

OSTEOCHONDRAL AUTOGRAFT TRANSPLANTATION (OATS)

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CARTILAGE GRAFTING OF THE KNEE

WHY AM I HAVING THIS OPERATION?

You have a localised area of damaged cartilage in your knee.

Cartilage is the smooth, white tissue that allows the joint to move freely without pain. Unlike other tissues, cartilage has very limited ability to heal itself.

When damaged, it can cause:

- Pain
- Swelling
- Clicking or catching
- Difficulty with sport and daily activities

The aim of an OATS procedure (Osteochondral Autograft Transfer System) is to repair this area by replacing damaged cartilage with healthy cartilage and bone from your own knee. This helps restore a smooth joint surface and may reduce symptoms.

WHAT IS AN OATS PROCEDURE?

OATS involves transferring a small plug of healthy cartilage and bone from a low-load area of your knee into the damaged region.

Think of it like replacing a worn patch of grass with healthy turf from another area.

Because the graft includes bone and cartilage, it:

- Restores the joint surface immediately
- Provides strong structural support
- Uses your own natural (hyaline) cartilage

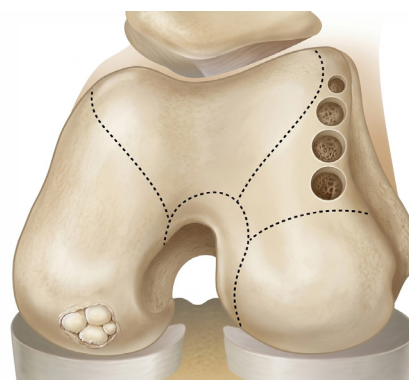


Fig.1. Knee joint showing plugs taken from right side of image and transferred into the cartilage defect (Bottom Left of image)

WHO IS SUITABLE?

OATS is typically recommended for patients with:

- A small to moderate, well-defined cartilage defect
- Ongoing symptoms despite non-surgical treatment
- Healthy surrounding cartilage and stable knee
- Desire to return to an active lifestyle

It is most commonly used in younger, active patients. Larger defects may require alternative procedures.

WHAT HAPPENS DURING SURGERY?

- Performed under general anaesthetic
- Keyhole or small open incision used
- Damaged cartilage is identified and prepared
- A matching plug is taken from a non-weight-bearing area
- The graft is press-fit into place, flush with the joint surface

Operation time: approximately 40–60 minutes

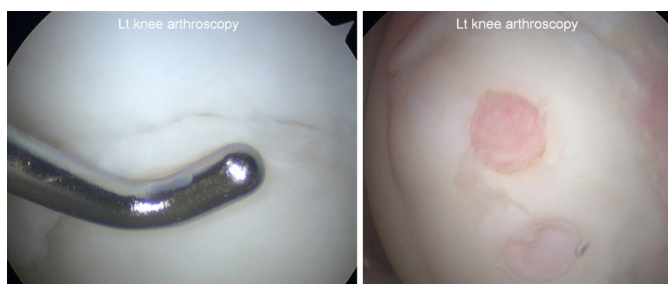


Fig.2. Arthroscopic view showing unstable cartilage defect (arrowed) and 2 bone plugs inserted to stabilise the defect.

BENEFITS

- Uses your own tissue (no donor or artificial implant)
- No risk of graft rejection
- Restores near-normal joint surface
- Durable cartilage repair
- May reduce pain and swelling
- Aims to improve knee function and activity levels

RISKS

All surgery carries risks. These include:

- Infection
- Blood clots (DVT/PE)
- Bleeding
- Knee stiffness
- Ongoing pain or swelling
- Graft failure or incomplete healing
- Need for further surgery
- Numbness around incision

Some patients may experience temporary discomfort at the donor site, which usually settles over time.

RECOVERY

Healing takes time as the graft integrates with bone and cartilage.

- First 6 weeks
- Crutches required
- Non-weight bearing on operated leg
- Focus on:
 - Reducing swelling
 - Restoring movement
 - Activating thigh muscles

PHYSIOTHERAPY

Physiotherapy is essential and includes:

- Strength and muscle control
- Range of motion
- Balance and coordination
- Functional retraining

RETURN TO ACTIVITY

Activity	Timeframe
Walking comfortably	6–8 weeks
Exercise bike	6–8 weeks
Swimming	8–12 weeks
Running	~6 months
Pivoting sports	6–12 months

Recovery varies depending on defect size and any additional procedures.

FREQUENTLY ASKED QUESTIONS

WILL MY BODY REJECT THE GRAFT?

No. The graft comes from your own knee.

WILL THE DONOR SITE CAUSE PROBLEMS?

Usually not. It is taken from a low-load area and symptoms are typically mild or temporary.

HOW SUCCESSFUL IS OATS?

In appropriately selected patients, outcomes are generally very good with durable improvement.

WILL I DEVELOP ARTHRITIS?

OATS may slow joint degeneration but cannot eliminate future risk entirely.

IS OATS RIGHT FOR ME?

This depends on:

- Age and activity level
- Symptoms and lifestyle goals
- MRI findings
- Size and location of cartilage damage
- Previous treatments

Your surgeon will discuss all options and recommend the most suitable treatment.

Your surgeon will guide you through the decision-making process and recovery plan.

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