

Bike Safety 2

Common Overuse Hip & Knee Injuries with Biking

October as Physical Therapy Month and the theme is "Moving You to Better Health". In this second of a series of four articles on biking, Meryle Richman, PT, MS, Director of Physical Therapy at Briarcliff & Jefferson Valley, PC, will discuss how improper bike fitting can cause various types of knee pain and the correct measures that can be taken to avoid this pain.

Knee and hip pain are the most common cycling injuries. The most common cause of knee (and hip pain) in cyclists is the iliotibial band (IT band) syndrome. The IT band is a thick fibrous band of tissue which runs on the outside of the leg from the hip to the knee (lateral tibia). Pain is caused when the band becomes tight and rubs over the bony prominences of the hip (greater trochanter) and/or the knee (lateral epicondyle). When the knee is flexed at 30 degrees and is at the bottom of the stroke motion, there is friction on the tendon attachment. Tight inflexible lower extremity muscles may also worsen the condition. The band becomes tight and pulls at the hip and knee causing pain. In order to minimize knee and hip pain, it is important to pedal with low resistance and keep the cadence at 80-90 rpm.

Another common knee injury is anterior knee pain, such as chondromalacia. This involves irritation of the cartilage behind the patellar and patellar femoral tracking of the knee. The knee joint is basically a hinge joint, with the bony attachments being the top of the tibia, the bottom of the femur and the patellar. The patellar, which protects the front of the knee joint, is embedded in the quadriceps tendon and slides in a shallow groove on the femur and tibia. If there is a muscle imbalance of the muscles of the anterior thigh known as the quadriceps, the outside muscle (vastus lateralis obliquus) becomes tight and the muscle on the inside of the thigh (vastus medialis obliquus) becomes weak. This results in lateral movement of the patellar which does not "track" smoothly in the patellar groove and results in irritation to the patellar (patellar-femoral maltracking) and anterior knee pain.



Using a foam roller to massage the iliotibial band (tensor fascia lata).

If your symptoms persist, you can come in for a free bike screening or make an appointment with your doctor to obtain a prescription and be treated for physical therapy. A licensed physical therapist will evaluate your problem and recommend specific stretching and strengthening exercises, to decrease pain and restore your ability to bike pain free. Once you are independent you can continue your work out independently or work with a personal trainer.

For further information or if you would like to have a free screening for a bike fit, please contact Physical Therapy at Briarcliff (914) 762-2222 or Physical Therapy at Jefferson Valley (914) 245-8807.