

# TOTAL KNEE REPLACEMENT

## A Patient Journey Guide





## Welcome to Norfolk and Norwich Orthopaedic Centre

This booklet has been created to support you in your recovery from a Total Knee Replacement.

It is important that you take actively part in your preparation and recovery from the beginning and understand what your surgery involves.

There will be opportunities to ask questions face to face.

**This information booklet should be with you at all times during consultations and during your admission** so the health professionals can guide you through the different stages of information.

### How to use it

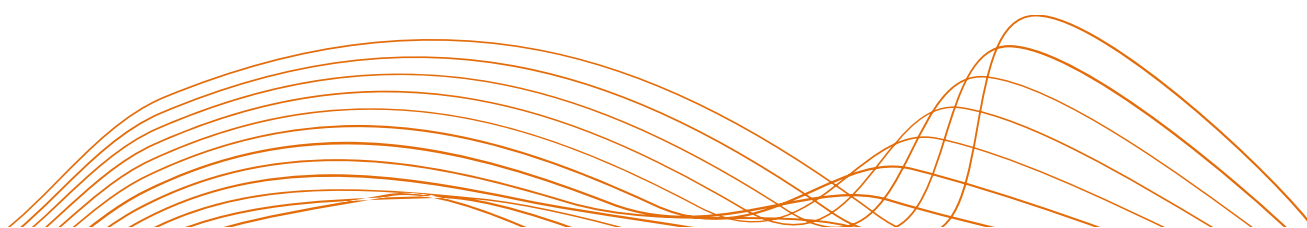
The booklet is divided into chapters that covers all the different stages of your surgery. There will be internet links and QR codes to scan so you can explore further information.

### Key facts

Preparation before surgery is vital. This is a planned elective procedure and we aim to **discharge you on the same day of the procedure to up to 2 days.**

You will only be ready for surgery if you are medically fit and your health is at its best. Equally your surgery will be delayed until your home setting is appropriate to receive you after. We recommend you to arrange a GP appointment to discuss this.

There is an **Orthopaedic Practitioner Advice Line** dedicated to patients that had a hip replacement. You can speak to a specialist health professional for post operative advice ( pain, wound, exercises, equipment) when you are at home so we can support you through your recovery.



# Contents

	Chapter	Page
<b>1</b>	Knee Replacement	1
<b>2</b>	Consent	4
<b>3</b>	Before Your Surgery	8
<b>4</b>	The day of Surgery	16
<b>5</b>	After your Surgery	19
<b>6</b>	Getting back home	30
<b>7</b>	Wound care	33
<b>8</b>	Physiotherapy after knee replacement	36
<b>9</b>	Follow up appointments	47
	Contacts	49

# 1

# Knee Replacement

**What is a knee replacement?**

**What is a unicompartamental knee replacement?**

**Possible alternatives to surgery**

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You will find lots of helpful information on the following website: [www.versusarthritis.org](http://www.versusarthritis.org)

**NANOC**





# What is a Total Knee Replacement

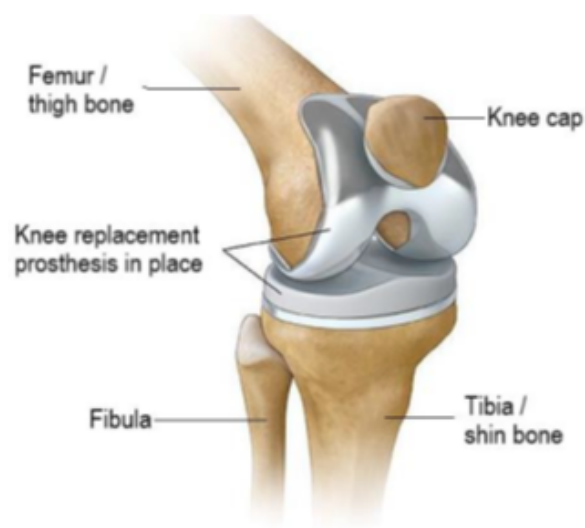
A total knee replacement is a surgical procedure in which the injured or arthritic surfaces of the knee are replaced with metal and plastic artificial components, which are secured to the bone.

The operation is done by cutting the tissues in the front of the knee.

The ends of the bones are then fitted with a high grade metal prosthesis.

A High Density Polyethylene bearing is then placed between the metal implants. The decision to resurface the

patella (kneecap) is based on the amount of wear and type of symptoms. Your surgeon will decide on the most appropriate replacement to suit you.



It is important to understand that in a knee replacement only the bony surfaces are replaced. The ligaments, tendons, muscles and other soft tissues need to be strengthened through rehabilitation and exercises.

## What is a Unicompartmental knee replacement

When the arthritis only effects part of your knee your surgeon may suggest that only that part of the knee is replaced. This is performed through a smaller incision. We aim to do this as a day case procedure. In the future when the knee wears out it is relatively easy to revise it to a full knee replacement.

## Possible Alternatives to Surgery

Arthritis is a condition that does not get better on its own, there are some alternatives which may improve your symptoms and possibly reduce or delay your need for surgery. [www.versusarthritis.org](http://www.versusarthritis.org)

We also recommend that you arrange an appointment with you GP to discuss your fitness for a surgical procedure



You will find lots of helpful information on the following website: [www.versusarthritis.org](http://www.versusarthritis.org)

# 2

# Consent

**Surgery benefits**

**General surgery risks**

**Potential risks of a Knee replacement**

**Rare complications**

**Expectations**

**National Joint Registry**

**Patient Reported Outcome**

**Research**

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[National Joint Registry](#) :

## What are the benefits of surgery?

Total Knee replacement is generally a very successful operation that significantly improves the pain associated with the arthritis. It can help restore your mobility and return to physical activities that your knee pain has prevented you from doing.

Before your surgery you will be asked to read and sign a consent form after discussing the risks with a member of the surgical team.

## General surgery risks

**Deep vein thrombosis (DVT):** A blood clot that forms in the deep veins in your body, usually the calf. You will be given blood-thinning medicine and compression stockings to reduce the risk. Moving your legs as soon as you can after the operation is one of the best ways to prevent blood clots

**Pulmonary embolism (PE):** It results from a clot travelling through the bloodstream from the site of a DVT to lodge in the lung. A PE can be life-threatening

**Urinary tract infections:** It may be necessary to have a urinary catheter placed inside your bladder. An infection can occasionally occur as a result of catheterisation and may require treatment with antibiotics

**Swelling/Bruising:** Painful swelling may occur around the knee joint extending in to the leg, it can persist for 6 months after surgery. Bruising may occur and track down the entire leg.

**Numbness** after surgery is normal on the skin on the inner side of the leg and scar.

**Pain:** Some pain is normal following your surgery. This improves with analgesia but very occasionally may be a long-term problem

**Bleeding:** Surgery involves some blood loss. The need for a blood transfusion after a knee surgery is extremely rare. If you hold certain beliefs that prevent you from receiving a blood transfusion, you must highlight this to staff as soon as possible

# Risks of Total Knee Replacement

Knee replacement surgery has risks. the vast majority do not have serious complications.

**Loosening of the joint:** 95% of joints will last 10-15 years or more depending on your level of activity. Causes such as trauma, excessive heavy use or infection can contribute to loosening and will result in pain, reduced function and can lead to the need for further (revision) surgery.

**Accidental fracture** of the bone during surgery: This may lengthen your recovery, cause you additional pain and may result in you using crutches for longer

**Nerve injury:** This can occur as a result of trauma to the nerve and is characterised by weakness and lack of sensation of the affected leg, with or without pain. injury can be temporary or permanent

**Knee dislocation:** The joint between the kneecap and the knee or the main part of the knee itself may come out of alignment. If this occurs the joint can usually be put back into place without the need for surgery. Sometimes this is not possible, and an operation is required, followed by the application of a knee brace

**Knee amputation:** A rare occurrence when a infection becomes uncontrollable or if blood supply to the leg is irreversibly lost that can also lead to a vascular injury

**Infection:** Around 1% of patients may develop some form of infection. Very rarely this requires further surgery

## Rare complications

**Risk to life,** depends on your general health and medical history. For most patients it is between 1 in 300 and 1 in 500. The most common causes are strokes, heart attacks, chest infections and pulmonary embolism . These can occur in the days or weeks after surgery.

**Keloid scar:** Is a scar with a raised and thickened appearance

**Persistent pain syndromes** can occur after joint replacement that can have a serious effect on your quality of life and may require you to take long-term medication



## Your expectations

Most people have a straightforward and rapid recovery however, when complications do occur they can have a significant or permanent impact on your life.

After a knee replacement it is normal to feel more tired than usual. It is normal to have aches and pains on the muscles around the knee, this should improve as you move towards the 12-week mark. It is important to listen to your body, eat well and get lots of sleep. The majority of people will continue to improve between 6-12 months after surgery but improvement can be seen even up to 12 – 24 months.

## The National Joint Registry (NJR)

As part of your surgery consent, you will be asked to share information with the (NJR).

This record details of joint replacement operations in order to monitor the results of surgery and protect patient safety.

## Patient Reported Outcome Measures (PROMS)

To help measure and improve the quality of healthcare services you will be asked to complete some questionnaires in clinic and further around 6 months after your surgery

## Research

Taking part in research studies is entirely optional. You may be required to fill out additional questionnaires or attend additional appointments for specific investigations. Research projects are beneficial to future patients undergoing orthopaedic surgery and may also influence clinical practice. We might ask you if photographs of your operation can be taken. You will not be identified and it will be discussed with you in advance.



# 3

## Before your surgery

**Pre-Operative assessment**

**Information you need to provide**

**Prepare to come to hospital**

**Avoid falls at home**

**Pre-Operative occupational therapy**

**Pre-Operative physiotherapy**

# Pre-operative assessment

## What is it?

- This is a nurse-led clinic that will determine your fitness for surgery.
- This can take up to two hours and we will take place in the Arthur South day unit. We will ask you questions about your health and perform other screening tests.
- **Your surgery may be deferred if you are not fit, or your health can be improved before your surgery.** This is a planned operation and to minimise risks, we will take all steps to optimise you.

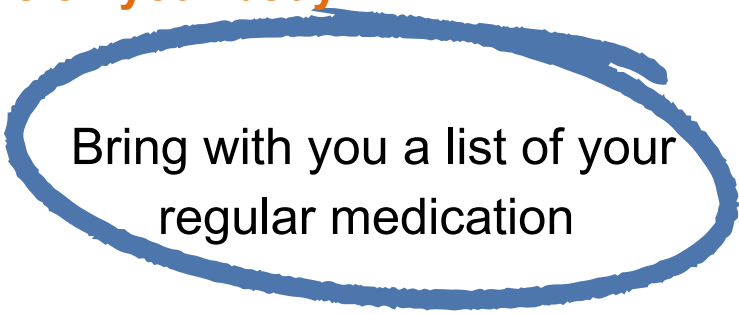
## What will happen:

- You may have a new knee X-ray (if the previous one was more than 6 months ago)
- You may have an electrocardiogram (ECG) of your heart
- Blood tests
- Swabs from your nose and groin for a bug called Methicillin-Resistant Staphylococcus Aureus (MRSA)
- You may need a rectal swab or a faeces sample to screen for Carbapenemase Producing Enterobacteriaceae (CPE)
- You may be referred to see other health professional before your surgery (anaesthetist, radiology, occupational therapy.)

## Information you need to provide

Please get in touch with us if you feel unwell in the days leading up to your surgery with:

- Sores or open wounds anywhere on your body
- A cough / cold
- A rash/ cuts or skin scrapes
- Dental problems
- Insect bites
- Taking antibiotics
- Changes in medication prior to surgery
- Been referred by your GP to see a specialist



Bring with you a list of your regular medication

# Prepare to come to hospital

## PLAN

- Ensure the equipment you need is delivered to your home (see Occupational therapy section)
- Make a plan if you are a carer for a loved one for at least 6 weeks
- Plan transport to and from hospital
- You will not be fit to drive for at least 6 weeks so think about alternative transport
- Who is going to look after your pet
- Childcare

## PREPARE

- Meals in advance, stock up cupboards and freezer for food
- Declutter to help you move around your home easily
- Consider online-shopping
- Regular medication to be delivered or picked up

## BRING IN:


- Day clothes to get dressed after your operation. Loose fitting is better.
- Dressing gown and slippers with backs, toiletries but **no valuables**.
- **ALL your regular medications** in their original boxes including medicine trays or blister packs.
- Please do **NOT bring towels or flannels** as these will be provided.
- Books or other entertainment devices. These items are brought in at your own risk.
- Personal items must fit in one bag as there is very limited space at the bed side.

# Avoid falls at home



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 [click to know more  
about falls prevention](#)

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 [Click to watch  
falls prevention](#)

# Pre-operative Occupational Therapy

You will be asked to provide measurements of your chair, bed, and toilet at home by the occupational therapy team. This is to ensure your furniture is appropriate to maintain your independence.

This contact will be made most of the times via a telephone consultation

However in preparation there are a few things to take into consideration:

## Chair:

- Remember to sit in a firm, sturdy high chair, ideally with arm rests
- If your chair is not a suitable height it may be appropriate to use a extra cushion or folded blanket

## Toilet:

- You may need equipment to help you on and off the toilet.

## Bed:




- A particularly low bed, or soft mattress, can make it difficult to transfer in and out of bed. You may need to consider sourcing an alternative bed.

If you cannot adapt your chair/ bed the OT team may be able to organise alternative equipment. **Remember your need to make arrangements for your return home and that may include help from friends or family**

# Pre operative Physiotherapy




We know that that your knee you may be too sore to tolerate exercise before a knee replacement. If this is the case you can do them at your own pace. These exercises are important to strengthen your muscles and optimise your knee movement.

# Pre operative Exercises




		Description	Repetitions	Sets	Frequency
Exercise 1	 <p>©Physiotools</p>	<p><b>Cycling</b></p> <ul style="list-style-type: none"> <li>▪ If you have static bike you may need to adjust the saddle height to allow for you individual knee range of movement.</li> <li>▪ Periods of 10 mins or more dependent on your exercise tolerance levels and pain would be very beneficial.</li> </ul>	10-20 minutes	-	3 days a week
Exercise 2	 <p>©Physiotools</p>	<p><b>Walk</b></p> <ul style="list-style-type: none"> <li>▪ Walking is always encouraged. Gradually increase distance as able, you may need walking aids for support.</li> </ul>	-	-	-
Exercise 3	 <p>©Physiotools</p>	<p><b>Calf stretch</b></p> <p>Bend and straighten your ankles briskly. If you keep your knees straight during the exercise you will stretch your calf muscles.</p>	20	1	2-3 times a day



# Pre operative Exercises

	Description	Repetitions	Sets	Frequency
Exercise 4	<p><b>Inner range quads</b></p>  <ul style="list-style-type: none"> <li>▪ Lying on your back. Bend one leg and put your foot on the bed and put a cushion under the other knee.</li> <li>▪ Exercise your straight leg by pulling your foot and toes up, tightening your thigh muscle and straightening the knee (keep knee on the cushion). To make the exercise harder you make want to add ankle weights. Start gently and build up gradually.</li> </ul>	5 seconds holds	5-10	2-3 times a day
Exercise 5	<p><b>Knee Extension</b></p>  <ul style="list-style-type: none"> <li>▪ Sit on a chair.</li> <li>▪ Pull your toes up, tighten your thigh muscle and straighten your knee.</li> </ul>	5 seconds holds	10	
Exercise 6	<p><b>Heel raises</b></p>  <ul style="list-style-type: none"> <li>▪ Stand holding on to a secure surface with your feet side by side</li> <li>▪ Raise up and down on your toes.</li> </ul>	10-15 as able	1	

# Pre operative Exercises

		Description	Repetitions	Sets	Frequency
Exercise 7	 <p><b>Knee flexion</b></p> <p>©Physiotools</p>	<ul style="list-style-type: none"> <li>▪ Sit on a chair with your feet on the floor.</li> <li>▪ Slide your foot backwards on the floor and bend your knee as much as possible.</li> </ul>	Up to 30 as able	3	2-3 times a day
Exercise 8	 <p><b>Hamstring Curl</b></p> <p>©Physiotools</p>	<ul style="list-style-type: none"> <li>▪ Stand. Hold onto a support and bring one leg slightly backwards.</li> <li>▪ Bend your knee and lift your foot off the floor.</li> </ul>	Up to 30 as able	3	
Exercise 9	 <p><b>Straight leg raise</b></p>	<ul style="list-style-type: none"> <li>▪ While keeping your leg straight, pull your toes up towards you and tighten up your muscle at the front of your thigh.</li> <li>▪ Slowly lift your whole leg about 10cms off the bed whilst keeping the leg straight.</li> </ul>	Up to 20 as able	1	

4

# The day of surgery

Where to go to  
Same day admission unit  
Anaesthesia

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Anaesthesia



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# Directions



**On the day of your surgery, you will be asked to report to either:**

**The same day admissions unit (SDAU) Level 3, Centre Block (near Dilham ward)**

**Or**

**The Norfolk and Norwich Orthopaedic Centre (NANOC) which is situated at the Western end of the hospital campus.**



## Same day admission unit

Before surgery, your anaesthetist and surgical team will see you.

The surgical team will put a felt tip mark on the leg you are having operated on. The anaesthetist will discuss the type of anaesthetic options suitable for you and how your pain will be managed after your operation.

- You will be asked to change into a surgical gown.
- Your possessions will be labelled and stays with you along the journey or taken to the ward
- Your blood pressure and other vital signs will be measured
- You may need to take some medication
- You will be fitted with compression stockings
- If you are between the age of 12-55 a pregnancy test will be performed
- You may walk to theatre or go in a wheelchair or trolley

**Further information will be on the “information on admission booklet”**

# Anaesthesia for a knee replacement

Your operation will be performed adopting the Norwich Enhanced Recovery Programme (NERP) which is designed to get you standing and walking as soon as possible without compromising your recovery. This will minimize the risks and get you back home as soon as safe.

An intravenous line will be put in to a vein in your arm to provide an access route for fluids, medications, antibiotics and anaesthetics.

You will be taken to the anaesthetic room, where your anaesthetic will usually involve:

- o **Spinal anaesthetic** – a small injection into your back which will numb you from your belly button down. The spinal anaesthetic may be undertaken whilst you are awake or lightly sedated. Sedation will be used during the surgery so that you are sleepy and relaxed during the procedure but some patients prefer to be awake. There are few side effects with this technique and a quick recovery. There is no need to be put on a breathing machine

- o **Light general anaesthetic.** If you need a general anaesthetic it means that you will need a breathing tube placed in your throat or inside your windpipe to ensure oxygen and anaesthetic gases move easily in to and out of your lungs. When the surgery is finished, the anaesthetic is reversed, you will regain consciousness and will be able to breathe normally again.

- o **Nerve block** - an injection of local anaesthetic near to the nerves that supply your knee. A nerve block may be performed in conjunction with a general or spinal anaesthetic.

- o **Local anaesthetic** – injected into your knee joint at the end of your operation to help reduce pain after surgery

Most knee replacements take between 60 and 90 minutes; however, you will be away from the ward for longer for anaesthesia and recovery



# 5

## After your surgery

**Post Anaesthetic Care Unit**

**Mobility in hospital**

**Can I put weight through my leg?**

**Movement restrictions after TKR**

**Pain Management in hospital**

**Early post - operative exercises**





# Post Anaesthetic Care Unit

After surgery, you will be admitted to the Post Anaesthetic Care Unit (PACU).

You will be closely monitored to ensure that you are recovering from your anaesthetic. Once you are medically stable, you will be transferred to the ward.

## Mobility in Hospital

The nursing team will help you to mobilise/ sit out as soon as possible after your surgery. Your walking will be progressed with the physiotherapist/ therapy assistant, who will provide a suitable walking aid, e.g., frame, crutches, stick. Restoring independent mobility is a priority. Benefits include minimising the chance of you developing blood clots or developing a chest infection.

## Can I put weight through my leg ?

After knee replacement surgery, unless your surgeon has requested otherwise, you are allowed to put all of your body weight through your operated leg.

## Movement restrictions after TKR

Unless your surgeon has specifically stated, we do not ask you to follow specific movement precautions after your TKR.



# Pain Management in Hospital

Most people will experience pain after an operation that can be managed with the help of regular pain relief.

The health professional team and pharmacist will ensure that you are taking the appropriate analgesia during your stay.

If you are already on pain killers these may be continued.

It is important that your pain is under control so that you can participate in your rehabilitation and get out of bed.

## Pain relief during your admission

Regular  
paracetamol

A strong opiate-based pain killer- SR  
oxycodone, to be given the night of  
your operation and the morning after.

A pharmacist will visit you on the ward the day after  
your operation to see how you are managing with your  
pain.

The oxycodone will be changed to a weaker opiate-based pain  
killer such as codeine, dihydrocodeine, meptazinol or tramadol.

Oramorph/oxycodone will be available as and when needed. This  
should be taken for breakthrough pain. It is important that pain is  
managed to enable you to mobilise.

The main side effects of opiate based medications are drowsiness,  
dizziness, sickness and constipation.

## Anti-Inflammatories

We advise after your operation to avoid anti-inflammatories like ibuprofen/naproxen as these can interact with the blood thinners we give you.

If you need to take anti-inflammatories then the pharmacist will make sure you have stomach protection prescribed alongside to help prevent stomach irritation/bleed.

## Other Medications

### Laxatives

To avoid constipation drink plenty of water and eat plenty of fruit and vegetables. We will also give you regular laxatives to help prevent constipation as these can take several days to work.

### Anti-sickness

If you are feeling nauseous please ensure you let your staff nurse know. If it is due to pain relief this can be adjusted to suit you. You may also be offered anti-sickness medication to help with this.

### Anticoagulation

You will also be given a medication to thin your blood to help prevent any blood clots forming after your operation.

This will be dalteparin injections during admission, rivaroxaban tablets on discharge (to complete 14 days). Further information in your blood clot leaflet

# Early Stage Post-Op Exercises - from day 1 post surgery

It is important that you start the post-op exercises as soon as you can, after your operation. These will help prevent blood clots and post op chest infections.

They will also help to strengthen your operated leg and reduce swelling. In the early days after surgery, some of the exercises may cause some discomfort that can be alleviated with pain killers.



The therapy team on the ward will teach you the early stage exercises. You may need to be referred to your local outpatient physiotherapy department if necessary. We would expect you stay on the early stage exercises for around two weeks in combination with the pre op exercises, at which stage you will most likely be ready to progress to the mid stage exercises.

Every 15 minutes take 3 deep breath in through your nose and out your mouth despite the use of oxygen. Be sure to fill your lungs completely.

Cough to clear your airway of any secretions and help reduce the risk of chest infections and wean you off any oxygen requirements.

Please remember these exercises are your responsibility, doing them regularly will help speed up your recovery.

Please be advised that these exercises are only a guide. It is acceptable for you to complete all or only the exercises that you are comfortable with.

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["Physiotherapy for TKR](#)






# Early Stage Post-Op Exercises - from day 1 post surgery

	Description	Repetitions	Sets	Frequency
<b>Exercise 1</b>	<b>Knee Extension Stretch</b> 	60 seconds holds Gently lower the knee back down into a flexed position	3	Hourly
<b>Exercise 2</b>	<b>Knee Flexion in sitting</b> 	<ul style="list-style-type: none"> <li>Sit up straight, so that your feet are supported on the floor. Slide your foot backwards on the floor and bend your knee as much as possible.</li> <li>You may wish to use a plastic bag under your foot to reduce the friction of the floor and help you slide your foot back more easily.</li> </ul>	3	3-4 times a day
<b>Exercise 3</b>	<b>Static Quads</b> 	<ul style="list-style-type: none"> <li>Lie or sit on the bed/sofa with the affected leg straight</li> <li>Bend your ankle and push your knee down firmly against the bed/floor</li> <li>Feeling your thigh muscles tighten as you do this.</li> </ul>	5-10 as able	3-4 times a day


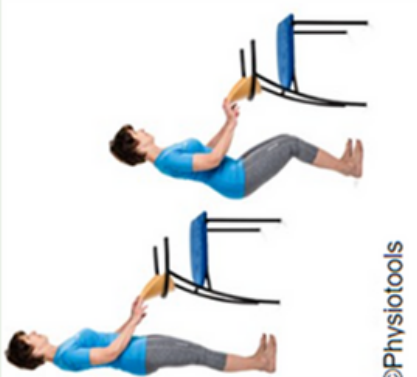



# Early Stage Post-Op Exercises - from day 1 post surgery


		Description	Repetitions	Sets	Frequency
Exercise 4	 <p><b>Inner range quads</b></p>	<ul style="list-style-type: none"> <li>▪ Lying/sitting with your legs out straight. Put a firm rolled up towel/pillow under the affected knee.</li> <li>▪ Keeping your knee touching the towel/pillow lift your foot and toes up, tightening your thigh muscle.</li> </ul>	5-10 seconds holds	5-10 as able	2-3 times a day
Exercise 5	 <p><b>Seat knee extension</b></p>	<ul style="list-style-type: none"> <li>▪ Sitting on a chair, pull your toes up, tighten your thigh muscle and straighten your knee. Hold approximately 5-10 seconds and slowly relax your leg.</li> </ul>			
Exercise 6	 <p><b>Laying Straight Leg Raise</b></p>	<ul style="list-style-type: none"> <li>▪ Lie on your back on a bed or sofa, with one leg bent and the other leg straight.</li> <li>▪ Bend the ankle of the straight leg, contract the muscles of your front thigh, and lift the left off the bed/sofa keeping it straight.</li> <li>▪ In a controlled manner, return to the starting position.</li> </ul>	5-10 times	5-10	Hourly



# Early Stage Post-Op Exercises - from day 1 post surgery



	Description	Repetitions	Sets	Frequency
Exercise 7	<b>Assisted Knee Flexion</b> 	Hold the stretch for 10-20 seconds	3	2-3 times a day
Exercise 9	<b>Mini Squat</b> 	<ul style="list-style-type: none"> <li>Stand on holding onto a stable surface</li> <li>Keep standing tall; don't allow trunk to lean sideways</li> <li>Squat down and at the same time move your pelvis slightly backwards</li> <li>Straighten your hips and return to the starting position</li> </ul>	1	2-3 times a day
Exercise 8	<b>Ankle Pumps</b> 	<ul style="list-style-type: none"> <li>Sitting/Lying with your legs out straight</li> <li>Point your foot up and down within a comfortable range.</li> </ul>	1	Repeat hourly throughout the day

# Completing stairs/steps



	Stairs with 2 rails	Description	Considerations
Going UP		<ul style="list-style-type: none"> <li>▪ Lift your unaffected leg up onto the step first</li> <li>▪ Lift your affected leg onto the same step</li> <li>▪ Repeat one step at a time</li> </ul>	<ul style="list-style-type: none"> <li>▪ You may use both rails if someone is able to carry your crutches/frame up for you</li> <li>▪ If you live alone, ask whoever takes you home to place your second set of crutches/frame at the top of the stair case ready for you to use once you're up.</li> </ul>
Going DOWN		<ul style="list-style-type: none"> <li>▪ Step down with your affected leg first</li> <li>▪ Then step down with your unaffected leg</li> <li>▪ Repeat one step at a time</li> </ul>	

You will be expected to complete a short flight of stairs or step after your surgery ( if applicable ) in preparation for your discharge.

# Completing stairs/steps

Stairs with one rail	Description	Considerations
<p data-bbox="544 2085 671 2119"><b>Going UP</b></p>  <p data-bbox="775 1883 796 2029">©Physiotools</p>	<ul style="list-style-type: none"> <li>Hold on to the rail with one hand and keep the crutch on the ground in the other</li> <li>Place your unaffected leg on the step above</li> <li>Push through your crutch and the rail to help you lift your affected leg on to the step</li> <li>Bring your crutch up to the step you are standing on</li> <li>Repeat completing one step at a time</li> </ul>	<ul style="list-style-type: none"> <li>You should go up and down the stairs using the rail on one side and the crutch on the other</li> <li>If somebody is at home with you, ask them to carry your second crutch/frame up for you so that you are ready to use both crutches or your frame once you are at the top</li> </ul>
<p data-bbox="1066 2085 1246 2119"><b>Going DOWN</b></p>  <p data-bbox="1350 1899 1370 2029">©Physiotools</p>	<ul style="list-style-type: none"> <li>Hold onto the rail with one hand and place the crutch on the stair below</li> <li>Step down with your affected leg first</li> <li>Then step down with your unaffected leg</li> <li>Repeat completing one step at a time</li> </ul>	<ul style="list-style-type: none"> <li>If you are at home on your own, you will be discharged with a second frame or a third crutch to keep at the top of the stairs.</li> <li>Ask whoever has taken you home to place these at the top of the stairs for you.</li> </ul>

# Completing stairs/steps

Stairs with no rails	Description	Considerations
<p>Going UP</p>  <p>©Physiotools</p>	<ul style="list-style-type: none"> <li>▪ Keep both crutches on the ground</li> <li>▪ Step up with your unaffected leg</li> <li>▪ Push through the crutches to help you lift your affected leg up on the step</li> <li>▪ Bring your crutches up level with you</li> <li>▪ Repeat on step at a time</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use both crutches to ascend/descend the stairs as described below.</li> </ul>
<p>Going DOWN</p>  <p>©Physiotools</p>	<ul style="list-style-type: none"> <li>▪ Lower your crutches down first</li> <li>▪ Step down with your affected leg</li> <li>▪ Then step down with your unaffected leg</li> <li>▪ Repeat one step at a time</li> </ul>	

# 6

## Getting back home

**The discharge day**

**Recovery at home**

**Analgesia at home**

**What to do about pain**

**What to do about constipation**





We aim to get back home safe **on the same day of surgery or the subsequent one to two days**. For that to happen, you need to:

- Be medically fit ( blood tests and x-ray satisfactory)
- Have a dry wound
- Be mobilising with an appropriate walking aid
- Be independently getting in and out of bed and on and off the toilet
- Be able to go up and down stairs if you need to
- Have achieved the requirements of the Physiotherapist and Occupational Therapist

## The Discharge Day

When you leave the ward a written discharge summary will give you instructions about your wound care and any necessary actions including follow up.

A copy will be sent to your GP.

A pharmacist will check your medication and pain relief.

## Going Home

You will need to arrange someone to collect you and it will be ok to travel in a normal car. Please let the nurse know if this is not possible. Make sure you have clothes and your key with you.

## Recovering at home

Take regular pain relief as prescribed.

Remember some discomfort is expected. Keep mobile.

Do your exercises regularly.

Eat healthily to avoid constipation.

If you are discharged within 24h you will be contacted by our nursing team for a telephone assessment



Once you are home, you must manage your pain relief yourself. A small supply of pain relief will be given on discharge for up to 2 weeks.

This is intended for short term use only and if given liquid oramorph/oxycodone, this should be used for severe pain only (maximum every 4 hours). Your GP will be responsible for further supplies as required.

Here are a few measures you can combine to relief you discomfort or pain:



### Relaxation

Pain is reduced when you are relaxed and distracted.

Resting, breathing exercises, watching TV, listening to music or reading is helpful



### Positioning

Rest in a comfortable chair or sofa. In bed ensure you change position every couple of hour. Try to lie flat or with your heels slightly elevated



### Pain relief

Analgesia should be taken before pain becomes severe and regularly  
You can use Ice to reduce discomfort and swelling .Use ice or a cold pack for 20 minutes at one time




### Make a plan

What makes your pain better or worse?  
What methods of pain control have worked or have not worked well in the past?  
Is it worse pain or new pain?

# 7

# Wound care

**Washing with your dressing**  
**Changing dressing**  
**Wound check after surgery**  
**Signs of alarm**  
**Help line**



On the discharge day your wound will be covered by a waterproof dressing. The nurse may need to change it if becomes heavily blood stained, however we keep changes to an absolute minimum. Do not change or remove the surgical dressing until the date specified in your discharge letter. This is usually 12 – 14 days after surgery. If the dressing starts to peel off or water gets underneath, you will need to change it. You will have been given dressings to take home with you.

## **Washing with your dressing**

- Do not remove the dressing to shower – it is water resistant
- Do not use soap, gel, lotion or powder around the dressing area
- Be gentle, pat dry using a clean towel

## **Changing the dressing**

- Wash your hands with soap and water and dry them
- Carefully take off the dressing without touching the wound
- Do not wash the wound or put anything on it such as creams or ointments
- Do not pull on any stitches that may be poking out of the healing scar
- Wash and dry your hands again
- Apply a new dressing, taking care not to touch the adhesive part of the dressing on the wound

## **Wound check after surgery**

You will be instructed to arrange an appointment with your local practice to have the wound clips removed. At this point if the wound is healed it can be left without any dressing. This information will also be specified in your discharge letter



## Signs of alarm

It is important that you ensure your wound has completely healed before removing the dressing and getting the wound wet. Remember you can shower after your surgery providing that your dressing is waterproof.


We would like you to keep vigilant for any of the bellow signs:

- Severe unrelenting or worsening wound pain
- Feeling generally unwell or a temperature
- A wound that is oozing or smells
- The skin around your wound gets increasingly red, sore and hot
- The edges of any part of your wound separate

If you have any concerns with your wound please contact our advice line and on the weekend you can contact the Dr on-call via switchboard. If you need to see your GP we would like to hear from you about the consultation outcome and if antibiotics were prescribed.

The advise line is not intended for emergencies so please contact your GP and ask for an urgent appointment or call 111.

**You can talk to a nurse, physiotherapist or occupational therapist about any subject related to your recovery or after surgery care, including analgesia, wound care , exercises and equipment.**



**Orthopaedic Practitioner  
Advice Line (OPAL)  
01603287795  
Monday - Friday  
9am - 4pm**

# 8

# Physiotherapy after knee replacement

**Mid stage and late stage exercises**

**Becoming mobile again**

**Returning to physical activity and sports**

**Sexual activity**

**Driving**

**Travelling**

The inpatient physiotherapy team will teach you the early stage exercises whilst you are on the ward.

Rehabilitation following your knee surgery should be built up gradually over a five to six month period. There should be a graduated increase in the difficulty of the exercises and the length of time that you perform each exercise. Any weights or resistance should be added gradually so that your muscles have time to adapt to the additional difficulty.

In the early days after surgery, some of the exercises may cause some discomfort, this is acceptable as long as you are not in more pain the next day.

## **Mid Stage Knee Replacement Exercises - 2 to 6 weeks**

You may continue with the early stage exercises and when these feel comfortable and easy to do, you can progress onto the mid stage exercises.

You can break them up into individual exercises if you are unable to complete them in one go.

## **Late Stage Knee Replacement exercises**



Before moving onto further strengthening exercises, it is important that you are completing the previous exercises with ease, and that you feel comfortable with normal daily activities, such as walking and completing the stairs unaided (if this was your baseline).

For some people this will take longer than 6-8 weeks, so it is important you progress at a rate that is suited to you.


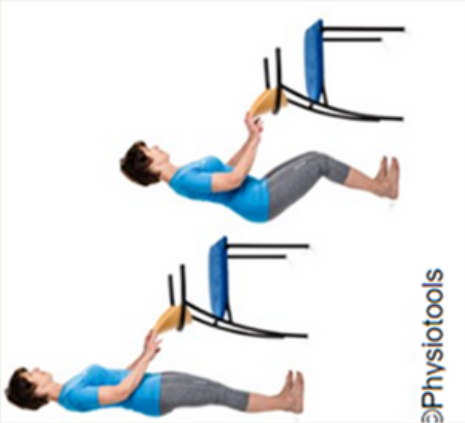
Try to slowly increase your activity, gradually increasing your walking distance is a great way to build strength and fitness.



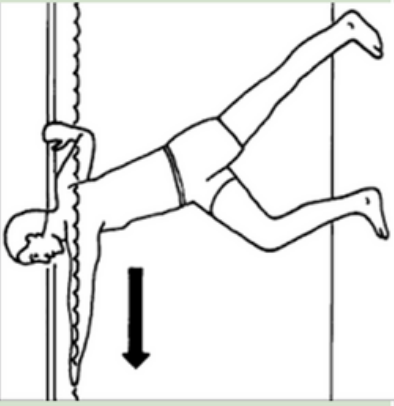

# Mid Stage Knee Replacement Exercises - 2 to 6 weeks

	Description	Repetitions	Sets	Frequency
<b>Exercise 1</b>  <b>Stairs</b> 	<ul style="list-style-type: none"> <li>Initially, you would have been advised to ascend the stairs using your uninjured leg to go up first, and to descend the stairs using you injured leg to go down first.</li> <li>To build strength and return to doing the stairs normally, try on the bottom stair, going up with your injured leg – just doing one stair/step at a time with both feet on the same step.</li> <li>Use the banister rail/wall for support.</li> <li>Again, on the bottom stair, try stepping down with your uninjured leg first. This will help you to improve your confidence to complete the stairs as you did before.</li> </ul>	-	-	-
<b>Exercise 2</b>  <b>Bridge</b> 	<ul style="list-style-type: none"> <li>Lie on your back with legs bent and your arms by your side.</li> <li>Squeeze your buttocks, roll your pelvis to lift your bottom off the bed. Try to keep your pelvis level so that your pelvis isn't tilting to either side.</li> <li>Hold the position and in a controlled manner return to the starting position.</li> </ul>	5-10	3	Once a day




# Mid Stage Knee Replacement Exercises - 2 to 6 weeks

		Description	Repetitions	Sets	Frequency
Exercise 3		<ul style="list-style-type: none"> <li>▪ Lying/sitting with your legs out straight. Put a firm rolled up towel/pillow under the affected knee.</li> <li>▪ Keeping your knee touching the towel/pillow lift your foot and toes up, tightening your thigh muscle.</li> <li>▪ 5-10 seconds and slowly relax.</li> </ul>	5-10	3	
Exercise 4		<ul style="list-style-type: none"> <li>▪ Stand on holding onto a stable surface</li> <li>▪ Keep standing tall; don't allow trunk to lean sideways</li> <li>▪ Squat down and at the same time move your pelvis slightly backwards</li> <li>▪ Straighten your hips and return to the starting position</li> </ul>	10-15 as able	1	once a day

# Mid Stage Knee Replacement Exercises - 2 to 6 weeks

		Description	Repetitions	Sets	Frequency
Exercise 5	Swimming	 <ul style="list-style-type: none"> <li>At this point, you can start gentle cardiovascular exercise such as swimming to help build your fitness and your strength.</li> <li>Walking in the water is a good way to do this.</li> </ul>	-	-	2-3 days a week
	Exercise bike	 <ul style="list-style-type: none"> <li>It is important to remember not all patients will get enough knee flexion to allow cycling.</li> <li>If you are able, we would recommend practicing on an exercise bike before using a bicycle.</li> <li>Start this gradually, i.e. cycling for 5-10 minutes initially, not pushing through pain and gradually increasing if you experience no adverse effects/increase in pain afterwards.</li> </ul>	Low resistance	5-10 minutes	2-3 days a week

# Late Stage Knee Replacement exercises

	Description	Repetitions	Sets	Frequency
Exercise 1 Weighted knee extension	 <p> <ul style="list-style-type: none"> <li>Sit up straight on a chair, with a 1kg weight attached to your ankle. (This could be in the form of a bag of sand or an ankle weight if you have one).</li> <li>Keep the back of your thigh touching the chair and slowly lift your lower leg off the ground until your knee is straight.</li> <li>Hold , then slowly return to the starting position in a controlled manner.</li> </ul> </p>	5-10 seconds holds	5-10	Once a day
Exercise 2 Single leg balance	 <p> <ul style="list-style-type: none"> <li>Balance on one leg. You may wish to use a stable surface in front of you for support if needed.</li> <li>Remember to stand tall, with weight evenly distributed between forefoot and heel and toes pointing forwards</li> <li>Alternate leg</li> </ul> </p>	20-30 seconds holds each side		
Exercise 3 Slow step ups	 <p> <ul style="list-style-type: none"> <li>Stand in front of a step / your bottom stair. You may wish to hold on to a banister / rail for support / balance.</li> <li>Put the foot of the affected leg on to the step.</li> <li>Slowly push yourself up onto the step so that both feet are on the same step.</li> </ul> </p>	1-2 minutes as able	5-10 times as able	

# Becoming mobile again

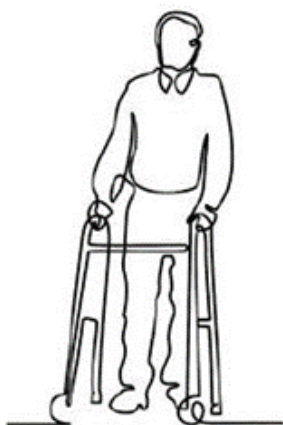
Progressing off walking aids / back to your baseline mobility, is a gradual process that may take weeks to months.

It is important to walk on a regular basis and steadily increase the distance you cover.

You can progress to using one crutch or stick held on the opposite side to your operated leg as soon as you feel safe and comfortable to do so.

However, if you are uncomfortable or limp when walking then continue to use your walking aid.

## Frame



Start by pushing the frame a short distance in front of you.

Step into the middle of your frame not too close to the front with your affected leg. Then step the unaffected leg to meet it.

Once you feel comfortable walking this way you can progress to walking normally pushing the frame along as you go.

It may be that you progress to using crutches.

## Crutches



Start by moving your crutches a short distance in front of you.

Imagine there is a line between your crutches and step up to but not past this imaginary line, with your affected leg.

Then bring the unaffected leg to meet it.

It is important to leave yourself enough room to step between your crutches, as having the crutches too narrow can reduce your balance.



# Crutches



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Once you feel confident and well balanced, you may progress to walking more naturally with your crutches.

This next stage is like walking like a soldier: moving your opposite arm and your opposite leg forwards at the same time, again trying not to step past the crutch in front of you.



Once you are walking comfortably with two crutches, you may be ready to use just one crutch in the opposite arm to your affected leg. i.e. if you've had an operation on your left leg, then you would use the crutch in your right hand, placing your right crutch forward as you step forwards with your left leg and vice versa.



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If you feel confident walking with one crutch and find yourself using it more for balance than for supporting your weight, then you may wish to progress using a walking stick using the same walking pattern as described above.

Once you feel you have good balance and no longer require a stick, you can stop using it. Although some people prefer to still use a stick if going out in public or for longer walks



# Returning to physical activity and sports

Physical activity is an important part of maintaining your overall health and well-being. One of our goals is to equip you with information so that you can decide upon the best type of exercise for you. There are certain factors to take into consideration when deciding if impact exercise is right for you after your TKR.

Low impact activities such as golf, cycling, pilates and swimming are normally safe by three months following surgery as long as you are walking well and no longer experiencing pain from your knee. Higher impact activities such as jogging, tennis, cricket, squash and badminton involve high forces of your body weight and you should check with your consultant.



Kneeling is not advisable for several months after your surgery. You may find it more comfortable to kneel on a pad or cushion. Some patients find they cannot kneel after their operation either because it is uncomfortable or because they have been told by their consultant.

The information below is intended as guidance only. Every knee and person is individual; we encourage you to seek advice from your physiotherapist and surgeon about your physical goals.

# Examples of activity milestones

Weeks after THR	Common activity	Physical ability
<b>2-6 weeks</b>	Walking without crutches inside	<ul style="list-style-type: none"> <li>▪ Well controlled pain.</li> <li>▪ Even walking pattern.</li> <li>▪ If you are limping, you are not ready.</li> </ul>
<b>2-4 weeks</b>	Using the static bike with easy resistance	<ul style="list-style-type: none"> <li>▪ Able to safely get on and off the static bike.</li> <li>▪ Put the seat up high for comfort and to avoid deep hip bend.</li> </ul>
<b>4-6 weeks</b>	Housework	<ul style="list-style-type: none"> <li>▪ Able to complete your early-stage exercises.</li> <li>▪ Well controlled pain.</li> </ul>
<b>6 weeks</b>	Driving (This information does not override DVLA or insurance, please check with your company)	<ul style="list-style-type: none"> <li>▪ Able to safely perform an emergency stop with the operated leg.</li> <li>▪ Left sided TKR and an automatic car - resume when you feel ready.</li> <li>▪ Advise your insurance company that you have undergone TKR before driving.</li> <li>▪ Check with your insurance company that you are insured.</li> </ul>
	Gardening	<ul style="list-style-type: none"> <li>▪ Able to perform your mid stage exercise programme easily.</li> <li>▪ Avoid stamping through your operated leg when digging for 8-12 weeks.</li> </ul>
<b>6-8 weeks</b>	Walking a mile without crutches outside	<ul style="list-style-type: none"> <li>▪ Well controlled pain.</li> <li>▪ Even walking pattern.</li> <li>▪ Able to complete the mid stage exercise programme.</li> </ul>
<b>6-12 weeks</b>	Return to work	<ul style="list-style-type: none"> <li>▪ Depends upon the type of work you perform – speak to your surgeon for advice specific to you</li> </ul>



## Sexual Activity

The vast majority of patients are able to resume safe and enjoyable sexual intercourse after total knee replacement surgery.

It may take several weeks to become completely comfortable during intercourse. In general, it is safe to resume intercourse approximately 6-8 weeks after surgery.

## Travelling

We advise that you avoid travel for at least 4 weeks before and after your surgery.

This is related to the risk of blood clots after long journeys of more than 4 hours continuously.

- Avoid long trips over 4 hours of continuous travel for 4 weeks prior to surgery
- Postpone or cancel flights over 4 hours for 3 months after your surgery
- Postpone or cancel flights less than 4 hours for 1 month after surgery

Further information can be found on your “Information on admission” booklet

## Driving

You will not be able to drive for 6-8 weeks following your surgery. You must have been cleared by your consultant to do so. Always check your insurance company and DVLA regulations about driving after surgery and the use of analgesia when driving



# Follow up appointments

**Post operative follow up**  
**Medical certificates**  
**Useful contacts**

## Post operative follow up

You will receive a letter to attend our out-patient clinic in 6 weeks after surgery where you will be reviewed by a member of your Consultant's Team or in a dedicated Arthroplasty Nurse Practitioner clinic. During the appointment, your wound and hip movements will be checked. The Clinician will enquire how you are getting on and if at this point you are recovering well, you will be discharged back to the care of your GP. If you are discharged within 24h of your surgery you will be contacted by a member of the nursing and physiotherapy team for a well-being check in the subsequent days

## Medical certificates

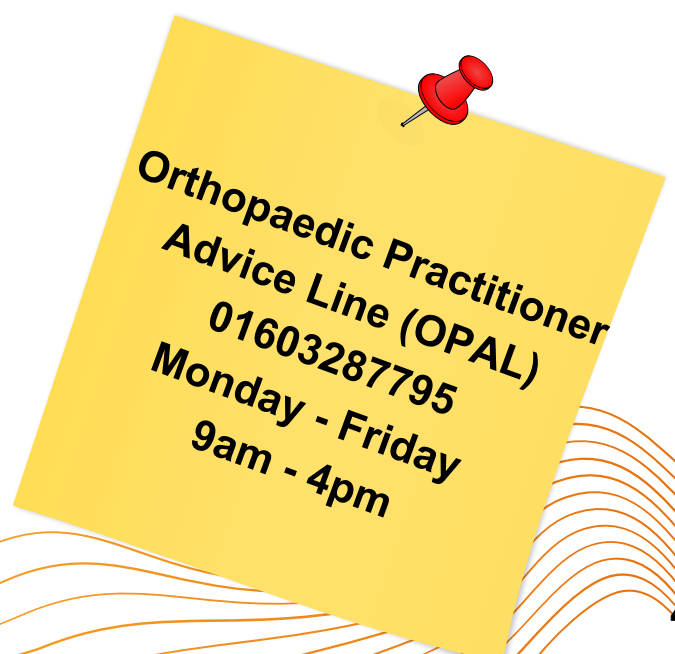
Please ask your ward nurse for a medical certificate before you leave the hospital. Further certificates will be issued by your GP. Forms from medical insurance companies should be sent to your consultants secretary.

## GP/Dentist

For repeat prescriptions, including further analgesia please see your GP. Please tell your dentist if you have a THR, you may require antibiotics before undergoing certain dental procedures in the first six weeks after a THR.

## OPAL

You can speak to a health professional after your discharge if you have any non-urgent queries about your recovery. This is not an emergency health line and we if we miss your call we will contact you as soon as possible





# Useful contacts

## Norfolk and Norwich University Hospital

Colney Lane

Norwich, Norfolk

NR4 7UY

[www.nnuh.nhs.uk](http://www.nnuh.nhs.uk)

Switchboard: 01603 286286

Patient Advice and Liaison Service .....	01603 287795
(compliments and complaints) <a href="mailto:palsandcomplaints@nnuh.nhs.uk">palsandcomplaints@nnuh.nhs.uk</a>	
Equipment Services (Norfolk and Waveney Mediquip).....	01603511124
(Suffolk - Medequip).....	01473 351805
NJR Helpline.....	0845 3459991
Occupational Therapy .....	07736287353
(Monday to Friday)	07736287349
Orthopaedic Pre-assessment.....	01603 286499
Orthopaedic Specialist Pharmacist.....	01603 646485
Orthopaedic Practitioner Advice Line.....	01603 287795
(Monday to Friday from 9am to 4pm)	
Same Day Admissions Unit (SDAU).....	01603 286414
Orthopaedic wards.....	Place sticker here



Relay UK

For hearing impaired (Via Text Relay) using a text phone  
**18001** followed by the number you want to contact



Please let us know if you need an interpreter for any of your appointments and as an inpatient

If you're delighted with  
the care we'd love to  
hear about it



Feedback



SCAN ME

