Making Assistive Technology and Rehabilitation Engineering a Sure Bet

Get Your Stander Paid For! A Systematic Review of the Evidence to Fight Denials.

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KEYWORDS:
Stander, supported standing, letter of medical necessity

Objective:
To demonstrate the evidence that exists in the peer-reviewed literature underlying the use of supported standing programs for persons with neuromuscular diagnoses, particularly those with cerebral palsy and spinal cord injury. This information can be used to support funding for the equipment.

Hypothesis:
There is evidence underlying the use of supported standing programs based on the Center for Evidence-Based Medicine (CEBM) Levels of Evidence framework. Third party payors must be educated and assisted in determining funding based on perceived lack of evidence.

Design:
A systematic review of peer-reviewed literature based on the CEBM and the International Classification of Function (ICF) framework.

Methods:
The database search using MEDLINE, CINAHL, GoogleScholar, HighWire Press, PEDro, Cochrane Library databases, and APTAs Hooked on Evidence (January 1980 to October 2009) targeted studies with supported standing programs for persons of all ages, with a neuromuscular diagnosis. We identified 122 unique studies from which 39 met the inclusion criteria, 29 with adult and 10 with pediatric participants.

Results:
The results are organized and reported by four ICF categories. The studies mainly explored using supported standing programs for improving bone mineral density (BMD), cardiopulmonary function, muscle strength/function, and range of motion (ROM). The data were moderately strong to increase BMD, showed some support for decreasing hypertonicity (including spasticity), improving bowel function and improving ROM, and were inconclusive for other benefits. The addition of whole body vibration (WBV) to

supported standing programs appeared a promising trend but empirical data were inconclusive. The survey data from physical therapists (PTs) and participant users attributed numerous improved outcomes to supported standing programs: ROM, bowel/ bladder, psychological, hypertonicity and pressure relief/bedsores. BMD was not a reported benefit according to the user group.

Conclusions:
Data exists underlying the use of supported standing programs for specific benefits from the peer-reviewed literature. However, there is still a need for more empirical mechanistic evidence to guide the application of these programs across practice settings and with various-aged persons, particularly when considering a life-span approach.

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