Title: AFO and FES for Foot Drop in Post-Stroke Hemiplegia: Clinical Practice Guideline

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Description: Following stroke, foot drop is a common impairment leading to gait deficits and decreased quality of life. To increase functional mobility for patients with foot drop, physical therapists (PTs) may prescribe an ankle foot orthosis (AFO) or a functional electrical stimulation (FES) device. This decision is based on many factors based on the patient presentation and goals. There is higher-level evidence available for the effects of AFO and FES on foot drop and walking-related outcomes for people with post-stroke hemiplegia. Currently, PTs cannot easily ascertain best choices for their patients due to the breadth and scope of the literature. Thus, the development of a Clinical Practice Guidelines (CPG) would be beneficial to clinicians. This session will include information on the methodology for CPG development and the recommended guidelines for AFO and FES use for foot drop for people with post-stroke hemiplegia. The guidelines are based on published systematic reviews and meta-analyses, randomized control trials, and pseudo-experimental studies. This session will also include the results of two surveys. The first survey was conducted with neurological PTs related to FES and AFO use in the clinic and perceived needs for and use of this CPG. The second survey was conducted with consumers to identify their experiences and perceived needs related to AFO and FES use.

Learning Objectives

1) Discuss the need for a CPG to guide decision making for the use of AFO and FES post stroke to address needs across the International Classification of Functioning, Disability and Health (ICF).
2) Compare and contrast the perceived needs of PTs and consumers related to AFO and FES use.
3) Discuss key action statements and evidence-based recommendations of the developed guidelines and their application to clinical practice.

Outline

1) Background on the need for a CPG on AFO and FES for individuals with foot drop due to post stroke hemiplegia
   o Rationale
   o Development of Clinical Questions

2) Survey of neurologic Physical Therapists and consumers of AFO and FES
   o Methodology
   o Results
   o How the results were used to inform the CPG

3) CPG methodology
   o Literature Search
     ▪ Search terms and databases
     ▪ Title/abstract review
     ▪ Full-text review
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- Advisory Board
  - Members and expertise
  - Roles
- Appraisal team
  - APTA CAT-EI instrument used for appraisals
  - Training of appraisers
  - Pairing of appraisers
    - 2 appraisers paired with 3 articles with a 2 week deadline
  - Completion of appraisals
- Appraisals of systematic reviews and other CPGs
  - Tools used were AMSTAR and AGREE-II
  - 2 appraisers agreed
- Organization of included articles by outcome across the ICF
  - Considered MCID/MDC/small meaningful change when available

4) Advisory board
   - Roles and content expertise

5) Definitions used in CPG development
   - Acute vs. chronic stroke based on < or > 3 months post stroke
   - Levels of evidence determination according to the APTA CPG Manual
     - Table 6: Level of evidence definitions adapted from the Oxford Centre for Evidence-Based Medicine—Levels of Evidence
     - Table 7: Graded assignments for Level of Evidence recommendations for action statements. These indicate the strength of the recommendation and wording chosen.
     - Table 8: Linking level of evidence and grading recommendations. This table allows us to consider take preponderance of benefit and the balance of benefits/harms into account along with the level of evidence and grade.
   - Criteria for CAT-EI scores
     - The CAT-IE scores were used to qualify level of evidence selection. For studies with CAT-EI scores less than 50%, levels of evidence were downgraded by one or 2 levels based on CAT-EI score. Studies with scores <20% were excluded.
   - Types of effects (adapted from Prenton 2016). These effects were differentiated to provide clear information about study outcomes.
     - Immediate orthotic effect: compares walking with and without AFO/FES at the same point in time.
     - Therapeutic effect: compares walking without FES/AFO before and after using FES/AFO for a period of time.
     - Training effect: compares walking with FES/AFO on before and after using FES/AFO for a period of time.
     - Combined orthotic effect: compares walking without FES/AFO to walking with FES/AFO after using FES/AFO for a period of time.
6) Development of action statements
   - Bridgewiz Software was used to guide action statement development
     - Formatting of action statements
     - Terminology: Should/may/may not/should not

7) Action statements, guidelines, and recommendations were generated based on specific important outcomes including the following.
   - Gait speed
   - Function
   - Muscle activity
   - Quality of Life
   - Endurance
   - Spasticity
   - Dynamic balance
   - Gait kinematics and kinetics
   - Research recommendations
   - Clinical application

8) Questions/discussion

Speaker Info

Therese E. Johnston, PT, PhD, MBA; Professor, Thomas Jefferson University, Philadelphia, PA. Dr. Johnston has presented numerous educational sessions, platforms, and posters nationally and internationally.

Lisa Brown, PT, DPT, NCS; Clinical Assistant Professor, Boston University, clinician at Boston University Physical Therapy Center, Boston, MA. Dr. Brown has presented educational sessions and posters at the national level.

Caitlin Denzer-Weiler PT, DPT, NCS; Director of Rehabilitation at Kessler Institute for Rehabilitation, Chester, NJ. Dr. Denzer-Weiler has presented posters and presentations nationally.

Sarah Keller PT, DPT, NCS; Assistant Professor, at Midwestern University, Downers Grove, IL and physical therapist at Marianjoy Rehabilitation Hospital/Northwestern Medicine, Wheaton, IL. Dr. Keller has presented educational sessions, platforms, and posters at the state level and at multiple national conferences.

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References:


