

# quadricep strain

## what is a quadricep strain?

The quadriceps muscle is located on the front of the thigh. Quadricep strains can happen during vigorous running, sprinting, jumping and kicking activities. A strain typically occurs when a muscle is placed in a stretched position and then contracted forcefully in the opposite direction, resulting in a pull or tear in the muscle.

## who is at risk?

- Children/adolescents who have participated in running, sprinting, jumping and kicking activities (i.e football, soccer, track, gymnastics, dance, baseball, basketball, volleyball, etc.).
- Children/adolescents who have learned improper training techniques.
- Children/adolescents who have improperly warmed-up prior to activity.

## what are the symptoms?

- The child/adolescent will feel an initial sudden pain in the front of the thigh.
- The child/adolescent might feel a tearing sensation in the front thigh muscles.
- When the muscles cool down after activity, a gradual increase in pain, swelling and tightness can occur in the front of the thigh.
- In severe cases, extreme pain, swelling and weakness will be immediate and activity cannot continue. Often, the child/adolescent will have difficulty walking.

## what are the treatment options?

### Conservative/non-surgical treatment:

- Rest from aggravating activities or “relative” rest.
- Ice the area after activity and when painful for 10 to 20 minutes up to once an hour. Elevation and compression of the front of the thigh will assist with decreasing swelling/edema.
- Muscle stretching to improve flexibility.
  - Stretching should be done both before and after activity.
  - Concentrate on quadricep (front of thigh) stretching and active movement of the knee in all directions.
- If the condition does not improve, a referral to physical therapy to address pain, swelling, range of motion, flexibility, strength, gait, bracing and a return to sport training program will usually improve symptoms.
- A thigh/groin wrap can be beneficial to provide support to the muscles.

### Surgical treatment

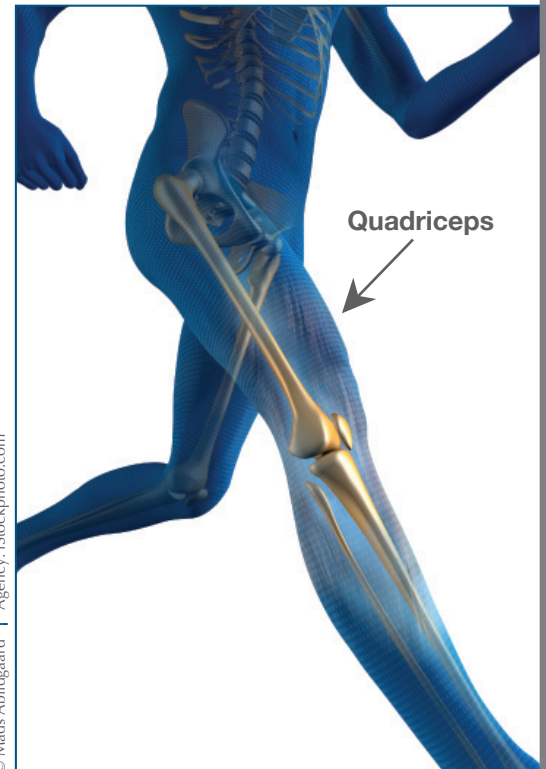
- Not required.

## what is the time frame for returning to activity/sport?

Depending on the severity of the muscle tear, it may take two to 12 weeks to return to activity.

## what are the long-term side effects?

Recurrent injuries in the first few months are common, illustrating the need for ongoing flexibility training and use of proper warm-up techniques.



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