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Total Knee Replacement/Total Knee Arthroplasty

What is a total knee replacement?

Total knee replacement operation is a procedure that removes the worn out cartilage in an arthritic knee and replaces it with an artificial joint made of metal parts separated by a plastic spacer. The metal parts are usually fixed to the bone with special cement, as demonstrated in the X-ray pictures below. The operation takes between one and a half to two hours but you will be in theatre longer to allow for recovery from the anaesthetic.

Pre-operative X-ray of an arthritic knee



Copy of an X-ray used to illustrate total knee replacement with kind permission from a patient.

Post-operative X-ray of a knee replacement



Copy of an X-ray used to illustrate total knee replacement with kind permission from a patient.



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Why do I need a total knee replacement?

You have been offered a knee replacement to relieve the pain you have in your knee and improve your function, as other methods of improving it have not succeeded (pain relief, anti-inflammatory medications, exercise, walking sticks etc.).

What are the results of total knee replacements?

Following surgery, the pain and stiffness from your knee should gradually improve. The majority of patients are able to increase their activity over time (months). Just over 80% of patients who have a knee replacement are happy with the results and are glad they have had it done even if they have some residual aches in their leg; they feel that the surgery has improved their quality of life. Only a minority (5-10%) have lingering symptoms or are unhappy with the outcome for a variety of reasons particularly if a complication has occurred.

Patients with an increased risk of complications include those with pre-existing medical conditions such as diabetes, high blood pressure, high cholesterol, heart disease or stroke; smokers and overweight patients are also at an increased risk. If needed, we try to decrease the risks by improving your general health prior to surgery.

Can there be any complications or risks?

The following are some of the risks and possible complications following a total knee replacement. This is not a full list of all the possible complications but are the more common or serious ones.

Risks of a total knee replacement

There are risks when you have general anaesthesia. Discuss these risks with your anaesthetist. You should ask your doctor how these risks apply to you.

1. **Thrombosis (DVT/PE)** - A blood clot may form in the veins. This happens in 1 in 5 patients unless precautions are taken e.g. use of special stockings, pumps and medication (which we do). It can still happen (much less often) even if these measures are used. Clots in legs can travel to the lungs in 1 – 2% of patients and can lead to death in 1 in 3000. Moreover 5% will get pain and swelling in the legs.
2. **Infection** - Wound infection is decreased by giving you antibiotics at the time of surgery and immediately after. If it occurs, it can be superficial (2 in 100 – easier to treat) or deep in the joint replacement (0.6 in 100, more difficult to treat). Infection can occur at any time after surgery (days or years) and can lead to the knee replacement failing. If this happens, you will need further



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surgery to your knee such as revision or fusion (so that the knee would not bend at all). In extreme cases infection can result in above knee amputation or death. Infection can also occur in your chest or urinary tract (waterworks) which could lead to infection in your knee.

3. **Nerve or blood vessel damage** - As a result of surgery you should expect numbness to a varying degree around your knee. This is because the surgery involves cutting the small skin nerves around the wound. More rarely, the blood supply (0.1%) or the nerves (1%) which allow you to feel or move your leg, may get damaged resulting in discolouration of your whole leg, changes/disturbance in the temperature of your leg, weakness of your leg/foot or severe numbness. To help you, you may be offered surgery to the vessels behind the knee. In extreme cases, damage to the nerves or vessels may lead to above knee amputation or death.
4. **Complex regional pain syndrome (CRPS)** - In some patients, complex regional pain syndrome can occur after surgery for unknown reasons. This is managed in the pain clinic.
5. **Strokes, heart attack or heart failure** - Heart attack and heart failure can occur without surgery. They can also happen while you are in the hospital and the stress of surgery can increase the chance of such an event.
6. **Wear/loosening** - With time the knee will wear out (average 10-15 years) and you might require another knee replacement (revision) which will not last or be as good as the first knee replacement for various reasons.
7. **Bone breakage/fractures; dislocation, pain from the knee cap (patella)** - These can occur during surgery or at any stage in your life. Depending on your age and the type of the problem you may be offered further surgery e.g. a fixation, replacement, patella button, or in extreme cases an above knee amputation. Ligament injury occurs in approximately 2% of cases.
8. **Knee stiffness** - This can cause difficulties in walking or sitting, you may require physiotherapy or further surgery including manipulation.

How do I prepare for the total knee replacement?

Please read the information leaflet. Share the information it contains with your family (if you wish) so that they can be of help and support. There may be information they need to know, especially if they are taking care of you following this examination.

Should I or should I not have the operation?

Total Knee Replacement is only considered when other alternatives of treating your arthritis (e.g. pain medication, injections, physiotherapy and other measures) have failed in managing your symptoms. If you do not wish to have a knee replacement, you do not have to. It is a personal decision which you make depending on how bad



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your pain is, how it disrupts your lifestyle and how much you can put up with it. However, your arthritis may get worse with time and increase the pain from your knee. This may lead to a loss of independence in activities like walking, shopping, climbing stairs, getting out of a chair, etc. It is also possible that your arthritis and pain may not change in severity in any significant manner.

If you choose not to have an operation at this stage ***you can always have it later*** when you feel that your condition warrants it, providing that you remain well otherwise.

What will happen?

Before admission you will receive an appointment for pre-assessment with an anaesthetist / physician. You will have a series of tests and you will also see a physiotherapist to advise on exercises to perform before surgery and to explain how you are helped to mobilise afterwards.

If any medical problems arise between pre-assessment and admission, please contact the clinic to check that surgery can still go ahead; for example if you are unwell or if any skin problems arise (e.g. cuts, spots etc.).

Regarding admission, most patients are admitted on the day of surgery but a few are admitted on the evening before. Please take particular note of instructions in the letter regarding the latest time you can eat or drink before surgery; this is very important, most likely the night before.

The surgeon and anaesthetist will visit you before the operation.

The anaesthetist will discuss possible options which may include general or regional anaesthesia, together with post-operative pain management. The majority of patients undergoing total knee replacement will have a local anaesthetic drug injected through a needle into the small of the back to numb the nerves from the waist down to the toes for two to three hours (a spinal anaesthetic). This sort of anaesthetic reduces the need for strong morphine pain relief during the operation and means that when you recover after the operation your pain should be under control. In addition, your knee joint is also usually injected with a combination of pain relief at the time of operation which will ease your pain soon after surgery. This will enable you to be mobilised early by doing some gentle walking on the same day as your operation. Mobilising early has been shown to reduce the time that patients stay in hospital, the need for blood transfusion and reducing risks.



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We will do our best to control your pain as much as possible without putting you at risk. Further details will be available to you in the pre-assessment clinic.

You will usually be in hospital for 2 to 5 days depending on several factors (age, how well motivated you are, physiotherapy, your social circumstances etc).

What happens afterwards?

Recovery from surgery

There are things which you should expect following knee replacement surgery. These include: numbness around the knee; swelling for several months; residual aches in the leg or knee; kneeling will not be possible for many patients and there might be bruising in the early weeks after surgery. There is a chance you will feel some pain at the site of the operation. Remember that the function of your knee replacement will improve for several months following surgery.

Looking after your new knee

- Avoid gaining weight
- Be careful in slippery conditions or uneven areas to avoid falls particularly on boats, pools, rivers, steps etc
- Regular walks will help to keep you mobile
- See your doctor for possible use of antibiotics before dental or medical procedures
- See your doctor for early treatment if you develop chest or urinary tract infection

Please do not hesitate to discuss the operation with your consultant, members of the team, your own GP or friends/family before making your final decision. Remember you can always change your mind and pull out of having an operation without offering an explanation.

For more information you can look at the following web sites/addresses:

<http://www.aaos.org/>

<http://orthoinfo.aaos.org/topic.cfm?topic=A00228>

<http://orthoinfo.aaos.org/topic.cfm?topic=A00389>