

Bourassa & Associates

REHABILITATION CENTRE

Anterior Knee Pain in Adolescents

What is Anterior Knee Pain?

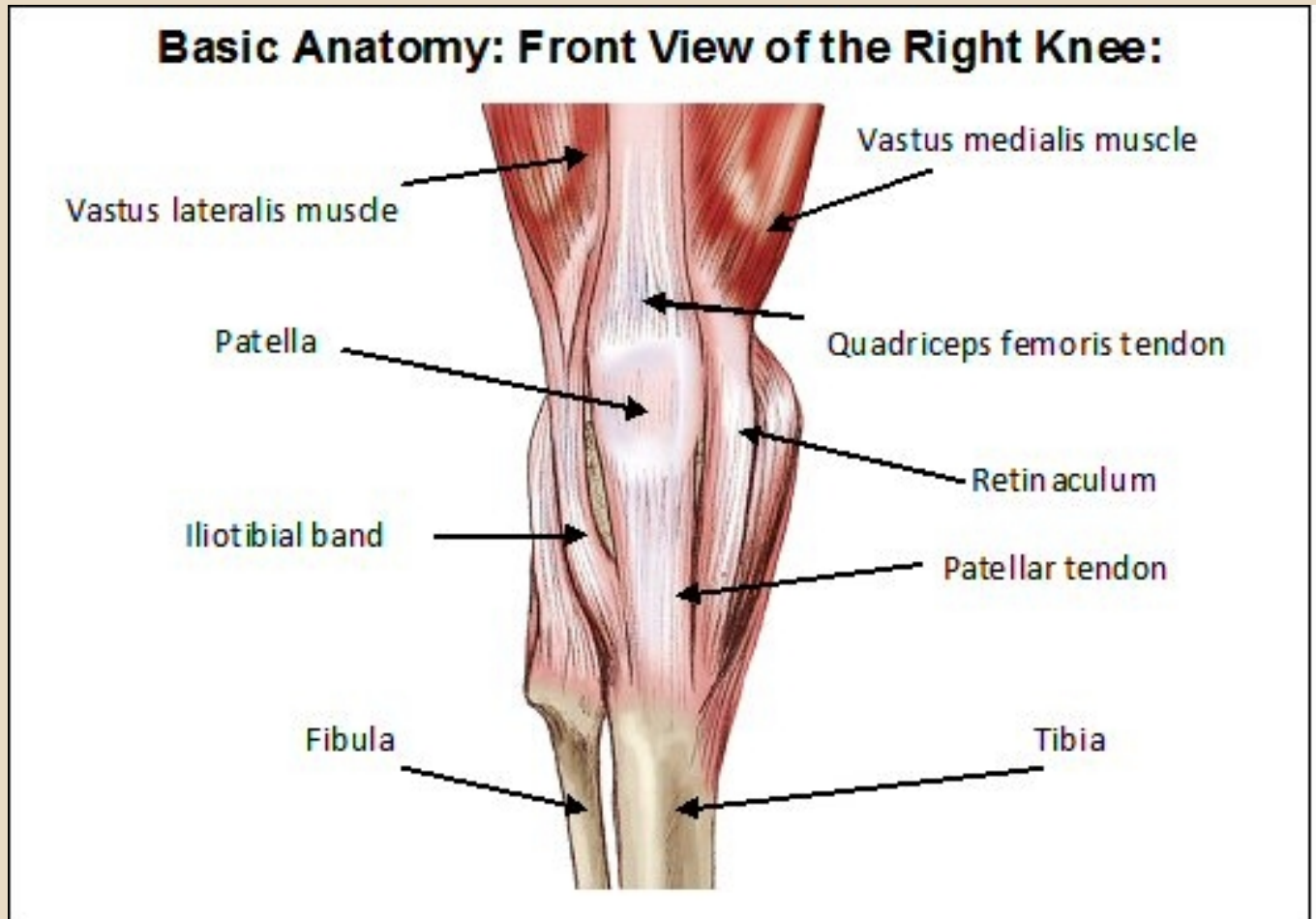
- Knee pain is common among active healthy young adolescents.
- It usually involves a dull ache behind the knee cap in one or both knees.
- Pain may be felt during or after an activity.



What Causes Anterior Knee Pain

- There are many different possible causes:
 - Patellofemora pain syndrome
 - Patellar Instability
 - Osgood – Schlatter’s Disease
 - Sinding – Larsen – Johansson Disease
 - Hoffa’s Disease
 - Poor Positioning of the Patella

Basic Anterior Knee Anatomy



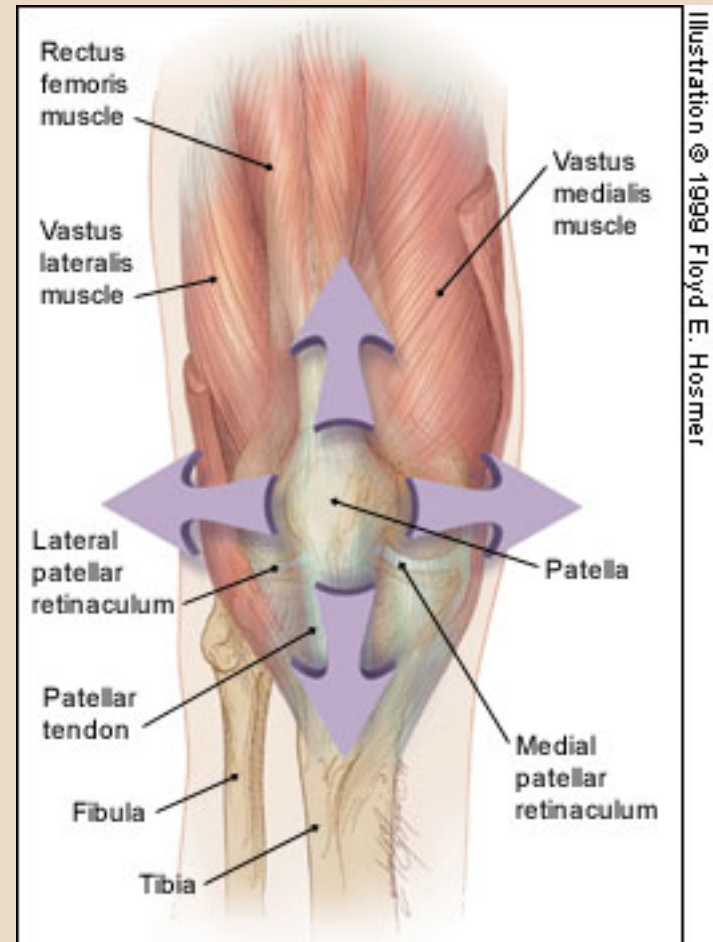
Patellofemoral Pain Syndrome

There are two main theories about the cause of patellofemoral pain syndrome:

1. Imbalance of the muscles around the knee
2. Improper rotation of the femur

Imbalance

- The quadriceps muscle on the inside of the knee (vastus medialis) become weak or is not used as much as the muscles on the outside of the knee (vastus lateralis)
- Other tissues on the outside of the patella (lateral retinaculum) become tight.
- This causes the patella to track improperly



Improper Rotation of the Femur

- During activity the femur (bone in the upper leg) rotates improperly.
- Hip abduction and external rotation become weak.
- This may also lead to improper tracking of the patella along the femur.



Patellofemoral Pain Syndrome

Other possible factors include:

1. Overuse or overtraining for sports or other activities
 - Sudden changes in sport or training
2. Improper equipment or footwear
3. Changes in the alignment of the knee and balance of the muscles related to growth

Patellar Instability

- May include subluxation or dislocation of the patella
- This usually occurs with twisting, rotating or pivoting movements

Osgood – Schlatter's Disease

- An overuse condition where the tibial tuberosity becomes enlarged and inflamed
- Occurs in adolescence, usually with a growth spurt
- Associated with excessive exercise and loading
- 3x more common in males than females

Sinding – Larsen – Johansson Disease



- Another overuse condition involving inflammation of the attachment of the patellar tendon on the patella, causing tendonopathy.

Hoffa's Disease

- The fat pad that lies underneath the patellar tendon becomes enlarged and inflamed.
- This fat pad may also be pinched during knee movements should it become enlarged



Improper Position of the Patella

- Patella Baja – the patella is lower than usual
- Patella Alta – the patella is higher than usual
- These positions may predispose the patella to track along the femur incorrectly, causing pain

How is Anterior Knee pain Treated?

- Control any inflammation around the knee
- Reducing or stopping activities aggravate the knee pain
- Proper exercises to strengthen the muscles around the hip and knee
 - Strengthening muscles groups such as hip abductors, hip external rotators and the vastus medialis muscle can help restore the proper balance around the knee and hip
- Stretching the tight tissues and muscles around the hip and knee

How is Anterior Knee Pain Treated

- Retraining proper neuromuscular control of the hip and knee
- Ensure proper exercise progression
 - Avoiding overtraining and overuse through an appropriate exercise plan
- Use of proper equipment and footwear
- Taping techniques or bracing

What does Bourassa and Associates offer?

- Diagnose the cause of the knee pain
- Control swelling and inflammation
- Restore proper biomechanics of the knee
- Exercise Protocols that are specific to the treatment of Anterior Knee pain
- Education about avoiding further knee injury and return to sport and normal activity.

Bourassa & Associates Rehabilitation Centre
109 - 294 Venture Cres.
Saskatoon, SK
S7K 6M1

phone: (306) 665-1962
fax: (306) 975-0109
fax toll free: 866-340-0109

Other Locations:

Biggar - 113 3rd Ave West, Duraline Medical
Clinic
(306) 948-4808

Fort Qu'Appelle - All Nations Healing Hospital
(306) 332-5055

Imperial - 310 Royal Street, Town Office Bldg
(306) 963-2060

Kindersley - 205 Main Street, Kindersley
Insurance
(306) 463-2012

North Battleford - 982 102nd St, LifeTime
Fitness
(306) 445-9200

Outlook - 400 Sask Ave West
(306) 867-2030

Regina - 1380 23rd Ave
(306) 546-3210

Rosetown - 305 Highway #4 North
(306) 882-2273

Saskatoon Medical Arts Bldg
(306) 665-1962

Saskatoon Wall Street Medical Bldg
(306) 665-1962

Saskatoon Westside Clinic - #2 3315 Fairlight
Dr.
(306) 665-1962

Watrous - 403 Main St, Doctors Office on Main
St
(306) 946-2074

Wynyard - 218 Bosworth St, Dr. Dewar's
Office
(306) 554-2046