



BY PATRICK S. BUCKLEY, MD

Meniscus Root Tears

Meniscus tears are a common reason to seek care from an orthopaedic surgeon. The meniscus acts to cushion the articular cartilage of the knee as “shock absorbers” to prevent wear and damage with activities. In addition, they play a role in knee stability, allowing the joint to function properly. A meniscus tear can occur in combination with a ligament tear, such as an anterior cruciate ligament (ACL) tear, or in isolation. Often a meniscus tear occurs with a deep squat or twisting mechanism, where the patient will feel a pop in the back of their knee. Swelling and pain can follow, and this scenario should be evaluated by an orthopaedic specialist.

Although there are a number of different types of meniscus tears, meniscus root tears require particular attention and discussion. The attachments of the medial (inside) and lateral (outside) meniscus to the tibia are called the meniscus roots. These function to anchor the meniscus to the bone during weight bearing, allowing the meniscus to function properly. The root attachment is a critical part of the meniscus, and when torn, can have detrimental effects on the function and long-term health of the cartilage. When a meniscus root is torn, the remaining meniscus, although present, does not function and this scenario is equivalent to not having any meniscus at all. Because of this, the main concern with a meniscus root tear is the increased stress and load that will be placed on the cartilage of that compartment. Over time, this can lead to premature arthritis, and if severe, may require a joint replacement.



Image 1: MRI appearance of a medial meniscus root tear. (yellow arrow)



Image 2: Arthroscopic appearance of a medial meniscus root tear. (red arrow)

For this reason, if the cartilage is not in the advanced stages of arthritis, I will often recommend performing a meniscus root repair. This arthroscopic procedure can restore the attachment of the meniscus root to the tibia, helping to prevent the long-term cartilage damage that can result with neglect of this injury.

This procedure is performed through two small arthroscopic portals in the front of your knee and a small (2-3cm) incision

just below this. It is through this third incision; two small tunnels are drilled through the bone to repair the meniscus. In addition to providing an anchor point for the meniscus repair, the bone tunnels help to release growth factors and bone marrow that aid in meniscus healing. High strength suture tape is used to anchor the meniscus to the bone and tied over a small metallic button on the front of the knee to allow healing in the correct position.



Image 3: Bony bed prepared to allow for meniscus healing to bone



Image 4: Wire showing location of one of two tunnels drilled through the tibia.



Image 5: Final arthroscopic appearance following medial meniscus root repair using tape through two trans-tibial tunnels.

After surgery, I like my patients to begin physical therapy on the first post-operative day to begin range of motion exercises and muscle strengthening. Crutches are used for the first six weeks to protect the repair, and then gradual weight bearing and

continued strengthening is continued from six weeks to three months after surgery. Deep squatting is avoided for four months after surgery, and most patients return to running and an active lifestyle four to five months after surgery.

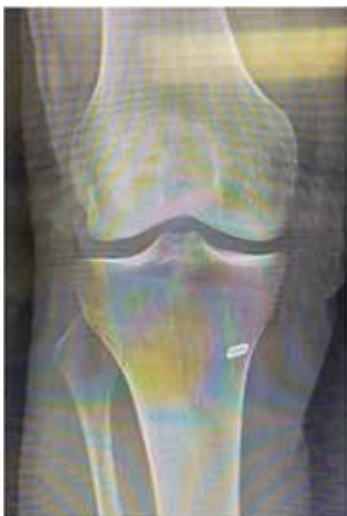


Image 6 & 7: Postoperative x-ray showing button used for fixation of meniscus root.

Dr. Patrick S. Buckley is an orthopaedic sports medicine specialist practicing in Wall Township and Morganville, NJ. He is a board certified, fellowship trained physician with expertise in both operative and non-operative treatment of knee, hip, and shoulder sports medicine injuries.



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