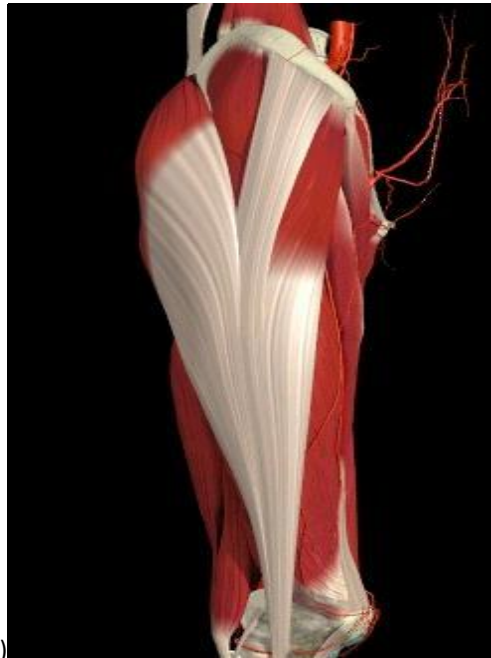


Michael Lovegren M.S. Biomechanics

Runners Knee Syndrome



(Ilt band/TFL model)



Running is a great sport that can be done in a group or alone. Running is a safe sport that enhances your health and helps prevent cardiovascular disease. Out of all the endurance sports, running is considered a high impact sport. The reason running is considered a high impact sport for every step you take there is an opposing force. The opposing force also known as ground reaction force can sometime exceed the eccentric forces of the lower extremity. Eventually without proper stretching the repetitive motion leads to overuse injuries like Achillies tendonitis, patellar tendonitis, plantar fasciitis, and Iliotibial band syndrome. This repetitive injury Iliotibial band syndrome can also happen to cyclist. The common name that I used today is the “Runners Knee Syndrome”.

Symptoms:

Once you acquire pain outside (lateral) of your knee. This discomfort could be sporadic, which could disappear with rest. Other times you will feel a faint or continuous pain when ever you extend your knee. Usually this pain will be present most of the time during running or cycling if not treated.

What Happened?

The Runners knee syndromes also know as overuse injury is due to tightness from the Iliotibial band. The IT band starts up at the top the hip connecting to the TFL comes down the lateral side of the femur and wraps the lateral side of the knee. The job of the IT band is to stabilize the knee. Once the IT band becomes too short the band will then rub tightly on the femur and becomes irritated. IT band syndrome is also be a result of underactive gluteus medius and maximus, which commonly forces the TFL to become overactive to take over what the glute muscles are not doing. This can also lead to tightening of the IT band and eventually runners' knee.

Why does this happen?

Most of the time runner knee syndrome is due to an improper warm-up or cool down. Although, there are those exceptions when sometime people out of the blue try to do too much too soon. To prevent this from ever happen you must stretch to maintain the elasticity in your muscles and strengthen weakened muscles as a preventive treatment. If you already have these symptoms the best advice is to rest and follow these stretching guides until the proper elasticity length is back on the IT band. For all the die hard runners and cyclist's who will not rest the best thing to do is to back off on the mileage and follow these stretching exercises below.

FOAM ROLL (OVERACTIVE MUSCLES)

Exercise	Sets	Duration	Coaching Tip
TFL	1	30 second holds	Find hot spots or tender spots and apply direct pressure with foam roller
IT band	1		Use the foam roller as a search and destroy mission until hot spots are gone.

STATIC STRETCH (OVERACTIVE MUSCLES)

Exercise	Sets	Duration	Coaching Tip
Static Stretch IT Band	1-2	30 second	
Supine Bicep Femoris Stretch	1-2	30 seconds	
TFL Stretch Standing	1-2	30 seconds	



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MUSCLE ACTIVATION (ISOLATING UNDERACTIVE MUSCLES)

Exercise	Sets	Reps	Tempo	Rest	Notes
Ball Bridge with Abduction (link to video on website)	1-2	15	Slow		Push through your heels as you raise your hips up. Make sure you don't arch your back as shown in video.
Squat abduction tubes	1-2	15	slow		Make sure as you come up into standing position that you squeeze your glutes. The goal is to activate those underactive muscles.

FUNCTIONAL MOVEMENT (INTEGRATION)

Exercise	Sets	Reps	Tempo	Rest	Notes
Tube Walking side to Side	1-2	15	Slow		Maintain good posture always keep feet shoulder distance apart to maintain resistance on bands. You can alternate the exercise by walking side to side, forward then backwards.