



Physiotherapists:  
The Body Specialists

# Physio Tips

## KNEE INJURIES

### Physiotherapy Association of BC

#### KNEE INJURIES

Anyone can be a victim of a knee injury; whether you are a professional athlete, a weekend **fitness buff** or **someone just busy** carrying out your day-to-day activities. The knee joint is unique in that it carries body weight at the same time **as it provides** flexibility and mobility. It is formed by the femur, the tibia and the patella and held together by muscles, ligaments and tendons.

This construction predisposes the joint to risk of injury from sudden movement and repeated wear and tear.

#### WHAT CAUSES KNEE INJURIES?

- Ligament Sprains – ligaments are bands of strong tissue that stabilize the knee joint together. Over stretching can cause the ligament fibre to tear and bleed into the surrounding tissues, causing pain, swelling and a feeling of 'giving way'. Severe tears may require surgery.
- Cartilage Tears – cartilage also helps stabilize and protect the knee joint. Pressure from twisting and turning during weight-bearing exercise like squash may tear the cartilage, causing pain, swelling and locking of the knee joint.
- Tendon Strains – tendons are cord-like bands that connect muscle to bone. The patellar tendon connects the kneecap (patella) to the tibia (shin). Patellar tendonitis or 'jumper's knee' is inflammation of the patellar tendon. This is an overuse injury commonly caused by repeated jumping, as in basketball.
- Patello-Femoral Syndrome – excessive friction between the surface of the patello-femoral joint (kneecap) and the femur (thigh) can result in knee pain.

It may have a number of causes and should be assessed by your physiotherapist. Knee injuries can be caused by trauma, such as an accident or a fall, or even by a sudden increase in your daily activities.

Other injuries develop over time, from factors including structural problems within the joint itself, incorrect athletic training methods or technique, and poor equipment.

- Footwear – a new pair of athletic shoes or a change to heels instead of flats can affect the way you walk and, in turn, can place stress on the muscles and tendons around the knee joint.
- Frequency and intensity of a regular activity – Any change such as jogging or playing tennis on a different surface can affect the knee joint. For example, simply moving the activity from a soft track or clay court to a hard surface such as a road or hard court can add stress to the knee joint and increases the risk of injury.
- Compensation for an injury elsewhere. A blister on your foot, for example, may cause you to change the way you step to minimize the pain, thus placing a strain on the knee.

#### TREATING KNEE PAIN

Physiotherapists work closely with doctors, surgeons and sports specialists to provide effective care and assist recovery.

A physiotherapist will assess your knee to determine the source of the problem and to develop an individual treatment program.

Depending upon the type and degree of injury, the program may include:

- Applying ice to control swelling;
- Stretching exercises to regain flexibility around the joint. The most common stretches are for the hamstring, quadriceps, gastrocnemius (calf), iliotibial band and groin (hip adductor), hip flexors and buttocks; and
- Strength training to build up the muscle. If you are involved in organized athletics, the physiotherapist may also want to work with your coach to ensure a safe return to your sport. Strengthening exercises are specific to the injury, but would include the quads, hamstrings; hip adductors and abductor muscles.



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#### RETURNING TO ACTIVITY

A physiotherapist can provide a program to help prevent re-injury as you return to normal activities. A key element of that program is to return to your regular activity levels gradually. Don't try to do too much too soon! After a break in routine – whether as a result of an illness or accident, the seasonal nature of the activity or even a holiday – you can't just jump back in at full speed. Instead, build up gradually to your previous level of activity.

Another element of the rehabilitation program is to retrain balance and coordination. A knee injury involves more than just stress and strain to the soft tissue.

It also affects the tiny receptors in the muscles, ligaments and tendons that 'tell' you where your knee is positioned. These receptors send signals to correct balance or shift weight. When they're damaged, the messages are interrupted and you are more likely to stumble and/or turn an ankle. Your physiotherapist will provide you with an exercise program that will include retraining the receptors as you strengthen the muscles strength around the damaged tissues.

- Stretch – before, during and after activity. Stretching – as a warm-up, as a break during repetitive movements and as a cool-down – helps you to move easily, keeps your muscles flexible and relaxed, your joints mobile and relieves tension and strain.
- Move – today for tomorrow. Get moving. Keep moving. Stay moving. Through the seasons. Through life. Maintain good general fitness and lower body strength.
- Add it up – an hour is power. To gain mobility, plan activities throughout your day that keep you moving for periods of at least 10 minutes. To maintain your mobility, make every movement count. Add up all you do in a day and aim for a minimum of 60 minutes of movement every day.

- Reduce strain – vary activities and use proper biomechanics to achieve a good balance of

muscle development. For example, where possible, don't twist your trunk first when turning— instead point your feet in the direction that you want to go to and let your body follow.

- Talk to a physiotherapist – physiotherapists are healthcare professionals who help people of all ages and lifestyles gain and maintain their desired level of active living and physical mobility. With their applied knowledge and understanding of the human body in action, physiotherapists are able to help you to increase your mobility, relieve pain, build strength and improve balance and cardiovascular function.

Physiotherapists not only treat injuries, they also teach you how to prevent the onset of pain or injury that can limit your activity.

Physiotherapists are experts in movement and mobility, body mechanics, muscles and joints. They will help develop an exercise program specially-tailored to your needs, putting together the right combination of activities to improve physical fitness and avoid injury.



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