Muscle Synergies During Gait in Children With Cerebral Palsy Undergoing Robot-assisted Gait Therapy

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DATA ANALYSIS PLAN

Descriptive statistics will be derived for the primary and secondary outcome measures used in the study. Outcome measure values will be compared pre- vs post-intervention to assess changes associated with robot-assisted training. Cosine similarity values will be derived by comparing the composition of the muscle synergies pre- and post-intervention with normative synergies. The difference between post- and pre-intervention cosine similarity values will be measured as percentage of the scale (0-1 value). Data for the Gross Motor Function Measure scale section D and E will be compared pre- vs post-intervention, and the difference will be measured as percentage of the scale range (i.e. 39 points for the section D score and 72 points for the section E score). Finally for the 10-meter walk test, the 6-minute walk test and the Edinburgh Visual Gait Score scale, we will estimate the improvement in clinical outcome measure and derive the percentage improvement relative to the baseline value. For each of these outcome measures, we will estimate mean and standard deviation values of the improvement in clinical score for each outcome measure as explained above.