

Advanced Orthotic Technology for Physical Therapy Professionals

- I. Introduction: Housekeeping and brief review of current orthotic options
- II. Review acronyms and observational gait analysis in orthotics
 - a. Acronyms
 - b. Perry's gait terminology and observational gait recording
- III. Categories of advanced technology
 - a. Ankle
 - b. Knee
 - c. Hip
 - d. Exoskeletons and powered Devices

Category	Examples	Strengths	Drawbacks	Elimination/Inclusion
Ankle: Traditional options CF AFO Articulations FES	<i>Custom carbon-fiber AFO, Walk Aid</i>		<i>FES: stimulus can be uncomfortable Expensive</i>	
Knee: Traditional options SCO		<i>Allow more normalized gait</i>	<i>expense</i>	<i>HIP flexor and extensor strength? Balance/Ataxia issues?</i>
Hip: Traditional options Kickstart HFAD (and equal)	<i>Kickstart</i>			<i>Is hip flexion and limb advancement key limiter to ambulation?</i>
Exoskeletons Powered devices	<i>Rewalk Indego Ekso</i>	<i>Allows upright gait motion regardless of level of involvement</i>		<i>Research based or available for purchase?</i>



Patient Selection

Process of elimination based on primary goals.

Cognition

Tolerance for gadgets

Environment

Weight

Access to maintenance

Access to Therapy

Insurance contribution/coverage

Measuring effectiveness of component change in a trial

10 MWT

TUG

ABC Scale

(L-Test)

Resources: www.rehabmeasures.org

<http://www.ncbi.nlm.nih.gov/pubmed/15982169>

<http://www.oandplibrary.org/alp/chap13-01.asp>

Breakout sessions with large group review

Case A: Dynamic AFO

Case B: Stance Control KAFO