The Ins and Outs of Manual Wheelchairs –
Matching the Wheelchair to Your Life

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Interviewing
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Yes, you can.
Questions?

To ask a question or make a comment, please type it in the “Questions” box.
How to be the most active and comfortable in your wheelchair
The Sport of Everyday Function
Balance and stability in all parts of your life

It’s up to you to determine what is important in your life!
"I'VE GOT TO GET A LIGHTER CHAIR!"
Total weight of the wheelchair
What you put on it will make a difference.
Standard Manual Wheelchairs

Part-time, heavy (30lbs)  
“Airport wheelchair”
Your wheelchair should fit like a glove. “My wheels are my legs.”
Ultra Lightweight Manual Wheelchair

It's not *all* about the weight

Adjustability is key!
Your Body Measurements

These measurements are usually taken by a certified seating specialist. An occupational or physical therapist with the credential of ATP – Assistive Technology professional.

You can find out more about this process on the UsersFirst Mobility Map
http://www.usersfirst.org/resources/mobilitymap/
Chair Measurements

Work with you wheelchair team: therapist (ATP), wheelchair supplier, (CRTS)
Folding vs. Rigid Frame

Folding Frame

Rigid Frame
Frame Design

• Box frame Vs. Open frame designs
• Adjustable frames Vs. Fixed frames
• Aluminum vs. titanium
Front Frame Angle

Why is this important?
Foot/Leg Position
Wheel Access

Wheel access and balance
Top dead center of handrim = elbow slightly flexed
Bottom of fingers at center of hub
2” to 3” seat slope to reach hub
Front Seat Height
Rear Seat to Floor Height

Rear Seat Height
Rear Wheel Position

Rear wheel should be used like a gear: the more wheel contact, the more efficient the push. (semi-circle push stroke)
Wheel position to hand

Seat too low  Seat just right  Seat too high

It is important the wheels be positioned where you can most easily push the chair.

www.rstce.pitt.edu
Body measurements and lifestyle

Total height = the height of your knees
Important for: Driving, tables, desks, etc.
Seat width
Seat Width
Back height *and* angle
Camber
Camber = the top of the wheels are tilted towards your body

• Improves hand and arm access to the wheel
• Turns easier
• Makes the chair more stable
• Increases the width of the chair
Equipment Management and Maintenance

• Vehicle stow techniques for different style frames and abilities
• Rear wheel alignment
• Caster function-spin and swivel, housing alignment
• Equipment hygiene
• Check wheel alignment (with camber)
• Axle position
• Bent frame

Tire pressure!

• All these things can come out of adjustment – it is important to check them.
Housing Angle

- Perpendicular to the floor
- If housing is not straight up and down, performance can be affected.
Accessories

Everything matters, these can add weight and performance of you using your wheelchair

• Rims
• Tires
• Casters
• Forks
• Suspension

• Armrest
• Side guards
• Seating Systems
• Backpacks, luggage’s carriers, and storage how it affects your positioning
Pelvic structure supported on the contours of the cushion

Note the accommodation for the ITs (the lowest boney part of the pelvis) and the raised support for the hip bones.
Tilt in space manual wheelchair
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INVACARE

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Questions and Guidance

Top left corner “Ask Usersfirst”

Fill out the “My wheelchair checklist” at: