ILIOTIBIAL BAND SYNDROME

IT band syndrome (ITBS) is a common lateral knee injury. It presents as pain over the upper part of the lateral aspects of thigh or lateral aspects of the knee. Overuse and repetitive flexion and extension of the knees usually cause this type of injury. It occurs when the IT band becomes tight, irritated or inflamed. This tightness causes friction on the outside of the knee when bending which is painful. Sometimes it causes referred hip pain.

SYMPTOMS:

The main symptom is pain on the outer side of your knee just above the joint. The pain might go away after you warm up.

Other symptoms include:

- Aching, burning or tenderness on the outside of your knee
- Feeling a click, pop, or snap on the outside of your knee
- Pain up and down your leg
- Warmth and redness on the outside of your knee

CAUSES OF ITBS:

It's primarily an overuse injury from repetitive movements of ITBS caused by excessive friction of the tight IT band rubbing against bone. ITBS causes friction, irritation and pain while moving the knee. It is especially common in cyclists and runners. It can even develop from repetitively walking up and down stairs, wearing high heels or sitting for long periods with bent knees.

Risk factors for developing ITBS include:

- Pre-existing iliotibial band tightness or prior injury
- Weak hip, gluteal, and abdominal muscles
- Walking or running on a track or uphill
- Weakness or lack of flexibility
- Excessive sitting
- Weak knee extensor, knee flexors, and hip abductors
- Repetitive activities such as running and cycling
- Knee arthritis
- Unbalanced leg lengths
- Bowlegs
- Flat feet

WHO GETS ITBS?

ITBS can affect anyone. It is especially common among runners, cyclists, and hikers. Athletes who use their knees such as basketball players, soccer players, and weightlifters are more likely to develop ITBS. Often it is due to mistakes in training that can usually be corrected.

Training mistakes include:

- Not warming up or cooling down properly
- Pushing yourself past your limits
- Straining your body
- Not resting enough between workouts
- Wearing improper shoes
- Training on the wrong surfaces
- Incorrect bicycle fitting

- Using poor form

DIAGNOSIS OF ITBS:
The therapist will do physical examination including thorough exam of your knee. This will include tests of your range of motion, strength and painful areas of knee. Therapist will need to distinguish between iliotibial band syndrome and other possible causes of your knee pain. These can include osteoarthritis or a meniscal tear.

SPECIAL TEST:
Ober's test: The patient is lying on his side with the injured extremity facing upwards. The knee is flexed at 90 degrees and the hip in abduction and extension, the thigh is maintained in line with the trunk. The patient is instructed to adduct the thigh as far as possible. The test is positive if the patient cannot adduct farther than the examination table. A positive Ober test indicates a short or tense ilio-tibial band or tensor fasciae latae which is frequently related to the friction syndrome.

Nobel's compression test: This test starts in supine posture and a knee flexion of 90 degrees. As the patient extends the knee the therapist applies pressure to the lateral femoral epicondyle. If this induces pain over the lateral femoral epicondyle near 30-40 degrees of flexion, the test is considered positive.

If the diagnosis is unclear then some cases need imaging tests like ultrasound, X-ray or MRI to rule out other possible causes.

PREVENTION OF ITBS:
To prevent IT band syndrome :

- Allow plenty of time to properly stretch, warm up, and cool down.
- Give your body enough time to recover between workouts or events.
- Run with a shorter stride.
- Run on flat surfaces.
- Replace your shoes regularly.
- Stretch your IT band, hip muscles, thigh muscles, and hamstrings often.
- Use a foam roller to loosen up your IT band.

TREATMENT: Common treatments include:

Rest: You should not do exercise until your pain is gone and your iliotibial band syndrome has healed.
Pain medications: Nonsteroidal anti-inflammatory drugs (NSAIDs) such as Ibuprofen and Naproxen can be taken.
Posture training: The way you hold your body when you go about your daily activities, playing sports otherwise, might influence your iliotibial band syndrome.
Steroid injections: Corticosteroids might reduce the inflammation in your iliotibial band.
Surgery: Surgery for iliotibial band syndrome is rare. It is recommended if medications and physical therapy don't work.
PHYSICAL NTHERAPY: It includes:

- **Ultrasound therapy** providing thermal or non-thermal treatment of the injured tissue at a frequency range of 0.75 to 3 MHz
- **Iontophoresis or phonophoresis** techniques in which medication is administered into the injured tissue through ion distribution driven by an electric field or passed through the skin using ultrasound waves. Iontophoresis with dexamethasone may be useful as an anti-inflammatory modality.
- **Hydrocollator pack** over the iliotibial band and vastus lateralis.

Strenghthening exercises:

Strengthening the gluteus medius muscle helps keep your knees in proper alignment when running, walking, or jumping. Exercises that help improve the gluteus medius strength are:

- Clamshells exercise:
  -Lie on your side with bent knees and your affected leg on top.
  - Extend your lower arm under your head, or bend your arm to make a pillow for your head to rest on.
  -Place your top hand on your top your hip for support.
  -Engage your abdominals and keep your hips facing downward throughout the exercise.
  -Slowly lift your top leg as high up as you can, keeping your feet together.
  -Return to the starting position.
  -Do 2 to 3 sets of 10 repetitions, repeat on the other side.
- Hip hikes
- Straight leg raises
- Bridge
- Standing hip motions
- Forward and side lunges

Stretching exercises:

Short and sustained sessions of iliotibial band stretching. Some of the most common stretches recommended for IT band treatment include:

- IT band stretch:
  1. Lie on your back with your knees bent. Lift your right leg over your left knee, hooking your right ankle around your left knee. Then use your right leg to pull the left leg down to the right. Hold for 30 seconds. Do the same with the opposite leg.
  2. Start in a standing position with your feet together. Cross your right leg behind your left leg. Using a wall or chair for support, lean slightly forward and to the left. Hold for 30 seconds while feeling your IT band stretch on your right side. Do the same with the opposite leg.
- Glute stretches
- Quad stretches
- Hamstring stretches
- Spinal rotation

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