Safe Lifting Research

**Holder et al 1999, Maffeo et al 2000, Bork et al 1996.** Surveys of PT’s regarding occupational musculoskeletal injuries. Most frequent MOI reported: transferring, lifting (1,2,3)

**Yassi et al 2001.** RCT evaluating safe transfer training and mechanical lift use in a hospital-based setting. Those in the group using a mechanical lift reported more satisfaction in performance of patient transfers(4)

**Daynard et al 2001.** This substudy looked at the peak and cumulative loads on the spine during patient transfers. Use of equipment increased compliance with safe-lifting techniques, but transfers took longer and increased the cumulative spinal loads in some tasks. Concluded that each task should be evaluated to determine best transfer technique(5)

**Laflin K et al 1995.** Recommend 3 ways to reduce injury during lifting and transfer tasks: 1. use of lifts 2. education in body mechanics 3. implementing assistance programs(6)

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Mobility Research

BWSTT

Dodd et al 2007. Improved walking speed and endurance in children with CP after participating in BWSTT(7)

Harvey 2009. In neurorehabilitation there is a shift away from traditional compensatory strategies to a task-oriented approach (BWSTT)(8)

Willoughby et al 2009. Children with CP show greater improvements in over-ground gait training as compared to BWSTT(9)

Physical activity and strengthening in children with CP

Mockford et al 2008. Strength training improves strength and functional gait without adversely effecting spasticity(10)

Palisano et al 2009. Children and young adults with CP show increased community involvement and social participation when performing physical and skill-based activity(11)

Using tricycles for exercise in children with CP

Williams et al 2007. Significant functional improvements after completing static bicycling program(12)


Standing Research

Pin TW, 2007. Literature Review

Studies showed most conclusive results for increased bone mineral density and temporarily decreased spasticity. Further research is needed to support other hypothesized benefits of standing (14).

Taylor K, 2009. Descriptive survey on prescription and implementation of standing programs in schools. Ambulatory status, ease of transfer, and a child’s specific needs determined choice of stander and choice was not restrained by cost. Perceived benefits of standing were pressure relief, bone strengthening, and enhancement of social and educational opportunities. Standing sessions generally lasted 30-45 minutes daily(15).

Stuberg WA 1992. To facilitate bone growth, standing should occur for 60 minutes/day and 4-5 times/week(16).


Adaptive Seating Research

**Chung et al 2008.** Literature review which shows a growing support for the use of adaptive seating, but emphasizes the need for further research (17)

**Stavness 2006.** Literature review. Evidence supports the positive effects of a neutral to anteriorly tilted seat orientation on upper-extremity function (18)

**Holmes et al 2003.** Demonstrated the use of adaptive seating for patients with scoliosis (19)

**Myhr et al 1991.** This study involved the photography of and evaluation of 23 children with CP in 6 different seating positions. These children demonstrated the best control over their environment when seated in an anteriorly inclined seat with a firm back, trunk, and arm support (20)


