causes of knee pain, such as arthritis or structural abnormalities in the knee joint
- **MRI**: if concerned about soft tissue injury, such as injury to ligaments, tendons, and/or muscles

Management

- **Activity modification** (e.g. avoid overstressing the knee, run on soft surfaces)
- **RICE: r**est, **i**ce, **c**ompression, and **e**levation
- Nonsteroidal anti-inflammatory drugs (**NSAIDs**), such as ibuprofen and naproxen, help reduce swelling and relieve pain
- Referral to **physiotherapy**
- If elevated BMI, **weight loss** may alleviate pain
- Quadricep & core **strengthening exercises**
- Hamstring and iliotibial band **stretching exercises**
- Appropriate **footwear**

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Dr. Katharine V. Jensen (Pediatrics Resident, University of Alberta) and Dr. Jeanine McColl (Pediatric Rheumatologist, University of Calgary) for www.pedscases.com