companion | by Cheelcare

# Clinical Justification Guidance for the Companion Front Power Assist Device (FPAD)

*The following guidance was developed in consultation with clinicians to help therapists assess the justification of a Companion for their client's mobility needs. This guidance does not substitute the sound clinical judgement of persons qualified to conduct Complex Rehabilitation Seating and Mobility assessments and does not cover all possible circumstances. Each assessment should be specific and unique to the client's personal needs.*

**PART A – About the Companion**

## DEFINITION

A single power wheel system that is added on in front of the footrest/footplate of a manual wheelchair (MWC). It attaches to the mid-axle frame of the MWC and, in doing so, lifts the front casters off the ground, leaving the rear wheels and front power wheel to mobilize the chair. The user controls the device through a columnar steering system with handlebars which house the controls for on/off, speed/acceleration, and braking.

## PERFORMANCE

In raising the front casters, the unit allows for improved ground clearance maneuvering when the device is used with speeds greater than regular hand or foot propulsion. Due to the small footprint and smaller power wheel, this can be used indoors, in homes, and in work/school settings without compromising turn radius and maneuverability.

## GOALS

To decrease repetitive strain injuries to the users' shoulders and/or lower extremities (foot propulsion), reduce wheeling fatigue from distance travel and slope/ramp ascent or descent, increase functional travel distance, and maximize daily AADL performance through energy conservation.

## PART B – Cause to Consider a Companion Front Power Assist Device (FPAD)

### PHYSICAL CHARACTERISTICS A POTENTIAL USER MAY PRESENT WITH

A client may present with one or more of the following physical characteristics that you may consider in your assessment and justification:

- Limited strength/weakness of the upper extremities.
- Pain in upper extremities.
- Limitations to range of motion of the upper extremity joints.
- Decreased endurance/fatigue.
- Fluctuations in muscle tone/spasticity.
- Risk of skin and tissue breakdown or history of skin/tissue breakdown (might result from shear/friction related to strained propulsion or poor positioning during propulsion).
- High risk of upper extremity overuse injury.
- History of repetitive strain injury (rotator cuff, carpal tunnel syndrome).
- Postural deformities/postural instability worsened by the strain of unaided self-propulsion.

### STATEMENTS RELATING TO THE CLIENT'S FUNCTIONAL STATUS

- Client is unable to self-propel a manual wheelchair for a full day and perform Activities of Daily Living tasks.
- Client has difficulties or is unable to cross a street in a safe time.
- Client is unable to transport items within the home and outside of the home and propel at the same time.
- Client is unable to manage inclines, uneven terrain, thresholds within the home or changes in flooring surfaces.

### USER POPULATION

**(Not limited to the following, and all require individual assessment)**

- Arthritic changes.
- Upper extremity coordination difficulties.
- Spinal cord injury.
- MS.
- Spina bifida.
- Older adult, adult, pediatric.
- Decreased Heart function.
- Decreased breathing capacity.
- L/E amputations.
- Aging changes (weakness).
- Cerebral palsy.
- Hemi paresis.

## PART C – Justifying Companion Over Other Solutions

### BENEFITS OF A COMPANION OVER MANUAL PROPULSION UNAIDED

- Lower O2 consumption.
- Lower heart rate.
- Lower upper and lower extremity strain injuries: reduce risk of upper/lower extremity pain and dysfunction and decreased back pain.
- Increased socialization with potential improved mental health due to increased travel and access over traditional irregular or altered terrain, maintaining walking speed with care partner or significant others.
- Cost-effective related to the cost of surgical intervention or added care partner support for upper/lower extremity injuries from repetitive hand/foot propulsion.
- Decreased force required when wheeling over irregular surfaces.
- Increased independence in daily occupations of life.
- Increased quantity or quality of activity participation.

### BENEFITS OF A COMPANION OVER REAR/MID PAD

- Frontal hook-up, requiring less balance and trunk rotation, can be installed while sitting in the wheelchair.
- No pushing of MWC hand rims is required once set up.
- Active braking.
- Minimal skill training for hand controls and turning/braking, most intuitive for start/stop, turn.
- If necessary, it can be operated with a single hand, which is beneficial for hemiparetic conditions and functional activities such as opening doors.
- Easy access for charging.
- Lightweight (approx. 20 lbs)

### BENEFITS OF A COMPANION OVER POWER WHEELCHAIR OR SCOOTER

- Shorter wheelbase.
- Allows for custom seated supports for postural control.
- Allows client to maintain manual wheelchair propulsion when required (small spaces, transport, transfers).
- Maintain “normal” functional transfers when the device is removed.
- Transportable in a variety of vehicle modes.


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- Handlebar/controls height and angle set to client needs.
- Improved indoor access and maneuverability.
- Greater transportability than power wheelchairs and other PAD devices, which may be bulky and heavy.
- Added access where access may be denied to a full power wheelchair.

**PART D – Assessing the Client for a Companion**

## CONSIDERATIONS FOR ASSESSMENT OF USE

When considering if a Companion would be appropriate to your client's abilities, you may consider conducting the following assessments:

- MAT Assessment including grip strength, shoulder/elbow/wrist ROM (Range of Motion).
- Cognitive assessment: judgement, insight for speed/cornering.
- Perceptual assessment: perceptual left neglect, depth perception, spatial orientation
- Vision assessment.
- Postural balance: cornering and rear tilt, acceleration/deceleration, weight shift.
- Pressure considerations for pelvis and trunk: change of peak pressure and shearing.
- Change of centre of gravity and centre of mass resulting in a change of seat angle and orientation in space/postural control/back support.
- Environment of use.
- Compatibility with current wheelchair frame, set up and seating.

**For Information About the Companion:**
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