

FEMORAL AND TIBIAL OSTEOTOMY

PATIENT INFORMATION. JAN 2006

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This information sheet provides information on the nature and purpose of the procedure in addition to an outline of the post-operative rehabilitation.

Purpose and description of the procedure

This operation is a correction to the alignment of the leg, eg a bowed leg or knock kneed leg, by cutting through the bone (osteotomy), changing the shape and holding it with a plate and screws. Wear in the medial (inner) compartment of the knee is treated by an opening wedge osteotomy made in the upper medial part of the tibia. This corrects slight bow legged alignment shifting the weight onto the well preserved lateral outer half of the knee. If there is wear or damage in the outer lateral compartment of the knee then an opening wedge osteotomy of the distal part of the femur is performed from the lateral side, again shifting the weight off the damaged side of the knee. A plate and screws hold the position while the gap gradually fills in with bone over 2-3 months. (See illustrations)

Indication

The operation is performed when there is early wear in one side of the knee in order to slow down the wear and to 'buy time' for the knee. It is also performed in certain ligament injuries where instability of the knee is associated with bowing of the leg.

Pre-operative preparation

Preoperatively in outpatients alignment x-rays of the whole of both legs are taken to help determine the exact amount of correction required. A hinged knee brace is ordered which will hold the leg enough for the osteotomy to heal yet will allow some early range of movement exercises.

During the Hospital stay

On the day of surgery the leg is marked and final consent obtained. The procedure is usually performed under general anaesthesia and the anaesthetist will discuss post-operative pain relief. This will usually involve nerve blocks, which keep the leg and knee numb for a while, and analgesic tablets.

After the operation the leg is initially held still in a knee brace and depending on progress, gentle bending of the knee and walking with the aid of crutches is started on the first or second day. Most patients are able to go home on day 2 or 3 following surgery, with a date for removal of stitches or skin clips (usually 10 days) and an outpatient appointment (usually 6 weeks).

Post-operative care

Knee Brace: The knee brace should be used at all times when moving around for the first 6 weeks to protect the osteotomy site. For the first 3 weeks it is best for comfort reasons to lock the hinges when moving around but after 3 weeks it is safe to leave the hinges unlocked to help regain free bending of the knee. The brace may be removed at night as comfort and confidence allows.

Weight bearing: Weight bearing as tolerated is allowed in the brace with the aid of crutches and it is usual to use the crutches for the first 6 WEEKS.

At the 6-week follow-up appointment: If X-rays are satisfactory, the brace is removed and full weight bearing is allowed.

Exercises: Early physiotherapy is directed at static quadriceps and hamstring work maintaining muscle bulk. Range of movement exercises aim to achieve a comfortable 90 degrees bend and full straightening (extension) of the knee by 3 weeks and nearly full flexion by 6 weeks.

At 6 weeks when full weight bearing is allowed then proprioception and strength work using bicycle and rowing machines can commence. Function gradually increases, tailored to each patient, with the expectation of fast walking by 3 months building up to running and sporting activities at five to six months post surgery.

The management plan may be altered if there is arthroscopic surgery performed at the time of osteotomy to repair the joint surface and this will need to be discussed with the surgeon.

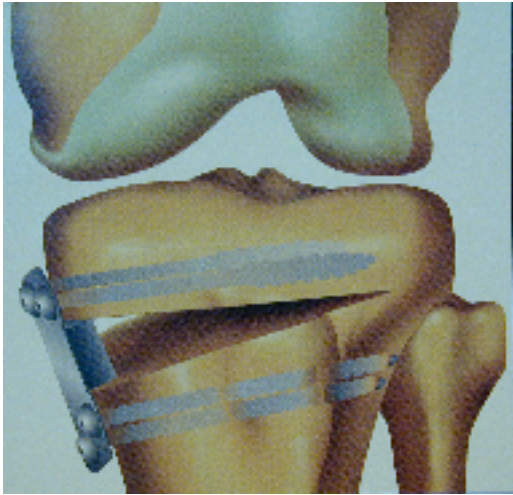


Fig 1. Over view of Tibial Osteotomy showing the plate and 4 screws holding the new position

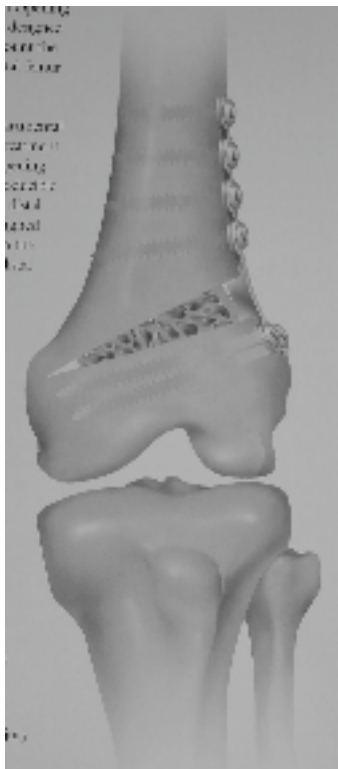


Fig 2. Overview of Femoral Osteotomy showing plate and screws around the site of the cut in the bone

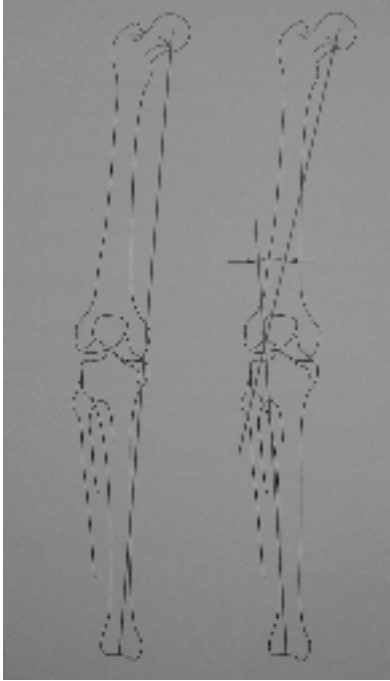


Fig 3. Diagram of the leg indicating bow legged alignment with the weight bearing line passing through the inner half of the knee



Fig 4. In the operation of tibial osteotomy a cut is made through the tibia

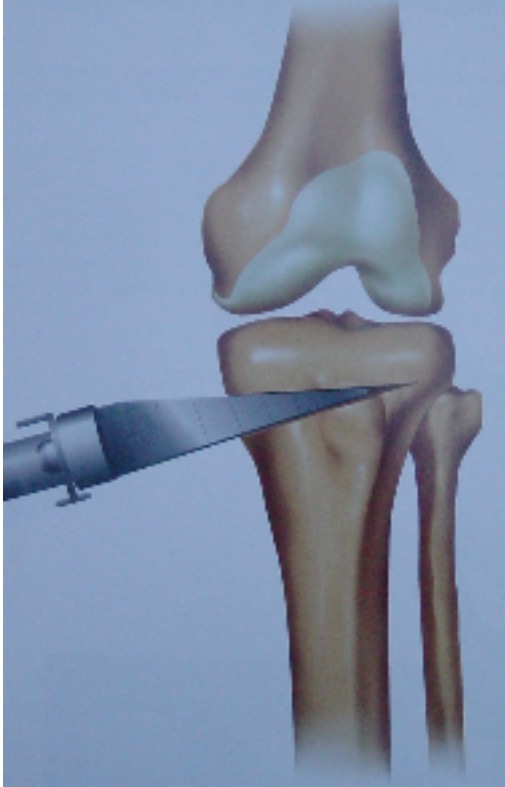


Fig 5. The tibial cut is then opened using a wedge until the required correction is achieved and a plate is then applied.