Achieving the best seating and mobility system

What can an ultralight-weight manual wheelchair provide?

Multiple choices for seat widths/depths and back widths/heights provide an exact fit:

- · Hold and maintain the pelvis and lower extremities in best alignment
- Prevent sliding into abnormal postures
- Provide stability to the trunk and allow maximum freedom of movement for upper extremities

Multi-adjustable axle position and adjustable back posts:

- Create incremental degrees of fixed tilt for gravity-assisted position
- Achieve best seat-to-floor height (STFH) for safe transfers and environmental access
- Provide open or closed seat-to-back angle (STBA) for support and/or to match individual's body angles for posture, stability and maximum pressure distribution across the seated surface

What can the appropriate seat cushion and back support provide?

A variety of shapes and contours:

- Hold the pelvis, trunk and LEs in midline, upright alignment and prevent abnormal postures
- Match the individual's shape and accommodate contractures and ROM limitations
- Provide proximal pelvic/trunk stability to allow functional mobility of the extremities

A variety of materials:

- Provide maximum pressure distribution and shear reduction to reduce peak pressures under bony prominences and decrease risk of skin/soft tissue injury
- Provide comfort to increase sitting tolerance, activity level and quality of life

A variety of medial, lateral, anterior and posterior secondary supports:

• Provide positioning to promote midline, upright posture and/or prevent progression of deformity

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Provide additional proximal stability for functional mobility of the extremities



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| Goals | POV with captain's seating | Group 2 PWC with captain's seating | Ultralight-weight chair with SmartDrive, cushion & back support |
|--|--|--|--|
| Options to prevent deformity and pressure injury | One size, no contour, basic foam | Limited sizes, limited contour, basic foam | Wide range of sizes, contours, secondary supports and materials to tailor to each person's seating and skin protection needs |
| Frame adjustments to improve posture / function | None | Limited choices for STBA | Multiple STBA angles, multiple angles of tilt, multiple rear wheel positions |
| Adjust to changing needs | No | No | Yes |
| Transport | Requires larger vehicle, lift or ramp, and disassembly | Requires adapted vehicle, lift or ramp | Lightweight, can fit in most vehicles |
| Accessibility | Less accessible | Less accessible | Most accessible |

