

## KNEE PAIN AND PREVENTION

By Dr. John A. Papa, DC, FCCP(C)

Knee pain is often caused by either a one-time acute injury or repetitive motions that stress the knee, particularly as we age. Included below are some of the conditions that commonly cause knee pain:

- **Osteoarthritis** results from the protective layers of cartilage in the knee becoming worn over a period of time, leading to change in the composition of the bone underneath the cartilage. This may result in a number of symptoms including: joint pain and stiffness, decreased ranges of motion, weakness, swelling, inflammation, and instability.
- **Patellofemoral pain syndrome** refers to knee conditions that involve the kneecap and/or the structures around it. Pain can be generated by breakdown of the cartilage under the kneecap, tight or weak muscles around the kneecap, or misalignment of the kneecap.
- **Meniscal injuries** directly involve tearing/damage to the cartilage cushioning in the knee. This type of injury can result from a sporting event or fall where the knee undergoes a sudden twisting motion or impact. It can also occur in older individuals who develop a chronic tear in a worn-out meniscus.
- **Ligaments** are tough bands of fibrous tissue that connect one bone to another. They help stabilize joints, preventing excessive movement. **Ligament injuries** can occur when these structures become over-stretched or torn, often during activities where there is a direct blow to the knee or there is an awkward fall or twisting motion involving the knee.
- **Tendons** are strong tissues that anchor **muscles** to bones, and these structures can become torn or inflamed around the knee joint leading to **tendonitis** and **muscular strains**.
- **Bursitis** can involve several fluid-filled structures in your knee that help provide more cushioning in the joint. Certain activities, such as kneeling on the floor, can cause a bursa to become irritated.



Below are some useful tips that can help individuals avoid or minimize the chance of knee pain and injury:

1. **Maintain a healthy bodyweight** to decrease the overall stress on your knees.
2. **Wear appropriate footwear** that supports your activities and helps maintain proper leg alignment and balance.
3. **Prepare your knees for physical activity** by stimulating the joints and muscles, and increasing circulation. This can be accomplished with a quick cardiovascular warm-up and gentle stretching of the muscles in the thighs and lower legs.
4. **Choose activities that are knee friendly for you.** This may include low impact activities such as walking or cycling. Remember to start slowly and build up the intensity gradually.
5. **Strength, balance and flexibility** exercises can train your leg muscles to better support your knees and avoid injuries.



In the event that you suffer a knee injury that does not subside, you should contact a licensed health professional who deals in the diagnosis and treatment of knee pain. For additional information on knee pain and treatment of muscle and joint injuries, visit [www.nhwc.ca](http://www.nhwc.ca).

*This article is a basic summary for educational purposes only. It is not intended, and should not be considered, as a replacement for consultation, diagnosis or treatment by a duly licensed health practitioner.*