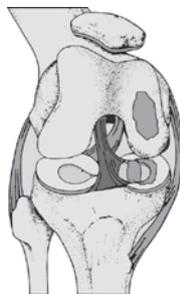


INTRODUCTION

Your knee consists of two halves, each designed to carry more or less equal loads. The one half lies on the inside of the leg and the other on the outside. In a perfectly aligned lower limb, a straight line running through the middle of the hip to the middle of the ankle will pass through the middle of the knee. This is called the weight-bearing line of the leg. If a person has bow legs the weight-bearing line will not run through the middle of the knee, but through the inside half (black line). This results in an excessive load on that part of the knee. With time this will result in abnormal wear of this part of the joint. This is similar to the wear of a car tyre when the alignment of the wheels is out.



One of the solutions to this localized wear in the joint is to realign the leg with a procedure known as an osteotomy. The principal of an osteotomy is to realign the lower limb so that the weight-bearing line runs through the better half of the knee.



The exact alignment of the lower limbs is measured on a special long X-ray where the hips, knees and ankles can be seen on one view. From these X-rays we can measure the degree of malalignment and plan how much we should realign the leg. The goal is to move the weight-bearing from the damaged to the relatively normal part of the joint. The realignment is performed on the tibia just below the knee.

PRE-OPERATIVE

You will be admitted to the hospital the day of the operation. Total hospital stay is approximately two or three nights. For 6 hours before the operation you should not eat or drink anything. If you usually take a drink at night, please continue doing so while in hospital; this will speed up your recovery. The hospital however does not supply liquor, so please bring your own.

OPERATION

Under a general anaesthetic we will first do an arthroscopic examination on your joint and if necessary correct any abnormality in the joint itself. Thereafter the osteotomy is performed. This can be done either by taking out a wedge of bone from the outer side of the tibia (closing by inserting a wedge of bone wedge osteotomy) or on the inner side of the knee (opening wedge osteotomy). In most cases we will do a so-called opening wedge osteotomy using donor bone. In some cases however a closing-wedge osteotomy might be indicated. The removal or insertion of a wedge of bone, will result in a minimal leg-length discrepancy, but it will not be of any functional consequence. Once the alignment is corrected the required amount the bone is securely fixed with a plate and screws or with so-called "tension" wires. The total anaesthetic time is approximately 1 hour.



POST-OPERATIVE

There is no need for a plaster cast or brace after the procedure. You can start moving your knee immediately after the operation. In fact we would encourage you to do this as much as possible. The drainage tubes in the wound are usually removed on the day after the operation. The physiotherapist will visit you daily following the operation. The rehabilitation exercises may seem simple and easy but it is of the utmost importance that they should be done regularly and correctly to ensure a quick and thorough recovery.

As soon as you feel comfortable you can start walking using two crutches. You may take some weight on the foot of the operated leg. The bandage around the leg is removed on the 3rd day after the operation and the wound is then closed with a small plaster strip. You can now shower. You can remove the plaster strip after about a week. The stitches need not be removed as they are soluble and beneath the skin.

You will usually be discharged on the second or third day after the operation.

FIRST FEW WEEKS AT HOME

It is very important to understand that your bone must knit in the area where the osteotomy was performed. The bone will take at least 6 weeks to fuse and sometimes it may take up to 12 weeks. During this period of healing it is very important that you should protect your leg.

You must place only part of your weight on the operated leg. Use two crutches at all times. It is advised that you do not drive for 4-6 weeks after the operation.

Your follow-up consultation, at our rooms, will be approximately 6 weeks after the operation. With the follow-up visit we will arrange for X-rays of the leg and if the fusion is satisfactory, we will allow you to carry progressively more weight on the leg.

POSSIBLE COMPLICATIONS

Like all surgery, osteotomies are not without possible complications. The incidence of complications is low; less than 1%. In order to minimise the likelihood of a clot (deep vein thrombosis) heparin is administered daily. Local complications such as bleeding and infection are possible. Another possible complication is damage to the nerve that pulls up the foot (peroneal nerve). The incidence of this in our practice is less than 0.1%. There is a slight possibility that the bone could take longer than expected to knit. In exceptional cases it may not knit at all, necessitating further surgery and bone grafts.

LONGTERM

As fusion and healing are slow processes, you must not expect to be walking comfortably for at least 3 months after the operation. You can expect a gradual improvement in your knee for up to a year after the operation.

You can progressively start doing more, but always within your pain limit. You should eventually be able to walk pain-free, play golf and even tennis. If you can run pain-free it should be seen as a bonus as it is not necessarily expected. During walking the load through your knee joint is approximately 4 times your body weight, but when running the load increases to 8 times body weight!

The results of osteotomies are generally very satisfactory. It is however important to realize that the one half of your knee joint is severely damaged. With the operation we have only redistributed the load to the relatively normal part of the joint. Bearing this in mind, you should not expect a total return to normality. Often the plate and screws cause irritation, necessitating their removal. This is a relatively small procedure only requiring overnight hospitalisation.

