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Understanding NICE guidance

Information for people who use NHS services

National Institute for Health and Clinical Excellence

Total knee replacement using surgery through a mini incision

NICE 'HealthTech guidance' advises the NHS on when and how new procedures can be used in clinical practice.

This leaflet is about when and how total knee replacement surgery through a mini incision can be used in the NHS. It explains guidance (advice) from NICE (the National Institute for Health and Clinical Excellence).

This HealthTech guidance makes recommendations on the safety of a procedure and how well it works. An interventional procedure is a test, treatment or surgery that involves a cut or puncture of the skin, or an endoscope to look inside the body, or energy sources such as X-rays, heat or ultrasound. The guidance does not cover whether or not the NHS should fund a procedure. Decisions about funding are taken by local NHS bodies (primary care trusts and hospital trusts) after considering how well the procedure works and whether it represents value for money for the NHS.

This leaflet is written to help people who have been offered this procedure to decide whether to agree (consent) to it or not. It does not describe the procedure in detail – a member of your healthcare team should also give you full information and advice about this. The leaflet includes some questions you may want to ask your doctor to help you reach a decision. Some sources of further information and support are on page 7.

What has NICE said?

This procedure can be offered routinely provided that doctors are sure that:

- the patient understands what is involved and agrees to the treatment, and
- the results of the procedure are monitored.

NICE has said that the procedure should only be carried out by surgeons trained in the technique. NICE is asking doctors to send information about everyone who has the procedure and what happens to them afterwards to a central database so that the results can be checked over time.

Other comments from NICE

NICE noted that there can be differences in the way that mini-incision surgery for total knee replacement is carried out. There are also some concerns over how soon the artificial knee joint needs to be replaced after mini-incision surgery. However, a large database comparing the mini-incision and standard procedures for up to 8 years showed that there was no difference in the length of time before joints were replaced.

This procedure may not be the only possible treatment for knee joint problems. Your healthcare team should talk to you about whether it is suitable for you and about any other treatment options available.

Total knee replacement using surgery through a mini incision

The procedure is not described in detail here – please talk to your specialist for a full description.

Knee joint problems are caused by a number of conditions, most commonly osteoarthritis in which cartilage (the smooth covering over the bones) wears away over time, causing damage to the joint and leading to inflammation and pain. Treatments include drugs to relieve the pain and inflammation, physiotherapy, injections and surgery. Knee replacement surgery involves removing the damaged surfaces of the joint and replacing them with an artificial joint. The mini-incision procedure is carried out using a general anaesthetic or a spinal anaesthetic (where only the lower body is numbed and the patient remains conscious). Special instruments for performing the surgery are used meaning a smaller incision is needed than for standard knee replacement surgery. The same type of artificial joint is used in the mini-incision procedure as in standard total knee replacement, but using special instruments avoids the need to temporarily turn the knee cap aside or to dislocate the knee joint, and may reduce damage to leg muscles and tendons.

What does this mean for me?

NICE has said that this procedure is safe enough and works well enough for use in the NHS. If your doctor thinks it is a suitable treatment option for you, he or she should still make sure you understand the benefits and risks before asking you to agree to it.

You may want to ask the questions below

- What does the procedure involve? What are the possible benefits?
- How good are my chances of getting those benefits?
- 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 operation?
- What happens if something goes wrong?
- What may happen if I don't have the procedure?

You might decide to have this procedure, to have a different procedure, or not to have a procedure at all.

Summary of possible benefits and risks

Some of the benefits and risks seen in the studies considered by NICE are briefly described below. NICE looked at 9 studies on this procedure.

How well does the procedure work?

In a study in which 52 patients had the mini-incision procedure and 56 had standard knee replacement, 34 patients from each group were pain free 6 months after the procedure. In a study of 200 knee replacements, patients reported less pain 1 year after surgery following the mini-incision procedure (3.2 points on a scale of 0 to 10, with a higher score meaning worse pain) than after standard surgery (3.8 points). In the study of 108 patients, on a scale of 0–100 (a higher score indicating less pain and better knee movement), patients treated by mini-incision surgery had an average score of 84 points 6 months after surgery compared with 85 points for those who had standard surgery.

In a study of 237 patients needing a new artificial knee joint after their original knee replacement had failed, patients who had been treated by the mini-incision procedure needed their knee joint replacing after an average of 15 months, whereas those who had a standard knee replacement needed a new joint after an average of 79 months. A study of 747 knee replacements reported that patients who had the mini-incision procedure could bend their knees further than patients who had standard knee replacement, 6 months after surgery.

NICE also asked expert advisers for their views. These advisers are clinical specialists in this field of medicine. The advisers said that the aims of the procedure are to reduce recovery time and ensure that both the knee and the implant continue to work well in the long term.

Risks and possible problems

In a study of 732 total knee replacements and a study of 335 patients, deep wound infection requiring further surgery to remove and replace the joint occurred in 2 out of 725 knees and 2 out of 335 patients treated by the mini-incision procedure during an average period of 2 years after surgery. In the study of 732 knee replacements, 1 knee needed to be drained following bleeding into the joint. In the same study, the part of the artificial knee joint connected to the shin bone (tibia) failed and needed to be replaced in 2 out of 725 knees 1 year or more after treatment with the mini-incision procedure. One patient fell and fractured the long bone in the upper leg (femur) close to the artificial knee joint 2 weeks after mini-incision surgery, and tearing of the tendon joining the tibia to the knee cap requiring surgical repair was reported in 1 patient.

In a study of 137 knees, the tendon joining the tibia to the knee cap was found to have shortened in more knees treated by standard knee replacement (21 out of 57) than knees treated by the mini-incision procedure (9 out of 74) 2 years after surgery. In the same study, a further surgical procedure under a general anaesthetic to improve limited movement of the knee, was needed 6 weeks after surgery in 2 out of 68 patients treated by mini-incision surgery and 4 out of 61 patients treated by standard surgery. In the study of 747 knee replacements, ‘patella clunk’, in which a clicking or ‘clunk’ is felt in the knee when bending, occurred in 17 out of 275 knees following mini-incision surgery and 1 out of 225 knees after standard surgery, 1 year after the procedure.

NICE also asked expert advisers for their views. These advisers are clinical specialists in this field of medicine. The advisers said that possible problems include a longer operating time and incorrect

positioning of the implant. In theory, problems could also include early joint failure if excess bone cement is not removed.

More information about knee joint problems

NHS Choices (www.nhs.uk) may be a good place to find out more. Your local patient advice and liaison service (usually known as PALS) may also be able to give you further information and support. For details of all NICE guidance on knee joint problems visit our website at www.nice.org.uk

About NICE

NICE produces guidance (advice) for the NHS about preventing, diagnosing and treating different medical conditions. The guidance is written by independent experts including healthcare professionals and people representing patients and carers. They consider how well an interventional procedure works and how safe it is, and ask the opinions of expert advisers. This guidance applies to the whole of the NHS in England, Wales, Scotland and Northern Ireland. Staff working in the NHS are expected to follow this guidance.

To find out more about NICE, its work and how it reaches decisions, see www.nice.org.uk/aboutguidance

This leaflet is about 'mini-incision surgery for total knee replacement'. This leaflet and the full guidance aimed at healthcare professionals are available at www.nice.org.uk/guidance/HTG220

You can order printed copies of this leaflet from NICE publications (phone 0845 003 7783 or email publications@nice.org.uk and quote reference N2181). The NICE website has a screen reader service called Browsealoud, which allows you to listen to our guidance. Click on the Browsealoud logo on the NICE website to use this service.

We encourage voluntary organisations, NHS organisations and clinicians to use text from this booklet in their own information about this procedure.

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