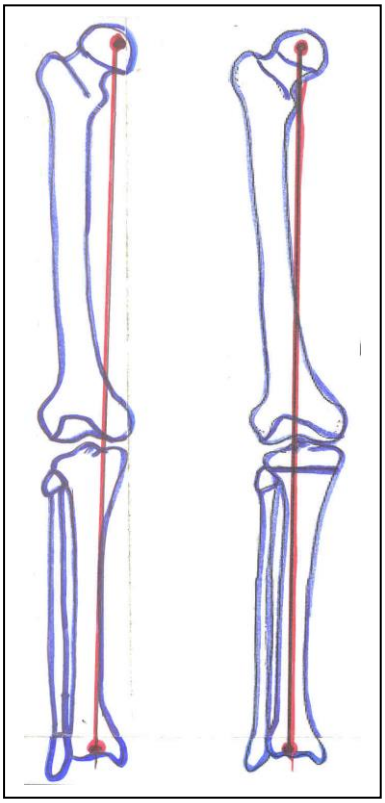
HIGH TIBIAL OSTEOTOMY
PATIENT INFORMATION

The following information is to help you understand what is going to happen when you have a HIGH TIBIAL OSTEOTOMY. It is only a guide and some aspects will vary according to the individual. Should there be anything that is not clear or you wish to discuss anything in more detail then please discuss these issues with your consultant

What is a high tibial osteotomy?

This is a surgical procedure which involves cutting the bone (osteotomy) at the top of the lower leg, near the knee, to change the way you weight-bear and walk, and to take some of the load off the inside of the knee. By taking the weight off the inside compartment of the knee symptoms usually improve and the arthritic process may slow down.
In technical terms it involves shifting the centre of gravity from the inside of the knee to the middle or even a little to the outside compartment of the knee.



A line drawn from the middle of the hip to the middle of the ankle should pass through the middle of the knee. In your case the line is passing through the inside compartment of the knee and this is what the correction aims at.

Does it work?

This procedure does usually work to reduce symptoms and to control the wear and tear process. **But,** it does put more pressure on the outside compartment of the knee, resulting in the wear and tear process progressing in this area. We view this procedure as a temporising measure which may end up in a total knee replacement. This may take anything between 2-15 years. Some patients even derive benefit for longer and may not even need further surgery at all, but this is usually the exception rather than the rule.

How is it done?

There are essentially 2 methods:
The ***open wedge osteotomy***, where the bone is cut and opened from the inside. A bone graft from the pelvis, or a bone substitute, can be used together with a plate and screws. The graft is placed in the gap. (Fig 1). This is a relatively new operation and is catching on, as it does not alter the alignment of the joint and the top of the tibia (lower bone)

Fig 1

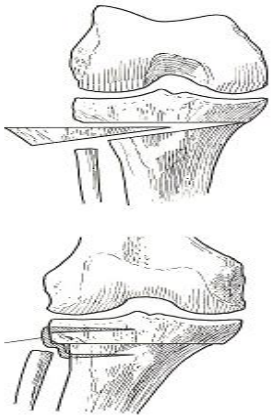


Fig 2

The ***Closed wedge osteotomy***, where the bone is cut from the outside and a wedge is removed according to the appropriate correction that needs to be achieved (Fig 2). This procedure does not need a graft.
Both of the above procedures achieve the same effect and the risks and complications are similar.

The hospital stay is usually 2-4 days. A brace will be applied post-operatively and specific instructions will be given to you regarding weight-bearing. Progression from non- to partial weight-bearing with crutches will be recommended in most patients over a period of about 3 months.

Complications

All patients are at risk of complications following surgery, but thankfully complications do not occur frequently.

1. Infection: This can be a serious complication but is usually picked up early and easily treated. it may result in repeated operations to clean out the infected tissue. High doses of antibiotics are usually given. Minor superficial infections can also occur which usually don't cause much concern.
2. DVT: Clots in the deep veins of the calf (deep vein thrombosis). This can be serious as some of the clot can break free and travel to the brain or the lungs. In severe cases it can even cause a stroke or it can be fatal if it blocks off a large segment of the lung. Blood thinning agents are given if there is a risk of DVT, and oral contraception should be stopped 6 weeks prior to this surgery as it does increase the risk slightly. Some measures are routinely taken to prevent clots, which I

will discuss with you prior to the surgery. The risk of anything serious happening is very low.

3. Slippage or loosening of the plates and screws: a rare complication and is limited by adherence to the post-operative regime of limited weight-bearing and crutch usage.
4. Non-union: where the bone fails to unite and further procedures including bone grafting may be necessary. Very rare as the bone in this area has a good blood supply.
5. Anaesthetic complications are extremely rare other than some post-operative dizziness and nausea.

These are the main important complications.

What can you expect?

Depending on the reason for doing the surgery in the first place, most patients feel some relief from it and in some cases patients even return to twisting turning and impact sports. This is not the norm and I would advise most patients to look after their knees to reduce significant further wear from occurring.
I would expect you to have a full range of movement by 3 weeks and the brace can be removed for exercise or when there are no unpredictable circumstances. I recommend the brace for sleeping, walking and standing.

Adequate post-operative instructions will be given to you on your admission to the hospital and there will be plenty of time for last minute questions.
You will also be given a femoral nerve block, which is an injection in the groin, similar to a dental injection that numbs the teeth. This helps for pain control post-operatively. A CPM machine may be used post-operatively (continuous passive motion). This helps initiate the movement in the knee without much exertion on your part. Most patients find this quite comfortable.

I hope this information is helpful. If you wish to discuss anything else, please do so with your consultant prior to the procedure

Please bring any XRays or scans that you may have, to the hospital.

IT IS ADVISABLE NOT TO UNDERTAKE ANY LONG HAUL AIR TRAVEL FOR 6 WEEKS POST SURGERY (SHORT HAUL – 4 WEEKS). THERE IS A RISK OF DVT (DEEP VEIN THROMBOSIS – CLOTS IN THE VEINS OF THE LEG). PLEASE DISCUSS THESE ISSUES WITH ME IF YOU INTEND TO TRAVEL.

If air travel is essential, then certain precautions are necessary:

1. You may be given “blood thinning” injections around the time of your flights – we will discuss this.

The most important factor that causes DVT is immobility – This results in inadequate venous blood flow to the heart, resulting in possible clots forming in the calf veins. The following may help to enhance the blood flow to the heart

2. during the flights I recommend TED stockings – these are compressive medical stockings, which may empty out the deep veins in the calf, resulting in less clot formation
3. it is recommended that you do calf pumping exercises during the flight, as often as possible.
4. It is also recommended that you get up and stretch, as well as walk up and down the isle of the aircraft as often as possible.
5. limit alcohol intake and drink a lot of water. Dehydration plays a role also