Getting to The Root of Hip, Knee & Leg Pain

5 Easy Steps to Pain-Free Joints

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BodyGears®
Physical Therapy
E-Books

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You Are Not Alone.

Around 7 million Americans are living with an artificial hip or knee joint. If you don't want to have to go through joint replacement surgery, or you already have and you want to save your other joints, then this book is for you!

Pain is your body's way of telling you there is an underlying problem. Whether your body's alarm system is going off in response to tissue damage, the risk of tissue damage, or changed habits from past damage, there are likely changes to your tissue mechanics and your movement mechanics that need to be addressed.

Many people turn to over-the-counter medications, are prescribed medications, and even have expensive MRI's without achieving any long-lasting results. The reason for this is that most of us focus on the symptoms rather than what caused the symptoms.

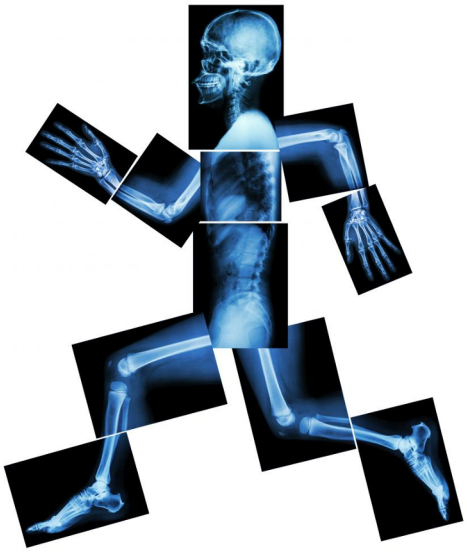
In this book, we are going to teach you strategies that offer people joint pain relief so you can return to the activities you enjoy most.

Getting to the Root of the Problem

Knee and hip pain can be acute, such as immediately after an injury, or chronic, such as pain persisting 3 months after an injury. Sometimes there's a clear mechanism of injury, and sometimes symptoms occur "insidiously," just getting progressively worse over time for no apparent reason. Whatever you're experiencing, it's better to address the problem sooner to lessen the risk of changes that lead to surgery.

To get to the root cause of your hip or knee pain, you'll want a comprehensive movement assessment by a trained physical therapist to tease out those tissue and movement mechanics problems. MRI's and X-rays produce images from a single position and can't detect movement problems, which is why people with "clean" scans can experience pain that just keeps getting worse.

On the flip side, just because something shows up on a scan does not make it the source of your pain. Scans are designed pick up on structural changes, including normal signs of aging, like looking at a close up of the wrinkles on someone's face. Remember, just because something on your scan is 'age-related' or 'degenerative' does not make it abnormal.



Getting to the Root of the Problem

To identify where your pain is coming from, physical therapists perform a series of active and passive movement tests ranging from general range of motion tests to specialized tests. The goal of these tests is to both identify dysfunction and to provoke your pain. While recreating your symptoms might sound unpleasant, always remember,

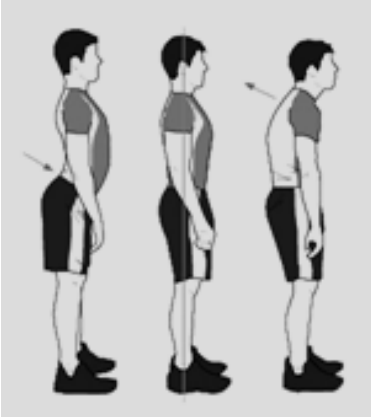
"If your pain is reproducible, it's reducible!"

Often with traditional treatment, the assessment process stops after identifying where the pain is coming from. Then all treatments are targeted at soothing or masking that pain. What's missing is an assessment to identify what is likely causing your current symptoms. Your physical therapist should also take you through a series of posture and movement assessments to figure out why your body is sending those alarm signals to your brain.

Step 1: Improve Your Stride

Do you sit for long periods at work or at home? Do you find yourself slightly limping when you first start walking? Prolonged sitting can actually affect the way that you walk. Our bodies were built to move and they tend to stiffen up if we force them to stay stationary for longer than 30 minutes. Your ankles, knees, hips, pelvis, and spine all need to work together to create an efficient walking pattern. If even one joint gets stiff and doesn't perform well, it puts extra load and stress on the other joints, increasing their risk of injury. On the other hand, if you walk with an efficient pattern and every joint doing it's job, this motion lubricates your joints and the load strengthens your bones.

Tips for Efficient Walking



1. Find the happy medium between walking like a cheerleader and walking like Steve Urkel. Some people will need to relax their tailbones while others will need to imagine a string gently pulling them up through the top of their head.

2. Contact the ground with your heel. Try taking longer strides if you find you contact the ground with the middle part of your foot.

3. Be aware of whether your hips are jutting out to the side or dipping when you walk. Done purposely by models, it's actually a sign of muscle weakness and it's also possible to have only one hip that dips.

4. Allow your arms to swing from your shoulder blades, not just from your elbows. There should be a natural reciprocal pattern between your upper torso and pelvis.

Step 2: Improve Your Flexibility

What have we all been taught to improve your flexibility? Stretch, right? And do you do it? Probably not if you're reading this book. The reason isn't laziness (maybe it is a little bit), it's more likely because in your experience, the benefits of stretching don't outweigh the time it takes to stretch. For the people who do experience benefits from stretching, you might even find them on the office floor in their work clothes making sure they get their daily stretches in.

For those who have unsuccessfully tried improving flexibility with stretching, here are two reasons why they might not see any improvements:

1. They're doing the stretch incorrectly
2. They're stretching something that doesn't respond to stretching

There are actually two ways people might be doing it incorrectly. The first is by stretching the wrong muscle or by having inefficient form. A physical therapist can easily help you identify which muscles you should focus on and teach you the best ways to stretch them effectively.

Your body has muscles that cross a single joint, like your gluteal muscles (hip joint), and muscles that cross two joints, like your hamstrings (hip and knee joints). Stretching single-joint crossing muscles is generally easier because with two-joint crossing muscles, you need to ensure that both joints are providing adequate tension. Additionally, the calf muscles can be considered two-joint muscles because they cross the knee and the ankle, but these are actually two separate muscles sharing the Achilles tendon. The gastrocnemius muscle needs to be stretched with a straight knee while the soleus muscle needs to be stretched with a bent knee.

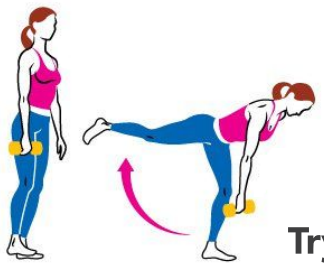
Step 2: Improve Your Flexibility

The second way people attempt to improve their flexibility is by doing only static stretching or by selecting stretching as the only method for improving their flexibility. This is typically ineffective.

There are actually three different types of stretching you can do:

1. **Static Stretching:** holding a muscle in an end-range lengthened position for an extended period of time. Best saved for after exercise as a cool-down.
2. **Dynamic Stretching:** repeatedly moving in and out of a stretch actively to allow your muscles to both shorten and lengthen with a progressive increase in the end-range. Best used as a warm-up prior to exercising.
3. **Ballistic Stretching:** similar to dynamic stretching but the movements are quick and uncontrolled, like leg swings. This type was previously popularized but the benefits do not outweigh the risk of injury.

The new school of thought is that muscles you think are tight and need to be stretched actually need to be strengthened. If your hamstrings are weak, they could already be resting in their lengthened position (especially if your pelvis is tilting forward). Asking your already lengthened hamstrings to stretch even longer is only going to be uncomfortable. Instead, gently try an eccentric hamstring exercise/dynamic stretch like deadlifts where you're asking the muscle to stay activate as it lengthens. You can use weights or just bodyweight since the goal is to improve your flexibility. Try it using only one leg to compare both sides and focus on the leg that needs it more.



Try 2 sets of 10 reps

Step 2: Improve Your Flexibility

Finally, you might be trying to stretch something that doesn't respond to stretching. The goal of stretching is restore the length of a tissue. The reason you feel a lack of flexibility might not necessarily be because your muscles have shortened. It's possible your hip or knee joints are the source of the tightness you're experiencing. Your muscles might still feel tight as they try to protect the joint or the muscle tightness could be the result of a chronic lack of joint movement. Either way, there are better ways to address a joint problem than with stretching and these should always be tailored to your specific joint restriction.

Two other structures that people will sometimes mistakenly be stretching to no avail are nerves and ligaments, which were not designed to actively shorten or lengthen. Over-stretching a nerve could cause pain, tingling, and numbness, while aggressively stretching a ligament could lead to a sprain or joint instability. Often, people mistake a sciatic nerve restriction (think "stuck down" rather than contracted) for hamstring muscle tightness and will either see no improvement or cause increased symptoms by stretching. The notorious IT band behaves something like a tendon, ligament, and fascia all in one and again, because it wasn't designed to actively shorten or lengthen, it doesn't have a length issue and won't respond to stretching.

Your physical therapist can easily assess whether you have a muscle, nerve, or joint restriction (or a combination) and guide you through the best exercises and manual therapy for restoring your flexibility.

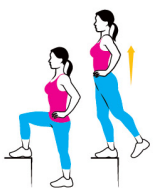
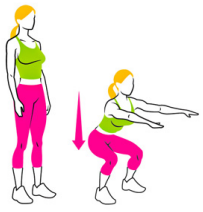
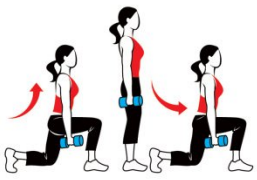
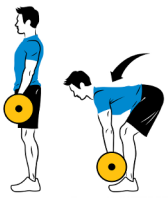
Step 3: Improve Your Joint Stability

There are two types of structures that create joint stability: passive and active. Your passive joint stabilizers include ligaments and other connective tissue while the active stabilizers are your muscles. Though you can technically get away with only one type of stabilizer, the two protect each other and each act as the other's fail-safe.

Your body takes care of your ligaments on its own, but your actions determine the strength and coordination of your muscles. This means you have the power to improve your joint stability through exercise.

There are two types of muscles in your body: movers and stabilizers. Your mover muscles are larger and more towards the outside of your body while your stabilizer muscles are smaller and closer to your joints. If you want to improve your joint stability, you'll obviously want to target your stabilizer muscles. The best way to do that is with functional exercises that slightly challenge your balance.

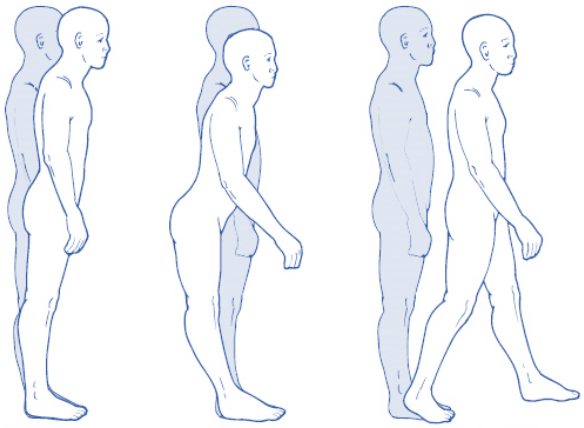
Most gym machines create stability for you by only allowing one plane of motion and therefore only strengthen mover muscles. By doing functional exercises instead, you can strengthen your movers and stabilizers together. Functional exercises mimic daily activities and usually involve more than one joint, such as stair climbing, squats, lunges, and deadlifts. You might be thinking, "I don't squat, lunge, or deadlift during the day" but you should! Choosing any one of these movements to tie your shoes or pick something up off the floor will save your back and continue to strengthen your muscles.

Step 4: Improve Your Balance

Balance is essential for navigating obstacles like stairs, building skill in athletics, and even for walking. There are two types of balance that are both important: static and dynamic. They refer to balance when you are stationary, such as standing on one or both legs, and balance when you are moving, such as walking and stair climbing. Differentiating between these two categories allows for training to be more specific.

Everyone has three balancing strategies: ankle, hip, and stepping which should be recruited in that order. For balance training to be effective, the task should be challenging enough that you are engaging these strategies.



To practice your static balance, you can vary your foot positions (double, single, tandem), your visual input (eyes open or closed), and the surface you stand on (stable or unstable). At the very least, you should be able to stand on one leg with eyes open on a stable surface for 30 seconds, engaging only your ankle strategy (no stepping).

To improve your dynamic balance, you can use similar principles to static balance, such as tandem or backwards walking on a stable or unstable surface. To alter your visual input, you can walk while turning your head side to side or add an additional task such as balancing an egg on a spoon. The best place to work on your balance at home is along your kitchen counter.

Step 5: Improve Your Performance

The final step is to finish reading this e-book and get moving! Movement is medicine and what your body was designed to do. If you're feeling timid about attempting some of the previously outlined steps, start with part practice. This means doing a mini version of the exercise (less reps, less time, or only the first half of the movement) to gauge how your body responds. If you're too scared to move or you have concerns you need addressed, seek professional guidance.

On the other hand, don't be afraid to challenge yourself, especially when it comes to your balance and strength which won't improve otherwise. If you experience pain during an exercise, it does not necessarily mean you are causing any structural damage to your tissues or joints. The best guideline to follow is the 'No Worse Rule.' This rule uses the 0-10 rating scale with 0 being no pain and 10 being the worst pain imaginable. While exercising, pain levels are safe to increase 2 points beyond your usual pain, but if your pain does increase during an exercise, it should be no worse 20-30 minutes after you complete the exercise. If you do experience pain outside of these parameters, it still does not mean that anything was damaged. It just means that your body is not ready to withstand that exercise intensity and the exercise needs to be modified by a professional.

If you've been waiting for something to get better on it's own, it's time to stop waiting and either attempt some strategies like the ones outlined in this e-book or seek the guidance of an experienced health care provider like a physical therapist.

Achieve Quick & Natural Healing with Physical Therapy

Physical therapy is effective when it addresses the 3 pillars of human movement. These are Mechanical Freedom, Neuromuscular Integration, and Motor Control. No other type of health care practitioner addresses all three of these components and nor do all physical therapists.

To achieve successful and lasting hip and knee pain relief, ensure your physical therapist will be addressing all three of these components. At Body Gears, we start by ensuring that your leg muscles, tendons, joints, and connective tissues are all free to move the way they were designed to move, with the ability to lengthen, shorten, and glide.

Next, your body needs re-training to actually use that regained freedom of movement, otherwise you'll just keep using the motor patterns you got in the habit of using while you were in pain. Neuromuscular integration refers to muscle initiation, strength, and endurance. All three components are necessary through the entire range of a joint's motion for normal human movement. If you had to pick just two muscles to focus on for either a hip or knee problem, pick your hamstrings and your glutes. These muscles create movement of your femur bone, the bone that connects your hip to your knee, and can therefore improve the health of both joints.



Achieve Quick & Natural Healing with Physical Therapy

Finally, once your joints are free to move and your muscles are activating through their full range of motion, you need to create actual movement! Efficient movement comes from coordinating the right muscles to fire at the right time and the right amount with a balance between muscles meant to stabilize and muscles meant to create motion.

There's no such thing as being too old or two young for functional exercises like squats and deadlifts. Every exercise can be modified for any body and these exercises are beneficial for everybody! Improving the way your body moves can not just prevent injury, but prevent surgery as well. **We have several cases of patients who avoided surgery by doing physical therapy while waiting for their surgery dates**.

To hear more about the Body Gears method, have your lingering questions answered, or speak to one of our physical therapists about getting your life back, schedule a Free Discovery Session!

BodyGears®
Physical Therapy

About Body Gears Physical Therapy

Body Gears exists to enhance human mechanics, movement and performance, promoting a healthier quality of life and elevating you to your optimum self. It's our vision to help you discover a better life by redefining Physical Therapy.

At Body Gears, you will find some of the country's top Functional Manual Therapists who love problem-solving challenging cases. We achieve excellent results through study and collaboration.

Call to Schedule Your Free Discovery Session Today

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