

Knee Pain

How Feet Put a Twist on the Knee

What causes it?

Knee pain is a very common complaint and has many different causes. Some of the more common diagnoses you may be given include: arthritis, ligament injury or tear, cartilage (meniscus) tear, patellar tendonitis, patellofemoral pain syndrome and bursitis.

All of these conditions involve pain in one or both of your knees. Some are a result of direct trauma or injury, and some can be the result of long standing wear and tear. Some involve pain that is made worse by squatting, kneeling, sitting with your knees bent, and rising after long periods of sitting.

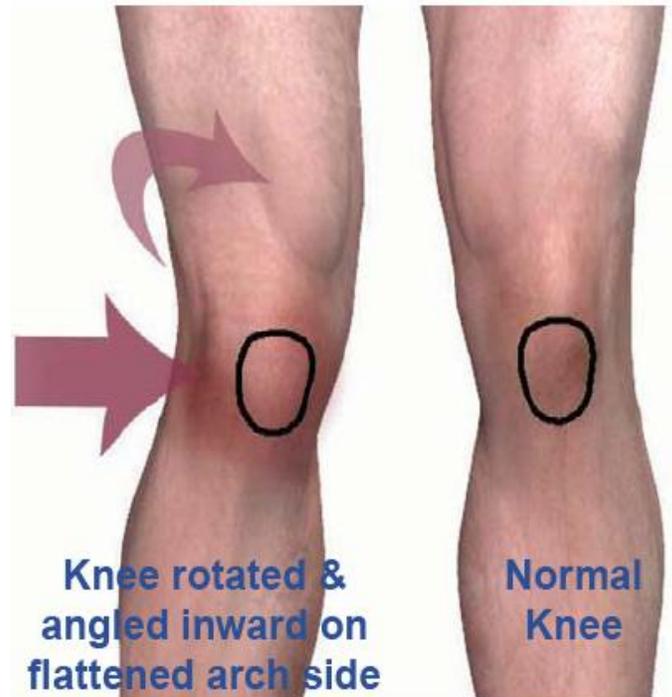
Is my knee pain related to my feet?

In many cases, yes. Your feet are the foundation for every step you take. Problems with the function of your feet can have repercussions that are felt all the way up, including your knees, back and hips.

Excessive pronation (or flattening of the arches) is the biomechanical problem most often cited as being associated with lower limb injury.

Try this experiment to illustrate this point. Stand with your shoes off and feet flat on the ground. Note the position of your kneecaps. Now turn your feet inwards so that you are standing on the outside of your feet. What *happened* to your knees? They actually point more outwards. The presence or absence of a good arch in your feet puts a different twist on your knees! Let your feet flatten again and notice that your kneecaps move back to the inside.

All the joints in the lower limb are closely connected and affect one another. When the arch collapses in the foot, it triggers a series of compensations up the joint chain which causes the knee to rotate inwards – leading to increased stress on the knee and problems like the ones mentioned above. You may have



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noticed that your knee pain is worse in different shoes, or that walking in bare feet makes your knees hurt. This may be an indication that your feet are contributing to your knee pain.

How is it treated?

Treatment for knee pain is as varied as the number of causes. It is very important that you understand the cause of your symptoms before undergoing treatment for your knee pain. Here are some of the more common treatments:

Anti-Inflammatory Agents: These may include ice and oral anti-inflammatory medications. These may provide some temporary relief from the pain of inflammation, but are usually not helpful in addressing the underlying cause of your condition. Resting your knees may also be helpful in reducing inflammation

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Exercises and Stretches: Many of the muscles in your thigh and calf interact at the knee joint. Keeping these muscles and tendons loose and mobile can decrease stresses around the knee. Increasing the strength of muscles that have become weak can sometimes play a role in your recovery. Regardless of the type of treatment you are receiving, a good stretching and strengthening protocol can help you get better results.

Injections: Depending on the cause of your pain, this intervention may be considered. Cortisone is a very powerful medication used to decrease inflammation in the knee joint. Talk to your doctor about the risks and benefits of this treatment.

Surgery: In cases of severe injury or in cases that do not respond to conservative measures, your doctor may recommend surgery. Surgery can often repair torn or damaged tissues. As with other treatments, the reason why the tissues were damaged in the first place should be considered. If you are considering surgery, talk to your doctor carefully about the benefits and risks.

Foot Orthotics: The right custom-made orthotics can address the underlying cause of your knee dysfunction. Abnormal joint positions can be reversed allowing affected tissues to heal and normal joint function to be restored. In this way the orthotic provides both primary treatment and preventative care by restoring normal function to your knee and minimizing harmful compressive forces that cause knee injury.

A *biomechanical orthotic*, unlike many custom orthotics, is designed to completely support the corrected arch of your foot, determined by a unique way of capturing your optimal foot position. It can be the difference between long-term success and failure in the management of your knee pain.



In a typical flat foot, the arch caves in standing and walking, the foot splays and slouches inward. The ankle joint rotates inward, carrying the lower leg with it and affecting knee posture (knock knees).

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This document provides a general overview on this topic and may not apply to everyone. To find out if this handout applies to you and to get more information on this subject, talk to your health care provider.