

Treating and Preventing Knee Injuries

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Many people associate knee injuries with athletic events but often times they can be the result of repetitive work or recreational activities. Traumatic injuries could be ligament sprains and/or cartilage tears. Overuse injuries can be tendonitis, bursitis, muscle strains, pain underneath or around the kneecap and arthritis.

Self treatment for the knee

After an injury occurs to the knee, remember the following protocol: RICE (rest, ice, compression, elevation). This will help reduce further swelling, inflammation and pain. Depending on the injury sustained, you may need to keep weight off your leg by using crutches. Your doctor or physical therapist will be able to advise you further in this regard.

Physical Therapy for the knee

There are several goals for a physical therapy program. Immediately after an injury, decreasing pain, swelling and inflammation are vital. This will enable the physical therapist to concentrate on other goals without pain restriction by the patient. Other goals include improving range of motion by using passive mobilization techniques, soft tissue mobilization, range of motion exercises, active exercises and stretches. In conjunction with the above mentioned goals, it is important to design an exercise program to regain normal mobility and creating a strengthening routine



Heather Reeves —co-owner, Avante Physical Therapy

that will return the patient to their desired level of function. Designing an exercise program that will take a knee through its normal range of motion will prevent stiffness and scarring in the knee.

Once the patient is seeing progress, a routine can be designed to strengthen the muscles in the entire leg to give the knee more stability. This will help the joint recover faster, especially after surgery, as well as reduce the risk of further injury.

In the case of torn cartilage or a knee sprain, strengthening the muscles is vital. A complete strengthening program is needed to compensate for any loss of stability or a reduction in the patients normal abilities to effectively absorb the shock of their own body weight or the activity that they participate in.

Prevention

Preventing a knee injury is much easier than recovering from it. Here are some simple tips for prevention.

1. Always warm up and stretch before exercising or participating in athletics. Remember you are not just warming up your muscles; you are also warming up your joints!
2. Gradually increase the intensity of your sport or activity.
3. Incorporate stretching to gain or maintain flexibility in your muscles and your joints. In other words, "stretch to gain flexibility and don't just stretch to warm-up." It is more beneficial to stretch for improved flexibility after you have warmed up or exercised.
4. Make exercise a part of your daily routine.
5. Always bend at the knees, hips, and ankles when absorbing shock.
6. Learn the proper technique for squatting, jumping, landing, cutting or other sport related activities.

Your physical therapy sessions will take you through a number of stages. Programs typically start by decreasing inflammation and increasing motion and function. Once the motion has returned, the focus will be on strengthening the knee to increase stability and balance. Finally, specific training will be geared towards the sport, recreational or job related activity that the knee will have to perform. Following the above suggestions will aid in resuming normal activities and prevent further injury.

KNEE PAIN

RISK FACTORS THAT CAUSE KNEE PAIN AND WHAT TO DO ABOUT THEM

By Gaynor Hale, Physical Therapist



Almost everyone knows someone who has complained of knee pain. Young people, old people, women and men can all develop knee pain. This is because there are so many different things that can cause knee pain. It is important to identify the actual cause of the pain in order to treat it effectively.

Chondromalacia: is a softening and irritation of the cartilage under the knee cap. It causes pain under the knee cap especially when walking up and down stairs and squatting.

Bursitis: is an inflammation of the bursa, which acts to reduce friction between the bones of the knee and the tendons rubbing over them. The most common area of pain with bursitis is above the knee. Bursitis can develop from extended periods of kneeling. People that lay tile or carpets or do a lot of gardening are susceptible to this type of knee pain.

Patella tendonitis: is an inflammation of the large tendon that runs down the front of the knee. People often complain of pain in the front of the knee. Some people call it “jumper’s knee” because athletes that jump a lot can develop this painful condition.

Meniscus tear: is a tear or rip in one of the two crescent-shaped cartilages

of the knee joint. These cartilages absorb shock, preventing bone from rubbing on bone when you walk and move about and they distribute body weight more evenly across the knee. One is on the outside or lateral half of the joint and the other is on the inner or medial half of the joint. Tears in a meniscus are seen in both young people and old people.

Young people and athletes tear the meniscus when the knee is bent and twisted during a traumatic injury. A person with a torn meniscus will complain of pain and swelling which is often accompanied by an inability to completely straighten the knee and/or complaints of the knee locking. In older people the meniscus can tear from normal degeneration and aging.



Ligament injuries: are sprains or overstretching of the ligaments that help to support the knee joint. When a ligament is injured the person loses stability in the joint. No longer being stable, the motion in the joint can become very painful. The four most important ligaments supporting the knee are found one each on the four sides of the knee. The most common one, however, is located in the front of the knee and is called the Anterior Cruciate Ligament (ACL). The person with ligament injuries will often feel as if the knee will “give out” and frequently complain of pain and swelling on the

“Physical Therapy is the treatment of choice whether surgery is needed or not. The correct, precise exercises should be administered prior to surgery—sometimes instead of surgery—and are always essential after surgery to ensure a full recovery.”

sides or the back of the knee. When a football or soccer player is hit on the outside of the knee, one or more of these ligaments is often torn.

Arthritis: is an inflammation or wearing out of the cartilage of the knee joint. All the surfaces of the bones of the knee joint are covered with cartilage. It caps off the bones and allows the bones to glide smoothly over each other without causing damage to the bone. When the cartilage is worn down the bones rub on each other and cause pain and stiffness. Osteoarthritis is the most common type of knee arthritis, occurring most typically in people over 50 years of age. As arthritis progresses, physical deformities can occur (knock-knees or bow-legs) which make it more difficult for people to participate in normal activities. People with severe arthritic changes often have difficulty navigating steps, walking for long distances, squatting down or even sitting comfortably.

Diagnosis: A physician often uses diagnostic tools such as x-rays and MRI to identify bone abnormalities and changes, fractures and soft tissue injuries. This, combined with information about exactly how the injury occurred, how long the symptoms have been persisting and a physical examination determine the exact cause of the problem. With correct diagnosis the proper treatment can be given.

Treatment: Physical Therapy is the treatment of choice whether surgery is needed or not. Rest, ice compression and elevation can help with the pain and swelling initially. The correct, precise exercises should be administered prior to surgery—sometimes instead of surgery—and are always essential after surgery to ensure a full recovery.

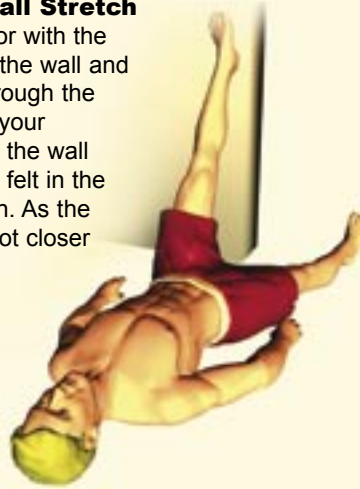
Tips and Tricks

Easy Exercises for Healthy Knees

Each of these exercises can be done in sets of ten repetitions, two or three times daily, or as tolerated, or as directed by your physical therapist.

Hamstring Wall Stretch

Lying on the floor with the involved leg on the wall and the other leg through the doorway, scoot your buttocks toward the wall until a stretch is felt in the back of the thigh. As the leg relaxes, scoot closer to the wall.



Hip Flexor Stretch

Slowly push your pelvis downward while slightly arching your back until a stretch is felt on the front of the hip. Hold for 30 seconds.



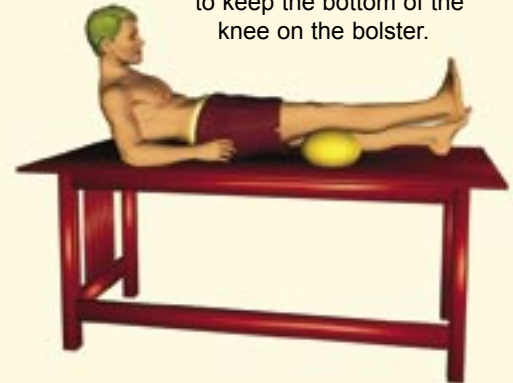
Quad Set in Slight Flexion

Gently tense muscles on top of thigh. Hold for 10 seconds



Strengthening: Knee Extension

With your knee bent over a bolster, straighten the knee by tightening the muscle on top of the thigh so that the heel lifts up slightly. Be sure to keep the bottom of the knee on the bolster.



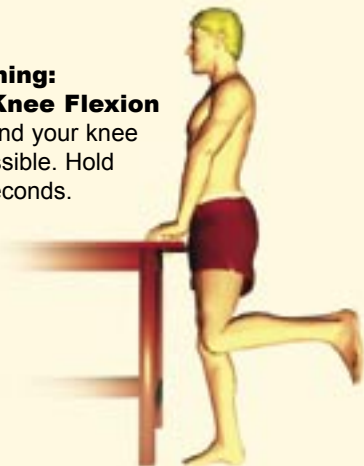
Strengthening: Wall Slides

Leaning on a wall, slowly lower your buttocks until your thighs are parallel to the floor. Hold this for 5 seconds. Tighten your thigh muscles as you return to the starting position.



Strengthening: Standing Knee Flexion

Standing, bend your knee as far as possible. Hold this for 30 seconds.



FAQ

How would I know if I sprained my knee?

Some people will experience a popping or snapping noise at the time of injury. That will be followed by pain with movement and an inability to put weight on that leg without a lot of discomfort. Additionally, the knee will swell, either in the front or behind the knee, and may feel unstable when you do stand on it.

What should I do if I think I might have sprained my knee?

You should apply the R.I.C.E. treatment. That stands for **R** = Rest, **I** = Ice to decrease the swelling or to prevent it, **C** = Compression such as wrapping an ace bandage around it, and **E** = Elevation to help decrease swelling. And, make sure you see a doctor. NOTE: Generally ice is applied to a new injury to prevent swelling and reduce

pain. After 24 hours you can apply heat, which helps the extra fluid, from the swelling, to be absorbed into the body.

What is “Runner’s Knee”?

That is an irritation or softening of the cartilage in the knee. It is called “chondromalacia.” This causes discomfort and swelling. The person will have trouble bending and squatting.

Why does my knee hurt playing basketball but not when I am walking around?

There are three movements that put tremendous strain on the knee joint. They are cutting, pivoting and jumping. Basketball requires a lot of all three of these movements, which should be avoided if you have knee problems.

Do you need to see a Physical Therapist for your knee pain? Take this simple test...

Simply place a check mark in the appropriate box. Once you are done, calculate the number of YESes and look at the results.

YES	NO	
<input type="checkbox"/>	<input type="checkbox"/>	I have pain in my knee that prevents me from sleeping.
<input type="checkbox"/>	<input type="checkbox"/>	I have pain in my knee when I walk on uneven ground.
<input type="checkbox"/>	<input type="checkbox"/>	I need to wear a brace on my knee when I work.
<input type="checkbox"/>	<input type="checkbox"/>	My knee sometimes buckles without cause.
<input type="checkbox"/>	<input type="checkbox"/>	I have a difficult time climbing stairs because of knee pain.
<input type="checkbox"/>	<input type="checkbox"/>	My knee surgery was successful, but I still have pain with too much activity.
<input type="checkbox"/>	<input type="checkbox"/>	I can't play sports anymore because of knee pain.
<input type="checkbox"/>	<input type="checkbox"/>	I feel grinding in my knee when I climb stairs.
<input type="checkbox"/>	<input type="checkbox"/>	Arthritis runs in my family, so my knee pain is something I have to live with.

Results:

Less than 3 Yes

You're doing fine. Exercising may help keep your knee in check.

Between 3 and 9 Yes.

Physical Therapy is an option for you.

Between 6 and 9 Yes.

We would advise you to see a doctor to get a better diagnosis. PT is definitely an option.



Featured Physical Therapist

Jannette Reynolds, OCS



Jannette Reynolds, the lead physical therapist at Avante's Apex clinic, has been working with various patients for over 20 years. She specializes in outpatient orthopedics and sports medicine. Jannette works with a wide range of patients, from young people with athletic injuries to senior patients with various arthritic changes.

"Working in the profession of physical therapy has been a joy and privilege. I have had opportunities to work with wonderful mentors and patients. From my perspective, one of the most important elements in the rehab process is developing rapport, trust and a teamwork approach with the patient. By working collaboratively with the patient, the therapist is better able to identify key factors that influence the patient's

recovery. When education on care is provided in the context of self management by the patient and approaches to preventing further injury, the patient gains independence and is on the path to a successful return to their lifestyle."

Jannette received her Masters Degree in Physical Therapy in 1984 from the University of Indianapolis. Jannette earned her accreditation as an Orthopedic Certified Specialist (OCS) from the American Board of Physical Therapy Specialties in 1998. Jannette and her husband have 2 children and live in Cary, NC.

Jannette's dedication to helping others is obvious in the way that she manages her patients on a daily basis. She is a true asset to the Avante team, and is admired and respected by all her peers. Thanks Jannette for all that you do for us at Avante Physical Therapy, as well as your patients.

SUCCESSSES

What patients are saying...

Andrea is a very good therapist. She is very knowledgeable, caring and played a large role in my rehabilitation from double knee replacement surgery ---JG

This is my first experience with physical therapy. I've been to chiropractors and doctors but nothing really worked until PT. Jannette not only teaches you how to alleviate your current pain but how to manage and prevent future pain. Thank you! ---LA

Avante Physical Therapy gave me exactly what I needed to regain the full use of my right arm. A caring staff, personal attention, excellent programs and the BEST physical therapist! If I ever need PT again, I will definitely



return to Avante. ---DM

Avante Physical Therapy has made me feel better and improved my flexibility tremendously. When I came to them I was in extreme pain and constantly



taking codeine for pain. Upon my discharge I am pain free and no longer taking pain medications. I want to

thank Jannette for the treatment and exercise program that has enabled me to function again ---DB

Exceptional experience here, not only is my back rehabilitated but I have the knowledge to prevent future injury and return to health quickly upon recurrence of symptoms. Thank you for giving me that freedom! ---MB



My condition has improved greatly due to Katy's work. She has helped with overall joint flexibility in addition to the specific work on the injured site ---TK

I have never met a more professional and knowledgeable staff. I would recommend Avante to anyone. Thanks, you have made rehab a great experience ---SA

Tired of having **KNEE PAIN?**



Come and Visit Us

Find out if Physical Therapy can help you ease the pain and help you gain a new outlook on life.

Cary (919) 463-9443

Apex (919) 367-7890

www.avantept.com



WHAT'S NEW AT AVANTE?

The staff at Avante wishes to welcome our 2 new managers,

Monique Perry-Jordan, Office Manager



Sandra Patton, Marketing Manager

Congratulations Monique and Sandy. Welcome to the Avante team!

WE CARE ABOUT YOU!

Call us today for a free consultation at

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