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There are three basic issues in clinical gait analysis. First is the depth and quality of the analyses, second is the selection and optimal presentation of results pertinent to the management of the case at hand, and third is the definition of indications for the analyses and incorporation of the results into the clinical decision-making process. These three are linked. For example, if the goal is to decide between two possible canes, observational gait analysis combined with a stopwatch and a metered walkway may be adequate. Thus, the quality of the data need not be extravagant, the clinical decision making process would be straightforward, and the cost of an error would probably be small. On the other hand, if the objective is to decide whether a hydraulic or a friction knee in a A/K prosthesis results in lower shear forces in the skin of the residual limb, then a more sophisticated analysis may be indicated and the cost of an error could potentially be large.

Our central task is to identify branch points in the clinical decision-making process where alternatives may significantly affect functional outcome depending on how well the treatment of the identified gait deficit matches the appropriate response for the actual gait deficit. In other words, if the clinical observation led to an improper identification of the deficit, but some form of gait analysis (however simple or sophisticated) would have led to proper identification of the deficit, and the cost of applying the ‘wrong solution’ was significant in terms of the functional ability of the patient, then there is a problem that gait analysis can solve. Finding these critical branch points in the path of the clinician and showing how we can be helpful should be our first mission. In support of that mission, we need effective communication of results from reliable analyses.

Major Recommendations

1) Identify branch-points in the clinical decision making process where gait analysis would change the decision, the resulting treatment, and the functional outcome of the patient. Determine diagnosis (disability) specific indications for gait analysis and weight costs against benefits. Establish high-priority for research along these lines.

2) Achieve consensus for the reporting format of results of gait analysis through debate of issues and establishment of a process for selecting and maintaining standards. Limit participants to the clinical gait analysis community so that we, the most important consumers of the information, get what we want.

3) Achieve consensus for the standard accuracy requirements for gait analysis through debate of issues and establishment of a process for selecting and maintaining standards. Include participants from industry, end-users (gait laboratories), professional societies, and other stake holders.