karma A Better Wheelchair, A Better Fit

VIP 2 Clinical Justification

Adult Hypotonia

Hypotonia is decreased muscle tone and may result from various genetic or neurological disorders such as Down syndrome, cerebral palsy (CP), spinal muscular atrophy (SMA), muscular dystrophy (MD), or other neuromuscular conditions.

Impaired sitting balance due to decreased trunk control and fatigue. The **tilt-in-space** function of the VIP2 provides the support to maintain sitting posture, reduce forward trunk collapse, the risk of sliding forward, and excessive energy expenditure.

Due to poor head and neck control, the user has difficulty maintaining an upright and midline head position. **Recline**, **tilt along with a headrest assis**t with safe swallowing, optimizing visual orientation, and maintaining appropriate eye contact during communication.

For hypotonic users who has difficulty reposition independently, **tilt and recline** functions redistribute pressure from the pelvis and trunk, reducing the risk of pressure injury.

Individuals with hypotonia often experience difficulty with transfers due to low muscle tone and limited postural control. **Removable armrests and legrests** provide the needed clearance for independent or assisted sitting transfers; **recline and elevated legrests** can be applies for total assist lying transfer.

Tilt and recline functions improve caregiver access during personal care, positioning, and clinical tasks by allowing the user to be positioned in safer and more manageable postures.

While the wheelchair is tilted, **J-hook** push handle allows the care giver to maneuver without leaning forward.

Accessory / Feature	Clinical Application for Amputation
Tilt-in-Space & Recline	Tilt-in-space first, then recline. Tilting allows gravity to stabilize the pelvis in the seat before opening the recline angle. This eliminates shear force between the skin and the backrest during recline, ensuring skin integrity. Recline combined with tilt-in-space positioning enables caregivers to effectively perform cleaning and nursing care. Not only transfers partial hip pressure to the back, also distributes back pressure to maximize pressure relief. Effectively reduces symptoms caused by orthostatic hypotension, especially suitable for long-term bedridden users. Combined with articulating elevating legrests, the lower limbs can be positioned above heart level to promote lymph circulation and reduce lower extremity edema. Changes the user's seat angle, utilizing gravity to maintain posture, minimizing energy expenditure and reduce fatigue caused by prolonged upright sitting.

Tension Adjustable Seat	Tension straps can be re-tightened at any time. This resolves hammock effect caused by fabric fatigue, ensuring the seat surface maintains proper rigidity to keep the pelvis in a balanced position. Tension straps can be re-tightened at any time. This resolves hammock effect caused by fabric fatigue, ensuring the seat surface maintains proper rigidity to keep the pelvis in a balanced position.
Tension Adjustable Backrest	The tension-adjustable backrest allows loosening of straps corresponding to thoracic kyphosis, increasing the contact surface area and thereby distributing pressure. Tightening the straps at the lumbar region creates a built-in lumbar support, helping maintain the physiological spinal curvature and delaying fatigue. The tension-adjustable backrest can be re-tightened at any time as the fabric stretches, ensuring the backrest consistently provides effective support rigidity and maintains correct seated posture.
Adjustable Headrest	The three-piece design provides wide area support that stably supports the occiput, effectively distributing occipital pressure. The laterals wing can be adjusted inward for unilateral support on the affected side, while the wing on the unaffected-side remains open to preserve the visual field. This provides stable support and range of motion during head positioning.
Height-Adjustable Armrest	Armrests with adjustable height ensure the elbows are comfortably supported at 90 degrees of flexion. This not only stabilizes the trunk but also provides a stable platform for users to perform pressure relief through push-ups.

Detachable Armrest	With the armrests removed, the wheelchair seat surface aligns seamlessly with the bed surface or transfer board. This provides a clear pathway for lateral transfer, significantly reducing collision and secondary injury during transfers. With the armrests fully removed, caregivers can get close to the user's trunk. This eliminates lumbar spine stress caused by lifting at a distance, improving caregiving efficiency and safety. In recline position, removable armrest enables lateral supine transfer.
Articulating Elevating Legrest	Articulating elevating leg rests, combined with tilt and recline functions, allow the user’s lower extremities to be elevated above heart level. This promotes lymphatic circulation and helps reduce edema. Angle adjustable to support the entire leg, reduce pain, postural deformity, or enable surgical wound healing. The legrests can swing outward, inward, or also be removed creating front clearance. This allows the user to stand with feet firmly on the ground, or enables caregivers to support the user at closer range, significantly reducing fall risk. When combined with the recline function, increasing the knee joint angle adjustment to reduce forward sliding in sitting position.
Boat Armpad	Wider design provides additional stability, commonly used when user is dependent on caregiver.
Detachable Swing-away Footrest	The entire support structure can be swung outward and detached. Swinging the legrests away allows the wheelchair to be positioned closer to the target surface (e.g., toilet or hospital bed), shortening the physical transfer distance and reducing risk for both the caregiver and the user.

J-Hook	The extended curve allows caregivers to push the wheelchair under the tilt position without bending over preventing musculoskeletal injuries. Extends upward and backward, creating sufficient stepping clearance and increasing pushing efficiency.
Attendant Brake	The attendant brake decelerates or stops the wheelchair, enhancing safety and convenience during caregiving.
Anti-Tipper	Anti-tipper provide the protection during sudden center-of-gravity shifts, preventing the wheelchair from tipping over.

The clinical recommendations provided in this document are for professional therapists' reference only and should not replace individualized clinical assessment. The actual prescription should be determined by healthcare professionals based on the user's physical functions, home environment, and individual needs. Karma Medical reserves the right to change product specifications.

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