

# gastrocnemius/soleus strain

## what is a gastrocnemius/soleus strain?

The gastrocnemius/soleus are located on the back of the calf. Gastrocnemius/soleus strains can happen during vigorous running, sprinting, jumping activities or repetitive heel raises (i.e. relevé in dance and gymnastics). 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 relevé activities (i.e. football, soccer, track, gymnastics, dance, baseball, basketball, volleyball, etc.).
- Children/adolescents who have learned improper training techniques.
- Children/adolescents who have warmed-up improperly prior to activity.

## what are the symptoms?

- The child/adolescent will feel an initial sudden pain in the back of calf.
- The child/adolescent might feel a tearing sensation in the back calf muscles.
- When the muscles cool down after activity, a gradual increase in pain, swelling and tightness can occur in the back of the calf.
- In severe cases, extreme pain, swelling and weakness on the back of the calf will be immediate and the child/adolescent will be unable to continue with activity. 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 back of the calf will assist with decreasing swelling/edema.
- Muscle stretching to improve flexibility.
  - Stretching should be done both before and after activity.
  - Concentrate on stretching the gastrocnemius/soleus muscles (back of calf) and active movement of the ankle 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.

### Surgical treatment

- Surgery is not needed as long as the Achilles Tendon (heel cord) remains intact.

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

Depending on the severity of the muscle tear, it may take up to three months to return to activity. In general, patients with mild strains can return within two to four weeks.

## what are the long-term side effects?

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

