

Episode 33 – Common Pain Series Knee Pain

This is the TD Fitness Podcast with Coach T, episode number 33.

Welcome to the TD Fitness Podcast, giving you ways to live a healthy lifestyle without giving up the things that make life worth living. And now, your host certified health coach and personal trainer Coach T.

What's up, guys? Welcome back. This is episode #33 and in this episode, we are talking about knee pain, it's part of our common pain series. I'll tell you that when I think about episode #33 or the #33 I can't help but think about some of the basketball greats because I was #33 in high school, but I was #33 because some of my favorite players wore #33. One of my all-time favorite players Scottie Pippen who played for the Chicago Bulls with Michael Jordan he was #33, Larry Bird was #33. And when I think about the greats like that really a lot of basketball players, I can't help but think about some of the injuries that plagued them. One of which, one of the more common ones is knee pain or knee injuries.

And it's not just something that professional athletes deal with, it's something that most people deal with. I found out in my research most people at some point in their life will have some type of knee pain, whether it's an acute or short-lived pain or rather a chronic longer pain over time. So knee pain is something that's pretty common, so it's something that I wanted to address also because I have battled with it off and on since college being active for most of my life and having been an athlete when I was younger. So, this is something that is important to me.

Also, my father-in-law recently had a knee replacement surgery and it went very well, but again, it kind of all comes to prove the point that this knee pain is something that is very common amongst the greater population. And there are many different causes for knee pain. The knee relies on a number of structures including bones, ligaments, tendons, cartilage, the makeup of the knee is fairly simple if we just keep it to kind of the major components. But really it bears the brunt of a lot of stress because it's at a point in the body where it's absorbing the impact essentially from our movement, our steps, our jogging and the weight that we carry in our upper body, it all kind of meets right there in the knee so it's at a point where there's a lot of stress and a lot of action going on.

So as I think about some of the parts of the knee you have the thigh bone of the femur, which is one of the larger bones in your body. The tibia or the shin bone that's the larger bone in the lower leg. And then you have the fibula, it's a smaller bone in the lower leg and then the patella, which is kind of your kneecap. And I'm sure you've heard the terms ACL, PCLA, MCLA, and LCL. So, you're ACL is your anterior cruciate ligament. Your PCL is posterior cruciate ligament. And then the MCLA is your medial cruciate ligament and the LCL the lateral cruciate ligament. The ACL and PCL, the ACL kind of runs in front, they criss-cross a little bit within the knee but that really helps to control movement in the forward or rear plane. And then the MCL, the medial and the lateral, the LCL cruciate ligaments kind of help you control movement in the side to side plane if you will.

Now, there are like I said, many common causes to knee pain. Some can be caused by sudden injury, it can come from an overuse type injury, or by an underlying condition, something like Arthritis. And the symptoms are pretty straightforward, you feel the pain, you see swelling, you have some kind of stiffness. And the treatment will vary depending on the cause obviously, but the focus of this episode is on more of the chronic knee pain. And the fixes here that I want to present to you are less from the medical side. There are certainly times for that, certainly times for surgery, but I want to concentrate more on the muscular-skeletal side, the things that we can do if there isn't a serious underlying problem. Some of the things that we can do to help alleviate or prevent or lower our chances of having knee pain in the future.

Now, I mentioned the ACL, I'll talk just really briefly about some of the common injuries. The ACL again is one of the four ligaments that connect the shin bone to the thigh bone. The tibia to the femur. It's common to hear about ACL tears in basketball or soccer.

Torn meniscus is another common injury. The meniscus is the tough rubbery cartilage that really acts as a shock absorber between your thigh bone and the bones in the lower leg, the shin bone or the tibia. So, there's kind of that cushion in there, it's a tough rubbery cartilage like I said. It acts as a shock absorber to absorb that impact.

You've heard of Patellar tendinitis, tendons attach muscles to bones and the patellar tendon connects your quadriceps to your shin bone. It's not uncommon for people to have issues with patellar tendinitis.

The IT band syndrome, the IT is your iliotibial band. A very good friend of ours suffers from this, she has for quite some time. And that's the band that runs from the outside of your hip down along the outside of your leg to the outside of your knee. And what happens is it becomes so tight that it rubs against your femur or your thigh bone, and that can be very painful. It's common in distance runners in particular. If you've ever done any foam rolling on that upper outside part of your leg you know how painful that is because the IT band is one of the more sensitive areas in the entire body.

And then you have a patellofemoral pain syndrome or PFPS for short. And this is kind of the catch-all moniker for different types of pain when it comes to the knee. So, I've suffered from patellofemoral pain syndrome before. I kind of self-diagnosed myself as having that before it was actually diagnosed by a doctor, but what it really meant is that there's something going on there and we don't exactly know what it is, just kind of let pain be your guide for a lack of a better term. And that's literally what I was told. And I'll talk a little bit more about that later.

But I'd be remiss if I didn't mention some of the times when you really need to seek medical attention relatively quickly, so obviously, you want to call a doctor, medical professional if you can't put weight on your knee. If there is significant swelling, you can't fully extend it or fully flex it, or if your knee gives out from time to time that is not normal. So you want to go in and have that checked out.

Now, in trying to determine how to mitigate the risk for knee pain I think it's first important to understand the knees' role in the body. So if you go back to episode number seven that was the single most important movement concept a simple fix to rid yourself of common joint pain, and I also wrote about it on a blog post called, the one thing you should know about your muscles, I'll link to both of those in the show notes.

But I talked about this concept of the joint by joint method, the joint by joint approach. And really, it's fairly simple. If you were to stack up all of the major joints in your body from top to bottom or bottom to top they alternate between stability joints and mobility joints. So, starting at the bottom the ankle is a mobility joint it needs to be mobile in order to effectively do its job. The knee, however, needs to be stable, it needs to be less mobile in order to do its job. And then moving up if you consider the hips as the next joint they need to be mobile, that's why hip flexibility is important. And then in the lower back, which we talked about last week, think of that as the next joint up the chain that needs to be stable, so it alternates between stability and mobility. The problem is that a lot of times we treat stability joints as mobility joints and we treat mobility joints as stability joints. So, the knee needs to be stable, it's a stability joint. Another thing to consider is that when you have a tight ankle, so a lack of mobility in your ankle or a lack of mobility in your hips, those parts of the system affect the knee.

So real quickly my story, I played basketball throughout high school. I played basketball in college and I suffered a number of ankle sprains particularly on my right ankle. And what happened over time was that I developed a bone spur as those ankles were sprained and then healed, sprained and healed. And that causes me to have a lack of flexibility in my ankle. I can't bring my toes up as far as I can on my left foot. So, because I can't bend my ankle that much my knee then has to be more mobile and remember the knee is a stability joint. So, because I was forcing the knee to be more mobile and do some of the job of what my ankle was intended to do that caused pain over time and it just got worse and worse.

So, if you have hip pain or foot pain or a lack of mobility in either of those joints, the joints below or above the knee that changes your gate, it changes the way you walk. It places excess stress on the knee and the body will try to adjust to that. And those stressors can lead to pain in the knee. So, it's important to understand that because all of this is interconnected. Again, stability, mobility, stability, mobility. It's important to make sure the mobility joints have the appropriate amount of mobility and that the stability joints provide stability where, when, and how they need to.

Now when it comes to mitigating the risk for knee pain there's a lot of research out there and a lot of things that I found in researching for this episode. But what I tried to do was pull a couple of them that I thought were really good, but really bring in some more that I thought were important. Again, from the aspect of things that we can do ourselves outside of kind of the medical arena. But things that we could do ourselves to lower our chances or lower the risk for knee pain.

So, the first thing to understand is that the number one predictor for a knee injury or knee pain is, previous injury. So, I could say don't get hurt in the first place but I mean that's kind of obvious, right? But the point here is just to understand that if you've had some type of injury to your knee or you've had some kind of pain before then you are more susceptible to having pain in the future, just understand that.

The second thing to understand is that excess weight puts you at a greater risk for knee pain, and think about it when I talked about it a few minutes ago because the knee absorbs the forces from the ground when we're walking or running and also absorbs the force that gravity pulls on from the weight from our upper body, that's where it all meets in the knee. So, the heavier you are the more force, the more strain, the more stress is put on that knee. So keeping the weight off is going to be a big part of alleviating or minimizing the risk of knee pain. For every pound that you gain that puts an extra five pounds of force on the knee when you're just going up or down the stairs. Imagine the amount of

stress, the amount of strain that's put on the knee when you're running, when you're jogging. For every pound, it's a lot more than just an extra pound of weight. Those knees feel the forces and it's amplified.

The next thing for mitigating the risk to knee pain, a lack of movement can cause you to be more susceptible to knee pain. So, less physical activity, sitting a lot at work that tends to weaken the muscles surrounding the knee, it's the same thing that we said for the lower back in the last episode. When you're sitting down those muscles aren't forced to engage as much. We're not meant to sit down all the time, but we do it because that's largely what our society has become. But, we're not meant to be sitting all the time.

I like to think of it this way, so I'm a pilot and I know that planes are meant to fly. When airplanes don't fly, when they sit on the ground for a long time they're more susceptible to maintenance issues, cars are the same way. If you have an older vehicle and you keep it covered up in the garage and never drive it chances are it's going to have more maintenance issues than if you took it out pretty regularly.

Well, I'm an older vehicle cause humans are meant to move too and the older I get the less I move, the more pain I have. So again, my story I battled with that knee pain for quite some time. I went to the doctor. The doctor literally said, "Let pain be your guide." That was all the advice they gave me. The physical therapist gave me some exercises to improve the balance of the musculature I should say around the knee, which was good advice.

And I had a hard rule though because of the injuries and because of the pain I had in my knee growing up, or in my younger years, I had a hard and fast rule that I would never do double-digit miles on my feet. Meaning, if there was any kind of race that involved 10 miles or more then I wasn't going to do it, I would stop at 9.9 miles if I had to. And I rarely even ran that far, I was typically kind of a three or four mile kind of guy.

But, what I noticed was when I started training for triathlon, in fact, that was one of the things that kept me or prevented me from getting into triathlon pretty early on, at least the longer distances because I didn't think my knees could handle it. But once I made the decision to actually try it I found that my knee pain went away, it went away when I started to move more. I didn't have any more pain walking up and down the stairs. I didn't have any issues with running the longer distances. I was biking without knee pain. And all of that I felt was due to the fact that I started to move more and started to use my knees in a way that I hadn't been before. A lot of the pain that I had stemmed from, yes the lack of mobility in my ankle, but that was ultimately caused in the beginning by those compressive forces, the jumping, the fast changes in direction, the sprints, those types of things that put a lot of stress on my knee.

And as I got older my body was no longer able to accommodate that so I had to do something that still allowed me to move more but was easier on my knees, lower impact. So, think about the slower long distance running, the biking, the swimming, those types of things. And like I said, I haven't had as many issues with my knees since then. So, it's definitely been something that I've lived and I've proven through my own experience, which is that moving more can actually help to get rid of some of the pain that you think may increase with moving more. So, moving more is good.

Improper movement is another thing though that makes us more susceptible to knee pain and gives us a higher risk. So, when you don't warm up, for example, that's never good, particularly as you get older. So, you want to incorporate some kind of active warm up before your work out. You've heard me say that before. Understand too that downhill running, that's something that puts a great deal of stress on the knees so you have to be careful with that and you have to make sure that the muscles surrounding the knee are built up in a way that it can handle those stresses.

You've also heard the term don't let your knees go beyond the toes when you're squatting or when you're doing lunges for example. And that is true but it's particularly true if you are loaded, meaning if you have weight on when you're doing that. If you're doing some kind of weighted lunge or weighted squat, it's okay for the knee to extend beyond the toes when it's unloaded but when you're loaded you want to be very careful about moving from that position where the knee is in front of the toe back to the standing position. You have to be very careful with that.

The importance of the surrounding muscles is another thing that you have to consider. I talked about the physical therapist gave me some very good exercises in helping to balance the musculature around my knee. One example is the VMO, which is kind of the teardrop muscle there in your thigh, it stands for vastus medialis oblique. But, you want to make sure that the muscles around the knee are built up so that the bones have adequate support. So, it's important to do knee exercises that incorporate all of the musculature and move in a way that is a normal movement or a normal activity of daily life. So, things like knee extensions they have their place when it comes particularly in a rehab setting, but I'll tell you that those types of things don't really mimic the way we actually move. So the squats, the lunges, those types of things, the farmer's carries, those are the types of exercise that more closely mimic the things that we're going to do in daily life, and those are the things that more adequately build a complete surrounding musculature of the knee.

Lack of flexibility is something else that makes us more susceptible to knee pain. You need to incorporate movement, flexibility, and mobility work on a regular basis. Same thing with strength, and I talked about muscular balance already.

The final thing I'll leave you with though is, when it comes to your knees, one of the things that we rarely think about but is so important, and that is support for your feet, so your shoes. So, one of the things that I see all the time now that I am working in an area where there's a lot of people dressed up in suits and dresses, and that's high heels. I get it, it's part of the fashion that expectation really when you come into the business setting for how you should look and how you should dress, but high heels, just know that high heels create some sheering forces on the knee. The foot is elevated, the heel is elevated, the body naturally wants to push off and go. And the knee is trying to prevent that because otherwise, you'd just fall forward.

So, having high heels is not the best thing for the knee just like using old running shoes is not the best thing for the knee. And even if you have older shoes that don't have a lot of miles on them, that don't have 300 miles on them, it's still good to replace those periodically because those materials inside do not last forever. I know people with running shoes that are 10 years old or walking shoes that are 10 years old, so yeah they may not have hit their 300 or 500-mile limit to replace with new shoes but that doesn't mean that you still need to use those very old shoes.

As I said with lower back pain last week it's not always the case that you have to live with knee pain. It could be a function of moving more, moving better, and moving smarter or having a more

balanced approach to training. I'll leave you with a rhyme. Don't discount the things that you can do to maintain a pain-free life, do those things consistently and maybe you can avoid going under the knife. I know it's kind of cheesy but that's it for this episode. I'm sure you don't want anymore rhymes from me. Just remember that the show notes for this episode can be found at tdfitness.net/033 there you can get the transcript you can listen you can watch, you'll find links to all of the references that I mentioned here. I just want to thank you guys again for tuning in, have a blessed day. Coach T, out.