

## IT Band Syndrome

The iliotibial band or IT band is a thick band of connective tissue that runs down the outside of the upper leg. It is a tendon for both the tensor fasciae latae (TFL) muscle and the gluteus maximus muscle but it is also technically a ligament and is connected to the entire length of the femur from the hip to the knee and even fuses with both the knee capsule and hip capsule. This makes the IT band a truly unique structure like nothing else in the human body. It's primary function is to stabilize the knee during running, walking and standing.

IT band syndrome (ITBS) is characterized by pain at the outside of the knee when walking or running. In more severe cases, there may be pain in other areas of the knee but the focal point will always be at the outside of the knee. It is usually painful upon palpation. The pain will generally subside within a couple of hours of stopping the aggravating activity but in more severe cases may linger for a few days or even weeks. Going downhill and/or downstairs is usually more aggravating than flat or uphill. Once the IT Band has been irritated, the afflicted person will often display a characteristic "peg-leg" walk in which she will attempt to minimize bending the affected knee.

### *Causes*

IT Band syndrome is most commonly seen in runners, hikers and walkers. Occasionally, a cyclist can develop ITBS but this is usually related to bike fit. The primary contributing factor in the vast majority of ITBS cases is simply overloading the IT Band with too much stress. It will often times present during a longer than usual run, hike or walk. Excessive downhill, especially steep downhill can trigger the pain as well. Running or walking on harder surfaces such as concrete tend to be more problematic. Cambered surfaces such as the beach and crowned roads tend to be more of a problem as well. Older broken down shoes can also potentially play into developing ITBS.

### *Treatment*

The foundation of our treatment protocol revolves around three key principles: massage, mobility and strength. Massage is geared around treating trigger points that may refer pain, cause muscle inhibition and decrease range of motion. Mobility is focused on movement, proprioception and stimulating the circulatory and lymph systems. And strengthening is designed to make sure muscles are engaged and firing in ways that allow them to support the stress that is being placed on them. This is not an inflammatory injury and therefore anti-inflammatories should not be part of the treatment protocol. The numbing effect of ice may have a positive impact on the pain response from the central nervous system but heat can potentially have the same impact. If icing seems to help, then do it. If icing makes things worse or has no impact, you should stop. The same can be said of heat. My personal experience as both a sufferer of ITBS and therapist is that icing will often times make the knee stiff and ultimately feel worse. Knee straps used above the knee (NOT below) and kinesiotaping can also have a positive impact on mitigating ITBS symptoms.

### *How Much Activity?*

One of the questions we often hear when treating ITBS is "*Can I keep running (or walking)?*" The short answer is yes. BUT, the key is to keep your activity at a level that does not cause pain or irritation. As with most stress overload injuries, activity modification is a better approach than completely stopping. Although, make sure you are not compensating with your form which could then potentially trigger other injuries. Maintaining a certain level of stress on the tissue is therapeutic and will often times help over the long term. If you know that you can go for a 3 mile run without pain but start to get pain at 4 miles, then keep your runs to only 3 miles. If you can do a flat hike without problems but as soon as you start to incorporate hills it brings on pain, then just stay flat. It is usually less painful to walk/run faster rather than slower. This is a bit counterintuitive, but faster running and walking probably put less tension on the IT Band because of the differences in knee flexion and adduction. If you do err, it is best to err on the side of caution but you should only stop activity completely when absolutely necessary.

### *For More Information*

This packet provides a great general outline for treating IT band syndrome. For more specific guidance, you can contact us directly. We are available for in person appointments at our clinics in Palo Alto and San Francisco or for telehealth virtual appointments. For more information, visit our website at [www.smiweb.org](http://www.smiweb.org) OR contact Mark Fadil at [Mark@smiweb.org](mailto:Mark@smiweb.org) or 650-823-1091.

## IT Band Strap

An IT band strap is in no way a cure for IT band syndrome but it can be a useful way to at least mitigate some of the pain. It is an inexpensive and benign approach with no negative side effects. Although we do not know exactly why it helps, it most likely has something to do with changing the proprioception of the knee and/or changing the sensory input from the knee to the central nervous system. Make sure you use a strap that is designed to go above the knee (*Figure A*). The below the knee straps are designed for patellofemoral pain syndrome.



*Figure A*

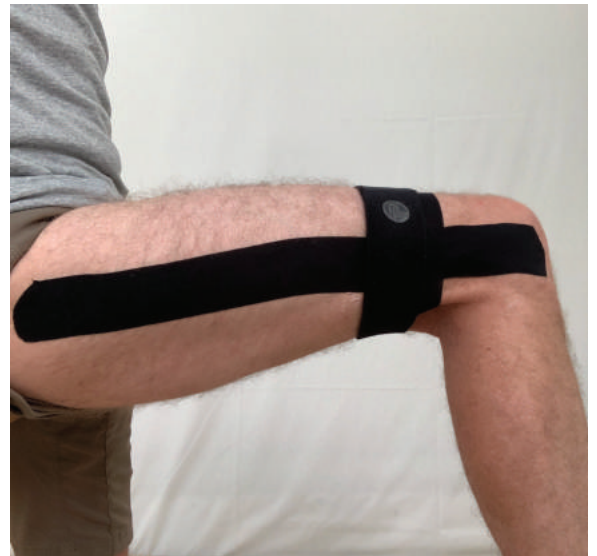
## IT Band Taping

Using a stretchy tape such as RockTape or KT tape is similar to using an IT Band Strap. It is not a cure, but it may provide some relief. I find all the elaborate taping techniques you can find on-line to be interesting but in reality, none of them will have any real impact on the actual mechanics of the knee. The specific style and approach probably doesn't make a material difference. Again we are most likely dealing with changes in proprioception and/or sensory input.

For a basic taping technique that you can do yourself, sit in a chair with your foot on the floor, knee bent and thigh adducted (bring your upper leg inwards). Start with the tape at the side of the knee and with light tension pull the tape up the side of the leg to the hip. Then place a four inch strip perpendicular to the first strip with moderate tension above the knee. When finished, it should look like *Figure B*. It may even be useful to combine taping with an IT Band strap (*Figure C*). But again, you are not going to find any miracle "cures" with either tapes or straps.



*Figure B*



*Figure C*

# Self-Massage

Massage should be done on a daily basis. It can help eliminate tight areas and release trigger points that may be contributing to pain and dysfunction. We recommend spending 10-15 minutes a day massaging the areas outlined below. Treatments are demonstrated on the right side. The self massage tools shown here can be purchased at [www.phlxtherapy.com](http://www.phlxtherapy.com).



*Figure D*

## LATERAL HIP

Place the PHLX point under your hip as shown in *Figure D*. To focus on the anterior fibers of the gluteus minimus, gluteus medius and TFL, the foot of the top leg should be placed in front of the bottom leg. This will roll your torso and hip forward. Focus the pressure on a tight/sore knot or band. Move the bottom leg backward and forward for approximately 30 seconds. Try to feel the spot “soften” and become less painful. You will sometimes feel pain radiate down the outside of the leg. If this occurs, continue working this spot until the referred pain diminishes.

## LATERAL THIGH WITH PHLX roll

Using the PHLX roll, roll up and down the outside of the thigh as shown in *Figure F*. Stop and focus the pressure on any sore spots you encounter. Bend and straighten the right knee for approximately 30 seconds. The area should start to “soften” and become less painful. You will sometimes feel pain radiate down to the outside of the knee. If this occurs, continue working this spot until the referred pain diminishes.



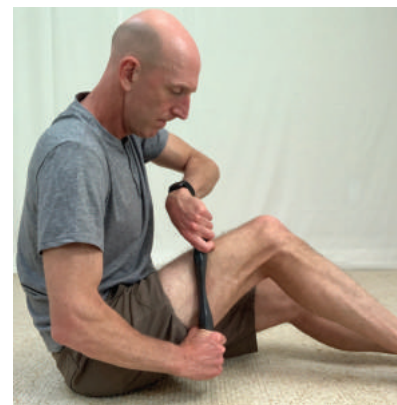
*Figure F*

## POSTERIOR HIP

Sit on the PHLX point as shown in *Figure E*. Cross your right leg over your left knee. Focus the pressure on a tight/sore knot or band. Move the right knee towards your chest and then away from your chest for approximately 30 seconds. Try to feel the spot “soften” and become less painful. You will sometimes feel pain radiate down the back of the thigh. If this happens, work the area until the referred pain diminishes.



*Figure E*



*Figure G*

## LATERAL THIGH WITH PHLX stick

Using the PHLX stick, slide up and down the outside of the thigh as shown in *Figure G*. If you find a tight band or knot OR an area that feels “gravelly,” move the stick back and forth with short, quick strokes until the tissue softens and the stick slides more smoothly.



# Mobilization

The mobilizations outlined here should be completed 2-3 times per day when treating ITBS. When performing the mobilization, move into position until you start to feel a stretch and then return to the starting position. The mobilization should be a continuous movement without stopping. Repeat the movement up to 50 times, slightly increasing the range of motion with each rep. An uncomfortable stretch feeling is OK, but make sure that you do not cause pain or irritation during or after the mobilization. All mobilizations are shown for the right leg.

## HIP EXTERNAL AND INTERNAL ROTATION



Figure H

Start on your back with your left foot on the wall. Cross your right leg over your left knee. For external rotation, push your right knee towards the wall as shown in *Figure H*. For internal rotation, pull your right knee across your body towards your left shoulder as shown in *Figure I*. Go back and forth between internal and external rotation. For a more intense mobilization, shift your hips closer to the wall.



Figure I



Figure J

## HIP EXTERNAL ROTATION WITH EXTENSION

Lie on your right side with your left leg resting on the ground. Using your left hand pull your right leg back as far as you can and then rotate your right foot up towards the ceiling as shown in *Figure J*. Then let your right foot fall back to the ground and your right leg shift slightly forward. This is a more advanced mobilization.

## LATERAL THIGH

Lie on your left side and hold your left knee into your chest. Bend your right knee and grab your right foot with your right hand. Slide your right knee back and push your right knee down into the ground (*Figure L*). The focus is on driving the right knee into the ground. This mobilization can illicit a stretch feeling right at the outside of the knee.



Figure L

## HIP EXTENSION

Kneeling on your right knee, lunge forward with your left leg. Make sure you have a towel or cushion under your right knee. Shift your hips forward and contract your right glute while at the same time lifting your right arm and reaching up towards the ceiling (*Figure K*). Then relax your glute, shift your hips back and bring your arm back down.



Figure K

## LATERAL CHAIN

Cross your left leg over the right and push your hips to the right. Lift your right arm above your head and lean with your upper body to the left (*Figure M*).



Figure M

# Strengthening

One of the keys to proper strengthening is not doing too much too soon. A good general guideline to follow is to strengthen every other day for the first week, two out of every three days for the second week and every day from the third week on.

## LATERAL HIP STABILIZER

I cannot overemphasize how important this particular exercise is for ITB syndrome and runner's in general. It is one of the only ways to strengthen the lateral stabilizers (outside of the hip) in a functional way. Balance on your right leg with the band wrapped around your left leg just above the knee as shown in *Figure N*. Keep your right knee slightly bent and bring your left knee up in a running motion. Focus on keeping your pelvis in neutral and facing straight ahead without rotating or tilting. Repeat with the band placed behind the right knee and focusing on the back kick aspect of the running motion as shown in *Figure O*. For added difficulty, add a second band at the ankle as shown in *Figure P*.



*Figure N*



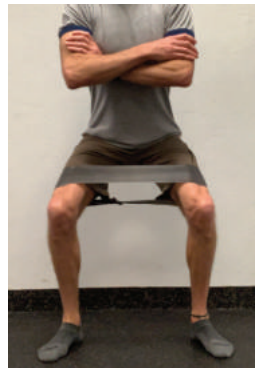
*Figure O*



*Figure P*

## MONSTER WALK 1

The resistance band should be wrapped around your legs just above your knees as shown in *Figure Q*. Assume a half squat position and walk sideways by lifting your right foot and shifting your leg to the right. Then follow with the left leg. Stay in the half squat position the entire time. For additional resistance, add a second band around your ankles.



*Figure Q*



*Figure R*

## MONSTER WALK 2

The resistance band should be wrapped around your ankles as shown in *Figure R*. Assume a quarter squat position and walk backwards by lifting your right foot and shifting your right leg back and out. Then follow with the left leg. Stay in the quarter squat position the entire time. For additional resistance, add a second band around your knees.

## SIDE LYING PLANK

Lie on your right side with your hips off the ground and your body supported by the outside of your right foot and your right forearm (*Figure S*). Keep your core contracted throughout the entire exercise. For an easier version, come down onto your right knee with your knees bent. For a more challenging version, move your top leg forward and backward in a running motion (*Figure T*).



*Figure S*



*Figure T*