Biomechanics FAQs

Our physical therapists are biomechanical specialists who with the aid of specialized testing equipment and specialized physical tests will be able to determine the underlying root cause(s) of your pain. They can also evaluate the individual who just wants to make sure he/she are not pre disposed to injury before they even begin their activity.

Have questions about our biomechanical services? Check out our list of frequently asked questions.

What is biomechanics?

Biomechanics is the scientific discipline that applies the principles of mechanics to human movement. Biomechanics incorporates the concepts of engineering and physics in order to understand normal and pathological motion, physical performance, and mechanisms of injury. This is the study of how and why we move. By measuring the motion and forces applied to the body during human movement, potential causes of dysfunction can be identified. Typical Physical Therapy or Personal Training assessments do not utilize biomechanical assessments due to a lack of sufficient equipment and expertise to perform this type of assessment. A great deal of guesswork and assumption becomes necessary without the ability to measure force and motion during activity. Accurate assessment of walking, running, jumping, cutting or cycling activities are impossible without the aid of specialized equipment. The use of high-speed cameras, force measuring systems and EMG telemetry are required to accurately record and measure motion and forces.

How can a biomechanical analysis help me?

Biomechanical testing can help identify the cause(s) or source of your pain. It will also identify problems before they become symptomatic and more serious. Many therapies focus on treating pain symptoms without treating the underlying cause. This usually gives only temporary relief at best. The only true way to
eliminate pain is to treat it at its origin. By incorporating the information from your biomechanical analysis into a precise treatment plan you have the best opportunity to recover quickly, eliminate your pain, and prevent the recurrence of your injury. Interestingly you will find that your physical ability also improves as you reduce or remove these biomechanical faults.

**How do I know if I need a biomechanical evaluation?**

Anyone who has difficulty moving or experiences pain during physical activity is a candidate for a biomechanical evaluation. For persons with pain, a biomechanical evaluation will determine if abnormal movement is contributing to your symptoms. Such an evaluation particularly is indicated when conventional forms of treatment have failed (i.e. surgery, injections, medications, chiropractic, physical therapy, etc).

**What does a biomechanical evaluation entail?**

Depending on the type of evaluation being performed, you likely will be asked to perform activities similar to those that cause your symptoms. Walking and running evaluations will be performed on an instrumented treadmill. For return to sport evaluations, be prepared to perform activities consistent with your sport (i.e. jumping, cutting, lateral movements, etc.). In addition to evaluating your movement, we also may evaluate your muscle strength, flexibility, joint range of motion, etc.

**What should I wear to my appointment?**

To properly analyze your movement, we will need to see your joints, the top of your pelvis and trunk. Therefore, please avoid wearing pants or long, baggy shorts and shirts. Your shorts may need to be taped up so we can see the appropriate bony landmarks. Men may be asked to take their shirt off for the evaluation. For women, a sports bra may be recommended. Please wear the same type of shoes you would typically use when you walk or run.

**How long does a biomechanical evaluation take?**

Please allow 2 hours for your evaluation.

**Do I need to do anything to prepare for my evaluation?**

There is no need to prepare for your evaluation. However, it is important to avoid vigorous activity a day or two before your examination. Please bring any pertinent medical records to your appointment, including MRI, x-rays, etc.

**How much does a biomechanical evaluation cost?**

The cost of your evaluation will depend on the type of testing being performed. Typical charges range from $150-$500

**Will insurance cover the cost of the testing?**

Payment for your biomechanical testing session is required at the time of your visit. We are willing to submit your testing fee to your insurance. Understand that insurance plans vary considerably and we cannot guarantee your insurance will cover your biomechanical testing. You will be reimbursed the amount that
they do cover. We strongly believe that biomechanical testing is a valuable service, which leads to better outcomes, and ultimately lower healthcare costs. Insurance companies are beginning to see the value in biomechanical testing. Please contact your insurance company to see if the cost of your testing is reimbursable.

**When will I get the results of my evaluation?**

You will receive a verbal summary of your results immediately following your evaluation. An electronic report will be provided within 2 weeks. If you would like copies of your videos, please bring a flash-drive and we will provide them to you.

**Will you communicate the results of my evaluation with my physician, physical therapist, or trainer?**

Upon your request, we will provide a copy of your report to the person(s) of your choosing. We are also available to talk directly with your health care provider to discuss your plan of care.