The Effectiveness of Hippotherapy in Children with Down Syndrome at Improving Gross Motor Function

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WHAT IS DOWN SYNDROME?

• Condition that effects a child’s development mentally and physically

• Typical motor deficits: clumsiness, slow reactions, balance, postural deficits, altered motor synergies, hypotonia, ligament laxity

• Delayed mental and physical development causes difficulties with function and social interaction

In children with Down syndrome, is hippotherapy more effective than a general physical therapy strengthening protocol at improving postural control and gross motor function?

CONSERVATIVE PHYSICAL THERAPY TREATMENT OF CHILDREN WITH DS

• Early PT improves motor deficits leading to basic motor skills

• Encourages independent walking using treadmill training, strengthening, and the use of orthoses

WHAT IS HIPPO THERAPY?

• Therapy with the help of a horse

• Multidimensional movement that provides up to 110 postural perturbations a minute

• It is medically indicated in rehab of patients with DS

BENEFITS OF HIPPO THERAPY:

• Physical- improves muscle symmetry, balance, posture, greater strength and agility, increased range of motion, improved circulation

• Psychological- release of endorphins producing feelings of emotional well-being

• Social- freedom to express without fear of criticism and provides an opportunity to share experiences

• Educational- incorporates games and activities enhancing rider’s capacity to learn

CONTRAINDICATIONS TO HIPPO THERAPY:

• Atlantoaxial instability (AAI)

• Poor head/neck control

• Under 2 years of age

• History of or frequent hip subluxation/dislocation

CONCLUSION

• Complex sensory motor stimulation offered by the horse is difficult to reproduce in PT

• Enables rider to learn motor strategies that could be used in daily activities

• Children with DS overcome mental and physical developmental delays easier with the HT implementation

FUTURE RESEARCH

• Effects of HT on DS haven’t been investigated in great length

• Impact of HT on head and trunk control in children with DS

• Effects of HT combined with general PT strengthening

REFERENCES


Images provided by Dreams Riders of Kentucky, Owensboro, KY. Available at: dreamridersofky.org