

# Good Health

**D**O YOU have to hold on to the rail when going up or down stairs to avoid painful twinges? Are you troubled by an alarming grating sound in your knee when you get up from a chair?

Join the club: knee problems are painfully common, with an estimated one in four adults affected at some point, the majority of them over the age of 50.

The knee is one of the largest and most complex joints in the body, which makes it extremely vulnerable. And all that constant twisting and turning, compounded by the stress of weight gain and inactivity, makes the knee the most common site for osteoarthritis — 18 per cent of over-45s have arthritic knees.

Many people are offered an arthroscopy, where debris is 'washed out' of the joint and any damage repaired. It's thought to be the most common orthopaedic procedure performed worldwide today.

An estimated 60,000 knee arthroscopies are performed on the NHS in the UK each year. In

By **LOUISE ATKINSON**

some cases more invasive surgical procedures are deemed necessary. These include osteotomy (where a thin wedge of bone is inserted into the shin to realign the leg and ease pressure on the worn part of the joint), microfracture (holes are drilled into the bone ends to stimulate the growth of new cartilage) and partial or full knee replacement.

But a study last month found that when it comes to arthroscopy, for middle-aged and older people with persistent knee pain the risks of surgery and blood clots outweighed any benefit in most cases (see box below).

So where does this leave you if your knees hurt?

If you visit your GP, you'll probably be prescribed painkillers and sent home to 'manage', or you may be referred to a physiotherapist to learn exercises to keep your knees as strong as possible until invasive

surgery, such as knee replacement, becomes inevitable. Physiotherapist Sammy Margo calls this 'postponement therapy'.

Although exercise can be the last thing on your mind if you have chronic pain, specialists are now convinced that building the muscles around the knee could be the best way to slow the worsening of conditions such as osteoarthritis — and really can have a beneficial impact on pain, even if your movement is already limited by the condition.

Research consistently shows it is quite common for knee joints to degrade as we get older. But, interestingly, the degree of degradation doesn't appear to correlate with reported pain — some people can have huge amounts of damage with no or few symptoms, whereas others can be crippled by pain which barely shows up on an X-ray.

One early study, published in the journal *Arthritis and Rheumatism*, found that 60 per cent of people with significant arthritic changes in their knees, as seen on X-rays, had no symptoms whatsoever.

This doesn't mean your pain is 'all in the mind', but it could mean that something else is going on — and the key could be the muscles around your knee joint. Professor Phillip Conaghan, chair of musculoskeletal medicine at the University of Leeds, is convinced that 'the way to help a painful knee is first through strengthening the muscles around the knee. Arthritis causes varying degrees of pain, so the natural instinct is to stop moving,' he says.

'But the best medicine is actually to exercise to strengthen the muscles, which help support the joints.'

'It may mean working through a bit of a pain barrier initially to reap the benefits and you must commit to exercising daily for the best effect.'

The key muscle to exercise is the main thigh muscle — or, to be technically accurate, the quadriceps, a group of muscles at the front of the thighs — according to Jim Johnson, a physiotherapist at Emory University Hospital in Atlanta, Georgia, and author of *Treat Your Own Knees*.

He says: 'If you strengthen just one knee muscle, make sure it's this one.'

It's a vicious circle: studies show that quadriceps weakness can make knee pain more likely, and knee pain can lead to quadriceps weakness.

These muscles are fundamental to keeping the knee stable. If they're weak, your knee may be prone to misalignment and damage.

But pain itself can impair the communication between the muscle and the brain, meaning the quadriceps are less likely to 'fire' on demand and, therefore, more likely to rapidly weaken. Any impact is inevitably compounded by the fact that people avoid exercising when in pain.

Jim Johnson is a firm believer in a 'one size fits all' strategy of strengthening exercises, rather than getting hung up on exactly what might be structurally causing the knee pain.

'Since many structural knee abnormalities are common, it is hard to determine the true cause of knee pain in a lot of cases,' he says.

## SIMPLE EXERCISES FOR PAIN-FREE KNEES

THESE very simple exercises could be enough to ease your knee pain. Just get the OK from your GP first.

■ **THIGH MUSCLES:** To strengthen the all-important quadriceps, lie flat on your back on the floor or on a bed (or recline on your elbows if easier), with one leg extended and the other bent at the knee, foot flat on the bed or floor.

Fold a pillow in half and place it under the knee of the extended leg. Press down on the pillow with your leg as hard as you comfortably can, then hold for three to five seconds. The quadriceps above the kneecap should tighten up. Mr Johnson recommends

## STAND ON ONE LEG TO CHECK KNEE STRENGTH

**CAN you stand on one leg with your eyes closed? Your ability to do this without wobbling or losing your balance is a good indicator of your knee strength.**

The test is simple: stand on one leg (straight or slightly bent) and balance, without support. Aim to

be perfectly balanced for 30 seconds. Now do the same with your eyes closed.

If you found it impossible, or wobbled with your eyes open, then stand by a chair, table or doorway to hold on to lightly.

This exercise challenges the nerves around the knee joint to fire, enabling you to stay balanced and upright.

The process is technically termed 'proprioception', and physiotherapist Jim Johnson says good stability will protect your knee.

Any wobble could be a sign of poor proprioception, which could make you vulnerable to injury and falls, and on a day-to-day basis may be making your knee pain worse.

Practise one-leg standing on both sides, eyes open, progressing to eyes closed, three times a week or as often as you can (when waiting for the kettle to boil, for example).

It does make a difference: a study of 900 European soccer players found that proprioception exercises prevented knee injuries.



repeating this up to 30 times with the painful knee, then switch legs. Do it three times a week.

You also need to stretch your quadriceps. To do this, stand on one leg, resting your hand on the wall for balance, grab your ankle behind you and pull your foot backwards towards your buttocks until you feel a gentle stretch in the front of your thigh. (You can do this lying on your side on a bed instead — the bent leg should be the upper leg).

Hold for 30 seconds and repeat on the other leg. Do this five days a week to make muscles more flexible.

■ **KNEE FLEXIBILITY:** A healthy knee should be flexible enough to straighten fully and bend back to an angle of at least 135 degrees.

To help improve flexibility, stretch your hamstring (which runs along the back of your thigh) by sitting on the floor with one leg outstretched — or you can do this sitting on a bed with one leg outstretched on the bed and the other leg dangling over the side.

Lean forwards towards your outstretched foot until you feel a gentle stretch in the back of your thigh, holding for 30 seconds if you can. Repeat on the other leg. Aim to reach your body closer to your foot as you become more flexible. Do this once a day for five days a week, working up to 30 seconds if you can't do this to begin with.

■ **BUTTOCK MUSCLES:** If you spend much of your day sitting, your buttock

**SENSITIVE BLADDER?**  
So what! **LAUGH ALL YOU WANT.**

**90% WOULD BUY IT AGAIN!**

*always*  
For sensitive bladder discreet

12 Pants M

Up to 100% discretion and protection.  
Always Discreet Underwear.

Always Discreet Underwear for Sensitive Bladder has a unique, highly absorbent triple layer core, with a discreet fit that hugs your curves.

Also available in Liners and Pads.

\*71 UK shoppers surveyed, Sep '14 - Jan '15

## 'TIDY UP' KNEE OP THAT MAY DO

**ARTHROSCOPY** is a common keyhole procedure used to wash out debris (bits of bone and cartilage caused by wear and tear) that could get stuck in the joint, and to smooth rough areas of bone or cartilage.

It used to be widely offered to older patients with signs of arthritic knee pain as a 'tidy-up', says William Jackson, a consultant knee surgeon at the Nuffield Orthopaedic Centre in Oxford.

'We now believe the procedure was over-used, particularly for people with early-stage arthritis, which has been shown to respond equally well to exercise, physiotherapy and weight loss without the inherent risks of surgery,' he says.

A study just published in the *BMJ* found little difference between arthroscopy and exercise in the treatment of knee pain. However,

From exercises you can do in bed to the best shoes and pain relief...

# Everything you need to know about fixing

# DODGY KNEES



Picture: GETTY

## HOW INSOLES AND SHOES CAN HELP

OTHER DIY tips to try include:

■ **VARY YOUR FOOTWEAR:** People with knee pain are often advised to wear cushioned shoes, such as running shoes, to ease some of the shock that can cause pain as the foot hits the ground. If you wear trainers daily, Sammy Margo recommends getting new ones every six months as spongy soles can become compressed.

She says varying your footwear can have a positive impact: 'Many people don't realise that tight calf muscles (from wearing high heels, or sitting at a desk all day) could be exacerbating their knee pain, because the top of the muscle attaches at the back of the knee, and, if tight, can prevent the knee's full range of natural movement.'

She recommends alternating flats with heels of different heights on different days and at points throughout the day.

She adds that 'challenge shoes' (such as those with a curved sole like MBTs) may help.

'Because the sole is unstable, they force you to adjust the loading on to different areas of the knee constantly as you walk,' she says.

■ **CUSHIONING INSOLES:** Shock-absorbing insoles can reduce impact on the joints, while insoles with arch supports can also be useful if you have dropped arches which can misalign the bones in the leg, knee and hip, causing more pain (one sign is if your feet tend to roll inwards, bringing your knees together as you stand or walk).

You could try one of these: Sorbothane Shock Stopper Double Strike Insoles, from £12.65, [amazon.co.uk](http://amazon.co.uk); Carnation Footcare Power-Step Orthotic Insoles, £24.25, [lloydspharmacy.com](http://lloydspharmacy.com); and Dr Scholl's Arthritis Pain Relief Orthotics, from £9.65, [amazon.co.uk](http://amazon.co.uk).

■ **PAIN-RELIEVING GEL:** Although experts consistently recommend paracetamol as the first line of pain relief (which is safe for long-term use, unlike ibuprofen, which can damage the gut), Professor Conaghan says anti-inflammatories in the form of cream, gel or spray can help ease

knee pain without side-effects. Try Voltarol 12-hour Gel (£5.99 for 30g), which needs only to be applied morning and evening. Alternatively, Flexiseq Gel (£18.49 for 50g from most pharmacies) which delivers a lubricating fat called phospholipid into the knee capsule.

■ **HOT OR COLD PACKS:** Ice packs can reduce pain and ease inflammation for the first 36 hours after a knee injury. Sammy Margo recommends keeping packs in the fridge rather than the freezer if you find the ice intolerable (they will still help the joint).

Hot packs (such as Cura-heat Arthritis Knee Pain, £3.99 for four patches, from Boots, or the reusable Ice N Heat gel pack, £5.75, from Lloyds Pharmacy, which can be heated in the microwave) can help boost blood supply to the area, and ease stiffness and muscle spasms.

Heat sprays, rubs and gels can have a similar effect, and help relax the muscles of the knee before exercising. However, Sammy Margo warns against using heat on inflamed knees (if they are feeling hot, swollen and sore) as the extra heat can dilate blood vessels, exacerbating pain and swelling.

## ARE YOU TOO FAT FOR YOUR KNEES?

'BEING overweight doesn't necessarily cause knee problems (although it can), but losing even a small amount of excess weight can have a huge impact,' says Sammy Margo. 'There is a huge body of research which shows that for every pound of weight you lose, you can reduce the loading on your joints four-fold.'

The simple act of walking puts a load three or four times your body weight on your knees (your weight is amplified by gravity and the impact of your feet striking the ground). Running increases the load four to eight times more than walking, and running downhill by 12 to 15 times as the feet strike the ground with increasing force.

'Losing just half a stone can be enough to help alleviate knee symptoms in many people,' she adds.

■ **TREAT Your Own Knees**, by Jim Johnson (Sheldon Press, £ 8.99). Also available as an e-book.

muscles can become weak. 'Like the core muscles of the abdomen, these are critical in stabilising the legs,' says physiotherapist Sammy Margo.

She recommends performing a few ballet *plies* (like a gentle squat, with your legs wide apart and toes turned out) each day.

Stand with feet apart, toes turned out, and one hand resting on the back of a chair. Slowly bend your knees (keeping them pointing in line with your feet, heels on the floor,

without leaning forwards or allowing your bottom to stick out).

Lower yourself just a little at first, then squeeze the buttocks and slowly return to the standing position. Repeat regularly, aiming to gradually deepen the bend over time.

## GO WALKING OR CYCLING

GENERAL exercise is also going to help. If the muscles around your

knees become tired quickly, injury is more likely, so increase their endurance by building up periods of gentle walking or cycling until you can keep going for 20-30 minutes at a time, two to three times per week.

'If pain makes running difficult, switch to uphill walking on a treadmill instead,' recommends Sammy Margo. 'You'll get a similar cardiovascular benefit without the painful loading on your knees that flat or downhill might cause.'

## YOU MORE HARM THAN GOOD

there were rare but serious risks associated with arthroscopy, such as deep vein thrombosis, particularly in older people.

'If the patient – whatever their age – has a very specific area of injury, but the rest of the knee looks healthy, an arthroscopy is very likely to work well,' says Mr Jackson, 'but studies show even early-stage arthritis seems to

settle down and respond better to physio than arthroscopy.'

Under guidelines from the National Institute for Health and Care Excellence, the procedure is recommended only for people with a clear history of 'mechanical locking', where they are unable to bend or straighten the knee (suggesting a loose fragment is getting lodged in the joint).

## SIMPLE SUPPORT TO EASE YOUR AGONY

A RECENT study by Arthritis Research UK found that a simple knee brace can help improve pain, knee stiffness, muscle strength and function.

Dr Michael Callaghan, a research fellow at the Centre of Musculoskeletal Research at the University of Manchester, who led the study, says it can particularly help with pain that's worse in front of the knee or behind the knee cap by spreading the pressure more widely. Physiotherapists warn against relying on a knee brace for support (they're no

substitute for strengthening exercises), but suggest using them to provide stability during exercising.

Recommendations include: BioSkin Knee Skin (£29.99, [ossurvebshop.co.uk](http://ossurvebshop.co.uk)), a compression tube with straps to prevent slippage – suitable for pain behind the knee cap; Incredibrace (from £27, [incrediweardirect.co.uk](http://incrediweardirect.co.uk)), for arthritis and sports injuries; and Bauerfeind Genutrain knee brace (£109.99, [physioroom.com](http://physioroom.com)), 'for mild instability, osteoarthritis and non-specific pain', says Sammy Margo.