Total Knee Replacement
- A Guide for Patients
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Introduction

This booklet has been designed to provide you with general information about your knee replacement surgery. Please take the time to read it before you attend your next appointments at the pre-operative assessment clinic and the Joint School as it will provide you with the information you need to make an informed decision about your surgery and the care you will receive during your stay with us.

Here at Ysbyty Gwynedd we provide a Rapid Recovery Programme for all Joint Replacement Patients. The aim of this programme is to enable you to return to full health as soon as possible after your operation. Research indicates that after surgery, the earlier we get you eating and drinking and out of bed, the quicker the recovery, making it less likely for complications to develop.

Our aim is for you to be able to go home within 3 days following your operation. In order to achieve this we need you to take an active part in your recovery and work together with us to achieve the best possible outcome.

If this booklet raises any questions, it may help to write these down; you can clarify them with the clinical team at your next hospital appointment or when you attend Joint School. Space for you to record your notes and questions is provided at the end of this booklet.
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.

The pain, stiffness and general disability caused by such changes can usually be controlled satisfactorily in the early stages by painkillers, anti-inflammatory drugs and measures such as weight loss, use of a walking stick and adjustment of daily activities to minimise the stress on the knee joint.

However there comes a time when these measures are not enough and a total knee replacement may be recommended.

What is Knee Replacement?

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 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.
A knee replacement operation replaces the injured or damaged parts 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.

You may benefit from a knee replacement if the wear and tear in your knee causes:

- Knee pain which severely 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 which is unresponsive to analgesics.

What to expect from an Artificial Knee

- Improvement of pain
- Improvement of function and mobility
- Improvement of deformities

However, it is important to understand that the artificial knee does not make the knee completely back to normal. Some patients can still have residual discomfort particularly in the front of the knee. While activities like kneeling may be possible, it may be uncomfortable for some patients. It is also best to avoid certain activities which can overload the knee like jogging and high impact sports.

How long will my Knee replacement last?

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 or even earlier. Excessive activity or being overweight may accelerate this wear process and loosening.

If this happens it will then be necessary to have 'revision' surgery carried out.

What are the Complications?

This section is not intended to alarm you but aims to outline the possible complications of your surgery, the measures that will be taken to reduce / prevent those risks from developing and the actions you can take to protect yourself.

Wound Infection and Deep Joint Infection.

Your Consultant Orthopaedic Surgeon and his team will take many precautions to reduce the risk of infection. Firstly, they may not proceed with the operation if you have any signs of infection. This includes urine infections, long-standing skin ulcers and dental infections.

At the time of the operation the surgeon will routinely use antiseptics and antibiotics in order to discourage bacterial growth in the wound and around the knee joint. These antibiotics are given via intravenous injection.
The operating team will take all the necessary precautions to avoid contaminating the wound / knee joint during surgery. This includes the use of sterile drapes and instruments and carrying out the operation in a theatre specifically designed for joint surgery, where the air is filtered and directed in such a way as to reduce the risk of airborne infection.

If the condition of your wound deteriorates (ie. increased redness, swelling or discharge) or you develop a temperature you must alert the nursing staff on Enlli ward immediately 01248 384229, so that arrangements can be made for your wound to be assessed by a member of the orthopaedic team as soon as possible.

The majority of wound infections can be treated by a course of antibiotics and often settle down following treatment.

Please Note: After your surgery you must keep the incision area clean and dry at all times to avoid the risk of infection. The wound dressing should normally not be disturbed, and should only be redressed by your nurse.

All hip and knee joint replacements undertaken in Wales are subject to a confidential wound infection survey.

It is also important to be aware that deep joint infection can also occur later in life following spread from another source of infection. This is a very serious complication. Therefore, it is a wise precaution to inform your doctor, dentist or hospital that you have had a knee replacement when you visit them for treatment.

If you suffer with diabetes, rheumatoid arthritis, psoriasis, leg ulcers, obesity or taking steroid medication, your risk of infection occurring is increased.

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 signs and symptoms are:-

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

If you develop any of the above then your GP should be notified immediately.

An ultrasound scan (Doppler) will be arranged in order to identify the presence of a DVT. This is carried out at the Thrombosis Clinic here in Ysbyty Gwynedd.
Pulmonary Embolism (PE)

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 but please be aware that in severe cases it can be fatal.

The signs and symptoms are;

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

If you develop the above symptoms then you should DIAL 999 without delay.

Measures to help reduce the risk of 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:

- **Daily injections of a low molecular weight heparin (Clexane™)** for **14 days after surgery** which makes the blood less likely to clot. You will be taught by the nurse prior to discharge how to administer these injections yourself, just below the skin surface into a skin fold of the abdomen.

- If you normally take regular blood thinning medication such as Warfarin, they need to stopped for few days before surgery (please ask the preoperative assessment nurses regarding them). You will be recommenced on these after bridging treatment with Clexane.

  - **Calf compression pumps are worn on both lower legs during and after the operation. These help enhance good circulation.**

  - **Your consultant may also advice you to wear elastic compression (anti embolic) stockings on both lower legs for up to six weeks following your operation. Remember to wear them 24 hours a day. You may remove them to bathe, and to have them washed, but it is important not to leave them off for any longer than 30 minutes in 24 hours. Please keep them wrinkle free as wrinkles may cause problems. You may wash your stockings either by hand or washing machine at 40°C and allow them to dry naturally.**

  - **Performing breathing exercises and foot and ankle exercises.**

  - **Getting up and mobilising as soon as you are advised following your surgery (within12 hours).**

Preventative measures as outlined above do significantly reduce the risk of DVT and PE. However, if you do develop a thrombosis you will be treated with an anticoagulant medication for at least three months.
Nerve damage

Very occasionally a nerve that travels along the outside of your leg around the knee area may be stretched or damaged (the lateral popliteal nerve). This may cause a foot drop. If a foot drop occurs your foot will need to be placed into a splint as quickly as possible so it is important that you inform us if you are having any difficulty moving your foot or ankle once the anaesthetic has worn off. If a foot drop develops then recovery may take up to a year. Very rarely, a permanent paralysis may occur. It is common to have a permanent patch of numbness over the outer aspect of the knee as the thin nerves supplying that area crosses the area of where the skin incision is made. Rarely a painful neuroma may occur due to a painful nerve ending.
Preparation for the Surgery

After your consultant orthopaedic surgeon has agreed for you to have a total knee replacement, your name will be put on the waiting list. The waiting lists for a total knee replacement can be long and it may take many months of waiting before your operation can be carried out. This ‘waiting time’ can be used to help you prepare yourself for your operation.

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 and your operation

Think Stop before the Op

If you smoke the best thing you can do is to try and quit for a few weeks before and after the operation. The best time to quit is at least 6 - 8 weeks before your operation. Quitting at any time before your operation will really help your recovery.

Why is quitting smoking so important at this time?

If you are still smoking;

- You may need more specialist care and planning before and after the operation.
- You have a higher risk of getting a chest infection, which could lead to further problems.
- You have a higher risk of getting a wound infection which may mean having to stay in hospital longer.
- Smoking takes the oxygen from your blood. This means that the wound will be much slower to heal.
If you quit you are more likely to be up and about and getting better much quicker after your operation.

You don’t have to quit on your own. More people manage to quit smoking for longer if they have help.

For help talk to your pharmacist or contact the Stop Smoking Wales Helpline
Freephone 0800 085 2219
www.stopsmokingwales.com

If you are using patches or other types of Nicotine Replacement Therapy (NRT) to help you stop smoking, please bring them with you to hospital. Tell the nurse that you have them with you.

*Please note that the use of electronic cigarettes IS NOT permitted anywhere on hospital premises.*

**Dental check**

If you have not seen a dentist in the last 6 months then we strongly advise that you do so, as any dental infections must be dealt with before surgery. It is also important to continue with regular dental checks even after the operation in order to minimise any risk of infection to the knee joint.

**Preparing 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, it is a good idea to prepare and freeze some meals in advance or buy some ready prepared frozen meals, which will help initially when you come home.

It is also wise to be up to date with household chores like cleaning and laundry. You may not be able to do these in the first few weeks after your operation. Remove any loose mats or rugs around the home, as these are a trip hazard. Having a secure banister rail on the stairs is a benefit. If you are currently struggling in areas such as bath, shower, toilet, stairs or steps, additional rails may be of benefit. Involve your ‘coach’ in making the necessary preparations.

Make sure that you have plenty of regular medication ready for your discharge (at least 4 weeks supply), you might not be able to attend your local pharmacy when you get home. Newly prescribed medications will be provided for you from the hospital. Please be aware that your hospital stay will be short therefore it is not appropriate to plan any building or renovation work during this period.
Pre-operative Assessment Clinic

You will be required to attend a Pre-operative Assessment Clinic appointment; this should ideally be 6-8 weeks before your operation. At this clinic you will be seen by a Nurse Practitioner who will carry out a clinic assessment and a Pharmacist who will review your current medications. This can take between 1-2 hours. They will ask you about your general health, past medical history and some investigations will be carried out such as blood tests, urine test and ECG (heart trace). Your pre op investigations are normally valid for 8 weeks.

Please bring in all your current medication as well as a list or prescription (including tablets, capsules, oral contraception, HRT, inhalers, eye / ear drops, creams and ointments). Make sure you tell the pharmacist everything that you are taking, including any herbal supplements and any ‘over the counter’ medicines.

You will be given special instructions about your medications before your operation. Some will need to be continued and some will be temporarily stopped. Please follow these instructions closely to avoid the disappointment of postponement on the day of surgery.

Attend with a full bladder as an urine sample will be required.

If you have any problems with blood pressure then bring along some recent readings for the Nurse to see (the Practice Nurse at your GP surgery can arrange this for you).

Your results will be checked to ensure you are fit to proceed to your surgery. At that point you may be asked to undergo further tests and investigations or appointed to see another specialist such as an anaesthetist.

Please do not worry if you are asked to do this, we are only taking the necessary steps to reduce the risks and complications of surgery. It is your duty to inform us if anything has changed in your health between the time of your pre-assessment and the day of surgery. This is so that it can be dealt with earlier and avoids the disappointment of cancelling / delay / postponement on the day of surgery and is important for your own safety.

Please note that in addition to the above investigative tests, the nurse will also take some MRSA (Methicillin Resistant Staphylococcus Aureus) screening swabs from the nose and perineum / groin areas.

The purpose is to detect the presence of MRSA in patients prior to surgery so that appropriate treatment can be prescribed to reduce the risk of infection after surgery. Some people carry MRSA on their skin. It is not harmful to them, but if it infects a surgical wound it can be more difficult to treat. If MRSA is found on screening then appropriate treatment will be prescribed for use five days prior to admission.
Joint 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 School, a patient education session, where the whole patient journey is explained, questions answered and anxieties relieved. At the Joint School we aim to ensure 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.

At the end of the Joint School class, you will be invited to see the Occupational Therapist (OT) for an assessment of your home circumstances. If you feel you are having any difficulties currently, your OT will then prescribe the equipment necessary following discharge. Please identify yourself to the OT’s for assessment at the end of the session.

Please note that the Joint School usually lasts 1-2 hours. Therefore please be prepared by bringing along a snack if you need to eat something.

Because of changes in surgical procedures we strongly recommend that every patient attends the Joint School, 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 about the operation.

If you have any specific visual, hearing, language or communication needs please let us know before you attend the Joint School.

It is important to invite your coach (explained below) to join you at the Joint School.

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. It is advisable that your coach attends all your appointments, and supports you during your hospital stay and recovery at home.
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. The multidisciplinary team which consists of many professional people working 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.

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 be asked to 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. Note your surgeon does not need to be present at the Joint School or pre-operative assessment clinic.
**Anaesthetist**

The anaesthetist is a highly trained specialist doctor who is responsible for administering the anaesthetic, controlling your pain and for your well being and safety throughout your surgery. Prior to your surgery, the anaesthetist will discuss the anaesthetic options with you and ensure that you are fit to proceed with surgery. The anaesthetist stays with you throughout the operation, constantly monitoring you and ensuring you are safe and comfortable.

**Occupational Therapist**

You will have the opportunity to see an Occupational Therapist in Joint School. If you choose to see the Occupational Therapist in Joint School they will discuss with you how you manage your personal care and daily activities at home and give advice. They will also assess for any equipment you may need in your home. If required an occupational therapist will visit you in your own home prior to your admission to hospital.

You will only see an Occupational Therapist on the ward if ward staff make a referral. Ward staff will refer you to Occupational Therapy if you are having any difficulties that may affect your ability to manage at home.
Physiotherapist

You will meet the Physiotherapist initially at Joint School. Advice on exercise and mobility prior to your surgery will be given.

They will also measure you for elbow crutches if appropriate and teach you how you will be required to use them following your operation. They will also teach you how to use elbow crutches safely on stairs if appropriate and allowing you to practice using these walking aids prior to your surgery and help in making you more confident in your post-operative recovery. The Physiotherapist will visit you on the ward to assist in regaining your mobility and ensure you are safe with walking aids, steps/stairs and are able to perform your home exercise programme before you are discharged.

You will also see a Physiotherapist in outpatients to continue your rehabilitation.

Physiotherapy Assistants

In addition to the therapy team, you will also meet the physiotherapy assistants, whom work alongside to practice and encourage you with your exercises and mobility.

Arthroplasty Nurse

The Arthroplasty Nurse works as a member of the orthopaedic team. You will meet her at the Joint School where she will be available to answer any questions and concerns regarding your surgery and rehabilitation. The Arthroplasty Nurse can also be contacted on the Hip and Knee Telephone Helpline via switchboard on 01248 384384 extension 5239. This general advice helpline is for the benefit of patients, their relatives and carers and can be used before and after surgery during working hours 9am - 5pm Monday - Friday.
Pain Management Team
The pain management nurses in conjunction with the ward nurses will ensure that your pain is controlled, it is not always possible to remove all your pain totally, but you should be comfortable and be able to perform the postoperative exercises.

Nurses
The nurses on your ward, in theatre and in the recovery unit will ensure you are cared for and comfortable at all times. They will monitor your observations, check your wounds, give you medication to control your pain and perform gentle exercises on your operated leg. On discharge they will ensure that you have all necessary paperwork and all medications.

Pharmacist
You will see a pharmacist prior to admission at the pre-operative assessment clinic. On the ward the pharmacist will check safety, accuracy and appropriateness of your prescriptions, including your regular medications, medications for your stay and also for your discharge. Pharmacists are there to advise nursing staff and Doctors and to 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.
Your Inpatient Stay

Arriving in Hospital

On the day of admission to hospital which is usually the day before surgery, you will be welcomed onto the ward. You will be able to eat and drink as normal. However, if your admission is planned for the day of surgery, you will then be given clear fasting instructions.

The nurse responsible for your care will attach an identification bracelet with your details to your wrist and will complete any final paper work. A member of the orthopaedic and anaesthetic team will see you, your consent will be checked and your operation site marked with an indelible marker pen. Further blood tests may be taken to check your blood group or to assess your condition prior to surgery at the request of the anaesthetist. Make-up and nail polish will need to be removed and you will be asked to take a shower.

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.

On admission the nurse will discuss with you your discharge arrangements. Please express any concerns you have 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.

If you need to see a Social Worker to discuss any discharge needs then please inform the nurse on admission.

Please be aware that you will also be asked to sign a consent form for details of the surgical procedure to be kept on a National Database (National Joint Registry).

Anaesthetic Review

Your anaesthetist will ask you 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 or to help reduce pain after the operation.

Glasses, Jewellery, Dentures

You can wear your glasses, hearing aids and dentures until you are in the anaesthetic room. If you are having a spinal 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.
Fasting before Surgery

You may eat as normal on the day before surgery. After midnight on the night before surgery do not have anything to eat (including mints, sweets or chewing gum). You may drink water up until 6:30am. You may also be given a special pre-op drink to have 2 hours before your surgery. After this, do not have anything to drink unless you are instructed to. Please take any tablets as instructed on the day of surgery. It is OK to have a small amount of water with your tablets.

Ignoring these instructions can be dangerous. If you have eaten you may 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. Please ask a nurse or doctor on the ward if you are not sure what you are allowed to have.

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, an anaesthetic assistant and the theatre nurse who will greet you when you arrive in the department.

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. The anaesthetist will then administer the anaesthetic. You will have already discussed and agreed upon your type of anaesthetic during the anaesthetic review on the ward (or in clinic).
Your Anaesthetic

For the majority of people there is a choice of anaesthetic between a general anaesthetic (when you are completely unconscious throughout the surgery) and a spinal anaesthetic (when you are anaesthetised from the waist down).

Many people having hip or knee replacements at Ysbyty Gwynedd opt for the spinal anaesthetic which has certain benefits that can make the surgery a nicer experience.

Your anaesthetist will discuss with you which options are suitable for you and help you decide which one you would prefer.

Your preferences are important. Nothing will happen to you until you understand and agree with what is planned for you. You have the right to refuse if you do not want the treatment suggested.

The following information may help you decide:

**General Anaesthetic**

A general anaesthetic produces a state of controlled unconsciousness during which you feel nothing.

You will receive:

- Anaesthetic drugs (an injection or a gas to breathe).
- Strong pain relief drugs (morphine or something similar).
- Oxygen to breathe.
- Sometimes a drug to relax your muscles.

You will need a breathing tube in your throat to make sure that oxygen and anaesthetic gases can move easily into your lungs. If you have been given drugs that relax your muscles, you will not be able to breathe for yourself and a breathing machine (ventilator) will be used. When the operation is finished the anaesthetic is stopped and you regain consciousness.

**Advantages**

- You will be unconscious during the operation.

**Disadvantages**

- A general anaesthetic alone does not provide pain relief after the operation. You will need strong pain relieving medicines afterwards which make some people feel quite unwell and sick.
- This may prevent you from sitting out of bed soon after surgery and delay your getting up.
- Some people may feel sick, light headed or drowsy after a general anaesthetic.
- A sore throat is common after a general anaesthetic.
- Other risks of a general anaesthetic are described on pages 21-22.
Spinal Anaesthesia

A measured dose of local anaesthetic is injected near to the nerves in your lower back. This is administered in the anaesthetic room. Usually you will be sat up whilst the anaesthetist administers the spinal anaesthetic. You will then lie down and wait a few minutes for the spinal anaesthetic to take effect. You will not proceed into theatre until the anaesthetist has checked that it is working.

During the surgery:
- You are numb from the waist downwards.
- You feel no pain, but you remain conscious.
- A drape curtain separates your top half from the surgical area – you will not see any of the surgery. The surgery can be quite noisy (drills and saws). Some patients bring a portable music player (eg iPod or similar) and headphones to listen to throughout the surgery.
- You can also have sedation, to relieve anxiety and make you feel sleepy. The anaesthetist can adjust the dose of the sedation so that you are comfortably relaxed.
- It will take up to 4-6 hours before normal movement in your legs returns.

Advantages

- You should have less sickness and drowsiness after the operation and may be able to eat and drink sooner.
- You remain in full control of your breathing. You breathe better in the first few hours after the operation.
- You do not need so much strong pain relieving medicine in the first few hours after the operation.
- It may help to avoid blood clots in the legs and lungs.
- There is some evidence that less bleeding may occur during surgery which would reduce your risk of needing a blood transfusion.

Disadvantages

- Sometimes we are unable to find the correct place to administer the local anaesthetic. In this case we may have to change to a general anaesthetic.
- Other risks of spinal anaesthetic are described on pages 21-22.
Side Effects, Complications and Risks of Anaesthesia

Serious problems are uncommon but risk cannot be removed completely. Modern equipment, training and drugs have made anaesthesia a much safer procedure in recent years. Anaesthetists take a lot of care to avoid all the risks described in this booklet. Your anaesthetist will be happy to give you more information about any of these risks and the precautions taken to avoid them.

Common and very common side effects

Pain around injection sites and general aches and pains.

You may not be able to pass urine or you may wet the bed. This is because you are lying down, you may have pain and you may have received strong pain relieving drugs. Sometimes the spinal anaesthetic makes it difficult to pass urine afterwards because the nerves to the bladder are numbed. A soft plastic tube may be put in your bladder (a catheter) to drain away the urine for a day or two.

Spinal anaesthetics

You will not be able to move your legs properly for a while. If pain relieving drugs are given in your spine, as well as local anaesthetic, you may feel itchy.

The spinal anaesthetic usually reduces your blood pressure. Sometimes if it goes very low you may feel faint. This can be treated with intravenous fluid and drugs.

General anaesthetics

Sickness and sore throat – treated with anti sickness drugs and painkillers.
Drowsiness, headache, shivering, blurred vision.
Difficulty breathing at first – this usually improves rapidly.
Confusion and memory loss are common in older people, but are usually temporary.

Uncommon side effects and complications

All anaesthetics
Heart attack or stroke.

General anaesthetics
Damage to teeth, lips and gums
Chest infection
Awareness (becoming conscious during a general anaesthetic).

Spinal anaesthetics
Some people get headaches after a spinal anaesthetic (risk approximately 1 in 200)
Rare or very rare complications

All anaesthetics
Serious allergic reactions to drugs, damage to nerves, death.

General anaesthetics
Damage to eyes, vomit getting into your lungs.

Spinal anaesthetics
Permanent nerve damage causing numbness and/or weakness.

In the Operating Theatre

The Anaesthetist will be there the whole time to monitor you; if needed they will vary the anaesthetic appropriately to keep you comfortable.

The procedure involves an incision over the front of your knee, approximately 8 inches (20 cms) long. The worn out arthritic parts of your knee are removed and replaced with an artificial joint. The operation will last approximately 1½ hours but depends on the complexity of your surgery.

Infiltration of Local Anaesthetic into the Wound

As an important part of the Rapid Recovery programme the surgeon will usually put local anaesthetic into the tissues surrounding the surgical area. This produces an area of localised numbness around the joint which lasts for about 18-24 hours but does not prevent you from moving your leg, getting out of bed and walking. This will aid in rapid recovery.

Recovery from surgery

After surgery you will be taken to the recovery ward, where your progress will be monitored carefully, until you are ready to return to your ward.

You will be given oxygen to help you recover from the anaesthetic, this will be given by means of a mask or nasal cannula. You will have an intravenous infusion (drip) to enable you to receive fluids, pain medication and antibiotics. This will be removed once you are drinking normally. You may have a wound drain (dependent on Consultant’s preference). When you are alert, the Recovery nurses will help you to gently exercise your operated leg. You will then be transferred to the ward.
Back on the Ward

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.

Pain Assessment

On return to the ward the nurses will reassess the degree of pain you may have; be honest with your answers. You will be visited by the pain management nurses during your stay please let them know if you have any pain problems.

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. You will be asked to keep a record of your pain scores on your daily diary.

Score 0: No pain at rest or on movement

Through to:-

Score 3: Continuous pain at rest, severe pain on movement

| No pain = 0 | Mild pain = 1 | Moderate pain = 2 | Severe pain = 3 |

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 before your operation.

Oral tablets or medicines

You will be prescribed a mix of different medicines to control your pain. These will typically include regular paracetamol + an anti-inflammatory + a stronger opiate based drug (like morphine).

As well as the regular prescriptions you will also be able to request more of the stronger painkillers if you find that the pain is not adequately controlled or, for example, you need something stronger before starting your physiotherapy exercises. They can take at least half an hour to work so don’t leave it too late.
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 significant pain. Do not wait be asked and do not feel afraid of being a nuisance. **Take your painkillers regularly throughout the day. Ask for more of the stronger ones if you are still in pain – especially if it is stopping you from getting up and walking. It is important that you are comfortable enough to be able to comply with physiotherapy to prevent any delay in discharge.**

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 to leave hospital sooner.

**Patient Controlled Analgesia (PCA)**

You may have a PCA device which involves using a machine attached to an intravenous line (or drip) which allows safe doses of morphine (or similar drug) to be given directly into your vein when you press a 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. Afterwards you will then be commenced on oral painkillers.

**Nerve block**

This is an injection of local anaesthetic around the nerves in your leg. This can numb your leg for several hours afterwards. Sometimes a plastic catheter can be left around the nerve so that it can be topped up with more local anaesthetic when it wears off. There is a very small risk of nerve damage but care is taken to avoid this. One main disadvantage is that it can also numb the nerves to the muscles so your mobility may be reduced until it has worn off. For this reason we do not use nerve blocks routinely for hip or knee replacements.

**Common side effects and complications**

**Swelling/Bruising**

You should expect some swelling, which often extends down to the calf and ankle. This gradually improves after a few weeks. 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.

The Physiotherapist may use ice therapy to reduce the swelling.
Physiotherapy following Total Knee Replacement

This section provides very important information on the exercises that you must undertake after your surgery.

The Physiotherapist or Rehabilitation Assistant will see you a few hours after your return to the ward. If you are medically stable you will be encouraged to start your exercises and hopefully move around your bedspace under the guidance of the Rapid Recovery team. 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. (It is important to continue the exercises independently once you have shown how to do them). 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.
   
   \textit{Repeat 10 times regularly}

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

   \textit{Repeat 10 times regularly}
4. 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 20 times at least 3-4 times a day*

![Static Quads Image](image)

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

5. 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 3-4 times a day*

![Progression Exercise Image](image)

6. Sit on the bed. Bend and straighten your hip and knee by sliding your heel up and down the board.  
*Repeat 10 times at least 3-4 times a day*

![Bend and Straighten Exercise Image](image)
7. Whilst sitting in a chair with your thigh supported, slowly bend your knee as far as you can. Hold your knee in this position for 10 seconds. Slowly relax.

*Repeat 10 times at least 3-4 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 3-4 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 3-4 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 3-4 times a day*

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**Personal Exercise Programme**

1. Stand with your feet shoulder width apart. Keeping your feet on the ground, and your body upright, slowly shift your weight from one foot to the other.

2. March on the spot, bringing your knees up high.
   
   *Do not bring your knees past hip height (90 degrees).*
3. Keep your back and knees straight. Take your leg out behind you as far as you can (before you start leaning forwards). Slowly return to starting position and repeat 10 times.

4. Stand with your feet shoulder width apart. Slowly go up onto your toes, lifting your heels off the floor. Slowly lower and repeat 10 times.

5. Slowly take your heel up towards your bottom. Slowly lower and repeat 10 times.

6. Tap your heel out in front of you. Return to starting position and repeat 10 times.
7. Keeping your knee straight, slowly lift your leg out to the side as far as you can go (before you start leaning over). Slowly lower and repeat 10 times.

8. Stand with your feet shoulder width apart. Slowly bend your knees and squat downwards about 6”. Straighten up slowly. Repeat 10 times.

9. Stand on one leg: Tap the toes of your other leg forwards and backwards. Repeat 10 times.

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

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 a 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.
Step/Stair Practise

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

**Going up stairs:** use a rail, lean on crutch and rail and lift the good (unoperated) leg onto the first step, then the operated leg and then the crutch onto the same step.

**Going down stairs:** place the crutch on the step below, lean onto the rail and crutch bring the operated leg down to the first 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
- Aim to complete all the repetitions of each exercise as advised by your physiotherapist
- You should continue taking your advised pain relief medication as required to enable you to complete the exercises effectively
- 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
- Do not put a towel/cushion under your knee to make it more comfortable
- Bend and straighten your ankle frequently when resting

After Discharge

It is really important for the long-term success of your new joint that you continue your exercises. You will be reviewed at between 6-8 weeks by your consultant and team. Once you have been discharged from hospital you will be telephoned at home by a Nurse, 48 hours after your discharge, to assess your progress and answer any queries you have. You may also contact the ward or the Arthroplasty Nurse with any concerns or problems via the Hip and Knee Helpline.

The District Nurse will visit you around 4-5 days following discharge to check your wound and will return at around 14 days after the operation to remove your clips / sutures.

Afterwards, providing that the wound has completely healed you may resume bathing or showering as you feel ready and safe. If you were managing to bath or shower before the surgery you should be able to resume bathing as before. A non slip mat is recommended in the bath or shower. If possible we advise you have a second person available the first time you bath or shower.

Ensure that you continue with your daily anticoagulant therapy as prescribed.
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 and after your outpatient follow up appointment. Remember the decision to drive and responsibility are yours. Please inform 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, 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.

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.**

- **If you are not walking keep your leg elevated when sitting or lying down whilst exercising the foot and ankle. This helps to prevent further lower leg swelling.**

- **It is very important that you do not place a pillow underneath your knee whilst lying in bed, as this will encourage it to remain in a bent position.**

- **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.**

- **You should 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 the Physiotherapy Department.**
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. Ladies should wear skirts if possible

- 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)

- All of your current medication including tablets, inhalers, creams and eye drops. These should be brought into hospital in their original packaging

- A selection of books or magazines

- Telephone contact numbers

- Small amount of cash for a television card, if required

- A pen for filling in your daily diary

- Headphones / music (optional)

- This Knee Booklet

Please keep personal belongings to a minimum due to limited storage space in hospital. Do not bring in laptops but mobile phones are allowed.

Any valuables brought into hospital will require a disclaimer form to be signed by the patient.
Useful Information

Visitors

Ward visiting hours are 1.30pm – 2.30pm and 6.30pm – 7.30pm, 7 days a week. Please be aware we maintain strict visiting hours.

It is important to remember that your successful rehabilitation following your knee replacement is our priority and 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/fa friends to be involved in your care if you wish, but we do ask that other patient’s needs and feelings are considered at all times.

Useful Numbers

Gwyneth Rowlands ............................................. 01248 384384 (via Switchboard) ext 5239
Arthroplasty Nurse
(General advice before and after surgery)

Hip and Knee Helpline

Enlli ward ......................................................... 01248 384229
(Advice after surgery eg. wound problems)

Occupational Therapy Department ..................... 01248 384250
(Advice on home environment/equipment)

Physiotherapy Department ................................. 01248 384250
(Advice on exercises and walking aids)

Pre operative assessment clinic helpline ............... 01248 384366
(Advice concerning medication)

Please contact this number if any changes are made to your medicines before you come into hospital.

Tudno ward ...................................................... 01248 384221

Conwy ward ..................................................... 01248 384313

Consultant Secretaries:

Mr Glynne Andrew ............................................ 01248 384088
Mr Koldo Azurza .............................................. 01248 384321
Mr Mayur Chawda ............................................ 01248 384670
Mr Muthu Ganapathi ........................................ 01248 384384 (via Switchboard) ext 5196
Mr Stuart Griffin .............................................. 01248 384384 (via Switchboard) ext 5153
Mr Srinivas Thati .............................................. 01248 384707

Red Cross ......................................................... 01248 351103
Help and care available to patients

This list only provides a snapshot of what is available in your community. For details on more Support Groups; Clubs; Befriending Services; Information Services and many others in your area, please contact the following agencies:

ANGLESEY: Medrwn Môn
T. 01248 724944  http://medrwnmon.org/organisations-80.aspx

GWYNEDD: Mantell Gwynedd
T. 01286 672626  http://mantellgwynedd.com/english/chwilio_c.asp

CONWY: CVSC
T. 01492 534091  http://cvsc.org.uk

What help can Social Services provide?

Home Care (equipment/adaptations) / Meals / Hygiene needs / Telecare

Social Services will undertake an assessment and decide if you are eligible for assistance, this can take up to 1 week.

GWYNEDD: 01286 682888 (out of hours: 01248 353551) cao@gwynedd.gov.uk
Môn: 01248 752752 (out of hours: 01248 353551) asdss@anglesey.gov.uk
CONWY: 01492 576333 (out of hours: 01492 515777) socialservices@conwy.gov.uk

Please see following page for contact details for all other organisation and services listed below.

Help with housework and collecting shopping, prescriptions and pensions
- British Red Cross - Cartrefi Cymru

Transport
- British Red Cross (including Home from Hospital Service)
- Community Transport Association

Help for Carers
- British Red Cross - Carers UK - Community Transport Association

Advocacy Services & advice about benefits
- Citizens Advice Bureau - Access2Advocacy - Conwy Care & Repair
- Cymdeithas Tai Eryri - Age UK / Age Cymru (Gwynedd & Môn)
- North Wales Advice & Advocacy Association

Companionship and Befriending Services
- British Red Cross - Contact the Elderly - WRVS / RVS
- Ffrindia’ (Mantell Gwynedd) - Cadwyn Môn (Medrwn Môn)
- Cruse Bereavement Care North Wales - Age UK / Age Cymru (Gwynedd & Môn)
British Red Cross .............................. 01248 364677 (Gwynedd and Môn)
                        01745 828366 (Conwy)
                        www.redcross.org.uk

Citizens Advice Bureau ...................... 0844 4772020
                        www.citizensadvice.org.uk

Age UK / Age Cymru ........................... 01286 677711
                        www.ageuk.org.uk/cymru/gwyneddamon

Carers Trust ................................. 01492 516435
                        www.carers.org/local-service/northwales

Royal Voluntary Services ..................... 0845 600 5885 / 0845 601 4670

Community Transport Association ......... 01792 844290
                        www.traveline-cymru.info/community-transport

Ffrindia' (Mantell Gwynedd) ............... 01286 672626 (Arfon)
                        01286 672626 (Dwyfor)
                        01341 422575 (Meirionydd)

North Wales Advice
                        and Advocacy Association .............. 01248 670852
                        www.nwaaa.co.uk

Cadwyn Mon (Medrwn Môn) .................... 01248 724970

Carers UK / Wales ............................. 0808 808 7777
                        www.carersuk.org/wales

Contact the Elderly ........................... 0800 716543
                        www.contact-the-elderly.org.uk

Cruse Bereavement ............................ 0844 5617856
                        www.crusenorthwalesarea.btck.co.uk

Cartrefi Cymru ............................... 01248 360004
                        http://cartrefi.org/en

Conwy Care and Repair ....................... 01492 545500
                        www.conwycareandrepair.org.uk

Access2Advocacy .............................. 01745 353096
                        www.access2advocacy.co.uk
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