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Surgery or Physical Therapy for a Torn Cartilage and Osteoarthritis of the Knee

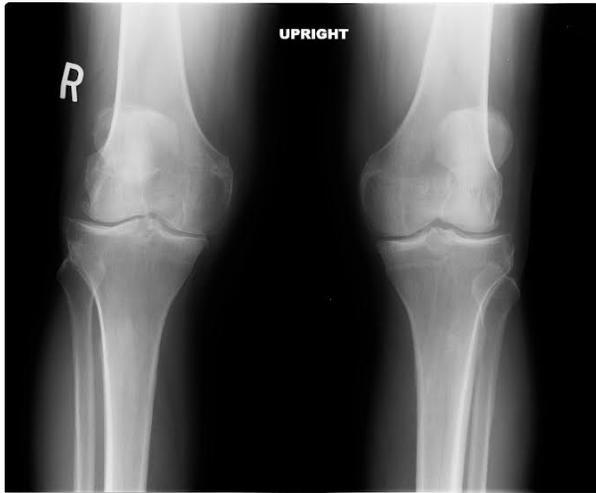
Frank Kava, PT, MS, OCS, OMPT

Osteoarthritis of the knee affects more than 9 million people in the United States. Meniscal tears (torn cartilage) are also very common among people with osteoarthritis. Thirty-five percent of people older than 50 years of age have evidence of a meniscal tear, but two-thirds of these tears are asymptomatic, meaning that they have no pain or symptoms from the tear. Meniscal tears in the knee are commonly treated surgically with arthroscopic partial meniscectomy. In this procedure, the surgeon trims back the torn meniscus as opposed to repairing it. With the greater possibility of meniscal tears in patients with osteoarthritis of the knee, the question becomes: Are the symptoms due to the tear, osteoarthritis, or both? Seventy-five percent of persons with osteoarthritis and pain have evidence of a meniscal tear on the MRI. Despite the frequency of arthroscopic partial meniscectomy, this procedure has not been sufficiently researched with this population of patients with mild or moderate osteoarthritis. A recent study in the New England of Medicine in May 2013 compared surgery and physical therapy for treatment of meniscal tear and osteoarthritis of the knee.¹ Patients 45 years of age and older with pain and symptoms persisting for at least one month, despite previous treatment, were randomly assigned to two groups. One group received arthroscopic partial meniscectomy surgery with post-operative physical therapy. The other group was referred to physical therapy alone. The non-surgical group received individualized physical therapy with progressive home exercises. The three stage program was designed to address inflammation, range of motion, muscle strength, muscle tightness, aerobic conditioning, functional mobility, proprioception, and balance. Patients in both groups also received anti-inflammatory medications as needed. Physical function and pain were determined from questionnaires given at base line, three, six, and twelve months following randomization. From June 2008 through August 2011, patients were screened from seven study centers and 1,330 patients were eligible for the study. From this group, 351 patients were enrolled and randomly assigned to the two treatment groups. Both groups were similar with respect to age, sex, race, ethnic group, and severity of arthritis.



The results were intriguing. Patients in both groups improved in function and pain after six months. There were no significant differences in the improvements in functional status or pain between patients assigned to the arthroscopic partial meniscectomy group and patients assigned to the physical therapy group. In conclusion, patients with pain and symptoms of a meniscal tear and evidence of mild to moderate osteoarthritis receiving arthroscopic partial meniscectomy or physical therapy alone have very similar improvements in functional status and pain at six months. The physical therapy rehabilitation protocol used in this study is very similar to the rehabilitation protocol used for patients at Oakland Physical Therapy, P.C.

^[1] Jeffrey N. K., Robert H. B., Christine E. C., Leigh d. C., Brian J. C., Diane L. D., . . . Laurel A. D. (2013). Surgery versus Physical Therapy for a Meniscal Tear and Osteoarthritis. The New England Journal of Medicine, 368(18), (1675-1684). doi: 10.1056/NEJMoa1301408



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Osteoarthritis is a degenerative condition of thinning of the joint articular cartilage with subsequent joint inflammation and thickening of the ligaments and fibrous tissue around the joint. This results in various degrees of pain, joint stiffness, and limited function. Motion of the knee is often restricted in straightening and bending of the knee. Loss of full extension makes it difficult to walk without a limp and stand for long periods of time, and restricted knee bending makes it difficult to go up and down stairs and sit for any length of time.

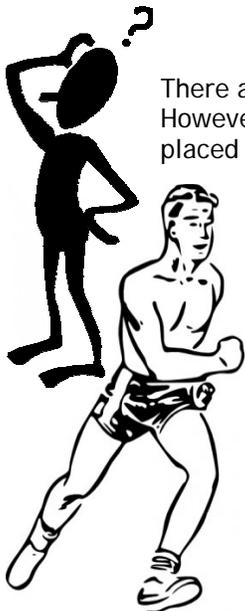
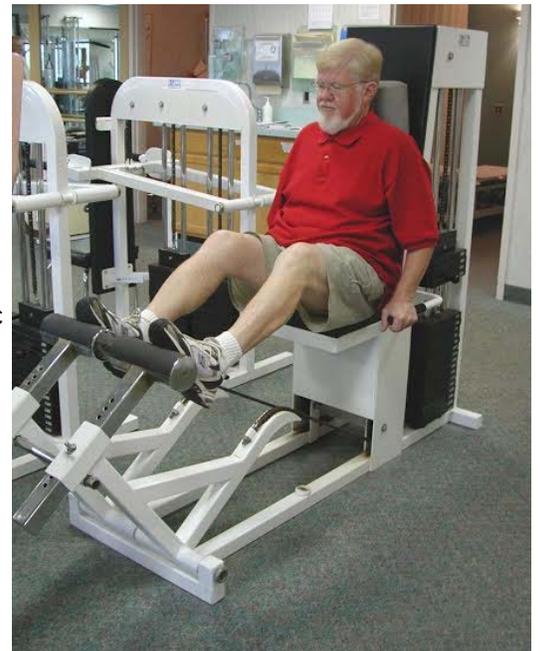
There are many physical therapy interventions that help to treat osteoarthritis of the knee. Manual physical therapy and exercise increase the range of motion and strength, thereby improving function in other activities of daily living. Manual therapy is the mobilization of the joints and soft tissue surrounding the knee. The hands of the physical therapist gradually and progressively stretch and mobilize the joint and soft tissue. Patient involvement is critical in maintaining the improvement that the therapist can achieve. Patients are instructed in



self-stretching exercises that can be performed by the patient at home. Specific strengthening exercises are used to improve the stability of the knee and increase the strength of muscles of the lower extremity. Other aerobic exercises, such as cycling, walking, and swimming can be utilized to improve overall endurance.

Oakland Physical Therapy, P.C. specializes in the treatment of orthopedic conditions and treats many patients with osteoarthritis of the knee. Physical therapists on staff have advanced training and are certified in orthopedic manual physical therapy, a process that requires years of experience and academic and clinic

education beyond the basic doctorate degree level. Our physical therapists follow the same treatment protocol used in the published study listed above in the treatment of osteoarthritis and torn meniscus. We have demonstrated the same degree of effectiveness and success in treating patients with osteoarthritis with manual physical therapy and exercise.



Soreness vs. Pain: What's the Difference?

There are many benefits to exercise, including the potential for improved physical and mental wellbeing. However, there may also be some physical discomfort associated with these activities due to the stresses placed on the body. When experiencing discomfort, it is important to understand the difference between exercise-related muscular soreness and pain. Muscular soreness is a healthy and expected result of exercise. Pain is an unhealthy and abnormal response. Experiencing pain may be indicative of injury.

Individual Activity

In order to make physical improvements, your body needs to be pushed to an appropriate level where gains can occur. Each person's body has a different activity threshold dependent upon many factors, including age, baseline strength, and participation level. Remaining on the safe side of your threshold will result in muscular soreness. Exceeding your threshold will result in pain. One of the expected outcomes of exercise, when done appropriately, is that this threshold will progressively increase. For example, when an individual begins running, their safe threshold may be 5 minutes of running. After several weeks of progressive increases in duration, this runner's threshold may increase to 20-30 minutes. To maximize your exercise gains and minimize injury risk, it is important to be realistic about your activity threshold and to be able to differentiate between moderate muscle soreness and pain.

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Soreness vs. Pain: How to Tell the Difference

The chart below highlights key differences between muscle soreness and pain.

	Muscle Soreness	Pain
Type of Discomfort:	Tender when touching muscles, tired or burning feeling while exercising, minimal dull, tight and achy feeling at rest	Ache, sharp pain at rest or when exercising
Onset:	During exercise or 24-72 hours after activity	During exercise or after within 24 hours of activity
Duration:	2-3 days	Muscles or joints
Location:	Muscles	Muscles or joints
Improves with:	Stretching, following movement	Ice, rest
Worsens with:	Sitting still	Continued activity
Appropriate Action:	Resume offending activity once soreness subsides	Consult with medical professional if pain is extreme or lasts >1-2 weeks

Muscle Soreness

After activity, muscular soreness typically peaks 24-72 hours after activity. This is the result of small, safe damage to the muscle fibers and is called Delayed Onset Muscular Soreness (DOMS). During this time, your muscles may be tender to touch and feel tight and achy. Movement may initially be uncomfortable but moving and gently stretching your muscles will help to decrease soreness. During the few day period that you experience muscular soreness, you might consider performing alternate exercise activities in order to give your sore muscles an opportunity to recover while strengthening other muscles.



Pain

In contrast to muscular soreness, you may experience pain during or after performing exercise. This may feel sharp and be located in your muscles or joints. This pain may linger without fully going away, perhaps even after a period of rest. This may be indicative of an injury. Pushing through pain can result in an injury. If you feel that your pain is extreme or is not resolving after 7-10 days you should consult with a medical professional. This person will diagnose your injury and direct you to the appropriate pathway of care.

How a Physical Therapist Can Help

A physical therapist can be a valuable resource to you throughout your exercise journey. Before beginning an exercise routine, your physical therapist can perform a variety of pre-activity assessments to determine your readiness for exercise. Based on this, your physical therapist may also recommend specific exercises that will best prepare you for your desired activities. They will also discuss the best strategies for introducing and progressing exercise activities while minimizing your chance of becoming injured. In the unfortunate situation when exercise leads to an injury, your physical therapist will assist in your recovery in many ways. They will help with initial plan management, identify and address all factors that may have contributed to your injury to prevent further problems and provide specific recommendations regarding reintegration into exercise as appropriate.²



^[2] (2014) Soreness vs. Pain: What's the Difference? *American Physical Therapy Association*. Retrieved from <http://www.moveforwardpt.com/Resources/Detail.aspx?cid=1d04bab9-44f2-44d7-b510-7337125c88e9#.U1gUs6KPaM0>

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Nicole Widak, DPT
Elana Bodzin, DPT

News & Updates

Nicole Widak, DPT recently completed the training course for BikeFit Pro Level I. The BikeFit method allows the clinician to adjust the bike to meet the cyclist's needs. This course provided a detailed approach to examination of an individual's history and riding position, as well as assessing the foot-pedal interface, saddle and handle bar height, and reach. Altering a bicycle to meet the needs of the rider help to improve efficiency and comfort while decreasing the risk of injury from riding.

Elana Bodzin, DPT received her Doctor of Physical Therapy degree from Wayne State University in December 2012. During her graduate study, she performed research on cervical muscle endurance and worked as a research assistant for a study which looked at the effect of yoga and Pilates on neck pain. Prior to pursuing her Doctor of Physical Therapy degree, she taught Pilates for over ten years. She has studied multiple methods of Pilates and is currently working toward a certificate in rehabilitative Pilates through STOTT PILATES. She is a member of the American Physical Therapy Association. Her hobbies include tap dancing, baking, gardening, and spending time with friends and family.

Linda Erickson, PT, MS, OMPT attended a continuing education program sponsored by MedSport at the University of Michigan-Ann Arbor in April 2014. The course was entitled "Evaluation and Treatment of the Athletic Hip." The presenter was Michael Reiman, PT, DPT, an assistant professor of physical therapy at Duke University. The course objectives included understanding functional anatomy of the hip, screening for hip dysfunction, performing mobilization and other manual treatments, utilizing medical literature to discover the latest research about the hip, and learning specific treatments including strengthening, and self-stretching exercises for hip patients.

Oakland Physical Therapy, P.C. Newsletter Produced by Jennifer Nguyễn, Assistant Office Manager



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