

Suture fixation of acute disruption of the distal tibiofibular syndesmosis

Information for the public

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www.nice.org.uk

What has NICE said?

Suture fixation of acute disruption of the distal tibiofibular syndesmosis is safe enough and works well enough for use in the NHS.

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. You should also be told how to find more information about the procedure. All of this should happen before you decide whether you want to have this procedure or not.

Other comments from NICE

NICE said that reoperation may be needed less often with this procedure and that,

theoretically, it might be possible to move more normally after this procedure than when screws are used.

NICE also said that, while there was little information on the long-term safety of this procedure, it didn't think there were any special long-term safety concerns.

The condition

Acute disruption of the distal tibiofibular syndesmosis is an injury to the ligaments in the ankle joint that connect the 2 bones in the lower leg (the tibia and fibula). It is a type of sprained ankle, and often occurs during activities such as sports or dancing, and from falls or slipping on ice. It can cause pain, difficulty in walking, and the ankle to become weak and unstable. Sometimes this type of injury occurs alone, or with a fractured (broken) ankle.

When there is only a sprain of the ankle, it can sometimes be treated simply by keeping the ankle protected, rested and raised up, and by using a compression bandage. If symptoms are ongoing, or if the ankle is also broken, treatment usually involves an operation to fix the ankle with screws. The screws are then often removed in a later operation. Other methods used to fix the ankle include using a bolt or hooks, both of which may also be removed later, and staples or direct repair.

NICE has looked at using suture fixation as another treatment option.

NHS Choices (www.nhs.uk) may be a good place to find out more.

The procedure

Suture fixation of acute disruption of the distal tibiofibular syndesmosis is a way of fixing a sprained ankle. The aims of this procedure include a more rapid return to weight bearing, more normal ankle movement, and a reduced need for further surgery.

It is done either with a general or spinal anaesthetic. Antibiotics are given to prevent infection. A cut is made on the outside of the ankle to get into the joint. If the ankle is broken as well as sprained, the fracture is fixed first in the standard way. Then, the damaged ligaments are moved into the correct position and the ankle is held in place with a clamp. A small tunnel is drilled through the bones (tibia and fibula). A suture (a special

thread) with an oblong metal button on it is then threaded through the tunnel using a needle. The button lies flat on the outside of the tibia, and the ends of the suture are pulled tight against the outside of the fibula and held in place with a second metal button. The free ends of the suture are then tied in a knot to fix the joint. If extra stability is needed, a second suture can be put through the same or another tunnel. The suture is usually left in place.

The cut is closed and the ankle is put in a below-the-knee cast. No weight should be put on the ankle for the first 2 weeks after the operation. From weeks 2 to 6, there can be partial weight bearing and, after 6 weeks, full weight bearing. Once the ankle has healed, the patient is given physiotherapy.

Benefits and risks

When NICE looked at the evidence, it decided that Suture fixation of acute disruption of the distal tibiofibular syndesmosis is safe enough and works well enough for use in the NHS. The 9 studies that NICE looked at involved a total of 323 patients.

Generally, there was improved function at 12 months compared with screw fixation. But, there was no difference in range of ankle movement, pain, weight bearing, recurrent sprains or dislocations, or time taken to return to work or previous sporting activities.

The studies showed that the risks of suture fixation included:

- suture removal in up to 25% of patients after 2 years because of:
 - local skin irritation from the suture knot a few months after surgery in 10 patients
 - persistent pain with activity and restricted ankle movement in 1 patient
 - deep wound infection in 2 patients
 - infection of bone around the suture in 3 patients
 - painful widening of the suture tunnel in 2 patients
 - continued ankle instability in 2 patients
 - unexplained pain in 1 patient
 - an abscess in 1 patient
 - local nerve damage in 1 patient
 - joint damage in 1 patient.
- wearing of the suture buttons into the bone in 17% of patients
- non-fatal blood clot in a leg or to a lung in 2% of patients
- trapped tendon and nerve in 1 patient, who needed another operation but recovered
- bone formation on ligaments around the ankle in 17% of patients
- joining of the tibia and the fibula bones together at the ankle (caused by extra bony growth) in 1 patient (no further details)
- acute fracture of the tibia and fibula bones in 1 patient, who needed further surgery but fully recovered.

NICE was also told about some other possible risks: difficulty with tightening the suture sufficiently, and failed fixation.

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?

Medical terms explained

Ligament

This is a band of fibrous tissue that connects bone to bone, or bone to cartilage.

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

