

## Meniscal Injuries

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The menisci are C-shaped fibrocartilage shock absorbers, important for stabilizing and cushioning the knee. Injury to the individual meniscus is considered to be either traumatic or degenerative in origin, each with unique characteristics.

Traumatic meniscal tears are usually seen in young, athletic individuals and may occur during either contact or noncontact activities, particularly during sports that require aggressive pivoting and twisting maneuvers. There is a frequent association with injuries to the anterior cruciate ligament (ACL). Most traumatic tears are oriented in a vertical/longitudinal fashion.

In patients older than 40 years of age, degenerative tears of the meniscus tend to be more common. There is usually no history of prior trauma. Degenerative tears tend to coexist with other degenerative knee conditions, such as osteoarthritis. They have little to no ability to heal on their own. Arthroscopically, degenerative tears most commonly demonstrate a horizontal cleavage or complex orientation or pattern.

Based upon relative blood supply, different meniscal zones of vascularity have been demonstrated. The most well vascularized, peripheral 25-30 percent of the meniscus is referred to as the "red-red zone." The middle portion of the meniscus is known as the "red-white zone," with vascularity peripherally, but not centrally. Finally, the most central portion is the "white-white zone," which is essentially avascular. This classification of meniscal vascular zones has implications for meniscal healing. Therefore, peripheral (vascular) tears are more likely to heal than central (avascular) tears.

Initial treatment in most instances consists of conservative, nonoperative treatments. These include nonsteroidal anti-inflammatory medications to reduce pain and inflammation, physical therapy to reduce inflammation and preserve knee strength and motion, and occasionally intra-articular steroid injections, to calm local inflammation. If, however, these modalities are ineffective, arthroscopic surgical intervention may be required.

The choice to proceed with partial meniscectomy versus meniscal repair depends upon several factors. Specifically, the pathology, location and direction of the tear must be considered, as well as the stability of the knee itself. The ideal situation that would favor repair over meniscectomy would be a traumatic, acute tear, in the outer one-third of the meniscus, either longitudinal or horizontal, in a ligamentously stable knee. Otherwise, partial meniscectomy would be a better choice, particularly for degenerative, complex tears.