Causes of Patellofemoral Syndrome/Kneecap Pain

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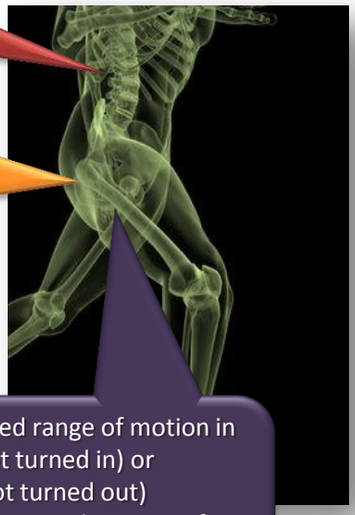
Low back-Irritated nerves here can cause the gluteal (butt) muscles or quadriceps to get weak or filled with trigger points, reducing projection of the knee cap cartilage.



Gluteal or butt muscles- Weakness here can cause the quadriceps muscle to be overused in landing, thus causing excess wear on the patella.

Hip-Decreased range of motion in internal (foot turned in) or external (foot turned out) rotation can cause the groove for the patella in the femur bone to be misaligned (see below).

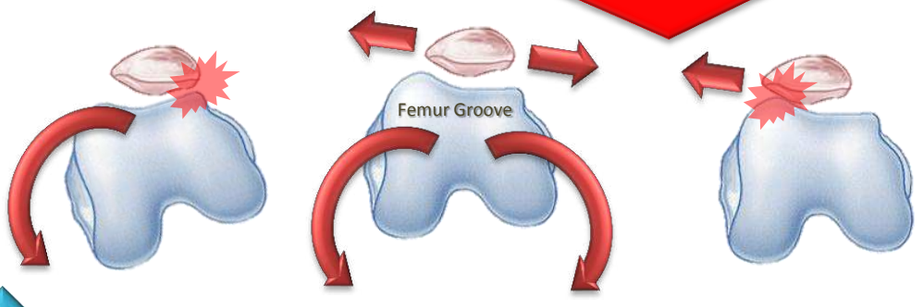
Quadriceps-Trigger points in the big thigh muscle can cause referred pain or weakness which can lead to patellar misalignment (see below).

VMO-(Inner quadriceps muscle)- Weakness or trigger points here allows the knee cap to move too far to the outside (see below).

Patellar Trauma-Injury to the undersurface of the knee cap or the cartilage in the femur groove (aka trochlear groove) can cause arthritis.

Pulling Forces-Too much pull by one side of the quadriceps or the other can cause the patella to become misaligned (see below).

Misalignment due to patella moving to one side or femur groove turning: Problems in the big quadriceps muscle can cause the patella to move too much to the inside or outside, increasing wear. At the same time, rotation of the femur groove (from the hip or foot) can cause the same thing to happen.



Foot Pronation or Supination: Excessive roll of the foot inwards or outwards can cause misalignment of the femur groove with the knee cap (see above).

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Hip/Spine

Knee

Foot/Ankle