

Introduction

Osteotomy, which literally means "cutting bone", is an operation to change the alignment of a bone. In the lower limb it is most commonly done for arthritis around the knee where the arthritis involves one half of the joint. The osteotomy is performed by cutting almost all of the way across the bone and either taking a wedge of bone out and closing the gap (which we call "closing wedge osteotomy") or opening a gap up and inserting bone into the space (which we call "opening wedge osteotomy"). In patients who are bow legged due to arthritis involving the medial side of the knee, the osteotomy is usually performed in the tibia and for patients who have a valgus (knock) knee, the osteotomy is usually performed in the femur. Osteotomy to realign the leg has two specific goals:

- a) To improve the pain associated with arthritis
- b) To allow the native knee to survive to an age where total knee replacement has a greater chance of out surviving the patient.

Occasionally osteotomy can be performed as part of the treatment of knee ligament instability or in association with surgery to repair articular cartilage or transplant a meniscus.

Hospital

You are admitted to hospital the day of surgery. The surgery is most commonly performed under a general anaesthetic. Leg alignment is usually changed by cutting the tibia (shin bone) just below the knee and either opening up the break to insert a wedge of bone or cutting a wedge of bone out. The size of wedge that is inserted or removed determines the eventual alignment and this is ascertained from a combination of pre-operative planning X-rays, radiographs taken during surgery and a computer navigation system.

After the osteotomy has been performed, patients undergoing a closing wedge osteotomy will have a plate inserted on the lateral side of the knee and patients undergoing a medial opening wedge will have a medial plate.

After the wound is closed and dressings applied, a brace will be applied and you will remain in hospital after surgery until you can safely walk with crutches. The physiotherapists in hospital will help with this. Typically, it takes 1—3 days until patients are safe and mobile.

Progress

Following discharge from hospital, you will see Mr Oussedik at the two-week mark to check the wound. Your brace is worn for a further 4—6 weeks (a total of 6—8 weeks) and during this period you will be on crutches. Weight bearing (WB) progresses from touch WB for the initial 4 weeks, followed by 25% WB from weeks 4-6 and 50% WB weeks 6-8. At the 8 weeks check, radiographs will be taken and if bone healing is continuing, you will start fully weight bearing. It is possible to resume a sedentary job 3—4 weeks after surgery if this can be done with crutches. It is usually 3—4 months before physical work is possible and between 6—12 months before sport can be resumed.

Results

Tibial osteotomy usually results in good pain relief and improvement in function. Most patients feel improvement in their knee following tibial osteotomy. A few (5% - 8%) are unimproved and 2% are worse. The improvement seen following tibial osteotomy lasts a variable time depending on how well the patient cares for the knee as well as the degree of damage already done by arthritis and the inherited quality of the articular cartilage in the joint.

Complications

Infection

Deep bony infection is rare but if this occurs and is untreated, serious problems follow. Any unexplained fever, wound redness or increasing pain should be reported to Mr Oussedik.

Blood clots

Medication and stockings are used to help prevent clots. A clot which travels to the lung can be fatal although this is extremely rare. Chest and calf pain can be symptoms of a clot and must be reported immediately.

Bone healing problems

In approximately 2% - 3% of patients the bone may not fully heal or may slip in position whilst healing. This is monitored by X-rays of the bone. Occasionally, revision surgery may be required to promote bone healing. Poor bone healing is much more common in smokers and you should stop smoking two months prior to surgery and not recommence until bone healing is complete.

Nerve and blood vessel damage

Major nerves and arteries which supply the leg are in the vicinity of the surgery. Although rare, damage to these is possible.

Other complications include haematoma, superficial infection and knee stiffness. Please feel free to discuss these with Mr Oussedik.

Being bow-legged places too much pressure on the inner half of the knee that goes on to wear out too fast.

In the appropriate patient, osteotomy can be a powerful tool in relieving pain and restoring function



During the operation, a guide-wire is used to orientate the cut in the bone perfectly and the position is checked by xray.

The bone is secured with a plate and screws, ensuring good stability and that the correction is maintained as the bone heals.



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Patient
Information

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