

Microstructural scaffold (patch) insertion without autologous cell implantation for repairing symptomatic chondral knee defects

Information for the public

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What has NICE said?

There is not much good evidence about how well microstructural scaffold (patch) insertion without autologous cell implantation for repairing symptomatic chondral knee defects works. It should only be used if extra care is taken to explain the risks, and extra steps are put in place to record and review what happens.

What does this mean for me?

Your health professional should fully explain what is involved in having this procedure, and discuss the possible benefits and risks with you. In particular, they should explain the

uncertainty about the evidence on how likely it is to improve your symptoms. You should also be told how to find more information about the procedure. You should only be asked if you want this procedure after having this discussion. Your health professional should ask you if details of your procedure can be collected.

The condition

Damage to the cartilage on the ends of the bones in the knee (known as chondral damage) can be caused by injury or arthritis. In young people, the most common cause is sporting injuries. It can also occur spontaneously (called osteochondritis dissecans). Symptoms include pain, swelling, instability, joint catching and locking. The condition can lead to osteoarthritis. Treatment options depend on the size of the defect and where it is. Treatments aim either to relieve symptoms or to regenerate the cartilage surface.

NICE has looked at using microstructural scaffold (patch) insertion without autologous cell implantation as another treatment option.

[NHS Choices](#) may be a good place to find out more.

The procedure

Microstructural scaffold (patch) insertion without autologous cell implantation aims to encourage new cartilage growth in the knee joint. It is done using a local or general anaesthetic. The damaged cartilage is removed either using open surgery or an arthroscope (a long, thin, tube-shaped instrument with a camera on the end) inserted through small cuts around the knee. Then tiny holes or breaks (microfractures) are made in the joint surface. A microstructural scaffold patch is cut to fit the size of the defect, and then fixed into place using surgical glue or stitches. The position of the patch is checked and the wound closed. The patch 'captures' cells released by the microfracturing, and acts as a scaffold for the new cartilage to grow on. The scaffold may contain collagen from animals.

Benefits and risks

When NICE looked at the evidence, it decided that there was not enough evidence about how well the procedure works. The 9 studies that NICE looked at involved a total of

369 patients.

The benefits were similar to those seen with microfracture used alone (without a scaffold patch). Generally, they showed the following benefits:

- an improvement in how the knee works (knee function) and symptoms (pain, stiffness)
- an increase in the amount of activity people were able to do
- an improvement in patients' own rating of their overall health and satisfaction
- evidence of cartilage repair seen on MRI.

The studies showed that the risks included:

- a haematoma (bruise) in 1 patient
- bleeding in or swelling of the knee
- a blood clot in 1 patient
- knee stiffness in about 23% of patients
- surgery had to be repeated in 10% of patients because of pain and the knee not working correctly
- swelling after a fall in 1 patient.

NICE was also told about some other possible risks: changes in the repair tissue and the need for surgery to remove it.

If you want to know more about the studies, see the [guidance](#). Ask your health professional to explain anything you don't understand.

Questions to ask your health professional

- What does the procedure involve?
- What are the benefits I might get?

- How good are my chances of getting those benefits? Could having the procedure make me feel worse?
- Are there alternative procedures?
- What are the risks of the procedure?
- Are the risks minor or serious? How likely are they to happen?
- What care will I need after the procedure?
- What happens if something goes wrong?
- What may happen if I don't have the procedure?

About this information

NICE [interventional procedures guidance](#) advises the NHS on the safety of a procedure and how well it works.

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