



# PAIN BRINGS RUNNERS TO THEIR KNEES

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- ▶ ASIDE FROM THE CHANCE RUN-IN WITH A FIRST-TIME SEGWAY USER, GETTING SIDE-SWIPED BY THE GUY WHO FORGOT IT'S "TOUCH-FOOTBALL," OR THE UNFORTUNATE EVENT IN WHICH YOU BREAK YOUR FALL WITH YOUR KNEES BECAUSE YOU WERE TOO BUSY NAVIGATING YOUR IPOD'S PLAYLIST (SOME RUNNERS NEED HELMETS) MOST KNEE INJURIES ARE THE RESULT OF THE REPETITIVE RAMPAGE RUNNERS PLACE ON THIS UNIQUE JOINT WITH EVERY STEP.

Recognizing which knee pains need an emergency room versus an exam room visit will keep you pounding the pavement with your feet instead of your fists. The activity leading to and the symptoms resulting from an incident often dictate the diagnosis.

Although medical imaging has the final say to the type and extent of damage, the following will guide you in the right direction when you finally realize that "walking it off" isn't the right treatment plan for that weird click, ache, or swelling in your knees.

The vulnerability of the knee is not surprising considering the anatomy and the amount of stress put on it. The joint consists of a kneecap suspended in connective tissue which attaches the quadriceps to the shin, several ligaments that strengthen and secure the joint during movement, and cartilage which acts as a shock absorber. The kneecap travels along a groove during flexion and extension of the lower limb created by the abutting bones of the leg. All structures assure that the balance between the constantly shifting weight of the body swinging over each planted step is firmly maintained at the knee.

Pain on top of the knee is likely due to excessive stress placed on the knee during extension while pain behind the kneecap is likely caused by a tracking disorder. If it hurts on the top of your knee cap when you kick, jump (hence jumper's knee), or kneel then you likely suffer from patellar tendinitis. If it hurts when pushing down on the knee, climbing up and down stairs or after sitting for long periods then the likely culprit is chondromalacia (runner's knee or disease of the underlying knee cartilage). Both of these ailments deal with the anatomy controlling and protecting the kneecap as it travels across the joint.

Pain on the sides of the joint run the possibility of being due to some more concerning complaints. Lateral movement of the knee or lock these of it preserved by the presence of medial and lateral ligaments. Any injury that leads to excessive side-to-side deviation of the knee joint will likely involve some degree of damage to these ligaments. Lateral knee pain may also be the result of friction caused by the rubbing of a fibrous tissue that connects lateral thigh muscle (tensor fasciae latae) to the lower leg (Iliotibial Band Syndrome or ITBS). Pain and occasionally swelling on the medial side can be the result of a problem similar to ITBS known as a plica syndrome, but the bigger red flag with medial knee joint pain would be possible damage to the medial meniscus [part of the knee's shock absorber].

Back of the knee pain and swelling problems can be the product of inflammation of a protective fluid filled sac or bursa called a Baker's cyst, popliteal muscle strain (muscle that "unlocks" the knee prior to flexing), or the worse-case-scenario injury to one or both of the knee's internal stabilizing ligaments (PCL or the wellknown ACL). An injury of this type is usually coupled with symptoms of immediate swelling and instability of the joint following a mishap.

An emergency room visit is necessary if symptoms include rapid swelling, instability, inability to lock (fully extend) joint, joint deformity, or should nervous or vascular structures become compromised. Otherwise, hobble into an exam room to get checked out. Most of the time a thorough history and orthopedic examination are all one needs to diagnose a knee injury. If those don't give your physician the answer, then x-ray and (more definitively) an MRI will close the case.

Most of the uncomplicated injuries are first treated naturally by decreasing the pain and any swelling (ice, ultrasound, electric stimulation, acupuncture, kinesiotaping, etc). The next, more important, step is to address the imbalances that lead to the injury. This is accomplished by stretching/strengthening muscles around the joint so that they appropriately guide the knee as it negotiates the joint. Finally, treatment ends with the "re-education" of the knees to perform properly. This entails gait and balance training (that's what wobble boards are for). Orthotics can also be A-H-I-O-K! you'll be back on the road in no time.

Your knee pain could be worse - you could be a race horse.

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