Posture

What is it?

Posture refers to the alignment of our body segments at any moment in time during a given activity. Poor posture can be the result of bone or muscle disease, but is more commonly due to repetitive motions, poorly designed work or recreational environments (ergonomics), and bad habits. A healthy body usually adopts proper standing posture when the individual imagines a string pulling them up from the top of their head. From the front, the head will be straight and in line with the spine, the shoulders will be mostly even, relaxed and centered over the hips, the hips will be at the same height, knees will not form a dramatic angle between the thigh and lower leg, and the feet will be straight forward or slightly turned out evenly on both sides. From the side, the head should be positioned so that the ear is directly over the shoulder, the shoulder should be directly over the hip, there will be a mild "S" shape to the spine, and the leg should appear straight with no change in angle at the knee.

Why is it important?

The musculoskeletal system experiences continual stress and strain as it works to dissipate gravity and impact forces from everyday activities. If any part of the body is in a non-optimal position for a given activity, other areas must compensate to deal with these ever present forces. These compensation patterns lead to inefficient movement and overuse of muscles and soft tissue structures which, in turn, causes lingering pain to certain areas of the body. An effort to avoid this pain, while still engaging in the chosen activity, leads to even more compensation and begets a self-perpetuating pain cycle. Eventually these compensation patterns may lead to more serious issues like tendonitis, plantar fasciitis, hip bursitis or dysplasia, spinal disc degeneration, sacroiliac joint dysfunction, and tension headaches. Additionally, the body is continually remodeling itself to adapt to the activities (and movements) we ask it to perform. Repetition of compensatory movement patterns or statically maintaining poor postures for prolonged periods of time alters the structure of bones, muscles, tendons and ligaments, which can also lead to the previously mentioned musculoskeletal issues. Regardless of the specific problem, the etiology of many of these stems from misalignment in the musculoskeletal system. Assessment of one's posture, therefore, is vital for identifying musculoskeletal imbalances that may be contributing to current pain symptoms or increase risk for future injury. Moreover, the results of a posture assessment enable the design and utilization of corrective exercises to reduce the incidence of one's various symptoms and optimize activity performance.

How is it assessed?

Static posture is typically assessed using whole-body images from the front, back, and side while the individual stands near a vertical reference line. Frequently software is then used to identify common misalignments, such as different shoulder heights, a head that juts too far forward, feet that turn in or out too much, knees that are off centered, or a pelvis that is not level. All of this can be analyzed objectively through careful measurements of limb lengths and joint angles. Dynamic posture is assessed using video footage of the individual engaged in the activity of interest. Stop-motion software then enables detailed analysis of the relevant biomechanics. For the purposes of UC Fit, only static posture will be assessed.

What to expect during the assessment:

1. The assessment consists of taking whole-body images or videos from different angles using an Apple iPad and software associated with the PostureScreen application.
2. The UC Fit staff will then discuss with you any deviations from ideal posture that are identified and make recommendations for corrective exercises to address problem areas.

Participant preparation:

Test validity and data accuracy are greatly improved by adhering to the following guidelines prior to your

assessment. Your test(s) will be given on the assumption that you have followed these recommendations:

1. This assessment requires a clear view of the contours and anatomical landmarks used for references in defining body segment alignment. Subsequently, the minimal amount of clothing necessary to maintain participant comfort and modesty is recommended. Athletic attire will usually provide the best results.