



## Thankfulness in Motion

2020 has surely thrown us some challenges. But hopefully, those challenges have made us a bit more aware of the smaller things we take for granted, too. Friends to talk with, good meals to make... and the ability to get out and get moving when we need to.

If you really start to think about it, the way we move is pretty miraculous. It requires the coordination and cooperation of so many bones, muscles, tendons, ligaments, and other soft tissues just to do the walking, jumping, and running we take for granted. We are complex organic machines, running like a fine watch!

...Except when something isn't quite right. That's when pains, aches, and injuries arise. Fortunately, there are steps we can take when there are abnormalities in our motion and structure.

## Biomechanics – How It All Works Together

Biomechanics, simply put, is the study of how we move. It takes into consideration all the parts that are responsible for normal motion, what happens when something in the system is not functioning properly, and how to address such issues.

Let's take your basic walking gait as an example. Your heel typically hits the ground first, followed by the rest of the foot. The foot supports your weight, with the arch flexing, and the foot rolls slightly inward. The heel then comes up, you push off with your toes and forefoot, and you swing your leg forward to begin the cycle anew.

There are a lot of parts working together to make this happen, like gears in an intricate device, but it's meant to feel effortless.

## A Glitch in the System

When one of those "gears" doesn't quite fit with the others, however, problems can develop. In foot and ankle biomechanics, common abnormalities include:

- Having flat feet (the arch is low or collapsed)
- Having high arches
- Having the foot roll too far inward when walking (overpronation)
- Having the foot not roll inward enough when walking (supination)
- Walking with toes pointed too far inward or outward

Such conditions can cause shifts in the way that weight is distributed across the feet while walking, leading to excess forces in areas that may not have been made to endure them. Considering that our feet are constantly bearing our weight – often all of it on one foot at points during the walking cycle – that can add up to a lot of pressure over time. Then add running or jumping to the mix!

Abnormalities such as those above can contribute to many different sources of pain or injury, including:

- Plantar fasciitis
- Bunions
- Pinched nerves
- Achilles tendinitis
- Neuromas

...and more! Additionally, problems do not necessarily have to develop at or around the site of the abnormality itself. Because everything is connected, problems in one spot can influence other areas as muscles and movements have to adjust to an abnormal form of motion. Many cases of leg, knee, hip, or lower back pain can be traced to a problem in the feet!



## How to Get Back on Track

The first step toward treating a biomechanical problem is determining its source. For that, we conduct a thorough biomechanical evaluation. This not only involves a physical examination, but also watching (and even recording) how you move as you walk or run.

When we have discovered the root of the problem, we can then recommend an optimal plan for finding relief. This might include:

The use of custom orthotics, specially prescribed to provide cushioning and corrective support precisely where they are needed.

Stretches and exercises meant to strengthen and condition tissues supporting or connected to the abnormality, reducing the potential stress in that area.

Changes in footwear and/or workout routines.

All of the above treatments are not intended to fix the abnormality itself. Only surgery is capable of doing so in most cases. However, if we can effectively eliminate pain and other symptoms with non-surgical methods, then surgery is not necessary.

In some situations, however, conservative treatments don't or clearly wouldn't work. We may then consider surgery at that point as a means of finding relief.



## We're Thankful for You!

We are thankful for the trust and support you have shown our practice, both now and any month of the year. The best way we know how to show our gratitude is continuing to provide the foot and ankle care you need to continue doing what you love.

Anytime a foot or ankle issue arises, don't hesitate to contact us. We're happy to hear from you.

