

Systematic and Meta-Analytic Review Poster 1026051

Early Mobility in The ICU: A Focus On Interventions Impacting Culture Change



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Objective(s): The purpose of this systematic review is to understand strategies that can influence staff behavior to facilitate a culture of early mobility (EM) in the ICU.

Data Sources: Thorough computerized database searches were performed in July 2018. Search strategies incorporated a combination of controlled vocabulary and text words for intensive care units, health personnel, and mobility. Searches were limited to peer-reviewed studies.

Study Selection: Inclusion criteria: (a) publication in a peer-reviewed journal (b) description of intervention(s) to improve EM compliance in at least one adult ICU setting (c) reporting of ICU-specific data on EM compliance outcomes. Exclusion criteria: (a) studies not available in English (b) pediatric settings. 19 of an original 3619 articles were included.

Data Extraction: Researchers extracted specific change-related behaviors utilizing the 9 strategies described in the Behavior Change Wheel (BCW) (Michie et al, 2011) to categorize each intervention. The BCW is a tool utilized to characterize interventions that promote behavior change. Each article was appraised using Downs and Black's checklist for measuring study quality of healthcare interventions (Downs & Black 1998). Additional data recorded includes: level of evidence, study design, professionals participating in intervention, and follow up.

Data Synthesis: Frequency of strategies utilized: education (89%), enablement (84%), training (63%), restriction (57%), persuasion (42%), environmental restructuring (42%), modeling (42%), incentivisation (31%), coercion (0%).

Conclusions: Interventions most frequently utilized for culture change focused on positive reinforcement such as education, enablement and training while interventions used the least on the BCW were incentivisation and coercion. The only form of restriction used were mobility protocols. ICUs looking to increase mobility can utilize these behavior-change interventions to facilitate culture change.

Author(s) Disclosures: The authors have no conflicts of interest.

Key Words: Critical Care, Early Ambulation, Physical Therapy, Occupational Therapy, Culture

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Efficacy of Blood Flow Restriction Training as Part of Knee Rehabilitation



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Objective(s):

1. Readers will understand the benefits of incorporating Blood Flow Restriction training as part of a knee rehabilitation program.
2. Readers will be able to identify patients with knee problems for which Blood Flow Restriction training may be beneficial.
3. Readers will become familiar with the theory of how Blood Flow Restriction training influences tissue physiology.

Data Sources: PubMed, EBSCO (CINAHL, Medline, and Academic Search Complete), and Web Discovery Tool.

Study Selection: Twenty-seven articles were included in the review. Articles were reviewed by multiple reviewers and included Blood Flow Restriction training with strengthening in healthy subjects, subjects with

anterior knee pain, subjects with osteoarthritis, and subjects with anterior cruciate ligament reconstruction.

Data Extraction: Each article was reviewed by the authors and results were compiled and compared across studies.

Data Synthesis: BFR training with low-load exercise was shown to be statistically significant in improving knee extensor strength, knee flexor strength, improving muscle endurance in the lower extremity, reducing knee pain and producing muscle hypertrophy in healthy subjects as well as subjects with anterior knee pain, osteoarthritis, and anterior cruciate ligament reconstruction.

Conclusions: BFR with low-load strengthening exercises appears to be an effective clinical intervention used during knee rehabilitation showing results similar to those of high intensity exercise. In cases where significant results were not obtained, patients still benefited from the use of BFR with low-load exercises. Further research to establish clinical guidelines for incorporating BFR in knee rehabilitation programs is warranted.

Author(s) Disclosures: None.

Key Words: Blood Flow Restriction Training, Knee Rehabilitation, Strengthening

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Functional Electrical Stimulation for Gait Deficits in Multiple Sclerosis: Clinical Practice Guidelines



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Objective(s): To create succinct, evidence-based clinical practice guidelines regarding the use of Functional Electrical Stimulation (FES) to remediate gait deficits in individuals with Multiple Sclerosis (MS).

Data Sources: A systematic review was performed using the following search terms: "multiple sclerosis" AND "functional electrical stimulation" AND ("systematic review" OR "meta-analysis").

Study Selection: Three systematic reviews/meta-analyses were identified, (1-3) collectively drawing from CINAHL, Embase, Cochrane Library, MEDLINE, PubMed, PEDRO and ProQuest. These publications reported upon an average of 13 trials (range, 8-19), inclusive of an average of 352 patients (range, 162-447). Methodologic quality assessments were performed using the Downs and Black checklist and the Effective Public Health Practice Project tool.

Data Extraction: Explicit evidence statements and well-supported narrative statements were extracted from the identified source publications. Several statements were considered within the domains of comparative efficacy (FES vs no intervention). Potential benefits included enhanced gait velocity, energetic efficiencies, gait kinematics and quality of life. Limitations included inconsistent responsiveness to FES, a general lack of therapeutic effects and limited benefits in longer walking tests.

Data Synthesis: The following recommendations were synthesized from the extracted evidence statements:

Recommendation 1: FES is not suitable for all patients with multiple sclerosis.

Recommendation 2: Assuming correct patient selection, FES is indicated to increase both the initial and ongoing walking speeds during active use.

Recommendation 3: FES is unlikely to provide therapeutic benefits (ie, when FES is not actively in use) to walking speed in patients with multiple sclerosis.

Recommendation 4: Assuming correct patient selection, FES is associated with significant positive effects on different aspects of health related quality of life.

Conclusions: Patient selection is a critical factor in ensuring several known FES benefits for persons with MS.

Author(s) Disclosures: Author is employed by Hanger Clinic.

Key Words: Multiple Sclerosis, Functional Electrical Stimulation, Clinical Practice Guideline