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Gait analysis has gained a healthy respect from the research arena. However, there are still many medical professionals (and insurance companies) who question the clinical merit of this tool. One argument is that it does not assist in diagnosing a condition. However, I contend that we might be able to “diagnose” the mechanics related to the condition, such as asymmetry of joint excursion. Another tenet is that gait analysis is only useful if it provides information that assists with clinical decision making. I believe that if we can gain insight into the mechanical cause of an injury, then we will be better equipped to make clinical decisions regarding optimal treatment interventions. Therefore, I strongly believe that gait analysis could play a strong role in the clinical area. However, we need to address the following issues in order for gait analysis to be accepted as a clinical tool.

**RECOMMENDATION 1:**

**Establish normative three-dimensional biomechanical data for all forms of locomotion (i.e., walking, running, stair ascent/decent) along with the expected variability of each parameter.**

The literature is generally lacking substantial normative three-dimensional data of the lower extremity during various forms of locomotion. This makes it particularly difficult to establish the presence of an abnormality in one’s mechanics. Once these abnormalities are determined, relationships between structure, mechanics and injury can be established.

**RECOMMENDATION 2:**

**Establish which gait parameters are most revealing with regards to understanding a gait-related injury.**

For example, angular velocities may lend more insight into a gait-related problem than peak angular values. Loading rates of ground reaction forces may be more critical than the peak values. Additionally, since joints move in concert with each other, development of new parameters describing the interaction between joints is needed. Focusing on the most critical parameters will enhance the understanding of injuries and facilitate the development of optimal treatment interventions. These critical parameters should be ones that are not readily apparent with visual gait analysis in order to justify the need for an instrumented analysis.

**RECOMMENDATION 3:**

**Investigate the effect of alteration of abnormal gait through treatment intervention.**

If relationships between mechanics and injury are established, then the effect of altering those mechanics can be pursued. These interventions can take on many forms. One area of involves the active alteration of one’s base of gait during running or contracting a muscle sooner during stair descent. Increasing one’s available range of motion through stretching could also improve the manner in which they move. Also, the effect of orthotic intervention on gait mechanics needs further investigation. There are numerous studies on the effect of foot orthotics on foot and ankle motion. However, these orthotics are often prescribed for knee pain and their effects at this joint are still unknown. This information is helpful, not only to the clinician, but also to insurance companies who need objective outcome measures to establish the efficacy of the treatments for which they are reimbursing.

**In summary**, I believe the time has come to provide evidence of the merit of gait analysis in the clinical arena. Its utility in assisting in clinical decision-making and determining efficacy of treatments through outcome measures must be proven. Cost-benefit analyses must be performed. These steps are needed before it will become accepted by the medical and the insurance communities. The working conference on gait is the first step in this process and I look forward to the opportunity to participate in this important meeting.