

Patient Information

Trauma and Neuro services

Personalised Knee Improvement Programme

P-KIP



An individually tailored programme for people with knee osteoarthritis



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Introduction

You are part of a personalised programme of support that will help you manage and live with your arthritis – the Personalised Knee Improvement Programme (P-KIP).

This programme will teach you:

- What osteoarthritis is
- What you can expect from your knee over time
- What you can do to improve your knee
- Methods for improving your knee
- Methods for slowing down the progression of your arthritis

We know that the training and support you are offered through P-KIP can improve your knee symptoms and your quality of life.

However, positive results require lifestyle change on your part, and the success or failure of the programme is dependent on the effort you put in.

How to use this booklet

This booklet contains:

- A summary of the main treatments for knee osteoarthritis. You are able to do most of these treatments yourself
- Your individual physiotherapy diary, which will be used to provide you with personalised physiotherapy sessions
- Your individual dietetic diary, which will be used to provide you with personalised dietetic session
- A section for notes
- A section to record the outcome of your telephone follow up

Most of the treatments described can be done yourself; however, there are some aspects that may require support and guidance. As part of this programme you will receive a full initial assessment from a senior physiotherapist and a senior dietitian. They will take you through what they think you can achieve, and how you can achieve it.

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Within this booklet you will receive details of the type, frequency and duration of exercises that you need to perform, along with advice and targets for a healthy diet. Each assessment will determine when you should be assessed again. This will vary for different people, as some people need more support than others.

You will also find diaries where you can record your progress and any adjustments you need to make.

Participant's name:

Address:

Telephone number:.....

**If you need to change your appointment time please contact
024 7696 6013**

Treatments available

Many of the following treatments should result in a small improvement in your symptoms and your ability to lead a full life with osteoarthritis (OA). By combining treatments you are likely to achieve a much larger improvement.

Things that can be done by you – The Basics

Physical activity

Many people with OA find that because their joint(s) are sore and stiff, they do less physical activity. However, limiting how much a joint moves is not good for it, makes it more likely the OA will progress, and will make pain and stiffness worse.

Research has shown that physical activity (both strengthening exercises and aerobic exercise like cycling) can reduce pain and improve the ability to do everyday tasks. Many patients find there are two problems with this approach:

- **Getting going:** Because the joint is painful and stiff, it is hard to break the cycle of pain – less movement, more pain, and so on. Through one-to-one physiotherapy sessions, the P-KIP programme will take you through how to achieve this breakthrough. This can be helped with medications but it is not a pain free process. The benefits from this approach are well worth the discomfort in learning how to break the cycle.
- **Keeping going:** For the benefits to continue, you need to keep moving. The aim of P-KIP is to teach you how you can do this yourself. If you stop moving, the pain is likely to get worse, and the OA is more likely to progress.

Body Weight

Overloading the joint – not by moving, but by putting more weight through it than it was designed for – can make the joint damage worse. This will progress the OA and lead to more symptoms.

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Knee OA makes physical activity more challenging, and losing weight with diet alone is difficult. However, through this programme you will learn how to manage an exercise programme for yourself. One-to-one dietitian sessions will allow you to complement the increased physical activity with weight loss (if required). This will require a lifestyle change.

Increased physical activity and weight loss will not only improve symptoms from knee OA, it will make progression of the OA less likely.

Footwear

Thick, shock-absorbing soles, no high heels, wide fronts, and soft uppers that fasten are widely recommended. Cushioned insoles are available to buy.

Insoles that are moulded to your feet and designed to alter the alignment of your feet are also available. These are not suitable for everyone, and require the alignment of your feet to need correction in the first place. Insoles can make problems worse, and should only be tried if recommended by a health professional.

Warmth to relieve pain, and cold to relieve swelling

Some people find that warm packs (such as a hot water bottle) can help relieve pain. Cold packs can help relieve swelling, especially if applied after more movement than the joint is used to.

Many people use hot water bottles or frozen peas wrapped in a towel, although packs specifically designed for this are widely available.

Distraction and relaxation to reduce pain

Anxiety or stress can make the pain from OA seem worse. Learning to relax can help with the pain, and the ability to manage the pain. There are many techniques available, and tapes can be bought or borrowed. For example, the Expert Patients Programme, a not-for-profit organisation, teaches relaxation (Tel: 0800 988 5550, www.expertpatients.co.uk). It also teaches self-management courses. Patients with chronic health problems lead all sessions.

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Dietary supplements

There are many claims that certain foods or supplements can help joint pain. Some advice is related to very specific conditions (e.g. avoiding red meat and wine to reduce the flare-ups associated with gout). In OA there is currently no evidence that any particular dietary supplements will affect the symptoms or progression.

Certain supplements (for example glucosamine and chondroitin) are available over the counter. Glucosamine is available in two forms, chloride or sulphate. It is doubtful if glucosamine chloride helps pain or progression. Glucosamine sulphate does not limit progression, but may help pain. There is conflicting evidence on the ability of Glucosamine sulphate to help pain, and NICE (the National advisory body) has recommended doctors do not prescribe it, although it is unlikely to cause any harm.

There is no evidence that chondroitin is helpful for joint pain. Other treatments, such as herbal remedies, and herbal creams that are rubbed in, are likewise not prescribed by doctors. Herbal remedies may interact with prescribed medication you are taking for other health problems, so please check with a pharmacist if you intend taking them.

Feeling positive

Feeling frustrated and down is a common, natural, and understandable part of having OA. Pain and stiffness may make it harder to perform daily activities or take part in hobbies and pastimes. However, continuing to do such activities is a valuable part of life and can help lift mood, that in turn makes the symptoms of OA easier to cope with.

Finding ways around problems

Hobbies and leisure activities are an important part of people's lives. OA can interfere with many hobbies and daily activities; however, this does not mean the end to doing them.

Humans are very resourceful, and there are many ways to continue to participate in hobbies. Other solutions may be to take part in a different way. For particularly difficult problems specific devices may be helpful (see "Appliances" section below). The vast majority of people can find solutions

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with the help of friends and family. There is also a large amount of information available on the internet (see “Appliances” below) and your physiotherapist should be able to give some advice.

In exceptional cases, an assessment by an Occupational Therapist is required. This can be arranged through your GP.

Appliances

Walking appliances (such as walking sticks) can work in two ways: they can relieve the pressure on the painful leg, and they can provide confidence.

Many people do not like the idea of using a walking appliance as it makes them feel old. Others find the improved symptoms or the confidence a stick gives outweighs any disadvantages.

There are many assistive devices on the market designed to help with a wide range of activities. If you are unsure of any particular device you can ask your health professional, or contact Assist UK. This organization runs a network of centres with displays of products and equipment. Telephone: 0870 770 2866, www.assist-uk.org

The Opal Centre in Coventry offers support for people to make the right choices about equipment in order to promote independence, choice and well-being.

Telephone 024 7678 5252

Email: occupationaltherapy@coventry.gov.uk

Adding to the basics

Physiotherapy

As part of the PKIP programme, you will receive physiotherapy sessions. These sessions are aimed at **getting your joint moving**, and giving you the help and support you need to have confidence in **keeping it moving**.

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Dietitian

One-to-one sessions with a dietitian are also provided as part of PKIP. The dietitian will assess your current diet, and advise you how you can manage your diet as part of a healthy lifestyle. As with the physiotherapy sessions, this will require a large amount of effort on your part.

Electrotherapy

Transcutaneous Electrical Nerve Stimulation (TENS) is a machine that sends electrical impulses through the skin. Some people find it helps with pain in a variety of situations, including pain from OA in the knee. Many different machines are available. Physiotherapists can advise about makes/models and how best to use them.

Medicines for managing pain

Commonly used medications include:

Paracetamol

Non-Steroidal Anti-inflammatory Drugs (NSAIDs) – tablets: Commonly used class of drugs including ibuprofen (available over the counter) and naproxen (prescription only).

Non-Steroidal Anti-inflammatory Drugs (NSAIDs) – cream: There is evidence that NSAID cream may help pain in knee OA. Some preparations are available over the counter, others on prescription only.

Opioids: This class of drug includes codeine, tramadol, and morphine. They provide effective pain relief, but have a range of side effects including constipation and drowsiness. Some forms are available over the counter (e.g. codeine).

Injection: A steroid injection into the knee can be used to temporarily improve symptoms in some people. This injection will not slow the progression of the condition.

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There are many different types of medication, and combinations of medication, for managing pain. The most suitable type will vary from person to person, and some pain medications can interact with other medical conditions or prescribed medication.

Many people find they require different medications if they are experiencing a flare-up of their OA. It is useful to have a plan in place to allow you to manage flare-up of your OA. We would recommend arranging a pain review with your GP to ensure you are on the best available medications, and know what to do if your pain gets worse.

Complementary and Alternative Medicine

This includes a wide range of therapies including acupuncture, osteopathy, homeopathy, herbal medicine, glucosamine sulphate / chondroitin and aromatherapy. Generally speaking, you would need to pay for these services for your knee OA. Robust evidence on how well these treatments work is difficult to come by. NICE (the national body for advice on what treatments to use), has recommended against the use of acupuncture.

Many people who have OA do use some form of alternative medicine at some point. There are many patient reports of various alternative medicine approaches working; however, these reports are likely to be selective.

Surgery

Arthroscopy

Arthroscopy, or “key-hole surgery”, involves making some small cuts in the knee and passing a camera into the joint. An arthroscopy requires a general anaesthetic in most cases, with the associated risks. Research has shown that for patients with OA of the knee there is no benefit from an arthroscopy.

Knee replacement surgery

Total Knee Replacement (sometimes called Total Knee Arthroplasty), is a common operation for people who have severe OA. It replaces the joint with metal and plastic. This is not a “new knee”, and will not work as such. For example, kneeling down is often difficult for many patients. However, knee replacements will improve pain in the majority of people.

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Knee replacements last about 15-25 years in most cases. Approximately 17% of people who have a knee replacement are not fully satisfied with the result (this means that approximately 83%, or 83 people out of every 100, are satisfied with the result). Most people are dissatisfied because they do not have as much relief from pain as they were expecting, or they do not have the level of function from the knee they were expecting.

It is major surgery, and there is a range of risks associated with it. However, for people with severe OA, it is a useful treatment to relieve pain, and is one of the most cost effective medical interventions on offer in the NHS. In England and Wales about 80,000 knee replacements are done every year. This represents a small proportion of the number of people who have OA of the knee.

Summary

Currently, the most effective non-operative treatment for OA of the knee is self-management, using the range of treatments described in this booklet. Physical activity is the cornerstone of this approach.

For most people this approach will mean the OA does not progressively get worse (although they will have flare-ups), and they will be able to continue to be socially and physically active. Many small changes can have a large effect overall.

Dietitian

Dietician's name:

Tel No:

What to expect from your appointment with the Dietitian

The Dietitian will assess your normal diet by asking about your usual meals, snacks, drinks and cooking methods. Completing a food diary and bringing this to the appointment will help. The Dietitian will measure your height and weight and may also take another measurement (such as your upper arm circumference), which will help the assessment.

Relevant medical history will be reviewed with you, to ensure that any dietary advice is appropriate. Please bring a list of any medications you are currently taking.

If you need to change your eating habits, the dietitian will work with you to develop an action plan to suit your needs. This will usually take about 30-40 minutes.

If you have many questions about your dietary needs, you may find it useful to make a list. Your dietitian will try to answer these straight away or get the information for you as soon as possible.

Before your first appointment with the dietitian

Different people will require different types of advice. For most people this will include advice about eating a balanced diet that provides you with all the nutrients you need. Some people may require some specific advice, for example on cooking methods, weight loss, food choices, or eating patterns.

To understand what will be best for you, we would like you to keep a food diary of what you eat for one week before you see the dietitian. We will use this to help you eat healthily as part of a healthy lifestyle. The food diary is on the following pages.

Food diary

How to complete your food record:

- Record everything that is eaten throughout the day and night. This includes all meals, snacks, nibbles and drinks. Only record what is actually eaten, not what is served.
- Be as accurate as possible in recording the amount of food eaten – see table for more ideas on this.
- Remember to say how a food was cooked – was it fried, boiled, grilled, and, where possible, include the recipe and how many this served.
- Include pack size and brand if it is a packet food, and how much of it was eaten by you. Include the label with ingredient list and nutrition content if available.
- Complete the food diary as you go along – don't try to remember at the end of the day or week.

Estimating amounts of food – useful tips:

Food	Useful measures
Bread	Record size of loaf and thickness of slice. Is it white or wholemeal? If a bread roll, how big was it or what length of baguette?
Breakfast cereal	Estimate number of tablespoons or serving spoons, or how many Weetabix, Shredded wheat etc.
Cake	Describe type of cake and size of piece eaten
Chapatti	Record size and thickness and if any fat added to recipe or spread on before eating
Drinks	Measure the amount of fluid your cup or glass holds. How much sugar is used in hot drinks? Is it ordinary or low calorie pop or squash?

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Fish	What size piece / raw weight? Is it steamed or fried, battered, crumbed or in milk?
Fruit	Small medium or large, fresh or tinned (with juice or syrup)?
Meat	State raw weight if you know how much was bought. Or state size and thickness of raw or cooked piece. How was it cooked?
Pasta and rice	Specify if using raw or cooked measurement, e.g. half mug full raw rice, or 3 serving spoons boiled pasta. State if white or wholemeal
Pie	Estimate size, or dimensions of piece, and was it pastry top and bottom or just top?
Stew, casserole, curry	Indicate how much meat, chicken or lentils etc were in the portion eaten.
Vegetables	State number of serving spoons or tablespoons, and was butter or margarine added when served?

Please complete the following questions;

Milk – do you use:

- Full cream Semi skimmed
 Skimmed Other

How much milk do you use each day? _____

- Sugar** – do you add sugar to:
- Tea How much? _____teaspoon(s)
 Coffee How much? _____teaspoon(s)
 Other How much? _____teaspoon(s)

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Spread – what brand of margarine or butter do you spread on bread?

.....

How is it spread: thick thin medium

Salt : Do you add salt in cooking? Yes No ____teaspoons

Do you add salt at the table? Yes No

How much salt? A little A lot

Supplements: do you take any vitamin or mineral supplements? Please list.

.....

Do you take any other herbal, Chinese or complimentary medicines?

Please list.

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Prescribed medications – please list medications taken.

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Patient Information

Food diary – day 1

Day _____

Record all food eaten and drinks taken.

Be as accurate as possible in describing amounts – teaspoon or tablespoon, thick or thin, large or small.

Time of day	What did you eat or drink?	How much?	Comments

Remember: include all foods and drinks taken in the home and out, and snacks or nibbles taken between meals.

Patient Information

Food diary – day 2

Day _____

Record all food eaten and drinks taken.

Be as accurate as possible in describing amounts – teaspoon or tablespoon, thick or thin, large or small.

Time of day	What did you eat or drink?	How much?	Comments

Remember: include all foods and drinks taken in the home and out, and snacks or nibbles taken between meals.

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Food diary – day 3

Day _____

Record all food eaten and drinks taken.

Be as accurate as possible in describing amounts – teaspoon or tablespoon, thick or thin, large or small.

Time of day	What did you eat or drink?	How much?	Comments

Remember: include all foods and drinks taken in the home and out, and snacks or nibbles taken between meals.

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Food diary – day 4

Day _____

Record all food eaten and drinks taken.

Be as accurate as possible in describing amounts – teaspoon or tablespoon, thick or thin, large or small.

Time of day	What did you eat or drink?	How much?	Comments

Remember: include all foods and drinks taken in the home and out, and snacks or nibbles taken between meals.

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Food diary – day 5

Day _____

Record all food eaten and drinks taken.

Be as accurate as possible in describing amounts – teaspoon or tablespoon, thick or thin, large or small.

Time of day	What did you eat or drink?	How much?	Comments

Remember: include all foods and drinks taken in the home and out, and snacks or nibbles taken between meals.

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Dietetic first assessment

Date:

Height:

Weight:

BMI:

Targets:

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Dietetic follow up assessment

Date:

Weight:

BMI:

Targets:

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Patient Information

Dietetic follow up assessment

Date:

Weight:

BMI:

Targets:

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Dietetic follow up assessment

Date:

Weight:

BMI:

Targets:

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Patient Information

Dietetic follow up assessment

Date:

Weight:

BMI:

Targets:

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Dietetic follow up assessment

Date:

Weight:

BMI:

Targets:

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Physiotherapy

After your education class you will be assessed by a physiotherapist and will be given exercises that are most relevant to you. Your physiotherapist may recommend a course of one-to-one sessions, to settle your knee down and enable you to do regular exercise effectively.

The exercises you do won't cure your arthritis and joint pain, but it will help you to reduce it and understand the best ways to manage it. You will be given individual, simple effective exercises to help maximise your strength, functional abilities and independence on a long-term basis.

After 6-8 weeks of continuing with the programme at home, we will arrange for you to come back for one more exercise session to go over any issues you may be having and give you a final assessment.

What will the physiotherapy sessions involve?

The sessions will involve education about knee osteoarthritis, the causes of pain around the knee and ways of improving and managing that pain, types of exercise that can be undertaken and the relative benefits of each, as well as how to continue and progress your exercise programme at home.

The session will be a combination of theory and practical participation. You will be shown muscle and joint stretches to improve some of the movements and flexibility in your leg in general, as well as around the muscles and tissues across the knee.

Strengthening the hip and ankle as well as your thigh muscles will help take the pressure off the knee. There will be a mixture of individual muscle exercises, as assessed by your physiotherapist, as well as cardiovascular work (e.g. on an exercise bike or walking).

Advice will be given about an initial low level of exercise and a graduated progression strategy that you should adopt. Everyone's exercise tolerance and abilities will be different, and you should exercise within your own ability. You may be able to gradually increase your current activity levels in a comfortable way over time.

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You will be encouraged to adopt different strategies for activities:-

- Stopping before your pain starts to become worse during certain activities, or learning to 'pace yourself', is a very useful management strategy.
- Splitting everyday tasks up into smaller portions that can be done 'a little and often' rather than all in one go.
- Finding alternative ways of doing things that are more comfortable for you and your joints, but still allow you to remain active, such as not kneeling but leaning forwards or sitting instead.

We will also talk through how to manage any flare-ups in pain you may experience. Flare-ups are a natural consequence of activity and can sometimes mean you have done too much. It is normally the intensity of the activity that has caused an increase in pain. The important thing is to manage these episodes well by allowing your pain to settle and not irritating it further over a few days.

This may be as simple as avoiding unnecessary activities, the use of a heat or ice pack, taking effective regular pain relief and maintaining the flexibility around the joint on the bed.

As your pain settles a gradual return to your previous activities will be possible. It may take a week or two for you to be able to gradually return back to your previous activity levels.

Osteoarthritis affects a large number of people, but most are able to live full lives. Simple activity modifications, while remaining strong, flexible and physically active, are important in helping you to make a significant difference to your quality of life.

Prolonged inactivity will often lead to muscle weakness, tighter muscles and increased stiffness, with a progression of the pain and increase in restrictions.

Keeping active is the key!

This combined approach to aerobic exercise and muscle strengthening is safe and essential to maintaining a healthy lifestyle and help minimises the progression of osteoarthritis. Your preferred exercise may involve a group activity or be more individually based. The important thing is to fit it in to your routine on a regular basis during the week so that it becomes an integral part of your life. By doing this you will continue to get the most benefit.

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Physiotherapy Initial Assessment

Date of assessment:

Details of assessment

Prescribed exercises

Knee

Hip

Ankle

Additional

Patient Information

Physiotherapy Second Assessment

Date of assessment:

Details of assessment

Prescribed exercises

Knee

Hip

Ankle

Additional

Patient Information

Physiotherapy Third Assessment

Date of assessment:

Details of assessment

Prescribed exercises

Knee

Hip

Ankle

Additional

Patient Information

Physiotherapy Fourth Assessment

Date of assessment:

Details of assessment

Prescribed exercises

Knee

Hip

Ankle

Additional

Patient Information

Physiotherapy Fifth Assessment

Date of assessment:

Details of assessment

Prescribed exercises

Knee

Hip

Ankle

Additional

Patient Information

Physiotherapy Sixth Assessment

Date of assessment:

Details of assessment

Prescribed exercises

Knee

Hip

Ankle

Additional

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EXAMPLE	Mon	Tues	Weds	Thurs	Fri	Sat	Sun
Which Knee exercises	32, 33, 34, 35	32, 33, 34, 35	32, 33, 34, 35		32, 33, 34, 35	32, 33, 34, 35	32, 33, 34, 35
Which Hip exercises	13, 17, 18, 19	13, 16, 17, 18, 19	13, 16, 17, 18, 19		13, 16, 17, 18, 19	13, 17, 18, 19	13, 16, 17, 18, 19
Which Ankle exercises	55, 56, 57, 58	55,56, 57, 58, 59	55, 56, 57, 58		55,56, 57, 58, 59	55, 56, 57, 58	55,56, 57, 58, 59
Which additional exercises	Biking, Increased walking	Walking	Biking		Walking	Walking	Walking

Exercise Diaries

By the end of the week, have you noticed any change in knee symptoms?

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Week 1	Mon	Tues	Weds	Thurs	Fri	Sat	Sun
Which Knee exercises							
Which Hip exercises							
Which Ankle exercises							
Which additional exercises							

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By the end of the week, have you noticed any change in knee symptoms?

.....
.....

Week 2	Mon	Tues	Weds	Thurs	Fri	Sat	Sun
Which Knee exercises							
Which Hip exercises							
Which Ankle exercises							
Which additional exercises							

By the end of the week, have you noticed any change in knee symptoms?

.....
.....

Week 3	Mon	Tues	Weds	Thurs	Fri	Sat	Sun
Which Knee exercises							
Which Hip exercises							
Which Ankle exercises							
Which additional exercises							

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By the end of the week, have you noticed any change in knee symptoms?

.....
.....

Week 4	Mon	Tues	Weds	Thurs	Fri	Sat	Sun
Which Knee exercises							
Which Hip exercises							
Which Ankle exercises							
Which additional exercises							

By the end of the week, have you noticed any change in knee symptoms?

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.....

Week 5	Mon	Tues	Weds	Thurs	Fri	Sat	Sun
Which Knee exercises							
Which Hip exercises							
Which Ankle exercises							
Which additional exercises							

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By the end of the week, have you noticed any change in knee symptoms?

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Week 6	Mon	Tues	Weds	Thurs	Fri	Sat	Sun
Which Knee exercises							
Which Hip exercises							
Which Ankle exercises							
Which additional exercises							

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Exercises

1. Posterior pelvic tilt



Lie on your back keeping your back flat, knees bent and feet flat on the floor. Slowly tilt your pelvis so your back is flat against the bed as far as you can and hold it there for 2-3 seconds. Squeeze your bottom and belly muscles. Come back to the starting position and repeat 10 times

2. Knee to chest



Lie on your back and bring one knee up to your chest as far as you can using your hands behind your thigh.

Return to the starting position.

Repeat 10 times

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3. Hip Flexors stretch on chair



Sit on the edge of a chair and extend one leg back, keeping one cheek on the seat.

Keep your back neutral.

You should feel a comfortable stretch on the front of your hip.

Hold the position for 30 seconds and breathe normally

Repeat 4 times

4. Stretching iliopsoas



Stand with involved leg on a chair with your shin resting on it and slightly bend your supporting leg.

Lean into the chair with the front of your thigh; perform a slight pelvic tilt by squeezing your buttocks.

You should feel a stretch on the front of your thigh - if not, move your front leg away from the chair. Hold for 30-40 seconds Repeat 4 times

To increase the stretch, step forward slightly and then tilt your pelvis backward.

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5. Abduction



Lie on your back with your knees bent.

Pull your belly button in as if you were pulling the zip of some tight jeans.

Allow your leg to smoothly rotate out to the side and let it stretch out to the side for 30-40 seconds.

You may feel a pull on your inner thigh and you may find it easier to relax towards the side of the sofa or a cushion at the end of range.

As it gets easier, allow your leg to roll further out to the side.

Repeat 4 times

6. Active ROM Abduction



Sit on a chair or a bed.

Spread your knees apart until a slight stretch is felt.

Resting your forearms on your thighs, resting your upper body on your arms and relaxing.

You should feel a stretch in your inner thigh

Leave it there for 40 seconds. Return to the middle. Repeat 4 times

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7. Stretching Glutes



Sit on a chair having one foot over the opposite knee in a figure 4 position. Push on your knee to open the leg and allow the outside part of your leg to drop down towards the floor until you feel the stretch in the outside of your hip.

Leave it there for 30 seconds, repeat 4 times

8. IT band stretch



While standing with your left leg behind, cross your right leg in front.

Turn your pelvis and trunk to face forwards again

Take your hips to the left, lean your body to the right as far as you can. You're best to hold onto a kitchen worktop for balance.

Now put your left arm over your head until you feel a stretch on your side/bottom.

Hold for 2-3 seconds

Repeat 10 times twice daily

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9. Standing side bending



Stand up and hold yourself with a fixed bar or door handle.

Put your feet close together.

Lean your body away from the wall / door and then lift the opposite arm up and stretch sideways away from the wall as far as you can.

Hold the position for 2-3 seconds.

Repeat 10 times twice a day

10. Foam Roll ITB



ITB Place your towel on the floor in the position shown in the first picture
Lie onto it so it sits in the fleshy part of the front/side of your hip below your hip bone.

Roll forwards/backwards until you can feel a stretch

Relax into the stretch for 30 seconds x 4, twice a day

Then place the towel on the floor for the position shown in the second picture

Lie onto so it sits underneath the tight outside part of your thigh

Roll forwards/backwards until you can feel a stretch

Relax into the stretch for 30 seconds x 4, twice a day

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11. Active ROM abduction



Use a carrier bag / bin liner under your leg to help it slide

Tighten your tummy muscles, tighten your bottom muscles at the back and slowly SLIDE your leg outwards as far as you can, without lifting your leg off the bed.

Repeat 10 times

12. Standing hip abduction



Stand on one leg keeping your body facing forwards.

Tighten your stomach muscles and bottom muscles

Lift your right leg to the side, without moving your body.

You should feel a contraction in your bottom muscles

Place a hand on your bottom for feedback

Hold for 10 seconds Repeat 10 times

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13. Hip abduction



Anchor one end of a band on the side opposite of the working leg at ankle height and loop the other end around the ankle.

Stand straight and elevate the leg directly to the side, keeping knee straight, hips level and pelvis solid.

Return to start position and repeat 10-15 times

Place the band in front of the supporting leg for safety.

14. Side step



Standing with your feet hip width apart

Stand on one leg and keep your stomach facing forwards and your body upright.

Lift your other leg to the side and then step sideways, take your weight on to the outward leg and step on to that leg.

Bring your feet together and step again.

Repeat 30 times

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15. Side step with band



Wrap a band around the ankles and flex the knees slightly.

Take a big step to the side followed by a smaller step with the other foot.

Always keep a tension in the band.

You should feel it working in your bottom muscles at the back of your hip.

Walk sideways for 1-2 minutes

16. Static Glutes



Lie on your back with your knee caps facing the ceiling

Lightly tighten your stomach muscles.

Imagine you have a £20 note between the cheeks of your buttock and tighten your bottom muscles as if you're trying to stop someone stealing it.

Don't tighten your hamstring muscles at the back of your thigh at the same time.

Hold for 10 seconds Repeat 10 times

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17. Hips ext.+ ext. rot.



Lie on your back with your knees bent and elastic band tied around your lower thighs.

Lightly tighten your stomach and then your bottom muscles.

Now push into the rubber band with your bottom muscles.

Tighten your bottom muscles further and push into the band again.

Repeat this cycle 3 times during your 10 second hold Repeat 10 times

18. Hip extension with band



Lie on your back with your legs straight.

Loop a theraband around the midfoot and hold both ends in your hands.

Allow your knee to bend up and your heel stay on the bed, then extend it back on the table/bed against the resistance of the band.

Repeat 10-15 times

Patient Information

19. Strengthening Extension



Stand holding the back of a chair.

Keep your body straight and upright. Tighten your stomach lightly and lift your leg up behind you, while keeping your back straight and looking directly ahead of you. You should feel the work in your bottom muscles.

Repeat 10-15 times

20. Bridging



Lying with your knees bent and feet flat on floor or on the bed

Pull your belly button in and down, squeeze your bottom tight and lift from your hips, your back should peel off the bed one joint at a time from the bottom up

Hold it for 5 seconds and then lower back down. You should feel the work in your bottom muscles, not in the back of your thigh or your back.

If you go too high it will go into your thigh muscle

Repeat 20 times

21. Abduction/ External rotation



Lie on your side, with your knees and hips bent

Pull your lower tummy muscles in, and rotate your top leg so that your knee comes up and round but **do not** let your body roll back.

You should feel it working in the side of your bottom **not your thigh.**

Repeat 20 times

22. Heel Prop



Lying on your back, with legs straight, start without anything under your heel

Allow your knee to drop straight by thinking about letting your leg muscles go loose and heavy.

You should feel a stretch at the back of your knee. Try to relax even though it is painful - it is vital your knee is able to go straight and over straight on the bed.

When this is easy, put your heel on a 4-5 centimetre book to increase the stretch.

Hold for 30 - 40 seconds. Repeat 4 times

Repeat a minimum of twice a day

Patient Information

23. Assisted ROM Flexion



Lie on your back with your knee bent.

Place a strap around your thigh and hold either end of it in each hand.

Lift your knee up towards you.

Hold your thigh still with the strap and allow your hip to bend as much as possible.

Relax your leg.

Lower your leg back to the bed.

Repeat 10-15 times

24. Knee Flexion



Lie on your back, place a belt or towel around your ankle and hold it firmly with your

hands.

Bend your knee as far as you can and then pull on the belt or towel with your hands to increase the flexion.

This will pull or be mildly painful.

Try to relax your thigh muscles, even though it is painful. It is not damaging your joint

Hold 30 seconds

Repeat 4 times.

Patient Information

25. Traction Tibio-femoral



Attach a weight around your ankle whilst your leg hangs over the edge of a table.

Allow it to hang there for 1-2 minutes.

This should be quite comfortable on the knee and take some of the ache out of the joint.

This can be used as a way of settling the joint if aggravated

26. Passive ROM Patella 4-way



Sitting, with your knee almost straight

Cup your hands or fingertips underneath your knee cap and move it up and down

Grip the sides and move your knee cap in and out for 1 minute, twice a day

27. Stretching Quadriceps



Lie on your side with involved leg up and bottom knee bent or on your stomach. Reach back and grasp ankle of involved leg and gently pull towards buttocks.

Move your knee back without arching your back until you feel a stretch in the front of your thigh.

NOTE: You can use a towel or belt around your ankle to pull it towards buttocks.

Allow it stretch for 30 - 40 seconds. Repeat 4 times

28. Quadriceps stretch in standing



Stand in front of a chair hold on to it with one hand.

Grab the top of one ankle with one hand to pull foot towards buttock until you feel a gentle stretch on front of the thigh.

Keep your back straight and tuck your bottom in.

Make sure your stretched thigh stays behind the other leg.

Sometimes you will need to use a towel to loop around your foot initially to be able to perform the stretch

30 - 40 seconds hold. Repeat 4 times

Patient Information

29. Hamstring Stretch



Keeping the back straight, bring one leg in front and bend the trunk forward. Push the hips back to stretch the back of your leg. Try not to pull your toes up towards you.

Keep the knee straight.

Hold the stretch for 30 seconds

Repeat 4 times

30. Active ROM Flex/Ext



Lie on your back with your legs straight. Bend and straighten the knee as far as you can comfortably. You may find that putting a carrier bag/bin bag underneath the heel helpful to improve the slide.

You may also find it easier to do when lying on your side with the leg supported on the bed. Repeat 10 -15 times

Patient Information

31. Active tibial rotation



Sit at the edge of a chair with your heel on the floor and a carrier bag under your foot to help your foot to slide

Turn your foot inwards and outwards as far as you can without moving your thigh, or lifting your foot off the floor.

Repeat 10-15 times

32. Quad contraction



Have leg/hip out to side as far as is comfortable.

Place a large rolled up towel under your knee.

Tighten your stomach muscles and gently push the back of your knee into the red roll and feel the front thigh muscles tighten up.

Make sure your knee does not move inwards towards the other leg. Keep your heel touching the bed at all times.

This should be pain free. As it becomes easier make the towel smaller and push harder.

Hold for 5 seconds and repeat 10 times.

Patient Information

33. Static quadriceps



Level 1 Quads

Put your leg out to the side

Tighten the quadriceps muscles on front of the thigh by pushing your heel away then pushing your knee down into the bed. Make sure you are using both sides equally

Hold 5 seconds. 1 set of 10.

34. Extension



Sitting in a chair, extend your knee as straight as you can.

Only straighten your knee as far as is **pain free**

Hold for 5 seconds Repeat 10 times

Patient Information

35. Inner range quads



Put your leg out to the side and lie down on your back with a rolled up towel/cushion under your knee.

Push your heel away from you then push down to switch on your thigh muscle keep your knee pressed down into the towel and lift your heel up so your leg is fully straight

This exercise should work your thigh but **must** be pain free on the front of the knee.

Hold 2-3 seconds, 15 repetitions, 2 sets

36. Knee Extension



Place a weight on the ankle of your involved leg and position your knee over a roller

or rolled towel, bent to about 30 degrees.

Push your knee onto the roll and straighten your knee fully by lifting the foot as high as possible.

Lower the leg to the starting position and repeat 10-15 times

This exercise should work your thigh but **must** be pain free on the front of the knee.

Patient Information

37. Straight leg raise



Put your leg out to the side, tighten your stomach and push your heel away from you then push down to switch on your thigh muscle and lift the leg no more than 6 inches off the bed, keeping it straight.

This exercise should work your thigh but **must** be pain free on the front of the knee

Hold for 10 seconds, increase to 15 repetitions, do 2 sets

38. Mini squat to a high surface



Stand up in front of a chair onto which you will have placed several pillows or cushions to raise the surface.

Squat down by initiating the movement with your stomach being tight, put your hips backwards until your buttocks touch the surface then squat up, tightening your thigh and bottom muscles at the same time.

Your knees shouldn't come in front of your toes.

Keep the kneecaps centred over your feet (2nd toes).

This exercise **must** be pain free.

Repeat 10-15 times.

Patient Information

39. Mini squat



Holding onto your chair, with your feet hip width apart

Lightly tighten your stomach and bend your knees keeping your kneecaps in line with your 2nd toe, and making sure your hips go backwards and your back stays straight.

Tighten your muscles as you push up straight.

Don't stay down at the bottom of the movement and don't go too far as this will make it more likely to be painful.

Repeat 10 times

40. Sit to stand



With your feet hip width apart and your hips at the edge of the seat, tighten your stomach and bottom muscles and lift your hips up from the seat to stand.

Smoothly return to sitting.

Make sure that your knees do not turn in or out.

This must be hard work in your thighs and bottom muscles but not painful in the knees

Repeat 10 times

Patient Information

41. Squat



Tighten your stomach muscles imagine you are sitting down so you bend both your hips and your knees, make your hips do the work to keep your knees as pain free as possible

Make sure the middle of your knee stays over your second toe

Work your muscles hard **all the way up** to normal standing

There should be no pain on the front of your knee.

If you stay down at the bottom or go too far it can increase the chances of pain.

Repeat 10 -15 times

42. Theraband squat



Stand on an elastic band with both feet hip width apart and facing forward. Firmly hold the ends of the elastic in both hands.

Tighten your stomach muscles imagine you are sitting down so you bend both your hips and your knees

Make sure the middle of your knee stays over your second toe

Work your thigh and bottom muscles hard **all the way up** to normal standing.

Repeat 10-15 times

Patient Information

43. Terminal knee extension



Loop a band just above the knee and secure the opposite end. Start with legs parallel and the involved knee slightly bent. Straighten the leg using your thigh muscle to lock your knee back. Repeat 10-15 times.

44. Lateral step up



Stand to the side of your stairs. Place closest foot on top of step. Tighten your stomach muscles lightly and push your foot as hard as you can into the step before you start to move using your stomach and bottom muscles. Step up on to the step and bring opposite foot to "touch" - do not transfer your weight. Step back down in a smooth, controlled motion without pain. Repeat for required sets and reps then repeat bilaterally. You should feel the work in your thighs and bottom muscles.

Patient Information

45. Proprioception lunges



Stand with your feet shoulder width apart.

Take a step forward onto a pillow and bend the back knee creating a 90 degree angle at each knee.

You should only bend as far as is comfortable on your knee and not stay down in this position.

It must not be painful. Try bending less if you feel pain.

Return to the starting position.

Repeat 10-15 times

46. Active knee flexion in sitting



Sitting with your feet on the floor, gently swing your foot backwards and forwards with your foot on a carrier bag or bin liner to help it to slide.

You should feel it working at the back of your thigh.

Make sure your foot doesn't rotate one way or the other on the way in or out.

Patient Information

47. Exercise 2 (Hamstrings) standing hamstring



Stand with your back straight and your feet at hips width.

Keep your thighs level, tighten your stomach muscles and then bend your heel upwards towards your bottom

Lower your foot slowly.

Make sure your foot doesn't rotate one way or the other on the way up or down.

Repeat 10-15 times

48. Active Gluteal static posterior tilts



Lie on back, knees slightly bent

Pull your belly button in towards your spine, imagining you are tightening a corset around your middle or putting on a tight pair of jeans

Then squeeze your bottom muscles tight don't lift, keep your thigh relaxed

Hold for 10 seconds

Patient Information

49. Bent Knee fall out



Lie on your back with your knees bent

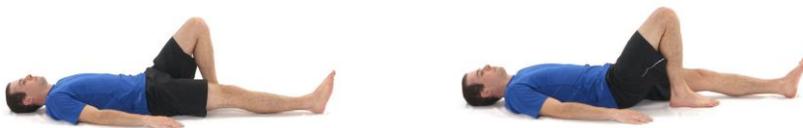
Tighten your lower abdominals (tight pair of jeans!)

Keep your pelvis still and drop your hip out to the side. Gently feel for any movement of your pelvis and only go as far before any excessive movement.

Repeat 10 times on each side.

Repeat as many times as possible whilst keeping your tummy on and your pelvis level

50. TA activation heel slide, alt



Lie on your back with your knees bent and your back in neutral position (slightly arched).

Activate your lower abdominals (transversus abdomini) by bringing your belly button inward and by activating your pelvic floor muscles 20 to 30% of a maximal contraction.

Maintain a steady abdominal breathing while you slide one leg (heel) on the ground to extend it, keeping your back flat on the floor. You may find a bag under your heel helpful.

Return slowly to the initial position then slide the other leg.

Repeat for 1-2 minutes.

Patient Information

51. Stabilization prone plank



Lie on your stomach and place your elbows under your shoulders.

Tuck your stomach muscles up toward your back and tighten your buttocks. Push up through your shoulders, lifting from your stomach so that your hips and your body make a straight line from your toes to your head.

Hold for up to 2-30 seconds Repeat 4 times

Hold for longer as able – 40 seconds, 50 seconds, 60 seconds

52. Squat, shoulder flexion



Anchor an elastic band behind you.

Hold the ends in your hands tighten your stomach and squat down and raise the arms in front with the elbows straight.

Make sure to keep your knees aligned over your feet.

Keep the shoulders blades down and back. Keep the spine neutral.

Stand back up straight. Don't go too low or stay down there - it must not be painful.

Repeat 10-15 times

Patient Information

53. Hoorays



Stand with a band under your feet and hold the ends in your hands. Make sure your hips are back in underneath you and not forwards.

Lightly tighten your stomach and keeping shoulder blades together, raise both arms up at 45° angle from your body.

Slowly lower back down and repeat

54. Passive ROM Dorsiflexion



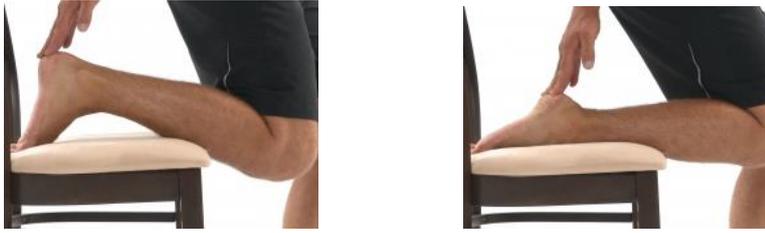
Stand with both feet facing forward with one leg further back than the other. Bend the front knee keeping the back heel on the floor until you feel a stretch in the back of your leg.

You may find this easier to do facing sideways on the bottom stair with the leg to be stretched up on the step.

Hold for 30 seconds and repeat 4 times.

Patient Information

55. Passive ROM Plantarflexion



Stand beside a chair or bed and place your foot to be stretched on the chair as shown.

Press on your heel to increase the stretch if you need to and allow the front of your ankle to be stretched down towards the bed. Maintain the position.

Hold for 30 -40 seconds, repeat 4 times

56. Calf Stretch



Stand and place the affected leg behind with your heel on the ground, foot parallel and knee straight. Don't let your foot turn outwards or inwards.

Bend the other knee and keep the torso upright and push the hips forward to feel a stretch in the calf. Make sure your knee behind you doesn't bend.

It should pull on the back of your calf.

30 - 40 seconds hold x 4

Four times a day

Patient Information

57. Stretching Soleus



Stand and place both hands on a wall, with your feet about half a metre from the wall.

Place the injured leg behind the other and slowly bend the knees as if you are going to sit down while keeping heels on the floor until you feel a stretch in the calf of the back leg.

Maintain the stretch for 30 seconds Repeat 4 times

58. Active ROM Plantar/Dorsiflex



Push your foot down as far as you can from your ankle, keeping your toes relaxed.

You should feel the muscle working in the top of your calf.

Pull your foot up towards you as far as you can

Repeat 15-20 times

Patient Information

59. ROM Inversion/eversion



Lie down on your back with your foot out in front.

Slowly turn your foot/ankle in, then out as far as you can (like a windscreen wiper), without moving the upper leg.

Repeat 15-20 times

60. Calf Raises



With your chair or kitchen work top, stand with your feet a hip width apart.

Keep your knees straight and push up onto the balls of your feet, and particularly your big toes.

Don't allow your hips to drop forwards.

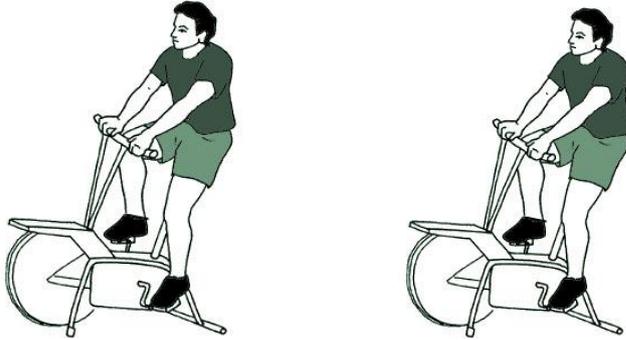
You should feel the work in the back of your calf muscles.

You can do this on one leg when it becomes easier.

Repeat 10-15 times X 2-3 sets

Patient Information

61. Bicycle



Keep your feet flat on the pedals at all times.

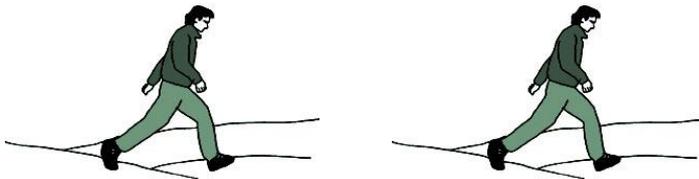
Maintain a good sitting posture with a neutral spine (not slouched)

Keep the resistance light initially and try to build up time before you carefully increase resistance in a comfortable way.

You may find it best to do two shorter sessions rather than one longer one, to make your knee more comfortable.

Start off with 10 minutes and increase it from there

62. Walking



Warm up and cool down all major muscle groups, and stretch your back, thigh, calf and ankle muscles.

Wear a good pair of running shoes or shoes with good shock absorption.

You may find you walk better if you use your stick with less chance of pain in the knee.

It might also be better if you stop every so often when you are out initially to prevent your knee becoming sore.

To avoid injury, progress distance slowly over time, as comfort allows

Patient Information

63. Rowing



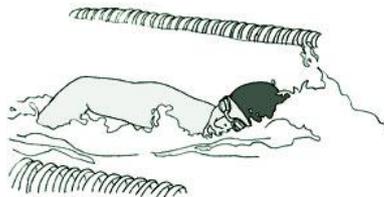
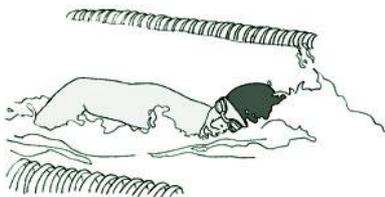
Make sure you warm up by stretching the appropriate muscle groups.

Progress the time slowly before gently increasing the resistance as recommended by your therapist or doctor

Keep your feet firmly on the foot rests at all times.

Don't bend your knees fully all the way up if it is painful in your knees to do so.

64. Swimming



Warm up and cool down all major muscle groups, especially back, leg and shoulder muscles.

To avoid injury, progress your distance and speed slowly over time.

You should avoid breast stroke kick with your legs as this will probably irritate your knees. It's OK to do the arm action but a normal kicking action with your legs.

You will also find it helpful to strengthen your legs by walking fairly briskly in the water both forwards and backwards, as well as sideways

Patient Information

The Trust has access to interpreting and translation services. If you need this information in another language or format please contact us on 024 7696 6013 and we will do our best to meet your needs.

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