Knee pain: Do you make these 5 mistakes with your running?

Getting these 5 crucial things right can make you a successful runner. Getting them wrong can lead to recurrent knee injuries, frustration, and eventually having to give up the sport.

Knee pain is a very common problem for runners. Fortunately, in a lot of cases it is preventable. Even small adjustments and certain simple exercises can rid you of your knee pain so you can get back to your fitness routine worry-free. In this report, we will take you through the adjustments you may need to make to stay trouble-free in your training.

The claims that we make in this report are based on current research and clinical trials. You will see little superscript numbers next to a claim. By scrolling right down to the end of this report, you can see which study or research article supports the claim.

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Is your body in balance?

Your body is designed to work in a certain position or posture. If your "ideal" position is poorly maintained (e.g. slouching while you sit at a desk), you are usually putting more strain on your body. With running, your body also needs to be aligned in a certain way in order to minimise your risk of injury. This especially applies to your legs and feet.

Your muscles help to keep your body aligned. Unfortunately, it is very difficult to keep your muscles in a perfectly balanced state. Very often, one muscle or another will become tighter or weaker. A weaker muscle causes other muscles in the area to pick up the slack, which is a perfect recipe for disaster.

Many people live with muscle imbalances, but if they are not very active, they might not even know about it. It's only when you start to push your body to the limit, such as when you increase your running mileage, that these niggles start to become obvious. Over time, these niggles can become serious injuries. So the quicker you address these issues, the easier they are to deal with, and the better your chances of fixing them.

The following examples demonstrate in a bit more detail which muscles can have a significant impact on your running. A study done in 2012 involved 80 recreational athletes with and without knee pain. Researchers compared the athletes' muscle strength and activation patterns. What they found was that people with knee pain had less gluteus medius (the muscle just above the hip bone) muscle strength. [1]

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Another study done at the Georgia Health Sciences University in the US in 2011 found a similar pattern. Those participants who suffered from knee pain had 21-22% less hip strength compared to the healthy people. [2]

Unfortunately, it's not only the hip muscles that can result in knee pain and interfere with your running. Your inner thigh muscle (vastus medialis obliquus, or VMO for short) plays a crucial role in aligning your leg when you're running. In particular, it controls the tracking (positioning) of your knee cap. Knee cap tracking problems represent one of the most common causes of pain from running. Again, research shows a strong correlation between weakness in this area of your thigh and knee pain. [3]

This is where a visit to a physiotherapist who is trained in muscle balance assessment can be crucial. A good physiotherapist will assess any subtle imbalances you may have, and guide you through addressing them accordingly. In particular, specific hip strengthening exercises can be very effective at reducing knee pain. A University of Boston study showed that these exercises produce significant reduction in pain level after only 4 weeks (pain score 2.4 in the hip strengthening participants versus 4.1 in a group using a different exercise programme).

Another valuable tool in knee rehabilitation is functional weight-bearing exercise programme, which, combined with the hip exercises mentioned above, has been proven to increase hip strength by as much as 21%.[4]

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"…these exercises produce significant reduction in pain level after only 4 weeks"

The high effectiveness of the hip strengthening and weight-bearing exercise programme used by physiotherapists for pain and functional recovery has also been confirmed by other clinical trials. [5]

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When was the last time you checked on your running form?

One of the main causes of running injuries is poor running style or form. Not only can this trigger knee pain, but it can also cause Achilles injuries, shin splints and other leg issues. The most common running form problems we see in the clinic come from over-striding. This means that when you stride, your foot reaches out too far in front. Then, when your foot finally hits the ground, you land on your heel.

A Finnish study done at the University of Jyväskylä shows that heel strikers place significantly higher stress on their knees (as much as 5.1 times their body weight), compared to those runners who land on their forefoot (4.3 times their body weight). The study also found that heel-strike running or over-striding placed increased force on the Achilles tendon. [6]

Instead of heel-striking, place your emphasis on landing either flat-footed, or on the ball of your foot. You also need to aim for your foot to touch the ground directly underneath your body. This is something you can work on during your next run. Slow your pace down and watch how you run. Don't rush. Make any necessary changes. Once these changes become more of a natural habit, you can start to increase your running speed again. Remember: quality, rather than quantity!

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> ***"…heel strikers place significantly higher stress on their knees (as much as 5.1 times their body weight)"***

In recent years, there has been a lot of talk about the benefits of barefoot running. A number of studies have shown that running barefoot encourages the forefoot-strike running pattern, and reduces impact forces and stride length. [7]

So you can add barefoot running to your weekly running programme with the aim of re-training a normal forefoot-strike running form.

There is also some evidence that barefoot running may help to prevent running injuries. However, we advise caution with barefoot running if you have never tried it before. After months or years of running in nice, comfy, supportive state-of-the-art modern running shoes, suddenly switching to barefoot running might be too much of a shock for your feet.

That's why we recommend trying short distances first. Remember that any running should be pain-free. So if you start to experience pain while running barefoot, you must stop immediately and consult a health practitioner knowledgeable in this area… such as a physiotherapist.

Another word of caution for barefoot running relates to choosing safe surfaces for running on. Lack of protection means that your feet are at a higher risk of cuts and grazes. Wearing

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Fivefinger shoes mimics barefoot running. This type of footwear has similar beneficial effects to running without shoes.[7]

This may be a good alternative to barefoot running, as it provides a certain amount to protection for your feet.

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Are you a little "head over heels" with that hill running?

Hill running does not only make your workouts more challenging in terms of your fitness – it also places significantly more stress on your legs, and in particular, your knees. A study done in 2005 at the University of Colorado found that running downhill increases the impact force by as much as 54%.[8] High impact forces while running increase your risk of developing an overuse injury in your leg. [9]

> ***"…running downhill increases the impact force by as much as 54%"***

Hill running can be an excellent training tool, however doing a lot of it in the initial stages of your running programme can be detrimental. We recommend that you stay on a flat surface for at least the first 2 months of your running programme. Then, if you really want to try hills, start on very gentle slopes and gradually advance from there.

The other dangerous tendency with downhill running is leaning too far forward and losing control of your body movement. Instead, avoid taking huge steps when running downhill, keep your shoulders just in front of you and hips right under you. Control your descent and take shorter strides. Keep this in mind to help you avoid injury.

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Good running shoes could be the best running investment you could make!

Many people get so excited about starting a training program that they make the mistake of grabbing their favourite pair of casual shoes to run in. Then they wonder why they get foot, knee and leg pain two weeks into their programme. Make sure you get a good pair of running shoes before you start your training programme. If you have been running for a while, chances are that you already own a pair of running shoes. However, way too often, we see people continue to use their old pair well past their "expiry" date.

One of the main features of a good running shoe is cushioning. If your favourite pair is showing obvious signs of aging and wear, it is likely that their ability to cushion your feet is affected. This then increases the stress on your legs and joints. We recommend that you replace your shoes every 500-800 kilometers, depending on your weight, the surface you're running on, and your running style. Unfortunately, the vast majority of runners replace their shoes far too late.

On top of being appropriate for running in general and in relatively good condition, your running shoes must be suitable for your individual feet. Yes, we all have different types of feet. You may be a pronator (having flat feet), supinator (having high arches) or have "normal" feet. Your shoes must address these differences.

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> ***"…runners who have "excessive" foot pronation are more likely to suffer from front knee pain"***

To complicate things further, you may have relatively "normal" feet when you are standing still. But you may start to pronate or supinate when you run. This is called dynamic pronation or supination. That's why it may be quite difficult to determine your foot type just by looking at yourself in the mirror. It is always better to see a health professional who is trained to pick up these subtle variations. Specialised sports shoe stores have the appropriate equipment to do this.

A US clinical study done in 2013 showed that runners who have "excessive" foot pronation are more likely to suffer from front knee pain. [10]

> ***"…specialized footwear can effectively control excessive pronation"***

This comes as no surprise, since having flat feet affects your foot's shock-absorbing mechanism, and may increase stress on your knees, hips and spine.

Research also shows that specialised footwear can effectively control excessive pronation. [11]

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A new pair of shoes may seem like an expensive luxury item. However, in reality it is a necessity if you're serious about your running. It will save you a lot of money and headaches later on by preventing those nasty running injuries.

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Have you been sleeping well?

A lack of sleep could not only be compromising your immune system, proper recovery, mental alertness, and concentration. It can also have a negative impact on your running endurance. [12] This has been proven in research on multiple occasions.

Currently, there is no well-established direct link between a lack of sleep and risk of injury. However, it would be fair to assume that reduced concentration and endurance while running could easily lead to a loss of form and eventually injury. On top of that, it will surely affect your training efficiency, motivation and how much you enjoy running.

Unfortunately there is no universal set number of recommended sleep hours per night. Not only do different age groups need different amounts of sleep, but sleep needs are also individual. Some studies suggest that healthy adults need seven to eight hours of sleep every night. However this increases significantly for children. [13]

"There is strong evidence that sufficient shortening or disturbance of the sleep process compromises mood, performance, and alertness, and can result in injury." [13]

The importance of sleep quality and duration is something that is often underestimated. However, it is so crucial to your life and your ability to enjoy it, so sleep well!

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P.S. Need help with any of the problems or "mistakes" we've discussed in this report?

If you need help with any of these problem areas, please contact one of the highly-qualified physiotherapists at BodyFit.

Our physiotherapists have all had specific training in knee pain prevention and treatment, including the proven-effective exercise methods we've mentioned above. They will be more than happy to help you.

Why not take advantage of our **"FREE assessment" offer**, and get a 15-minute examination with one of them completely free of charge? Note that this offer is only valid for 2 weeks from the date you receive this report. So hurry! Call the number below or email now, and let our friendly team take great care of you.

Have a wonderful day!

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