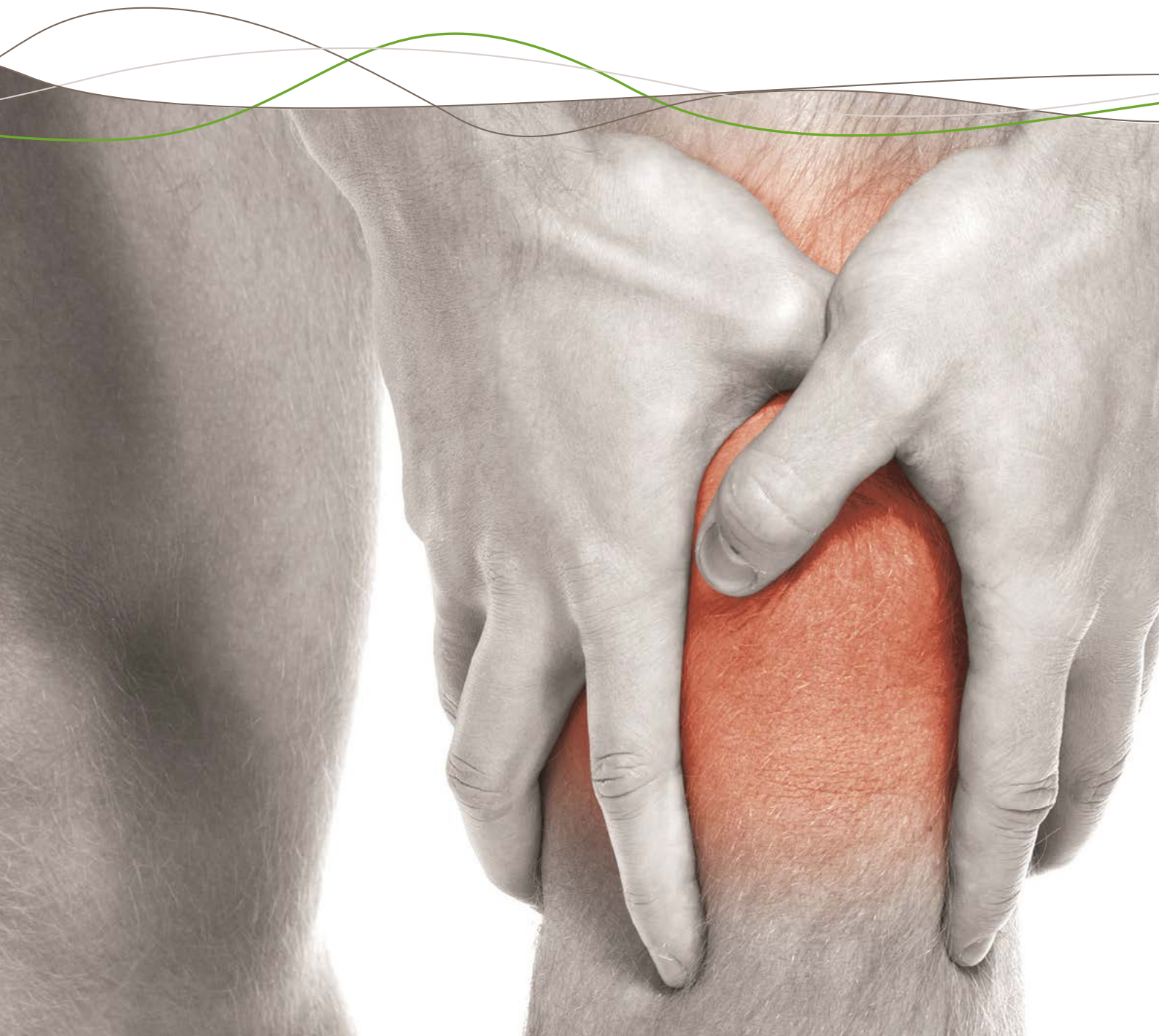


Managing Musculoskeletal Complaints

Knee Problems



KNEE PROBLEMS

Knee problems account for 13% of the patients accessing Physio Med services from our clients.

Of the knee patients seen:

Domestic 63%
Work aggravated 26%
Accidents at work 10%

The knee is a very complicated area and many clinicians separate the front of the knee from the main joint. These problems are often called anterior knee pain (pain from the patello-femoral joint).



Key facts

- Knee problems are extremely common
- Many knee problems come from actual physical damage to mechanical structures which do not heal
- Treatment methods are often specific to a condition not a patient (what works for one person will not necessarily work for another)
- Knee problems can become long term (chronic) and can often only be managed, not cured
- Strengthening the muscles on the front of your leg will make almost all knee problems feel better (even if the problem is still there)
- There are pro-active steps you can take to prevent some knee problems
- Most knee problems react badly to kneeling or full knee bending

Trying to tell which problem you have can be difficult as no individual test, x-ray or scan will give a definitive answer. An experienced clinician (Physio or Consultant) who specialises in the knee will normally be able to give a diagnosis.

Knee symptoms that require immediate diagnosis:

1. Locking – if your knee locks and you are not able to bend or straighten it anymore, even if this symptom comes and goes, have your knee assessed.
2. Giving way – if your knee ‘goes from under you’ - get it assessed.
3. Swelling, redness and heat at the back of the knee giving pain down into the calf could be a sign of reduced circulation. Have your knee assessed by your GP as soon as possible.

Regardless of the diagnosis, several things help with knee problems.

Many people know of and understand the RICE principle - Rest, Ice, Compression, Elevation - to help with acute injuries. This principle works well in the knee and has been extended to the PRICE principle (Protection, Rest, Ice, Compression, Elevation) more recently.

Protection:

Protecting the injured area from further injury is key. If your knee was hurt during an activity, for example running, you will need to stop running to protect it. In this phase the use of a support is often recommended, however, supports are not necessary in every case and can have negative effects if worn over long periods of time.

Relative rest:

Protecting the knee is a good thing but, by the same token, some movement can help to limit stiffness. Do not just sit in a chair or go to bed for long periods. This balance of rest and use is referred to as 'relative rest' and is very individual. What one person can do could be too much for another. Common sense should prevail here. If an activity is painful and can be avoided, then it is best to be avoided. However, some pain may occur in normal activities such as walking down/upstairs. Obviously this can't be avoided, so try to limit it to reduce exposure to the aggravating factor. This ability to be able to use the knee (sometimes called exercise tolerance) alters as the knee problem changes over time. These changes can be reduced tolerance if the knee gets worse or improved tolerance if the knee gets better. This leaves us with a constantly changing amount of activity you can do in any one day/week/month and almost everyone does either too much or too little at some point! Remember you are looking for the right amount of activity overall to allow the knee to become pain free in the end.

Ice:

This can help with pain relief, controlling swelling (if there is any), and limiting the amount of heat in the knee (if the knee is hot) by moderating the inflammatory process. Anything from the freezer can be used to apply ice to your knee. Frozen peas are the most popular as they mould to the area well, but ice cubes in a towel or an ice pack can also be used. DO NOT apply any ice directly to your skin (because ice can stick to skin). Apply the ice through your clothes or use a towel wrapped around the ice instead. Ice should be applied to the knee for approximately 15-20 minutes not more than once in any hour. Apply as many times as possible until the symptoms of pain/swelling/heat go away.

Compression:

If the knee is swollen then compression will reduce this very effectively. The most common way to apply compression is to use an elasticated tubular bandage called tubi-grip. This can be purchased from any pharmacy for less than £5 and is sized compared to the size of your knee (if you have a lot of swelling, the bandage may need to be big at first and then different sizes may be needed as the swelling subsides). Put the bandage from your ankle up to mid thigh level and leave on during the day (you may need two to allow one to be washed). DO NOT wear any compression on your knee at night in bed.

Elevation: Lifting your leg up can help to drain the swelling and reduce the inflammation. Ideally the knee would be raised above the level of the heart but this is not always practical. Just putting the leg up on the sofa works (or at work lift the leg and rest your foot on a bin). Try to elevate the leg for up to 20 minutes (in the early stages you may only be able to tolerate five mins due to increased pain) then put the leg back down for at least 20 mins to allow circulation to return to normal. Repeat as often as you can. Elevation in bed during sleep is NOT recommended as it can affect your circulation.

Controlling the pain:

Pain relief and anti-inflammatories

Pain Killers: Many people find they need pain relief just to walk around and your pharmacist can offer advice on this. Try not to fully mask the pain though as you may well be doing more damage to the area. DO NOT use pain relief to allow yourself to play sports or perform hobbies like distance walking, this is not good for the knee.

Anti-inflammatories: Some knee problems don't involve a lot of inflammation and so anti-inflammatories just don't work. However, many of the problems respond very well to anti-inflammatories but remember, long term use can slow the healing process in some structures and so should be used judiciously.

Strengthen your thigh muscles (quadriceps):



Most people agree that, for the majority of knee problems, strengthening the muscles on the front of the thigh will reduce the symptoms even if it does not resolve the actual problem.

The muscles we are interested in strengthening are the quadriceps (quads) muscles. Normally exercises for these muscles are referred to as quads exercises.

There are many exercises which are excellent for the quads but are not particularly good for knee problems (particularly in the early stages). These exercises should be avoided initially and should only be returned to once the knee is recovered (or largely recovered), unless you are under the care of a physiotherapist who might choose these exercises specifically for you and your problem.

Exercises to initially avoid:

- Squats (squats below parallel are very hard on the knees)
- Lunges (of any type)
- Running
- Distance walking (more than 20 mins)
- Breast Stroke swimming
- Impact loading activities (skipping, hopping, jumping, trampoline etc)

Activities to initially avoid:

- Kneeling
- Bending to the floor
- Long driving (split it into segments by getting out and 'stretching your legs')

Quads exercises:

As with all exercises, some are harder than others and some suit some people and not others. The general rules for exercise are:

- Start with the easiest exercises and work your way up
- If an exercise hurts, **stop**
- If you can do an exercise easily, move up a level
- Can't get the exercises to work for you? See a physiotherapist for specific advice.

Early level (the easiest ones)

Normally these three early exercises are done together.

Static Quads: Probably the easiest exercise to do for the quads. Simply sit with a straight knee (or as straight as you can) and brace the knee down into the floor/bed/sofa. Hold for a count of at least five (this can be made harder by holding longer) relax and repeat at least five times (the more reps you do the harder the exercise). Repeat this three to five times per day (again, more times per day is harder). This exercise is very popular and is used even after knee replacement surgery, so is normally a good start.



Single leg raise:

This is a progression of the static quad exercise. Start by bracing the knee as per the static quad then raise the whole leg off the floor/bed/sofa. Hold for a count of at least five (this can be made harder by holding longer) relax and repeat at least five times (the more reps you do, the harder the exercise). Repeat this three to five times per day (again, more times per day is harder).



Inner range quads:

Slightly harder than static quads but still a good starter exercise. Use a towel under the knee and lift the foot up off the supporting surface. Hold for a count of at least five (this can be made harder by holding longer) relax and repeat at least five times (the more reps you do, the harder the exercise). Repeat this three to five times per day (again, more times per day is harder).



Moving from one level to the next is a judgment call. Normally people progress by taking out the easiest exercise (static quad) and replacing it with the first exercise of the next level (knee extension). Remember to do the easiest exercises first then the mid-level ones. Over time you will move from all of the easy exercises to the mid ones.

Mid-level:

Knee extension (no resistance) – normally done sat on a chair but can be done sat on the edge of a bed. Raise the foot until the knee is straight. Hold for a count of at least five (this can be made harder by holding longer) relax and repeat at least five times (the more reps you do the harder the exercise). Repeat this three to five times per day (again, more times per day is harder).



Knee bend (mini or partial squat)

Use something stable to hold on to for support (normally a chair will suffice). Bend the knees until your toes disappear under your knee (keep your back straight as you do this). Then extend your knees to straighten back up. Do at least five times (the more reps you do the harder the exercise). Repeat this three to five times per day (again, more times per day is harder). Note there is no hold on this exercise.



Quarter wall holds – stand with your back flat against a wall. Bend your knees to approx. 45 degrees (more bend makes the exercise harder and less bend makes the exercise easier). Hold this position for as long as you feel able without pain. This exercise is normally only performed once per exercise session in a day. Dependent on the time held, this exercise may only be possible once per day in total. This should be done after any other exercises performed.



Knee extension with resistance – as per the previous exercise but using either a sandbag on the ankle or a piece of exercise band to provide more resistance. The band can be purchased online for less than £3 and comes in varying resistances. In a sitting position, ideally on a chair, raise the foot until the knee is straight. Hold for a count of at least five (this can be made harder by holding longer) relax and repeat at least five times (the more reps you do the harder the exercise). Repeat this three to five times per day (again more times per day is harder).



Advanced exercises:

Single knee bend – Stand on the bad leg and bend the knee until the toes disappear under your knee (keep your back straight). Stand back up, extending your knee (it is important that your knee stays over your toes and does not ‘drift’ inwards or outwards). Do at least five times (the more reps you do the harder the exercise). Repeat this three to five times per day (again more times per day is harder). Note there is no hold on this exercise.



Parallel wall holds – as per quarter holds but with more knee bend. Stand with your back flat against a wall. Bend your knees to approx. 90 degrees (never go lower than parallel on this exercise). Hold this position for as long as you feel able without pain. This exercise is normally only performed once per exercise session in a day. Dependent on the time held, this exercise may only be possible once per day in total (some people can hold this position for over five minutes). This should be done after any other exercises performed.



REMEMBER if you try any of the things above and you feel they make you worse NOT better contact us for individual advice!!!

General Advice:

Stairs:

Walk up stairs leading with your unaffected (pain free) leg, walk downstairs leading with your affected (painful) leg. This can be remembered easily by the saying 'the good leg goes up to heaven, the bad leg goes down to hell'.

Limit stair use. If this is not possible within a work environment, make use of escalators or lifts where possible and reduce time at work as needed.

Squatting/knee bending:

Try to raise any working surfaces to waist height. Try not to work from items on the floor. The old saying 'bend from your knees and not your back' is great if you have a back problem but terrible if you have a knee problem.

Sitting:

Use of low chairs/stools should be avoided - bend the knee less, not more.

Don't use chairs where the chair base touches the back of your knee. This can slow circulation and aggravate the sensitive structures at the back of the knee.

Ensure that your workstation is not cluttered and that you can stretch out your legs while you sit.

Kneeling:

Kneeling should be avoided as much as possible, however, in the real world some jobs/activities require some degree of kneeling. If you have to kneel, use kneeling pads and alternate the kneeling position and leg (put the bad leg up and don't kneel on it).

Cycling

Ensure your saddle is at the correct height.

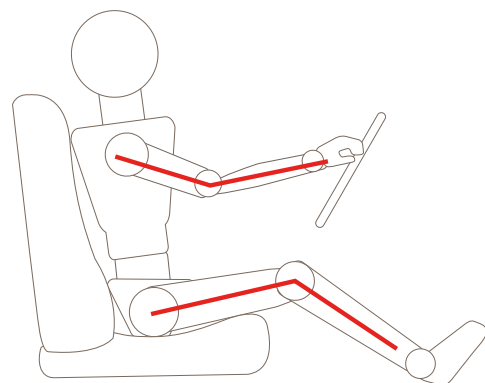
You should have a five to ten degree bend in your knee when the ball of the foot is placed on the pedal and the pedal is positioned in its closest position to the ground.



Cycle with the ball of the foot on the pedal – not the instep / arch of the foot!

Driving

Many people with knee problems have what could be described as a 'critical angle'. This is an amount of knee bend where the pain is worst. You might find this position is the one you sit with in your car. Or it may be the angle you go through when you press a pedal, for instance the brake.



If you can, adjust your car seat so you are not at this angle or going through this angle, (sometimes this is not practical). If you can't avoid the angle do your best to minimise its use with correct seat positioning.

You may need a consultation!

Knee problems can be very difficult and debilitating. Correct advice and treatment can make an enormous difference. If you have persistent pain contact Physio Med for advice and consultation.

When to seek immediate further advice:

- If the pain has persisted for more than two weeks
- The knee gives way
- The knee locks
- Pain/redness/swelling at the back of the knee into the calf

Remember if you try any of the things above and you feel they make you worse, not better, contact us for individual advice!



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