Meniscus Injury

The knee is a hinge joint made up the femur (thigh bone), the tibia (shin bone) and the patella (knee cap). There are four major ligaments that give support and stability to the knee. These ligaments are the medial (inner) and lateral (outer) collateral ligaments, which stabilize the sides of the knee. The anterior cruciate ligament supports the knee by limiting rotation and forward motion of the tibia. The posterior cruciate ligament limits backward motion of the tibia and hyperextension. Additionally there are two fibrocartilaginous, C – shaped menisci that provide cushioning, stability and lubrication to the joint.

An injury to the meniscus is a common orthopaedic problem. A meniscus tear can occur as a result of trauma or from degeneration usually associated with arthritis. Tears typically occur from twisting type injuries to the knee. These tears can be large or small and can be stable or unstable. The torn segment can displace into the joint causing pain and a locking sensation. A majority of tears occur to the medial meniscus.

Symptoms of a meniscus tear include swelling, stiffness, pain, as well as a popping, clicking, catching or locking. Squatting or twisting may reproduce pain.

On examination, tenderness is usually present at the level of the joint line corresponding to the torn meniscus. Swelling may also be present. There are special testing techniques that may be used during an examination that will help diagnose a tear.

X-rays taken during an initial evaluation can identify injuries to the bones. An MRI (Magnetic Resonance Imaging) is the most accurate test to evaluate the menisci. Increased signal within a meniscus may represent a tear. The MRI may also detect injuries to the articular surfaces and ligaments and may reveal occult fractures not seen by routine x-ray.

Management of meniscus tears falls into three categories 1. Observation, 2. Excision, 3. Repair.

Small tears, which are not painful, may not require surgical intervention and may simply be amendable to observation.

When symptoms are present surgical intervention is warranted to either remove a portion of the meniscus or repair it. Surgical excision of a tear (meniscectomy) is the most common technique utilized. Tears in the inner 2/3's of the meniscus are usually excised since the healing potential is poor in this area.

Arthroscopy is the surgical technique where small incisions are made around the knee so that a special camera can be inserted into the joint for viewing and surgical instrumentation can be inserted. Under direct visualization or a monitor the surgeon sees a magnified view of the torn meniscus and can determine the type of tear. During a partial meniscectomy, surgical instruments and shavers are used to excise the tear and contour the remaining tissue. The surgeon attempts to leave as much normal tissue intact as possible. Salvaging more than 50% of the injured meniscus limits the risk of "post–meniscectomy" arthritis over the next 10 to 20 years.

Since arthritis is a potential long - term problem with large partial meniscectomy or total meniscectomy, every effort is made to preserve as much meniscus as possible. When a tear is in the vascular "red zone" (the outer 1/3 of the meniscus) careful consideration is given to the meniscus repair. Location, age of the patient, age and type of tear are all taken into consideration when deciding whether to repair a meniscus. Success rates are on an average of 70%-80% following a meniscus repair, but these rates increase when combined with a reconstruction of the anterior cruciate ligament to 90%. Post-operative recuperation is often a matter of weeks following partial meniscectomy. A meniscus repair using sutures or absorbable "arrows" requires 6 months before return to full activities

Meniscus tears are a common knee injuries that are routinely managed with out–patient surgery. MRI scan, arthroscopy and advanced surgical techniques have allowed excellent results. Additional research and newer surgical management promises to provide even better results in the future.

(If you care to view animated illustrations of arthroscopic knee surgery please return to our home page and click on the picture of the silver person icon.)