

The Forearm Wheeled Walker



Ambulatory assistive devices are used for improving mobility and balance and for reducing lower body load during weight bearing in the elderly and in Clients with gait disorders, muscle weakness, and/or musculoskeletal pain ¹.

Selection of an appropriate assistive device is important to ensure adequate assistance and improve safety during walking. This selection depends on the patient's physical, physiological, and psychological abilities, including upper body strength, physical endurance, cognitive function, judgment, vision, vestibular function, and living environment ¹.

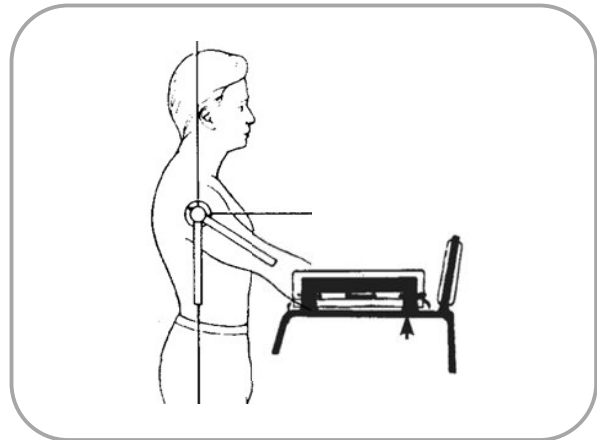
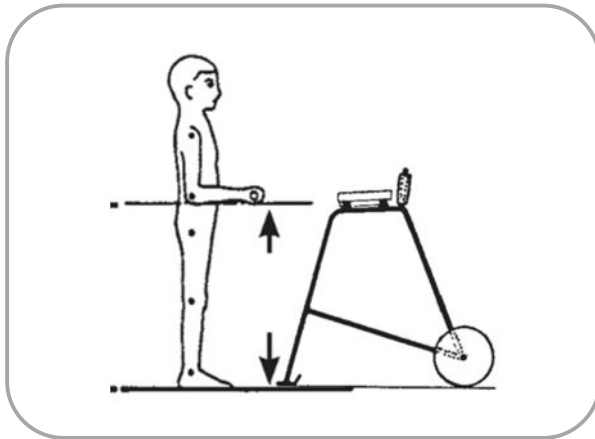
Lower four wheeled walkers might not be suitable for those with wrist, hand, or back problems due to the associated lifting mechanism and/or propelling involved, such as using the handgrip, excessive load on the wrist or hand, and a stooped posture. Therefore, forearm walkers have been commonly recommended for these individuals.

BENEFITS OF A FOREARM WALKER

- 1) Lower Limb offload: ²
Using a forearm walker will reduce weight bearing on the lower extremity by allowing partial support of body weight by the upper extremities ¹. An average of 39- 48% of body weight is placed through the walker when walking ¹. This effect occurs regardless of chosen walker height ¹.
- 2) An upright body posture: ²
The set height of the walker guides the upper torso into a more extended posture. This minimises the kyphotic effect a lower walker promotes. Having an upright posture minimises risk of back and neck pain by positioning the spine in the most functional position. By minimising neck hyperextension, the head is centred over the line of gravity. This improves visibility by positioning the face forward and allowing for full neck range of motion.
- 3) Decreased risk of falls:
Increased base of support, the highest available in walking aids, not only improves balance and stability but additionally improves confidence minimising fear of falls which contributes to higher falls risk.
- 4) Improved gait efficiency: ²
Multiple factors contribute to the positive effect a forearm walker has on improving gait
 - Decreased load through lower limb increases the ability to achieve a controlled gait pattern
 - Improved step length due to the open frame design
 - Postural positioning facilitates a functional gait
 - Increased base of support extends the limits of balance allowing for greater lateral movements when shifting body weight when walking

CHOICE OF ARM POSITION

The shoulder and elbow can be positioned at multiple angles with a slightly varied effect: 1



Shoulder neutral, elbow 90 degrees <i>More suitable for those minimising load</i>	Shoulder 50 degrees, elbow 130 degrees <i>More suitable for improved gait and mobility</i>
Slower controlled walking velocity	Increased walking velocity
Decreased step length	Reduced force to propel walker forward
More effective for decreasing lower limb load	Greater comfort
Greater reduction of risk of poor posture	Greater base of support
Increased forearm load and shoulder joint force	Some reduction of lower limb load
Increased stability	Larger turning circle

WALKER USE

Correct use of any walker is required to reduce the risk of falls and to maximise its function 1.

- When not in use, position the walker in reaching distance
- When needing to ambulate, move the walker directly in front with the open side towards you
- Prepare for standing up, move feet back and/or shuffle forward in the chair
- Push through the arms of the chair to stand
- Once you have raised move one arm to the walker, then the other
- Step forward into the walker
- Position forearms into the gutter of the walker and grasp the handle at the front
- Stand upright and place some weight through the forearms
- Ensure you are standing in a stable stance prior to commencing walking
- Commence a steady gait and the walker will propel in time with your strides
- Alternatively move the walker forward 15cm then step forward into it, repeat this process
- To sit down, approach the chair by taking several steps sideways or backwards
- Position yourself to feel the chair on the back of your legs
- Let go of the walker handles with the forearms remaining in the gutter
- Reach one arm down to the chair arm, then the other
- Sit down slowly and controlled then push walker to the side

-Ko CY, Kim SB, Choi HJ, Chang Y, Kang S, Heo Y, Ryu J, Kim G, Mun M. Assessment of forearm and plantar foot load in the elderly using a four-wheeled walker with armrest and the effect of armrest height. Clin Interv Aging. 2014 Oct 14;9:1759-65.

-Jayaraman et al. Postural and Metabolic Benefits of Using a Forearm Support Walker in Older Adults With Impairments, Archives of Physical Medicine and Rehabilitation. 2019. 100(4):638-647