

What is a microfracture?

Microfracture is a surgical option used in the treatment of areas of damaged cartilage. When a patient has a small area of damaged cartilage (i.e. not widespread knee arthritis), microfracture may be performed in an attempt to stimulate new cartilage growth.

How does microfracture work to stimulate cartilage growth?

A microfracture creates small holes in the bone. The surface layer of bone, called the subchondral bone, is hard and lacks good blood flow. By penetrating this hard layer, a microfracture allows the deeper, more vascular bone to access the surface layer. This deeper bone has more blood supply, and the cells can get to the surface layer and stimulate cartilage growth.

Who is a good candidate for microfracture?

- Patients with limited areas of cartilage damage
- Patients who are active and cannot participate in their sport or activity because of symptoms
- Patients with pain or swelling caused by the damaged area of cartilage

Who is *not* a good candidate for microfracture?

- Patients with widespread arthritis of the joint
- Patients who are sedentary, or inactive
- Patients unwilling to participate in rehabilitation following microfracture

Does microfracture work well?

Yes, but there is more to it! Microfracture can be an excellent procedure, providing good pain relief when done in the right patient.

One of the concerns with microfracture is that it does not stimulate the growth of normal joint cartilage. There are many types of cartilage, and one of these types is normally found on the joint surface--called hyaline cartilage. Microfracture stimulates the growth of a type of cartilage commonly found in scar tissue--fibrocartilage. Unlike hyaline cartilage, the fibrocartilage does not have the same strength and resiliency of cartilage normally found in a joint. Therefore, there is a chance that the cartilage stimulated by a microfracture procedure will not stand up over time.

How is a microfracture procedure performed?

A microfracture is performed as part of an arthroscopic knee surgery. First, the area undergoing microfracture is prepared by removing any loose or damaged cartilage. Ideally, the area undergoing microfracture will be under about 2 centimeters in diameter and have good, healthy surrounding cartilage. Then, a small, sharp pick, called an awl, is used to create the small microfracture holes in the bone.