

# HIGH TIBIAL OSTEOTOMY



**Mark Clatworthy, Orthopaedic Surgeon, Knee Specialist**

This operation is designed for the younger patient who have osteoarthritis or a cartilage lesion confined to one side of their knee. The bones around the knee are bowed so most of the weight goes through this damaged side resulting in pain.

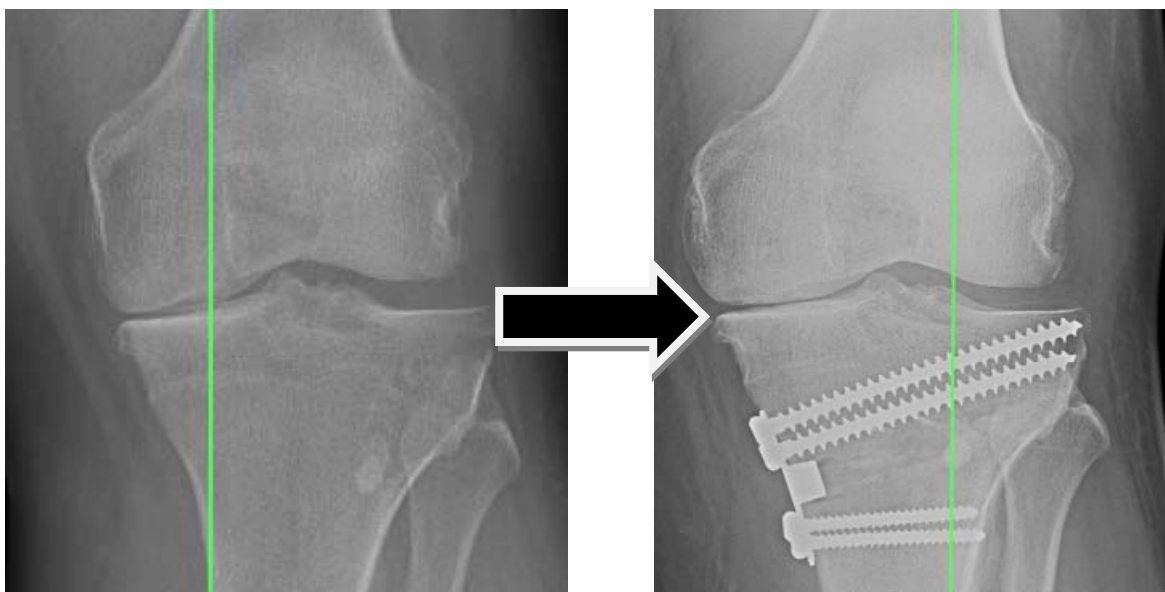
The principle of an osteotomy is to realign the lower limb in order to shift the line of weight bearing away from the affected half of the joint and into the good half . In other words, if the osteoarthritis is isolated to the inside compartment, the aim is to shift the line of weight bearing into the outside compartment. This will reduce the symptoms from the osteoarthritis and also slow down the rate of its progression. The aim is to delay the need for knee joint replacement surgery.

It is important to be aware that realigning the leg will result in an altered appearance of the shape of the leg. If people have medial (inside) compartment osteoarthritis, they are usually somewhat bow-legged. The osteotomy will make them knock-kneed. The opposite applies for lateral (outside) compartment osteoarthritis. Prior to surgery the person is usually knock-kneed, but after surgery the appearance is somewhat bow-legged.

Osteotomies are most commonly performed for medial compartment osteoarthritis by operating on the upper tibia. A special long X ray is performed to determine the amount of correction required for your osteotomy

The osteotomy procedure itself involves cutting the bone virtually completely.

The bone is wedge open . It is held with a metallic plate and screws then a bone graft wedge is taken from your iliac crest to stabilise the osteotomy and aid healing. The iliac crest lies above your hip joint



The surgery is usually undertaken under general or spinal anaesthetic with a femoral nerve block and usually takes about 2 hours. You are usually admitted on the day of surgery. Most people are in hospital for 2 to 4 days. After surgery there is usually a drain in the wound. This is removed on the morning following your surgery. You will be in a brace for 6 weeks. This protects your osteotomy. It needs to be on when you are out and about. You don't need to wear it when you are sleeping or resting. Your brace will be set to have a full range of motion of the brace. You will also be on crutches for 6 weeks just touching your foot to the ground (touch weight bearing). An X-ray will then be taken at the six week follow up. Depending on how things are progressing, you should be able to gradually increase your weight bearing and discard your crutches over the next 2 to 4 weeks. It will take 3-6 months for your osteotomy to heal fully and at 6-12 months for you to get the maximum benefit from your osteotomy. It is important to understand that this operation is designed to make your knee better however it is unlikely to be normal

### ***Complications***

Like all surgery, osteotomies are associated with the risk of complications. The specific risks of an osteotomy include delayed healing of the osteotomy, infection, deep venous thrombosis, numbness around your scars, possibly incomplete pain relief and progression of your arthritis with time.

**Delayed or non-union:** Because a cut is made through the bone, there is effectively a fracture of the bone which needs to heal. You need to obey the touch weight bearing instructions to prevent this happening. If there is a delayed or non union your plate and screws may break

**Infection:** Infection is a risk of any surgery, not specifically related to osteotomy. Should infection occur, this will usually either be treated with oral antibiotics (tablets) or occasionally with intravenous antibiotics. Occasionally further surgery will be required to clean up the infection. This involves admission to hospital for a number of days during which intravenous antibiotics are given.

**Deep vein thrombosis (DVT):** This is a blood clot in the veins of the leg. Precautions are taken to reduce the risk include aspirin and early mobilization and ankle pump exercises. A small but nonetheless important risk for venous thrombosis is the potential of the blood clot to break off and lodge in the lungs (pulmonary embolus). This can cause significant breathing problems and very rarely can be fatal.

**Ongoing pain:** Osteotomy in general is a useful procedure for people with unicompartmental osteoarthritis who are not suitable for joint replacement, usually because of their relatively young age. However, the outcome of surgery is probably less predictable than a joint replacement. Although most patients are happy with the result, pain relief is not always complete. In the longer term the underlying osteoarthritis will progress and one can expect knee pain to return.

In addition, surgery around the front of the knee is often associated with difficulty kneeling. The metallic plate that is used to fix the osteotomy can be prominent, particularly in thin people. The metallic hardware is often removed about 12 months after surgery. This is usually done as a day or overnight case. In general, the hardware does need to be removed at some stage