**Leadership Project Final Product**

**Final product description:** Our leadership project final product is a publishable systematic review. Our systematic review has synthesized literature about the efficacy of motor interventions for children with autism spectrum disorder. Motor interventions include aquatic therapy, horse riding interventions, exergaming, physical education, and motor skill interventions. This review found limited evidence for the efficacy of motor intervention to improve motor skills of children with ASD. Further high-quality research is needed on this topic.

**The efficacy of motor intervention to improve motor skills of children with autism spectrum disorder: a systematic review.**

**Background**: Approximately 80-90% of children with autism spectrum disorder (ASD) demonstrate difficulty performing age-appropriate motor skills. Motor intervention has the potential to improve the motor skills of children with ASD and specific motor learning strategies may result in improved outcome.

**Aims**: The primary objective of this systematic review is to evaluate the evidence on the efficacy of motor intervention to improve motor skills of children with ASD. The secondary objective is to identify motor learning strategies reported within the studies and assess relationship to outcome.

**Method**: Six databases were searched from 2000 to 2017 for literature pertaining to the motor outcomes of motor interventions for groups of children with ASD. Level of evidence and risk of bias were assessed.

**Results**: Thirty studies were included: 8 randomized clinical trials, 13 non-randomized clinical trials, 8 prospective cohort studies, and 1 retrospective cohort study. A total of 859 participants ranging from 3 to 21 years of age participated in the studies. Interventions include: hippotherapy, aquatic therapy, fundamental motor skill intervention, exergaming, aerobic exercise, balance training, dance, physical education, and sports activities. Risk of bias was high across studies. We found low-quality evidence that motor intervention improved motor skills of children with ASD. Variability and poor reporting of motor learning strategies limited assessment of relationship to outcome.

**Conclusions**: This review found limited evidence for the efficacy of motor intervention to improve motor skills of children with ASD. Further high-quality research is needed on this topic.