Action Statement 5:
ANKLE-FOOT ORTHOSIS (AFO) OR FUNCTIONAL ELECTRICAL STIMULATION (FES) TO IMPROVE WALKING ENDURANCE

Action Statement

Clinicians ***MAY*** provide an AFO or FES for individuals with decreased lower extremity motor control due to **acute** post-stroke hemiplegia who have goals to improve WALKING ENDURANCE

- Evidence quality: II
- Recommendation strength: moderate

Clinicians ***SHOULD*** provide an AFO or FES for individuals with decreased lower extremity motor control due to **chronic** post-stroke hemiplegia who have goals to improve WALKING ENDURANCE

- Evidence quality: I
- Recommendation strength: strong

Outcome Measures

- 6 Minute Walk Test

Evidence Summary Acute AFO/FES
(Level I= strongest level)

CLINICAL EFFECTS	AFO	FES
Immediate Effect	Level III	No evidence
Therapeutic Effect	No evidence	Level I
Training Effect	No evidence	No evidence
Combined Effect	Level I	No evidence

Evidence Summary Chronic AFO/FES

	AFO	FES
Immediate Effect	Level I	Level I
Therapeutic Effect	Level I	Level I
Training Effect	Level I	Level I
Combined Effect	Level I	Level I

AFO compared to FES

Acute: Limited evidence

Chronic: FES = AFO

Key Dose Considerations

- Research for dose parameters remains variable
- A combined effect may be seen after 6-12 weeks of daily AFO use and 8 x 60-minute PT sessions
- Therapeutic and training effects may be seen after 3 months of daily FES use, but some patients may require >=7 months of daily use to see effects.

Clinical Application/ Interpretations

- AFO provision early in the acute phase post stroke provides significant improvements in endurance after only 2 weeks. This may enhance participation in rehabilitation at a higher intensity
- In chronic stroke individuals who ambulate < 0.1m/s responded better to an AFO while individuals who walked > 0.1 m/s responded better to FES
- Improvements in endurance were more clinically meaningful when combined with skilled PT following initial device provision

ANPT Knowledge Translation Task Force: Elizabeth Cornforth, PT, DPT, NCS; Bobbette Miller, DPT, NCS; Lisa Brown, PT, DPT, NCS; Andrea Ecsedy, PT, DPT, NCS; Megan Greenwood, PT, DPT, MSPT, NCS, PCS; Therese Johnston, PT, PhD, MBA; Ryan Koter, PT, DPT; Suzanne O'Neal, PT, DPT, DHSc, NCS; Katherine Sweet, PT, DPT, NCS; Danny Miner, PT, DPT, NCS