How to Keep Your Knees Healthy

MARK J. LANGHANS, MD
TRI-STATE ORTHOPAEDICS & SPORTS MEDICINE • WWW.TRISTATEORTHO.COM

Our knees are elegantly designed, highly efficient machines. The bones that form the knee (femur/thigh bone, tibia/shin bone and patella/kneecap) are covered by articular cartilage, a smooth gliding surface able to withstand loading greater than body weight with every step. The menisci/spacer cartilages cushion and stabilize the joint, protecting the joint surfaces. Four ligaments (the anterior and posterior cruciate ligaments and the medial and fibular collateral ligaments) hold the bones together and control side-to-side, back-to-front, and rotational movements of the knee. Thigh and leg muscles, including the quadriceps, hamstrings and calf muscles provide power to move the knee and also act as important dynamic stabilizers.

Like any machine, knees are subject to breakdown. Common traumatic injuries include ligament sprains or tears and meniscus tears. Overuse injuries often affect the patellar and quadriceps tendons in adults and growth plates around the knee in active kids. Cartilage surfaces in older adults are subject to degeneration or osteoarthritis.

Our knees benefit from regular maintenance as well as prompt and thorough evaluation and treatment when problems do arise. Some suggestions to maintain healthy knees may include:

Move!

Regular movement helps to provide nutrition for the knee joint surfaces. It also helps maintain the strength, flexibility and coordination of muscles that power and stabilize the knees. Adults can benefit from 2-1/2 hours per week of moderate aerobic physical activity and at least an hour of physical activity per day for children. Even for older adults with arthritis, regular activity leads to improved pain management, function, and quality of life.

Vary your activities.

Repetitively performing a single type of exercise may increase your risk of overuse injuries such as tendinitis or stress fractures about the knee.

Introduce new exercise activities gradually.

In general, follow the 10% rule with regard to weekly increases in mileage, training time, or weight amounts lifted. Don't overdo it.

Warm up before exercise.

Consider at least a 5 minute walk before initiating more strenuous exercise.

Build and maintain strength, flexibility and coordination of muscles throughout the body.

While it is important to target muscles around the knee including the quadriceps, hamstrings, and calf muscles, don't forget core muscles including the low back, abdomen and hip girdle. Weakness and imbalance of these muscles can limit body control during sports activities, increasing the risk of serious knee injuries such as ACL tears. Strength training improves dynamic joint stability, balance and overall function, and may decrease the risk of osteoarthritis.

Maintain a healthy body weight.

Normal walking involves loads of at least 3 times body weight across each knee with every step. Every extra pound means three extra pounds of load per step.

Use proper equipment for sports and work activities.

Choose the right shoes for different athletic activities and learn how to use exercise equipment correctly.

Take to the water!

Swimming is great aerobic exercise, but also improves flexibility and strength. It's good exercise for people with arthritis of the knees or low back, older adults, overweight people and those recovering from knee injuries or surgeries.

Listen to your body.

Consult your doctor if you experience any substantial knee pain, swelling or instability. Accurate diagnosis is essential to appropriate and effective treatment of knee disorders and injuries. ✦