GIG CYMRU NHS WALES
Bwrdd Iechyd Prifysgol
Betsi Cadwaladr
University Health Board

RAPID RECOVERY
WREXHAM
MAELOR

Total Knee Replacement - A Guide for Patients

Index

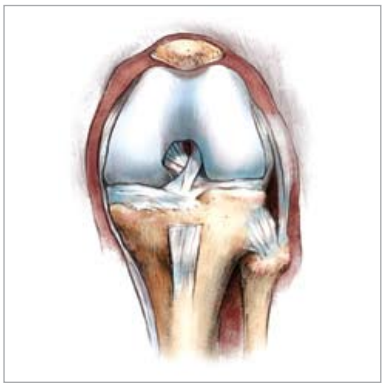
Introduction

This booklet is designed to provide you, the patient, with general information about knee replacement surgery offered by Betsi Cadwaladr University Local Health Board. Please take the time to read it, as it may answer a number of questions you have. It may also help you make an informed decision before signing the consent form for your operation. It is important that you read this before Joint School. If it raises any questions; you can clarify them at your appointment.

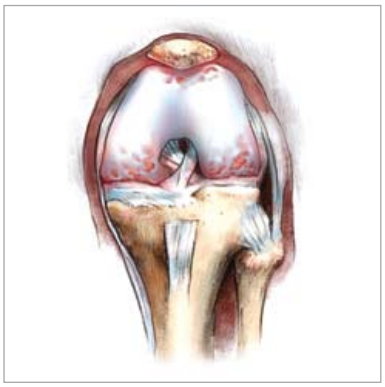
This Hospital has taken a unique and proactive approach to the care, recovery and rehabilitation of its joint replacement patients. The patient and the various health care professionals will equally share the responsibility for their care. Rapid Recovery is a patient focused experience commencing from the decision to operate in clinic and finishing with full recovery at home. Fundamental to the success of the patients operation, is the shared responsibility for your treatment, recovery and rehabilitation. The programme provides the knowledge and skills to carry out that responsibility and develop independence.

What is Osteoarthritis?

This is a common disease affecting the joints in the body, most commonly the knee and hip. The joint surfaces, which are covered in smooth cartilage, become damaged and gradually thin and roughen - this produces pain. Eventually, there may be no cartilage left in some areas of the joint. There are other diseases which cause joints to be replaced because of pain, such as rheumatoid arthritis.



Healthy Knee



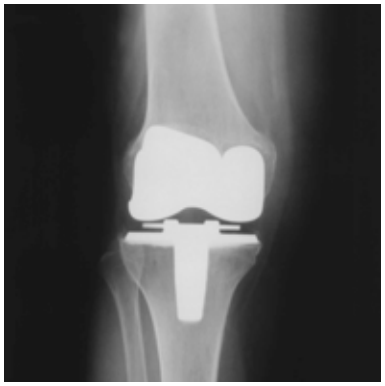
Knee with Osteoarthritis

What is Knee Replacement?

A knee replacement is an operation to replace all or part of your knee. The knee is made up of the thigh bone (femur) and the shin bone (tibia), held in place by ligaments and covered by the knee cap (patella). The bone ends can glide smoothly over each other because of a covering of articular cartilage.

When the cartilage is damaged by injury or worn away by arthritis, the bones can rub together painfully, making movement difficult.

Total Knee Replacement Prosthesis



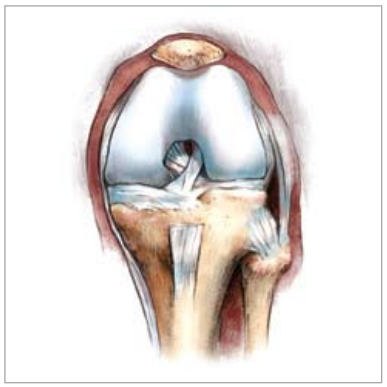
X-Ray of Total Knee Replacement Prosthesis

During a knee replacement, the surgeon removes the parts of your knee that have been damaged and replaces them with new parts made of metal and plastic.

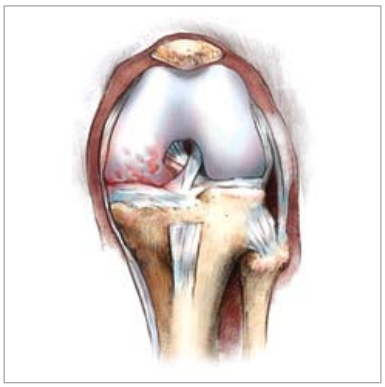
Types of Knee Replacements

Partial Knee Replacement

The Partial Knee replacement is intended for use in individuals with osteoarthritis limited to either the medial (on the inside) or lateral (on the outside) compartment of the knee. The diagrams below show a normal knee and the arthritis in only one side of the knee.



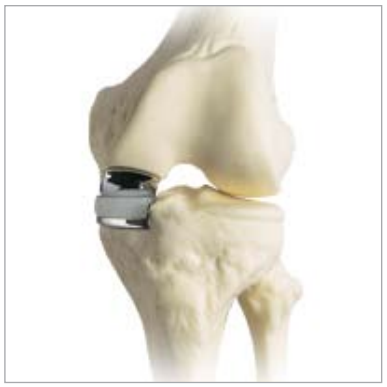
Healthy Knee



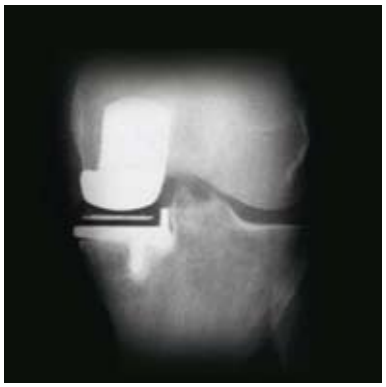
Knee joint with Osteoarthritis affecting only one compartment

Partial Knee Replacement involves removing the cartilage and a small amount of bone in the one compartment of the joint and resurfacing it with orthopaedic implants.

Unlike a Total Knee Replacement, the good cartilage on the opposite side of the knee and the cruciate ligaments which cross within the knee are retained.



Partial Knee Replacement Prosthesis



X-Ray of Partial Knee Replacement Prosthesis

Total Knee Replacement

Is an operation to replace the injured or damaged part of the knee with artificial parts. Your new knee will consist of a metal shell on the end of your thigh bone, a metal and plastic spacer on the upper end of the shin bone and if needed a plastic button on the kneecap.

Total Knee Replacement Prosthesis

You may benefit from a knee replacement if:

- *Severe knee pain limits your everyday activities, including walking, going up and down stairs, getting out of chairs, and needing a walking aid for walking*
- *You have moderate or severe knee pain whilst resting either day or night*
- *You have chronic knee inflammation or swelling that does not improve with rest or medication*
- *There is knee stiffness and the inability to bend and straighten the knee*

What to expect from an Artificial Knee

- *Relief of pain*
- *Restored function and mobility*
- *Correction of deformities*

However, an artificial knee is not a normal knee, and activities that overload it must be avoided. You will be advised to permanently avoid certain activities like jogging and high impact sports.

Making the decision

If you are elderly or being treated for other medical conditions you will need to be assessed by a specialist doctor before the operation. Please note that each case is treated individually.

There are certain medical conditions that may mean you are not suitable for

surgery such as;

- *Excessive obesity*
- *Severe neurological conditions*
- *Uncontrolled diabetes*
- *Acute heart problems*
- *Serious and advanced respiratory failure*
- *An active infection in the affected joint or elsewhere in the body at the time of surgery, for example, dental abscess. This should be treated before surgery*

However, this will be discussed with you, during your consultation.

What Complications can occur?

This section is not meant to scare you but to help you make an informed decision on whether to have a knee replacement and help you cope better with any complications that may occur.

Wound Infection.

The wound on your knee can become inflamed, painful and weep fluid which may be caused by infection. The majority of wound infections can be treated by a course of antibiotics and often settle down following treatment. You can help prevent infections in the wound firstly, by ensuring you are thoroughly showered and clean prior to your surgery. After your surgery you must keep the incision area clean and dry. The wound dressing should normally not be disturbed, and should only be redressed by your nurse. In the long term, you should check with your doctor and dentist prior to any dental treatment or skin or urine infection, as you may need antibiotics to help prevent an infection.

Deep Vein Thrombosis. (DVT)

Deep vein thrombosis occurs when blood in large veins of the leg forms clots. This may cause the leg to swell, feel painful and warm to touch.

The symptoms and signs are;

- *Calf pain/tightness*
- *Calf throbbing*
- *Lower limb swelling that is new or increasing*
- *Redness or inflammation to your calf or thigh area*

Pulmonary Embolism

This can happen when a part of a blood clot formed in your leg vein breaks off and travels to your lung. The risk of developing a life threatening pulmonary embolism is low.

The symptoms and signs and are;

- *Difficulty in breathing*
- *Chest pain/discomfort*
- *Bluish tinge to lips, face/extremities*
- *Coughing with blood stained phlegm*
- *Sudden collapse*

Measures to prevent DVT and subsequent Pulmonary Embolism (PE)

Surgery can increase your risk of developing DVT and subsequent PE. However, there are many things that can be done to minimise this risk. Whilst you are having your surgery, the leg not being operated on, will have a boot like mechanical pump fitted. This is called an intermittent calf compression device. The pump automatically squeezes your lower legs to help your blood circulate much like your own calf muscles do naturally whilst walking. This will reduce the risk of the blood pooling in the veins and causing a blood clot.

Blood Thinning Drugs

You will be given drugs to thin the blood and make it less likely to clot.

Depending on your consultant's preference and your medical history, you will either be given oral medication or an injection which is administered just below the skin surface into a skin fold of the abdomen. In some cases this medication will need to be continued for a few weeks after discharge from hospital. If this is the case you will be advised on its use and duration, by a nurse or pharmacist and a supply will be given to you at discharge.

How can you help reduce the risk of clots?

- *Get up and mobilise as soon as you are advised following your surgery*
- *Perform your exercise independently once you have been directed to do so*
- *Perform breathing exercises and foot and ankle exercises independently*
- *Take your medication as prescribed*

Wear and tear of your Total Knee Replacement

Although implant designs and material, as well as surgical technique, have improved, wear of the weight bearing surface or loosening of the components may occur between 10-15 years after surgery. Excessive activity or being over-weight may accelerate this wear process.

Preparation for the Surgery

Pre-admission Assessment

This should ideally be 4 to 6 weeks before your operation.

You will be seen by a nurse practitioner who will assess your fitness for anaesthetic and surgery. This can take between 2-3 hours. They will ask you about your general health, medical history and medication. A number of investigations will be carried out such as blood tests, urine test, ECG (heart Trace) and X-rays. Therefore, please bring all your current medication with you, including any over the counter medication and herbal and other remedies, in their original packaging.

Attend with a full bladder or bring a urine sample with you. Your results will be reviewed by the nurse to ensure you are fit to proceed with your planned surgery. Some patients may be seen by their consultant at this visit for consenting to surgery unless this has already been done at a separate appointment.

Joint Replacement School

The Rapid Recovery Programme is a patient focused experience commencing from the decision to operate in clinic and finishing with full recovery at home. The centre point to the program is the unique Joint Replacement School, a patient education session, where the whole patient journey is explained, questions answered and anxieties relieved. The Joint Replacement School ensures that you receive optimal education and clear expectations, which results in the best possible outcome. It provides an opportunity to meet other patients going through the same experience and many of the staff that will be involved in your care. This Hospital is one of the few centres in the country to offer this patient focused educational session. It is important to invite your coach (explained below) to join you at the Joint Replacement School.

Because of changes in surgical procedures we strongly recommend that every patient attends this Joint Replacement School, even if you have been through this procedure before i.e. even if you have previously had a knee or hip replacement. You will gain a great deal of information about the surgery and be able to question the health professionals and a patient representative, who has previously undergone the procedure, about the operation.

Personal Coach

At this time we will ask you to choose a coach. They must be able to support you with time and encouragement. It is advisable that your coach attends all your appointments, and supports you during your hospital stay.

What is a Coach?

This is a person chosen by you to support and encourage you throughout your treatment, before your admission to hospital, while you are in hospital and at home afterwards. A coach is often a partner, a family member or a good acquaintance but can be anyone you choose.

What responsibilities does the Coach have?

The coach will not be expected to carry out any clinical (nursing) duties nor do they need any medical expertise. They will, however, play an important role in supporting you throughout your experience. Coaches play a vital role in the recovery and rehabilitation process and evidence shows that this encouragement greatly enhances recovery. They therefore, will need to be committed in providing their time to be a Coach.

Involve your coach as much as possible during your time leading up to your operation. They can be invaluable to you in organising your home and helping you with your pre-operative exercises.

What do I do if I do not have a Coach?

It is not a problem! Please discuss this with the team; your successful recovery will not be affected.

Your Team

This hospital is committed to providing the best care as well as a positive healthcare experience for you and your family. During Joint School you will meet members of your care team, which is made up of many dedicated professionals who will work with you to make your stay at our hospital pleasant and your transition back to home as smooth as possible. Your orthopaedic surgeon works with a network of orthopaedic specialists whose combined skills provide excellence in treatment for any musculoskeletal condition. These people work together to treat you as an individual providing the best care available for a wide range of medical concerns, following you from pre-diagnosis through treatment and on to therapy and rehabilitation.

Our ultimate goal is to help you regain your ability to engage in life at the level that gives you the greatest satisfaction. While you are the most important member of our healthcare team, you may be assured that there are a number of outstanding medical professionals serving on your team.

Orthopaedic Surgeon

Your Surgeon will perform your surgery and check on you during your stay in hospital. Your Surgeon will discuss with you in detail your operation and the risks and benefits to you. Following this discussion, you will give consent for the operation by signing a consent form. If you do decide not to have the surgery however, you must let us know as soon as possible.

Anaesthetist

The Anaesthetist is responsible for administering the anaesthetic, controlling your pain and for your wellbeing and safety throughout your surgery. The anaesthetist will discuss the options of general and spinal anaesthetics.

It is possible to have either a general or a regional anaesthetic for this operation although a spinal (regional anaesthetic) is commonly used at this hospital. During any form of anaesthesia, it is standard practice to insert a plastic tube (cannula) in one of the veins of your arm and to monitor the levels of oxygen in your blood (with a small plastic probe attached to your finger), your heart trace (ECG) and blood pressure.

General Anaesthetic

A general anaesthetic involves giving you medication through the cannula to put you to 'sleep'. While you are unconscious, a plastic tube is then inserted in your throat to lie above/or in your voice box. This allows delivery of oxygen and anaesthetic gases to your lungs. This tube is left in place until you fully recover and may cause a sore throat in some patients for a few hours. This is usually self-limiting.

Regional Anaesthetic

Many types of regional anaesthetic techniques are possible for knee surgery but the most common for knee replacement is a 'spinal anaesthetic'. This involves the insertion of a fine metal needle and injection of local anaesthetic in the fluid covering the nerves in your lower spine. The effect of this is to make the lower half of the body (waist downwards) numb and pain free. During the surgery you are either awake or you may be offered 'sedation'. The effects of a spinal anaesthetic take about 4-6 hours to wear off. A spinal anaesthetic may sometimes result in a headache afterwards. On rare occasions, it may be technically difficult or impossible to perform and may sometimes not work. If this happens, it is possible to provide a general anaesthetic.

Once it has worn off, sometime after surgery, all feeling and function below your waist will return.

Infiltration of Local Anaesthetic into Wound

The surgeon may choose to infiltrate your knee with local anaesthetic and anti inflammatory drugs into the bone and tissues surrounding the surgical area. Its effect starts about 2-3 hours after the injection at the time of surgery and

it produces an area of localised numbness around the joint. Its effect lasts for about 18-24 hours and it does not prevent you from moving your leg and getting out of bed.

Occupational Therapist

The Occupational Therapist (also known as the OT) will discuss with you how you manage your personal care and daily activities at home.

If required an occupational therapist will visit you in your own home prior to your admission to hospital to assess for any equipment you may need in your home environment following your discharge from hospital.

- *You will be given a presentation by an Occupational Therapist in Joint School*
- *An Occupational Therapist will visit you at home if required*
- *Prior to discharge you will be assessed by an Occupational Therapist with regards to activities of daily living, e.g. on and off toilet*
- *Following your discharge from hospital an Occupational Therapist will telephone you at home to check progress with activities of daily living*

Physiotherapist

The Physiotherapist will give you advice prior to your surgery on exercise and mobility and direct your post-op rehabilitation. They will visit you on the ward to assist in regaining your mobility and ensure you are safe with walking aids, stairs and are able to perform your home exercise programme before you are discharged. You may see a Physiotherapist in outpatients to continue your treatment.

Nurse

On admission, the Nurse will complete all necessary documentation. They will escort you to theatre for your planned operation and care for you following your surgery.

Ward Nurses will monitor your observations, check your wounds and care for you until discharge home. On discharge they will ensure that you have all necessary paperwork, dates for further appointments and all medications.

Pharmacist

You will see a pharmacist prior to admission (either at your pre-operative assessment or at joint school). They will tell you if there are any special instructions about how to take your medicines before the operation. On the ward the pharmacist will check legality, accuracy and appropriateness of your prescriptions, including your regular medications, medications for your stay and also for your discharge. They are there to advise nursing staff and Doctors provide you with any information you require on your medication.

Things to do before your Operation

Exercise

It is important to be as fit as possible before undergoing joint replacement. Participating in an exercise programme before surgery can help patients make a more rapid recovery. Moderate exercise is an integral part of treating arthritis. Activities such as walking, swimming, riding a bike or gardening can assist in keeping your bones strong and your joints supple, which may help relieve stiffness. Low-impact exercise will not wear out your joints. Although exercise may sometimes cause discomfort, proper exercise will help nourish the cartilage, strengthen the muscles, and prolong the life of your joints.

It is important to do the recommended exercise leading up to your planned surgery as this will strengthen your muscles and help in the recovery period.

Common Types of Exercise

Hydro Therapy

Hydro therapy is an excellent form of exercise to help manage arthritis pain. Water's buoyancy helps protect your joints from impact injury. Water also resists movement, which is helpful for building strength. Water pressure can also assist with reducing the swelling in joints and oedema in the legs.

Walking

Walking is an excellent form of endurance exercise for almost anyone, including those with arthritis. Be sure to have a good pair of walking shoes to help cushion impact. Check with your Consultant to obtain any exercise precautions or guidelines. You should be able to speak clearly without feeling out of breath when you are walking. Always warm up and cool down by walking slowly.

Cycling

Regular cycling or using a static exercise bike is an excellent endurance exercise. However, this may exacerbate patients suffering with knee problems, so always discuss this option with your consultant. Be careful not to increase the resistance or ride up and down hills too quickly. As with any endurance exercise, you should be able to carry on a conversation while you are engaged in the activity. If you are unable to talk, slow down to a more comfortable pace.

Medication

Please bring all of your current medication to joint school so that you can discuss them with the pharmacist. Make sure you tell the pharmacist everything that you are taking, including any herbal supplements and any `over the counter' medicines. They will then be able to tell if you need to stop taking any of your medicines and when. This is important because a number of drugs and herbal remedies can interact with the anaesthetic and can potentially cause complications.

If you are running low on supplies of your medication before the operation please get a repeat prescription from your GP.

Diet

Proper nutrition is a concern for joint replacement patients. Orthopaedic surgeons recognise that many joint replacement patients may not be in peak nutritional health. Proper nutrition can assist in a Rapid Recovery.

You will recover more quickly from surgery if you are healthy beforehand. Try and eat a healthy diet in the time leading up to your operation. If you are overweight, it is important to reduce your weight in preparation for your surgery. This will help to reduce any risks associated with anaesthetic and your knee will last longer.

Smoking

It is best to stop smoking, at least 2 weeks before surgery and 6 weeks after to give time for the wound and soft tissue around the knee to heal. Smoking impairs the transfer of oxygen to the healing tissues, which may increase healing time and the possibility of other complications. Oxygen is vital for the healing process.

Prepare your Home

Remember, when you first go home you will not be fully mobile and may have some restrictions on what you are able to do. Think about the things you normally do and make some adaptations. For instance, if you keep your mugs, plates, etc. in a low cupboard, consider moving them to a more accessible place for a short while after your operation. If you have to cook for yourself, consider making or buying some ready meals that are easy to prepare when you come home. It is also wise to be up to date with household chores like cleaning and laundry. You won't be able to do these in the first few weeks after your operation. Involve your 'coach' in making the necessary preparations.

What to bring to Hospital

- *A toiletry bag with soap, face cloth or sponge, toothpaste and tooth brush, shampoo, deodorant etc.*
- *Dressing gown and pyjamas for men, and knee length nightgowns/pyjamas for women.*
- *Clothing to wear during the day, as you will be getting dressed in the morning for the day. Men should if possible bring shorts which move easily over the bandaged leg.*
- *Full fitting slippers (not slip-ons), preferably with non-slip soles, that are easy to put on.*
- *Comfortable shoes for your return home. (Women's shoes must be low heeled).*
- *The helping hand, long-handled shoehorn or sock that was given to you by the Occupational Therapist.*
- *All of your current medication including tablets, inhalers, creams and eye drops. These should be brought into hospital in the original packaging.*
- *A selection of books or magazines.*
- *Telephone contact numbers.*

Check List (✔)

- ☐ Toiletries
- ☐ Pyjamas / nightgown
- ☐ Dressing gown
- ☐ Day clothes
- ☐ Full fitting slippers
- ☐ Comfortable shoes
- ☐ Helping hand
- ☐ Medication
- ☐ Books / magazines
- ☐ Telephone contact numbers
- ☐ Small amount of change
- ☐ Medicated hand wipes
- ☐ Patient information booklet

The day of the Surgery

Before a planned admission take a long hot soapy bath or shower, without using heavily scented brands, and have an all-over scrub with a soft gentle brush, exfoliation or loofah. Clip your toe and fingernails (removing all nail polish) and wash your hair. Put on freshly laundered underwear. All this helps prevent unwanted bacteria coming into hospital with you and complicating your care.

It is important that you have nothing to eat or drink (fasting) for at least 6 hours before your surgery. Having an anaesthetic without fasting beforehand can be extremely dangerous. If you have eaten you are likely to vomit during the anaesthetic and this can damage your lungs. It is important that you understand the instructions regarding fasting, as failure to observe them is likely to result in your operation being postponed. These instructions include any food, soup, milk and milky drinks, tea, coffee or any chewing gum.

Your expected stay in hospital will be 3 days.

Your Inpatient Stay

Arriving in Hospital

You will be admitted to the admissions unit on the day of surgery. On arrival, an identification bracelet carrying your details on it will be attached to your wrist and a nurse will complete any final paper work. A member of the orthopaedic and anaesthetic team will also see you, your consent will be checked and your operation site marked with a marker pen.

Please note that once your admission is completed, you may have a long wait, depending upon where you are on the theatre list and it would be advisable to bring something to read with you.

Anaesthetic Review

Your Consultant Anaesthetist will visit you before your operation. Your Anaesthetist will ask you again about your health and discuss the anaesthetic and pain relief techniques suitable for you, together with their advantages and risks. Hopefully your questions will all be answered by now but if not, do not hesitate to discuss any concerns you have with your Anaesthetist.

Having a 'pre-med' (pre-medication)

This is the name for drugs, which are sometimes given before an anaesthetic to reduce anxiety. A pre-med is not usually necessary but if you think that this will help you please ask your anaesthetist.

Glasses, Jewellery, Dentures

You can wear your glasses, hearing aids and dentures until you are in the anaesthetic room. If you are having a local or regional anaesthetic, you may keep them on. Jewellery and decorative piercing should be removed. If you cannot remove your jewellery, it can be covered with tape to prevent damage to it or to your skin.

In the Anaesthetic Room

This is the room next to the operating theatre where you will be positioned on the operating table. Several people will be there, including your anaesthetist and an anaesthetic assistant.

Equipment will measure your:

- *Heart rate - 3 sticky patches on your chest (electrocardiogram or ECG)*
- *Blood pressure - a cuff on your arm*
- *Oxygen level in your blood - a clip on your finger (pulse oximeter)*

A needle is used to put a thin soft plastic tube (a cannula) into a vein in the back of your hand or arm. Drugs and fluids can be given through this cannula. If needles worry you, please tell your anaesthetist. A needle cannot usually be avoided, but there are things he or she can do to help.

Finally, the type of anaesthetic chosen e.g spinal will be given.

Recovery from surgery

You will be transferred to the ward after a short stay in recovery.
You will be given oxygen to help you recover from the anaesthetic; you may have a urinary catheter in your bladder to drain the urine.

Pain Relief

Good pain relief is important and the selection of appropriate pain management will vary according to individual circumstances. There are several methods available for the management of your pain. These will be discussed with you by an anaesthetist and/or pain management nurse before your operation.

Pain Assessment

On return to the ward the nurses will reassess the degree of pain you may have. Be honest with your answers. An assessment scale is used to measure your pain regularly. The nurses will ask you to rate your pain at rest and on movement on a scale of 0–3.

Score 0:	No pain at rest or on movement
Score 1:	No pain at rest, slight pain on movement
Score 2:	Intermittent pain at rest (pain restricting movement / respiration), moderate pain on movement
Score 3:	Continuous pain at rest, severe pain on movement

Options for Pain Relief

Patient Controlled Anaesthesia (PCA)

This involves using a machine attached to a drip which allows safe doses of morphine (or similar drug) to be given directly into your vein when you press a patient demand button. After a dose is given the machine will lock out for a period of time, normally 5 minutes. Only you can tell when you need more analgesia and therefore you should never let your friends or relatives press the button for you. Pain is normally worse on movement and it may be helpful for you to press the button 5-10 minutes before moving.

Will PCA mean less contact with Nursing Staff?

No. The nursing staff will carry out regular checks on you and make sure that you are comfortable.

Are there any side effects associated with PCA?

As with any type of pain relief there is a possibility of side effects, these are as a result of the drug used and not the method of administration. Side effects may include nausea, drowsiness, itching or difficulty passing urine. If you develop any side effects please let your nurse know so that they can be treated.

How long will I require a PCA pump for?

Normally only for the immediate post operative period up to 12-24 hours; after which you can take tablets or medicine to ease your discomfort.

Tablets or medicine

Once you are able to drink and eat you can take tablets or medicine to manage your pain. They can be used alone or with other methods of pain relief, such as patient controlled analgesia (PCA), epidural or a nerve block, to increase the effect. Depending on the preparation used it will take at least half an hour to work, if a long acting drug is used then it may take up to 2 hours to be effective.

Injections

These can be given into your vein for immediate effect, or into a leg or buttock muscle. Strong pain relieving drugs such as morphine can be given by injection.

A Nerve Block

This is an injection of local anaesthetic near to the nerves that go into your leg. Part of your leg should be numb and pain-free for some hours afterwards. Your leg may also be weak during this period.

Epidural Analgesia

A small plastic tube (an epidural catheter) is passed through a needle into a place near the nerves in your back. A measured amount of two drugs mixed together, local anaesthetic and an opioid (morphine like drug) can be given through the tube using a special Epidural pump.

It may be possible to allow you to give yourself additional doses by pressing the button (patient controlled epidural analgesia). Epidural analgesia can give effective pain relief for a few days after the operation.

As with any invasive technique side effects and complications can occur. All of the side effects described can occur without an epidural the most common are minor and easily treated – serious complications are fortunately rare.

The risk of complications should be balanced against the perceived benefits and compared with the alternative methods of pain relief. Your anaesthetist can help you with this.

Common side effects and complications

Because local anaesthetics are used you may experience some numbness and weakness in the treated area, this is normal and should wear off when treatment is stopped.

Inability to pass urine because the epidural affects the nerves that supply the bladder; it may be necessary to pass a tube into the bladder to drain urine during treatment with an epidural.

Blood pressure is commonly lowered because the local anaesthetic affects the nerves going to the blood vessels. Extra fluids and/or drugs can be given into your vein to treat this. Another problem described is itching as a side effect of the morphine-like drugs which may be helped by the administration of some anti allergy medication.

Nausea and vomiting is common after surgery and can be treated with anti sickness drugs. This is normally less of a problem for patients receiving epidural analgesia than those using other forms of pain relief.

Backache – commonly occurs after surgery, with or without an epidural and is often caused by lying on a flat firm operating table.

Poor pain relief – it may not be possible to put the epidural catheter in and the local anaesthetic may not spread well enough to cover the whole surgical area; sometimes the infusion leaks or the catheter falls out.

Occasionally, despite regular painkillers, you may experience stronger pain. This may occur during physiotherapy exercises or walking. You will have additional painkillers prescribed to help relieve this pain but you will need to ask your nurse for these. It is important that you are comfortable enough to be able to comply with physiotherapy to prevent any delay in discharge.

Good pain control helps you recover more quickly after your operation. It is important to make the doctors or nurses know if you are in pain. Do not wait to be asked and do not feel afraid of being a nuisance. If your pain is effectively controlled, post-operative complications are reduced. Good pain control will allow you to sleep better, helps your body heal more quickly and enables you leave hospital sooner.

You can get more information about pain relief from:

- *The nurses on the ward*
- *Your ward pharmacist*
- *Your anaesthetist*
- *The pain-relief team*
- *Manufacturers' information leaflets for patients about any drug you are offered (your nurses should be able to give you these leaflets)*

Back on the Ward?

You will receive fluids through an intravenous drip, which will include antibiotics to guard against infection. There might be a plastic suction tube in the wound to drain excess blood, usually removed 24hrs after the operation and the bulky dressing covering the knee will be changed to a smaller one, before you are discharged.

Swelling/Bruising

You can expect some swelling, which often extends down to the calf and ankle. This can take from a few weeks to up to a year to settle. You can help reduce the swelling by resting your leg up on a small stool or table when sitting. This is more effective if the knee is raised higher than the hip but your knee should remain straight. Bruising should settle in a couple of weeks.

Ice Therapy

You may have a cold wrap around you knee which is filled with ice water. Ice can be used for pain relief, especially if the joint is hot and/or swollen. Only use ice if your skin is in good condition and you do not have any problems with circulation. The skin should be pink, not red, after applying ice.

If swelling occurs, place an ice pack over the knee for no more than 20 minutes. Your wound needs to be kept dry until it is healed so place a plastic bag over your knee. Wrap the ice pack or medium size bag of frozen peas in a tea towel before placing it on top of the plastic bag on your operated knee. *(NB. Peas that have been defrosted and refrozen should not be eaten.)*
You may repeat this 2-3 times a day.

Your Care

Our nurses will look after your needs, attending to any tubes and dressings you may have, and assist you where necessary.

A positive frame of mind is vital to your recovery and you will be encouraged to spend the day out of bed and in comfortable day clothes, returning to your night wear and bed only for sleeping. Although they will look after you and care for you, the hospital staff will encourage you to take responsibility for your recovery and you will be expected to become independent as you progress following your surgery.

Physiotherapy

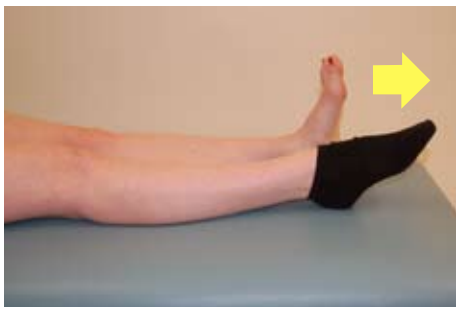
Physiotherapy Following Total Knee Replacement

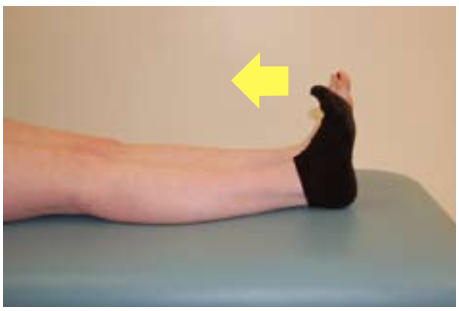
The Physiotherapist will see you the first day after your operation. You will then be seen once or twice a day during your stay in hospital.

The role of the Physiotherapist is to teach you exercises to increase the range of movement and the strength of your new knee. They will also ensure that you are walking safely with appropriate aids and safely ascending and descending stairs.

From the time you wake from your operation it is important to do the following exercises.

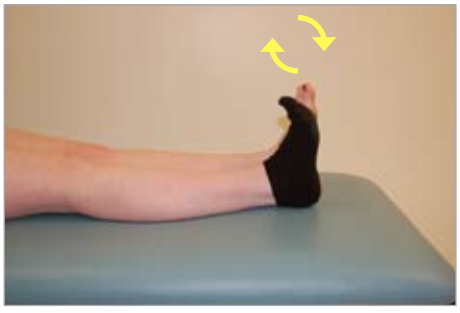
1. Take 6 deep breaths every hour to encourage lung expansion.
2. Bend and straighten your ankles briskly. Keeping your knees straight during this exercise will also stretch your calf muscles.





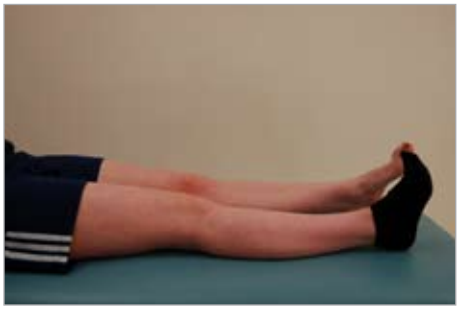
Repeat 10 times at least 3 times a day. ☐ ☐ ☐

3. Rotate both ankles in a clockwise and anti-clockwise direction.



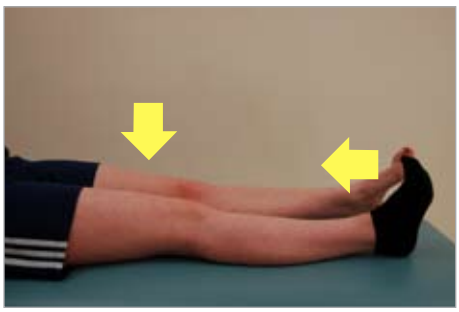
Repeat 10 times at least 3 times a day. ☐ ☐ ☐

4. Sit on the bed with a sliding board under your leg. Bend and straighten your hip and knee by sliding your heel up and down the board.




Repeat 10 times at least 3 times a day. ☐ ☐ ☐

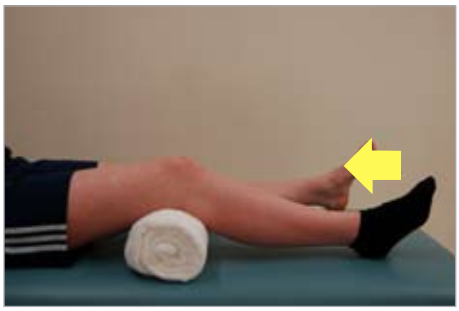
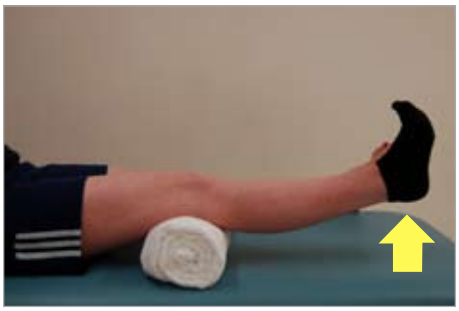
5. Static Quads: With your leg straight, pull your toes towards you and tighten your thigh muscle by pushing your knees firmly down into the bed. Hold for 5 seconds.



Repeat 10 times at least 3 times a day. ☐ ☐ ☐

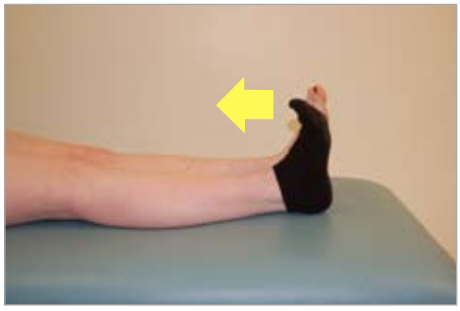
Progression exercises to be carried out once instructed by your team.

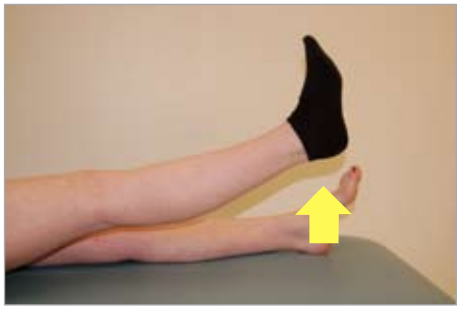
6. Place the roll provided or a rolled up towel under your knee. Pull your foot and toes up by tightening your thigh muscle and straightening your leg. Hold for 5 seconds. Slowly relax.

Repeat 10 times at least 3 times a day. ☐ ☐ ☐

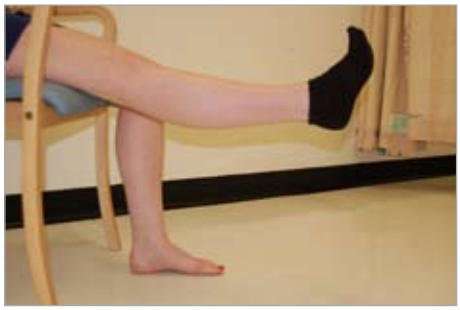
7. Pull your toes up and straighten your knee. Lift your leg up off the bed. Hold for 5 seconds. Slowly relax.





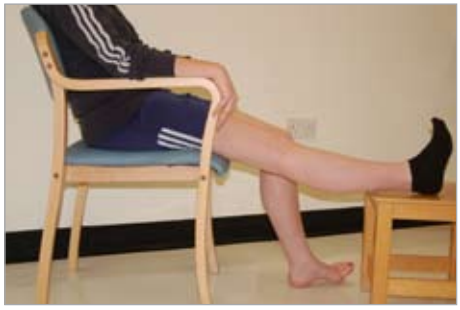
Repeat 10 times at least 3 times a day. ☐ ☐ ☐

8. Sitting in the chair, straighten your knee out in front of you. Hold for 5 seconds. Slowly relax.



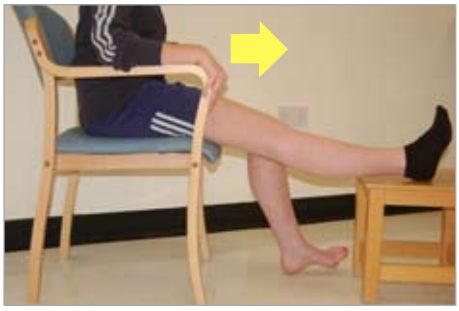
Repeat 10 times at least 3 times a day. ☐ ☐ ☐

9. Hamstring Stretch: Sitting, with your heel supported on a chair or rolled up towel as shown. Bend your ankle and allow your knee to straighten. Hold for 10 seconds.



Repeat 10 times at least 3 times a day. ☐ ☐ ☐

10. To progress this exercise, bend your upper body forwards from your hips keeping your back straight. You should feel the stretching behind your knee and thigh. Hold for 10 seconds.



Repeat 10 times at least 3 times a day. ☐ ☐ ☐

Start by doing 10 of each exercise 3 – 4 times a day. As this becomes easier you can increase the number of each exercise.

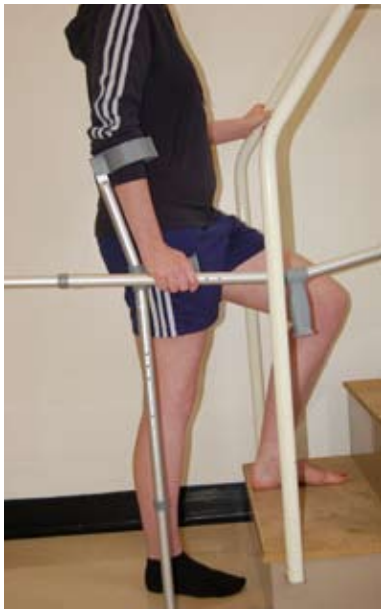
NB: Normal hip precautions must be maintained for patients who have previously undergone a Total Hip Replacement. If you are unsure please ask a member of the team.

Following your operation it is important to follow the instructions given to you by the ward staff and to complete your exercises as directed by the physiotherapists. Whilst you are at rest it is important to rest with your leg fully extended (straight) to prevent the formation of fixed flexion deformity (where you are unable to fully straighten your leg). You must resist the temptation to rest with your knee on a pillow as this will not allow your knee to fully straighten.

Stair Practise

You will practise stairs before you go home. Generally it is safest to use one step at a time, as described below.

Going up stairs: use a rail, put both crutches in one hand, lean on crutches and banister and lift the good leg onto the next step, then the operated leg and then the crutch onto the same step.



Going down stairs: place the crutch/stick on the step below, lean on the banister and crutch/stick bring the operated leg down to the next step, then the good leg down to the same step.

Post operative Physiotherapy Advice – Total Knee Replacements

- *Exercise will improve the healing process and increase the strength and flexibility of your joint*
- *You should perform your exercises as soon as possible after your operation*
- *You should perform them gently and as pain allows until the sutures/clips are removed then gradually build up to four times a day*
- *Aim to perform 10 repetitions of each exercise*
- *It is important to exercise gently and not push yourself to the point of causing too much pain*
- *You should walk as soon as possible after the operation, short distances initially, slowly increasing the distance*
- *When going upstairs lead with the un-operated leg. When going downstairs lead with the operated leg*
- *You can return to swimming once your wound has healed*
- *You can return to other activities as soon as you feel comfortable*
- *When using one walking aid, hold it on the un-operated side*
- *To help reduce swelling in your leg, lie with your leg well supported and your foot raised higher than your hip*
- *Bend and straighten your ankle frequently when resting*
- *Do not put a towel/cushion under your knee to make it more comfortable*

Preparing for Home

Going Home

Our aim is for you to be able to go home 3 days following your operation. This will only happen if our team of people looking after you think it is safe for you to do so.

After Discharge

It is really important for the long-term success of your new joint that you continue your exercises. You may be reviewed initially at between 6-12 weeks, and then at 1, 2 and 5 year intervals so that your Consultant can monitor your long term progress. Once you have been discharged from hospital you may be provided with a telephone number, to allow you to be in contact with a registered nurse over a 24-hour period, to give advice if you have any concerns and to support you in this period. The District Nurse will visit to check your wound and remove your clips. They will also administer anti-coagulant therapy, to prevent deep vein thrombosis if prescribed. This can take the form of tablets or injection therapy, depending on your Consultant. All information concerning District Nurse visits and Anti-Coagulation therapy, will be given by the nursing staff.

Please express any concerns you have to the nursing staff as soon as possible, regarding any discharge problems you foresee, i.e. transport. This will help us to ensure you have an appropriate plan in place, to prevent your discharge being delayed and to ensure you are well supported after you leave the ward.

What to Expect following your Discharge

You should aim to gradually increase your walking distance and the amount of activity that you do every day.

6-12 Weeks Post-op

It is not uncommon to get a slight increase in pain at this time. This is usually as a result of increased confidence and therefore increased activity. If you experience an increase in pain you must remember to rest your knee after activity.

You will also feel more confident to progress to heavier housework.

Driving

Driving usually begins when your knee bends sufficiently so you can enter and sit comfortably in your car and when your muscle control provides adequate reaction time for breaking, acceleration and performing an emergency stop. For most individuals this will be approximately 6 to 8 weeks after surgery. Please always check with your insurance company before starting to drive.

12 weeks

You should be ready to return to work (depending upon your occupation) and your walking distance should be unlimited.

Sport

After 12 weeks you can return to certain sports. Walking and swimming are excellent but sports that require jogging and jumping are not, e.g. football, squash, and athletics.

Gardening

This can be resumed after 3 months, however you must minimise kneeling and avoid entrance of foreign body to the knee, which may lead to serious complications such as infection. You must also take great care with heavier work such as digging. Avoid kneeling until your wound has healed and you have an adequate bend.

Sexual intercourse after your knee replacement

In the absence of pain, or advice to the contrary from your consultant, sexual activity may resume approximately 6 to 12 weeks after your operation.

Reminders

Loss of appetite is common for several weeks following surgery. A balanced diet often with an iron supplement is important to promote proper tissue healing and restore muscle strength.

Constipation advice – It is important to inform the nursing team if you are feeling constipated. If there is a problem once you are home you should seek the advice of your GP. Exercise and a balanced diet will help prevent this problem occurring but you may need some gentle laxatives while you are taking strong painkillers.

Do not twist your knee as you turn around but take small steps.

Do not stand for prolonged periods as this may lead to your leg swelling. If you are not walking keep your leg elevated when sitting or lying down whilst exercising the foot and ankle.

Contact your GP immediately if you develop an infection anywhere in or on your body, as it is essential to have it treated.

Inform staff that you have had a joint replacement before any invasive treatment, e.g. dentist.

It is advisable that you continue with your exercise programme on your return home and increase the amount you walk gradually, remembering not to try and do too much too soon.

It is necessary for you to have some Physiotherapy following your return home. Your Physiotherapist will arrange this before you go home. If you have not heard anything regarding your outpatient Physiotherapy appointment within one week of your discharge from hospital, please contact your local Physiotherapy Department.

Summary

We know the decision to have surgery is sometimes difficult. We hope this brochure has helped you understand some of the basics of the Total Knee Replacement surgery and about the planned care you will receive. Please find the time to read this information before you attend Joint School.

Visitors

Ward visiting hours are 3pm-4pm and 7pm-8pm, 7 days a week. If this is not convenient, visiting hours can be flexible by telephoning the ward in advance to arrange. However, it is important to remember that your successful rehabilitation following your knee replacement is our priority and receiving visitors should not be allowed to impact on that. Visitors may be asked to leave if any member of the care team needs to provide care to you.

It is however for both yourself and your Nurse to decide when you feel you are ready to see people, how often and for how long. We encourage your relatives/ friends to be involved in your care if you wish, we do ask that consideration for other patients needs are thought of at all times. Clinical information will not be given to relatives/friends without your prior permission. This booklet contains information you require to understand more about the planned care given at this hospital.

For further information on the Rapid Recovery Programme, please visit; *www.rapid-recovery.co.uk*

Disclaimer

The Betsi Cadwaladr University Local Health Board has taken all reasonable care to ensure that this booklet is accurate on the stated date of publication. However, the Trust assumes no responsibility or liability for any injury, loss or damage incurred as a result of any use or reliance upon the information and material contained within this booklet and is unable to provide any warranty concerning the accuracy or completeness of any information contained herein.

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