

Open reduction of slipped capital femoral epiphysis

Information for the public

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What has NICE said?

Open reduction of a slipped capital femoral epiphysis carries a high risk of avascular necrosis, a condition that causes bone to lose its blood supply and die. Because of this, 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 about possible side effects. You should also be told how to find more information about the procedure. You should only be asked if you want to agree to this procedure after having this discussion. Your health professional should ask you if details of your procedure can be collected.

Your healthcare team

A healthcare team experienced in managing a slipped capital femoral epiphysis should decide which patients should be offered this procedure. Only surgeons experienced in open reduction of a slipped capital femoral epiphysis should carry out the procedure.

The condition

The capital femoral epiphysis is part of the rounded end (ball) at the top of the thigh bone (femur), which fits into the socket of the hip joint. During growth, particularly during adolescence, it can slip from its normal position, causing hip or knee pain, limping and deformity. This is called a slipped capital femoral epiphysis.

Treatment usually involves surgery to stabilise the epiphysis. If the condition isn't serious, this might involve fixing the hip with minimal surgery. If the slip is severe, open surgery may be needed, and the slip may be fixed using a bone graft.

NICE has looked at using [open reduction](#) as another treatment option.

The procedure

Open reduction is a surgical operation used to fix a slipped capital femoral epiphysis back into its correct position. The procedure is done with the patient under a general anaesthetic. Different techniques can be used. The aim is to reduce the risk of a side effect called avascular necrosis, where the bone in the socket dies. This is done by making sure there is a good blood supply to the epiphysis during the procedure. The hip may be dislocated during and after the procedure, then a section of bone is removed from the top of the thigh bone, the epiphysis is realigned and then fixed in place with 1 or 2 screws or wire.

Benefits and risks

When NICE looked at the evidence, it decided that there is enough evidence on its efficacy but not enough about the risk of avascular necrosis (bone death). The 9 studies that NICE looked at involved a total of 378 patients.

Generally, they showed the following benefits:

- less pain and other symptoms such as disability
- improvement in activities of daily living and quality of life
- equal leg lengths in 46% (22/48) of patients at 10 years
- similar hip position and range of movements in the fixed hip as the other hip
- better results in young people with unfused [growth plates](#).

The studies showed that the risks of open reduction of a slipped capital femoral epiphysis included:

- avascular necrosis (bone death) and joint cartilage damage in 1% to 14% of patients
- avascular necrosis alone in 3% to 26% of patients
- damage to the joint cartilage alone in 3% to 43% of patients
- osteoarthritis of the hip in 40% of patients at an average follow-up of 16 years
- another operation, 6–8 weeks after surgery, in 8% of patients because of screws or wires breaking
- permanent partial paralysis of the [sciatic nerve](#) in 1 patient
- wound infections in 3% of hips
- non-healing of the top of the thigh bone in 9% of patients, who all needed more surgery to fix it
- abnormal bone growth in 8% of patients.

NICE was also told about some other possible risks: stiffness and fracturing around screws and wires.

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?
- What experience do you have of this procedure?
- Will my case be included in the National Register?

Medical terms explained

Growth plate

This is the area of growing tissue near the ends of the long bones in children and young people.

Sciatic nerve

A large nerve that begins in the lower back and runs through the buttock and down the leg.

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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Accreditation

