



***YOUR FREE GUIDE TO
"RUNNERS KNEE" AND
HOW TO PREVENT IT***

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RUNNING AND KNEE PAIN. LIKE BREAD AND BUTTER RIGHT?

Well perhaps not!

Hi, and thanks for downloading the free guide to knee pain and running. I wrote this guide based on my own experience with "runners knee" a few years back. I remember feeling as though that was the end of me running. I was the fittest i'd ever been, and had a race coming up, but had to pull out because of the pain!. I trolled the internet and tried everything and it just didn't work. It really started to get in on me. But there was an end in sight!

The dreaded knee is the one thing that strikes fear into the hearts of many as soon as it hits. What is it? Does any of this sound familiar?

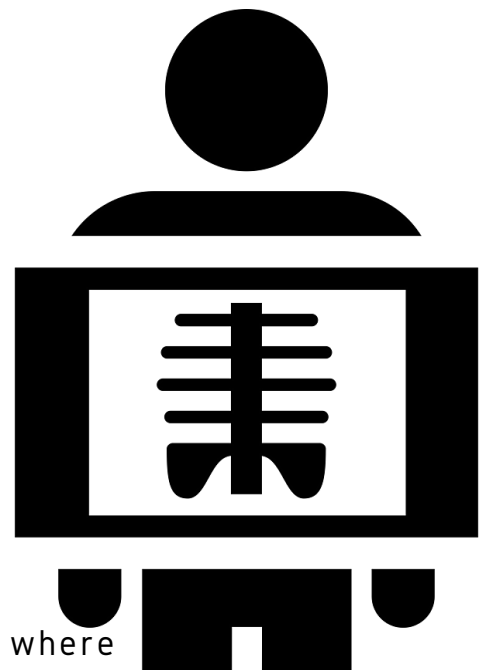
- I've never had knee pain before? Whats this all about?
- I hope I haven't damaged my knee completely
- I don't want to have to get surgery
- I hope I'm still going to be able to train/run!
- It must be my weight
- My knees are giving in, i'm for the scrap heap

Knee pain is such an emotive injury and really affects people's emotions as much as it does their physical body. Whether its called "patella femoral syndrome", "runners knee" or "ITB syndrome", is irrelevant. What is relevant, is the mechanism of pain.

We hear stories constantly about footballers and sports people who "did their cruciate" never to play again. Countless amateur sports people who had to undergo knee surgery and never played again.

Older relatives who need knee replacements because of arthritic knees. The whole bubble surrounding knee pain is a negative shit storm that sends us into panic mode as soon as it strikes! But here's the deal. It doesn't need to be! Yeah you heard me! **KNEE PAIN IS RARELY A PROBLEM WITH THE KNEE.** I'll let that one sink in for a while.

MEDICAL IMAGING FOR DIAGNOSIS?



I once had a bit of an online spat on an online forum where a person had been recommended MRI and X ray for a knee issue that wouldn't go away. Even after he went to 1 physio (ahem) and did the exercises diligently.

SO what's the problem with this I hear you say? Well, today there is far too much of an over reliance on medical imaging to diagnose. I have seen far too many people who have received surgery for an issue which simply did not need surgery to fix. Any abnormality in the MRI is immediately assumed to be the issue. However, the latest research shows that the majority of people with these abnormalities on medical imaging are asymptomatic, i.e. have no pain or symptoms what so ever! Physical Therapists are trained with special orthopedic tests to recognise specific structural knee injuries such as ligament tears and meniscus problems etc. The vast majority of people who come into my clinic with knee pain pass these tests with flying colours and report no pain what so ever! If they did, I will (and have) recommend they get an MRI to rule out (or in) structural issues. So if it's not structural, what is it? Aha, and such is the million dollar question. This i'm afraid is a multi faceted answer, and each case is extremely individual.

SO, IF ITS NOT THE KNEE ITS SELF, THEN WHAT?

Here are a few observations I have made over the years.

- Your foot mechanics need some love
- Your hip control needs some love
- Your quads are as tight as a miser at Christmas
- Your perception that your knee is f*@ked.

Foot Mechanics need some love: How your feet move and interact with the ground, has a direct impact on what happens at the knee. If the foot and ankle can't move freely, that range of motion is going to need to come from somewhere else, usually the knee. If you have ever sprained an ankle, the likelihood that you have some muscles gone into protective mode around the foot and calf, which leads to a lack of movement. The lack of movement and requirement for extra space from the knee joint can create a perceived threat around the knee, causing pain, which leads to catastrophising and worry. Likewise, the positioning of your foot can impact on the knee, and its alignment. If you have a pronated foot, it can turn the leg inwards, changing the position of the knee joint and putting strain in around the kneecap

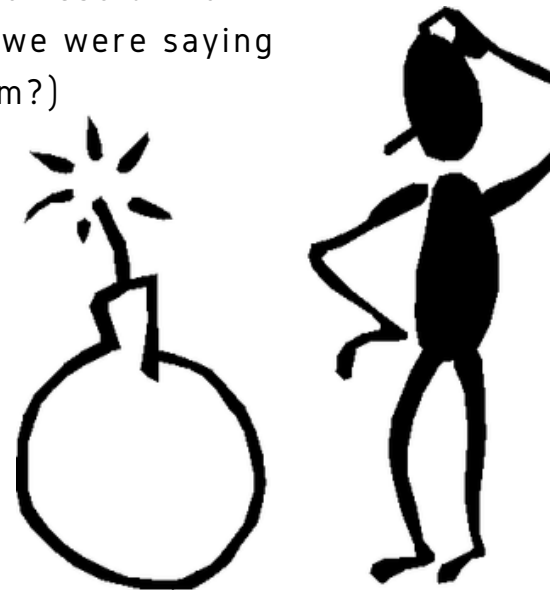
Your hip control needs some love: Like the foot, the hip muscles (glutes, tfl, glute medius/maximus) basically your bum and the side of your bum, have a big roll in knee problems. Studies have shown people who have weak hips end up having pain in their knees. Part of the reason is, if the hips can't control what the leg is doing, the femur tends to turn in, especially when running or lifting weights. Again, this can cause issue with the tracking of the knee, resulting in pain in around the kneecap. Word of caution! Be weary of the term "patellofemoral syndrome" what they are basically saying here is, you have pain in your knee, and we don't know what it is!

CONTINUED....

Your quads are tight: There are various different reasons why this can be an issue. But I'm going to concentrate on one muscle in particular. The Rectus Femoris or rec fem for short is a muscle that crosses both the hip and the knee. The tendon of the muscle goes directly over your knee cap and attaches just below the knee on your lower leg. If this gets tight, the tendon can be pulled, with people often reporting pain "in the knee itself" I have found that this tight rec fem, often comes hand in hand with less than optimal hips, as it seems to over compensate for the job of the glutes in knee stabilisation. Another reason your quads may affect the knee is knee cap alignment. If certain muscles are tight, they can pull the knee cap out of the groove, creating a misalignment which over time can cause pain. Since we're in the general top half of your leg area, its also important to note that the hamstrings can also play a role in knee pain. Tight hamstrings on the inside of the leg can pull on other structures like the meniscus and result in a meniscus tear if severe enough (remember what we were saying about the knee not being the issue, its a symptom?)

Your perception of your injury: This, I would hazard to guess is probably the most important aspect to this whole eBook. Your perception of how bad your injury is, can feed into your pain experience, and make it seem even worse. Think about it. Look at people who overthink getting needles, or over think jumping off a bridge etc.

Their perception of what they are doing has put the breaks on and they have gone into a "fight or flight" situation which ramps up their nervous system and makes everything worse! The same goes for an injury . If you overthink the severity of the injury, you will make it worse, because your brain will sense a threat and put the breaks on. And what does it do to protect you? It creates pain.



ANNICTODE TIME

Its funny, just after I started writing this eBook, I had a client in who was suffering from knee pain, and again, was so worried he wouldn't be able to exercise. On taking his history, I discovered he was in an accident with a car many years ago which resulted in knee surgery. When he came to see me, he had just been in an accident, again with a car, on his bike, yet he didn't specifically hurt his knee. But his knees started paining. Why? Because his brain registered this type of incident a threat to his knee. He had been here before and done damage to his knee. So the next time it happened, it automatically thought to protect the knee to prevent any further damage. Was there any mechanical issue with his knee? Sure, his muscles were tight all around the area more than likely as a response from the "threat" he was exposed to! But once we were able to reduce the threat, through a multi factorial approach, he reported a 100% difference within two weeks and after just 1 session. Did I do That? Nope. I gave him the gun but he fired the shots.



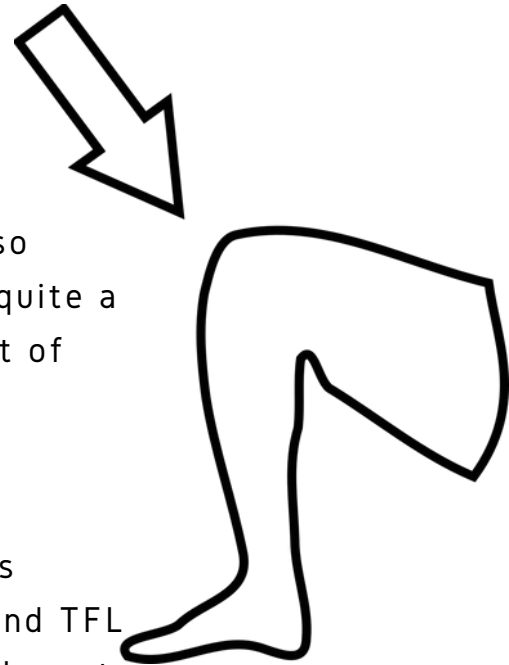
"RUNNERS KNEE OR ITB SYNDROME"

"Runners Knee" or IT band syndrome what is it and what can we do about it?

Probably THE most common injury runners face in their lifetime is the dreaded "runners knee" or also commonly known as IT band syndrome. It can be quite a debilitating injury and can cause runners to be out of action for weeks on end.

Anatomy lesson 101: the IT band is a large fibrous attachment that runs from the Gluteus Maximus and TFL right down the lateral aspect of the leg and attaches at Gerdy's tubercle just below the knee. . The actual band itself is underscored by a bursa and fatty deposit to stop from rubbing of the bone. The IT band has absolutely no contractile force, and thus can not be affected by stretching or activation. It also has the tensile strength of steel, so please don't think you are going to have any impact with a foam roller!

Pitfalls of current thinking: For the past however many years, IT band or tight IT band has been thrown at nearly all sources of knee pain in runners. It was almost the get out of jail card for therapists and trainers. The past, and unfortunately current, thinking on rectifying the issue was through a course of foam rolling and stretching the IT band itself. So where in lies the problem?



KNEE PROBLEMS IN RUNNING

Well, anyone who has had the pleasure or displeasure as the case may be, of foam rolling on the IT band, knows how (expletive) painful it is. The thinking was that a tight IT band caused friction over the condyle at the knee and thus caused pain. "Loosening" the IT band would relieve the tension and as a result the friction acting on the knee. However, we now know that the IT band is more likely to cause issue as a result of compressive forces rather than friction. So, what does that mean? It means all that foam rolling you are doing on the IT band, could be making the problem worse! Not to mention sensitising the area more and thus creating more pain in the long run.



I refer back to our little anatomy lesson and we mentioned that the IT band has the tensile strength of steel. In other words WE CAN NOT STRETCH THE IT BAND. We can not influence its structure in any way, either through foam rolling or stretching. So essentially, you are only hurting yourself for zero gain, and perhaps making things even worse in the long run!

So how do you go about treating IT band Syndrome or Runners Knee? Well, that's like saying how do you go about treating a sore foot? It can be any number of things. As we mentioned already, if you see the word syndrome beside anything, generally it means nobody REALLY knows what the actual cause is! Everyone is unique to their own issue, but here are some of the more common causes I have seen previously.

CAUSES OF ITB SYNDROME?

1. TFL or tensor fascia lata compensation

The TFL is a muscle at the top of the hip in and around the pocket area. It is an internal rotator but can also act as a hip flexor in conjunction with the psoas, rec fem and the iliacus. People with poor hip iliacus and psoas function tend to compensate with both the TFL and rec fem. Most people who have some form of knee pain, tend to lack good function of both the psoas or iliacus muscles. People who sit for a good portion of the day, tend to have an underactive psoas/iliacus. In this situation, the TFL, in the case of ITB syndrome, can take a lot of the stress of hip flexion, a very important movement in running. It can become overused and “tight” or hypertonic which creates the tension in the TFL that can contribute to pain. To combat this, a person should actively release the TFL and aim to strengthen the psoas/iliacus muscles

2. Dynamic knee valgus

Knee valgus is a situation where the knee drops inwards during running gait, towards the midline. This results in the femur a) being adducted and b) internally rotated, So what does that do to the knee? Well think of the origin and insertion of the TFL and the IT band itself. It will both put greater tension on the insertion point at the knee by creating greater length and will also create rotation of the joint that wouldn't normally be there either.

CAUSES OF ITB SYNDROME CONTD.

There are a few reasons that this may happen, but I would give a big shout out to the Glute max on this one. Glute max, one of the biggest muscles in our body, has a major insertion with the IT band. It is a three dimensional muscle, with a major role in keeping the hip joint stable in 3 different planes. If there is a weakness or inhibition in this muscle, you tend to find a lot of knee valgus in runners. On a side note, some knee valgus is OK, however, excessive knee valgus can create tension and pain in the IT band.

3. Contralateral hip drop or “trendleburg gait”

This is a situation that can be found in a single leg stance test, where the hip “drops” to the side of the non weight bearing leg in order to create stability. This is usually as a result of the Glute medius on the weight bearing stance leg, and QL of the non weight bearing leg failing to keep the hip stable and balanced. If the hip drop is visible it means the hip is hiking on the strike leg where it should be level. Again, if you think of the origin and insertions of the TFL and IT band, you can see how there would be lengthening of the tissues which can create a pull on the knee or insertion point of the IT band. If you think about running and how it is purely a single leg activity, how many times that sheer can act on your knee in a single run. Stands to reason it could easily get irritated.

KEY TAKEAWAYS

SO HOW DO I KNOW WHAT'S THE CAUSE OF MY PAIN?

Well the simple answer to that is, go to see a therapist that may be able to diagnose the issue. Once the problem has been identified, you may be looking anything between 6 and 12 weeks recovery time

So, what could you say you have learned from reading this eBook?

Well, Hopefully it is that:

A proper assessment from a therapist is the best course of action to diagnose the cause of your knee issues.

Your perception of your injury can make it much worse

Previous injury will play a massive part in your current state of play.

Glute and over all hip strength are massively important in preventing running injuries, and no more so that ITB syndrome.

ITB Syndrome isn't forever and can be rehabilitated. It just may take a bit of time, that is if you have the patience to wait!

As always, let me know what you think, and any questions shoot!

Keep moving

Mark.

AUTHOR

Mark is a sports therapist based in Glasnevin Dublin. He has a long background of involvement in sport, including Rugby, Cycling and Running/adventure racing.

He has worked with athletes across the board from professional and Olympic athletes to the recreational runners.

He is a firm believer in the bodys ability to heal its self, and that we dont have to write our selves off at the first sign of pain.

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