

# INNER CIRCLE Insights

## Osteoarthritis: The Benefits of Manual/Physical Therapy and Its Application

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Osteoarthritis, also known as Degenerative Joint Disease, affects millions of patients and is extremely common in patients over 65 years of age. Although OA may be isolated to one joint in the beginning, it is very common in the neck, back, hip, knees feet and hands. As you know, OA is the deterioration of the cartilage that normally cushions our joints. With time, this cushion gradually changes, losing elasticity and making it susceptible to damage from overuse, mechanical failure, obesity, infection, disease or injury. There are many factors that can cause the development of osteoarthritis, but without intervention the condition will progress causing the patient to suffer continuous cartilage loss. Over time, cartilage could become completely nonexistent and cause bone to rub against bone, therefore making any movement or motion difficult. To prevent this from occurring, optimal mechanical motion and joint integrity must be restored.

Providing optimal function to the joint necessitates proper movement and balance of the muscles surrounding the joint. For discussion we will use the knee joint as an example. The knee joint is essentially a hinge joint. It swings back and forth through its range like a door swings open and shut. If I tighten the door hinge on one side, and loosen up the bolt on the other side, what will happen to the hinge? First, the tightened side will begin to wear down, and second, the loosened side will become increasingly unstable. Both of these changes will lead to the hinge deteriorating and improper functioning. This is a real world example of what occurs to the knee (a hinge joint) when muscle imbalance (screws) occurs. This imbalance can cause loss of cartilage, increased ligament elasticity, joint synovium inflammation, enzyme dysfunction and bone growths (spurs). These changes, in turn, cause increased pain, diminished knee function, and compromised hip and ankle positional space which can all increase risk of injury to the lower extremity.

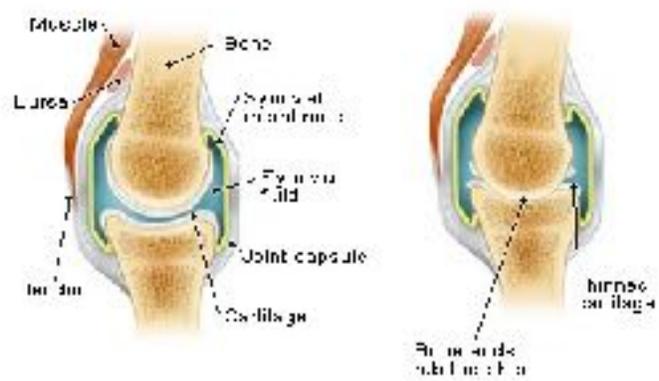


Figure 1: Normal knee joint (left) and OA knee (right)

In order for proper function of the knee, there needs to be proper balance of the muscles surrounding the joint. These muscles include semitendinosus, semimembranosus, bicep femoris, vastus medialis, vastus lateralis, adductor magnus, sartorius, and gastrocnemius among others. Improper restrictions (spasms) of these muscles can cause displacement of the hinge joint causing pressure on pain sensitive structures; articular damage, ligament instability and pain. These muscular and fascial restrictions will cause limited motion in single or multiple directions and often presents with warning signs of cracking, popping or clicking. This pain can present as aches, throbbing, sharp, searing, diffuse or burning. It can occur with motion, activity, or rest and be occasional or constant. Damage can happen gradually or rapidly without neuromuscular intervention. These include proprioceptive and strength training, along with skilled therapeutic hands-on treatment to the restrictions (muscular/fascia) that are present to improve elasticity and function of the muscles surrounding the joint. Without (hands-on) physical therapy aimed at restoring soft tissue health and balance, continued damage will occur to the structures inside the joint (meniscus/cartilage), as well as the surrounding soft tissue (capsule/ligament) because the muscular restrictions (tightness) have not changed the position of the knee.

Evaluation at Inner Circle Physical Therapy begins with a detailed history and report of the symptomology. Careful assessment is made of the flexibility of the knee, integrity of the ligament, capsular involvement and functional status of the patient. Unlike other facilities, Inner Circle, will then assess the restrictions (spasms) of the muscle and fascia in order to implement a unique hands-on treatment program, using highly skilled techniques, including: myofascial release, strain/counterstrain, muscle energy, mobilization and neuromuscular (lower nerve tension) intervention. This skilled manual treatment program will improve mechanical balance to the joint, allowing the hinge to function with less wear and tear, thus decreasing pain and inflammation. Strengthening can now occur in an improved mechanical position. Specialized exercises are given to address the weakened musculature (which are different with every

patient) and support the joint in its now improved position. This improved joint awareness will decrease discomfort while exercising which in turn will assist motivation and compliance to the patient's strengthening program. Balance and stretching exercises will be added to improve and maintain the proper knee position. By improving the mechanical positioning to a more balanced state we can limit the formation of OA of the knee, decrease pain and improve function. Without changes to the positioning of the joint, OA will likely continue to progress.

By improving the mechanical position of the knee joint, numerous knee conditions will also show improvement. Upon improvement of the knee, less compensation will occur at surrounding joints, therefore improving the health and decreasing the chance of OA of the hip, back and ankle. Traditional physical therapy is limited by its approach involving exercise and modalities without the application of a skilled hands-on, multi-joint assessment. This hands-on expertise is an underutilized and very important aspect of the treatment approach. Inner Circle Physical Therapy provides this comprehensive view, individual treatment rooms and a highly skilled hands-on approach.

Professionally yours,

Timothy M Alloway, MSPT

*For an appointment please call (215) 860-3623*

*“The Natural Force Within Each of Us  
is the Greatest Healer of Disease” – Hippocrates*