The Effectiveness of the TheraSuit Method for Children with CP

Presented by:
Callie Eaves
Lauren Willis

What is Cerebral Palsy (CP)?

• “Cerebral palsy is a disorder of movement, muscle tone, or posture that is caused by an insult to the immature, developing brain, most often before birth.”
• Associated with exaggerated reflexes, floppiness or rigidity of the limbs and trunk, abnormal posture, involuntary movements, unsteadiness of walking, or some combination of these

What is a TheraSuit, and how does it work?

• Developed by PTs who are parents of a child with CP
• Designed to be used by PT’s and parents, during therapy time and out of a clinical setting
• Main goal of therapy suits: Improve and change proprioception, reduce patients pathological reflexes, restore physiological muscular synergies, and load the entire body with weight

Proposed Benefits of the TheraSuit

• Re-trains CNS
• Provides external stabilization
• Normalizes muscle tone
• Provides alignment
• Provides dynamic correction
• Normalizes (corrects) gait pattern
• Provides tactile stimulation
• Improves balance
• Improves coordination
• Decreases uncontrolled movements
• Improves body and spatial awareness

PICO Question

• For children with cerebral palsy, does the use of a therapy suit increase gross motor function, measured by Gross Motor Function Measure, more than traditional therapy without a suit?

Methods

• The resources we used to locate our articles were EBSCOhost and Google Scholar
• Search criteria included:
  – Cerebral palsy
  – Therapy suit/TheraSuit
  – Gross Motor Function
Research Synthesized

- Five articles were found and 4 were determined relevant
  - 1 Case Report
  - 1 Single Group Pre-test Post-test Design
  - 2 Randomized Control Trials

Results: Bailes, et al.¹

- Case Report
- Two children, spastic diplegia, GMFCS level III
- Intervention: TheraSuit Method for 4 hours a day, 5 days a week, for 3 weeks and analyzed the children’s improvements by the dimension D and E of the GMFM.
- Outcomes: Minimal functional gains measured by GMFM dimension D and E.

Results: Christy, et al.²

- RCT, single blinded
- 20 children with GMFCS Level III, ages 3 to 8
- Control Group: Sham control suit
- Intervention Group: TheraSuit Protocol
- Significant increases in function in both groups
- No significant differences between the groups
- What does this indicate?

Results: Mahani, et al.³

- RCT, 36 children with CP randomized into 3 groups
  - MAST, AST, NDT
  - Included Levels I-IV on GMFCS
- Conclusion:
  - Original Purpose vs. True Findings
  - Area of Future Research?

Results: Christy, et al.³

- Pre-test, Post-test Single Group Design
- 17 children with CP, GMFCS Level I-III
- Intervention:
  - Modified version of the TheraSuit protocol,
Original PICO Question

- For children with cerebral palsy, does the use of a therapy suit increase gross motor function, measured by Gross Motor Function Measure, more than traditional therapy without a suit?

Future Research, cont.


Discussion

- Did we answer our PICO question?
- Is the use of a therapy suit evidence based medicine?
  - When should a therapy suit be used?
  - Refer to Christy, et al. 3

Areas for Future Research

- Exercise Prescription for children with CP
  - Typical Therapy: once or twice a week for an extended period of time
  - Research the effectiveness of bursts of intensive therapy for children with CP
  - Research how long the effects of bursts of intensive therapy for children with CP last

Any Questions??

References