

Options for Treating Deep Cartilage Damage

Osteochondral Allograft and
Autograft (OATS®) Techniques
for the Knee



What Is Cartilage?

Cartilage is the tough but flexible covering on the bones in your joints that acts as a buffer between bones. This tissue plays an important role in joint function and mobility. Cartilage can be damaged by injuries, accidents, and age-related wear and tear,¹ often occurring alongside other bone and soft-tissue problems.

Why Might Cartilage Defects Need to Be Treated?

Cartilage does not have its own blood supply and cannot repair itself after damage from an injury, osteoarthritis, or other causes.² In the short term, leaving cartilage defects untreated can result in pain, swelling, and locking of the affected joint. Over time, untreated defects can lead to further joint damage and osteoarthritis.³

What Are Osteochondral Grafts?

Osteochondral grafts are small “plugs” of healthy cartilage and bone. If you have a deep cartilage lesion with underlying (or subchondral) bone damage, your surgeon may recommend an OATS® procedure, also called an osteochondral autograft/allograft transplant.

There are several types of osteochondral grafts, all of which aim to replace the damaged cartilage and bone with healthy tissue. Your surgeon will choose the best option for your specific needs.

Allograft/Autograft OATS Procedure

An allograft is a cleansed and decellularized piece of tissue and/or bone from a deceased donor. Your doctor will measure your cartilage lesion and match it to a healthy donor graft, considering factors including your age, activity level, health, and specific injury.

Another well-established option is the autograft OATS procedure. Your surgeon will collect a healthy cartilage plug from a non-weight-bearing cartilage surface in your knee to replace the damaged cartilage.



BioUni® OATS® Technique

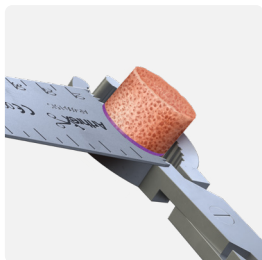
If you have a large, uniquely shaped knee cartilage defect, your doctor may create a custom-sized oval plug using a BioUni kit, which allows them to use one allograft instead of multiple grafts to replace your damaged cartilage with healthy tissue.

How Do OATS® Procedures Work?



1

Your surgeon will inspect the knee joint, use a sizer to identify the exact size and location of the graft they will use, and clean out the damaged area of your knee (called the recipient site). They will also assess if there are any other treatments you need.

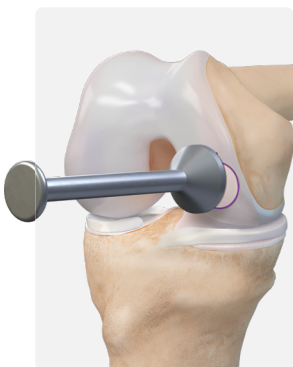


2

Your surgeon will collect the graft from either your own knee (autograft) or a donor knee (allograft). They will then use a surgical tool to shave the graft to the correct size and depth to ensure proper fit into your knee.

3

Your surgeon will place the graft into the recipient site, then gently press or tap it in until it is secure. They may add a biologic putty to help the graft fit perfectly.



Benefits of the OATS® Technique



Optimal Outcomes

Excellent patient-reported outcomes and a high return-to-sport rate³



Viability

Graft viability of 75%-80%, meaning the grafts incorporate well³



Customized Options

Surgeons can choose from multiple options to fit patient needs and goals



Biologic Healing

Your surgeon can augment your procedure with biologics from your own body to support healing



Important Safety Information

Allograft OATS® and BioUni® Procedures

Indications

The Allograft OATS and BioUni procedures are associated with certain risks, including graft delamination, lack of incorporation, and injury to the surrounding cartilage. An allograft may not be the correct choice for patients who have sensitivity to antibiotics and some cleansing agents.⁴ Talk to your doctor to learn more about potential complications and adverse reactions.

The information contained in this brochure is not medical advice and is not meant to be a substitute for the advice provided by a surgeon or other qualified medical professional on the use of these products. You should talk with your physician or health care provider for more information about your health condition and whether Arthrex products might be appropriate for you. The surgeon who performs any surgical procedure is responsible for determining and using the appropriate techniques for surgical procedures on each individual patient. Arthrex recommends that surgeons be trained on the use of any particular product before using it in surgery. A surgeon must always rely on their own professional medical judgment when deciding whether to use a particular product when treating a particular patient. A surgeon must always refer to the package insert, product label, and/or directions for use before using any Arthrex product. Postoperative management is patient-specific and dependent on the treating professional's assessment. Individual results will vary and not all patients will experience the same postoperative activity level or outcomes. Products may not be available in all markets because product availability is subject to the regulatory approvals and medical practices in individual markets. Please contact Arthrex if you have questions about the availability of products in your area.

References

1. Shane Anderson A, Loeser RF. Why is osteoarthritis an age-related disease? *Best Pract Res Clin Rheumatol*. 2010;24(1):15-26. doi:10.1016/j.berh.2009.08.006
2. Newman, T. What you need to know about cartilage damage. Accessed April 23, 2026. <https://www.medicalnewstoday.com/articles/171780>
3. Lai WC, Bohlen HL, Fackler NP, Wang D. Osteochondral allografts in knee surgery: narrative review of evidence to date. *Orthop Res Rev*. 2022;14:263-274. doi:10.2147/ORR.S25376
4. Allograft bioimplant. Directions for use (63-0016-01 Rev. 10). LifeNet Health.



Learn more about the
OATS® technique