



The following excerpt has been taken from the Christopher & Dana Reeve Foundation Paralysis Resource Center website. The PRC does not endorse any products—listings are for informational purposes only.

http://www.christopherreeve.org/site/c.mtKZKgMWKwG/b.4453477/k.3D3E/Wheelchairs_Seating_Positioning.htm

Wheelchairs, Seating, and Positioning

The common saying is wrong: people are not "confined" to their wheelchairs – they are in fact liberated by their wheels. A person with paralysis can get around as quickly in a wheelchair as anyone else can walking. A wheelchair offers people access to work or shopping or any other travel outside the home. For some, a wheelchair enables them to participate in races, basketball, tennis and other sports.

In some ways a wheelchair is like a bicycle – there are many designs and styles to choose from, including imports, racing models, etc. The chair is also like a pair of shoes – there are models for special purposes, such as sports or rugged trail use, but if the fit isn't just right the user can't get comfortable or achieve maximum function.

Selecting the right chair, especially for a first-time wheelchair user, can be confusing. It's always a good idea to work with an occupational therapist who has experience with various kinds of wheelchairs, but here are some mobility basics on wheelchairs.

Manual chairs

People with upper body strength typically use a manual – they propel it with their arms on the rims of the wheels. A generation ago the standard chair was a chrome-plated behemoth that weighed about 50 lbs. Today's standard comes in every color you can think of and is much less than half that weight, and designed for much superior performance. The newer chairs ride truer and are much easier to push than the clunkers of yesteryear. The lightweights, whether with either a rigid frame or a folding frame, are also easier to transfer in and out of cars.

Power

Many people cannot push a wheelchair with their own arm strength and may require a wheelchair powered by batteries. Power chairs come in several basic styles. The

traditional style looks like a beefed up standard manual plus the batteries, motor and control systems. There are also platform-model power chairs with a more ordinary seat fixed atop a powered base. Scooters come in three- and four-wheel configurations and are typically used by people who don't require them full time.

Until just a few years ago, the power chair market was limited to just a few brands and models. Innovation has expanded the choices, though, with lighter, more powerful, and much faster chairs. Because power chairs are often quite expensive, reimbursement is a key issue. Work with your funding sources, OT, seating specialists and rehab supplier to get the best set up.

Child/Junior Chairs

Because their bodies are growing and changing, chairs for children and adolescents must be changed or replaced more often than an adult chair. Since chairs are not cheap and insurance providers often place limitations replacement, manufacturers offer chairs that allow adjustments to be made to accommodate a growing child. Wheelchair companies also offer chairs for kids that don't look as "medical" as the old styles. This includes more streamlined designs and cooler upholstery and/or frame colors.

People with paralysis have a high risk for pressure sores and therefore usually require special cushions and seating systems to give the skin some relief. There are three basic kinds of cushion materials, each with benefits for certain types of users: air, foam or liquid (e.g., gel). Work with your seating specialist to determine which is the right one.

Tilt or Recline

Some people use special wheelchairs to distribute pressure and thus reduce the risk of skin sores. These chairs also increase comfort and sitting tolerance. One type of chair, called "tilt in space," changes a person's orientation while maintaining fixed hip, knee, and ankle angles. The whole seat, in effect, tilts. The other chair option is called a recline system, which basically changes the seat-to-back angle, flattening out the back of the chair and in some cases raising the legs to form a flat surface.

A tilt system redistributes pressure from the buttocks and posterior thighs to the posterior trunk and head. The system maintains posture and prevents sheer (the friction on tissues from dragging across a surface). A drawback: If a user sits at a workstation, for example, the tilt requires that he or she must move back from the table to avoid hitting the table with the elevated footrests.

Recline systems open the seat-to-back angle and, in combination with elevating legrests, open the knee angle. There are some advantages to recline for eating, making transfers or assisting with bowel or bladder programs (easier lying down). Generally speaking, recline offers more pressure relief than tilt, but with a higher risk of sheer. Elevating the legs may be beneficial to people with edema.

Both tilt and recline must be fitted and prescribed by seating and positioning experts.

How to choose

It is important to determine how the wheelchair will be used: indoors only? Outdoors or heavy-duty use? Does it take apart easily for traveling? Choosing your chair often comes down to what will be reimbursed and depends on your eligibility.

Sources: American Occupational Therapy Association, WheelchairNet, AbleData

The resources below are offered for informational purposes only. The resource center does not recommend products.

Websites

<http://www.abledata.com/>

AbleData

8630 Fenton Street, Suite 930

Silver Spring, MD 20910

Phone: 301-608-8998, 800-227-0216

E-mail: abledata@macrointernational.com

A huge database of products and services for people with disabilities.

<http://www.beachwheelchair.com/>

Beach Wheelchairs from Deming Designs

Deming Designs, Inc

1090 Cobblestone Dr

Pensacola, FL 32514

Phone: 850-478-5765

E-mail: kmdeming@aol.com

Information on Deming Designs' products which include beach wheelchairs, beach walkers, pool wheelchairs and accessories.

<http://www.emedicine.com/pmr/topic156.htm>

eMedicine: Seating Evaluation and Wheelchair Prescription

This site provides information on wheelchair seating, including things to consider in evaluating equipment, and current funding trends and Medicare guidelines.

<http://www.gendroninc.com>

Gendron

520 West Mulberry Street, Suite 100

Bryan, OH 43506

Phone: 800-537-2521

E-mail: sales@gendroninc.com

Gendron develops, designs and manufactures bariatric patient care products for acute care, long-term care, home care and rehabilitation environments.

<http://wheelchairs.lifetips.com/>

LifeTips: Wheelchair Tips

LifeTips has 217 wheelchairs tips in 10 categories ranging from mobility scooters to wheelchair vehicles.

<http://www.mobility-advisor.com/>

Mobility Advisor

Mobility-Advisor.com serves as an educational guide on wheel chair options, mobility aids, disability resources, and recreational outlets that enhance the lives of individuals of all ages who need mobility assistance.

<http://www.nrrts.org>

National Registry of Rehabilitation Technology Suppliers

PO Box 1091

Walsenburg, CO 81089

Phone 719-738-5770, 800-976-7787 (Toll-Free)

E-mail: info@nrrts.org

Members specialize in proper positioning and seating for improving safety and independence.

<http://www.rjcooper.com/index.html>

RJ Cooper & Associates, Inc.

27601 Forbes Road, Suite 39

Laguna Niguel, CA 92677

Phone: 949-582-2572, 800-RJCooper (800-752-6673)

info@rjcooper.com

RJ Cooper & Associates makes software, hardware and assistive technology products.

They have two power wheelchair simulation software programs: Joystick Trainer

(<http://www.rjcooper.com/joystick-mouse-trainer/>) and Wheels!

(<http://www.rjcooper.com/wheels/>).

<http://www.spinalcord.uab.edu/show.asp?durki=90249>

Spinal Cord Injury Information Network: Rehab Tip Sheets

A list of tip sheets for rehabilitation care providers and consumer caregivers offering step-by-step instructions and photo illustrations. The tip sheet on wheelchair positioning can be downloaded for free as a PDF.

<http://www.spinlife.com/>

Spinlife.com

330 West Spring Street, Suite 303

Columbus, OH 43215

Phone: 800-850-0335

One of several websites that offer direct sales of durable medical equipment (including wheelchairs and cushions) to the consumer. Includes a helpful advisory function to determine needs.

<http://wheelsforhumanity.org/>

UCP Wheels For Humanity

12750 Raymer Street, Unit 4

North Hollywood, CA 91605

Phone: 818-255-0100

E-mail: info@ucpwfh.org

Wheels for Humanity collects used wheelchairs. Partnering with other relief and development agencies, they restore and distribute the wheelchairs at no cost to people who need them in places where wheelchairs are unattainable luxuries. Wheelchairs for Humanity works with community leaders in the villages and town of developing countries to identify those in greatest need of their help. With the assistance of a health care professional, a therapist and a rehab-seating specialist, each recipient is matched up with the wheelchair that best fits his or her needs.

<http://www.unitedspinal.org/disability-publications-resources/disability-publications/>

United Spinal Association: Free Publications

The booklet Mobility Alternatives: From Canes to Wheelchairs is available for free download.

<http://www.usatechguide.org/>

USA Tech Guide:

This site provides reviews of wheelchairs and other assistive technology (scooters, cushions, standing technology). It also has features to help people find assistive technology, home medical equipment, adaptive recreational products and services and to submit questions or get advice on wheelchairs, mobility scooters, equipment and assistive technology.

<http://www.usedwheelchairs.com/>

Used Wheelchairs & Used Medical Equipment

This site offers free classifieds for used wheelchairs and used medical equipment. The database can be searched by location and by type of equipment.

<http://www.usersfirst.org/>

UsersFirst

E-mail: usersfirst@unitedspinal.org

UsersFirst seeks to ensure appropriate access to seating and mobility equipment by empowering wheelchair users, clinicians and providers with education and information resources.

<http://www.wheelchairfoundation.org/>

Wheelchair Foundation

3820 Blackhawk Road

Danville, CA 94506

Phone: 877-378-3839 (Toll-Free)

E-mail: info@wheelchairfoundation.org

The Wheelchair Foundation is a non-profit organization with a goal to provide a free wheelchair to every child, teen and adult worldwide who needs one, but has no means to acquire one.

<http://www.wheelchairjunkie.com/>

Wheelchairjunkie.com

A resourceful and opinionated website owned and operated by self-described "power chair gonzo" Mark E. Smith, who also designs power chairs for Pride Mobility Products. Says Smith, "WheelchairJunkie.com is about mobility, not manufacturers, so the voices expressed here represent only users."

<http://www.wheelchairnet.org/>

WheelchairNet

A federally funded virtual community for people who have an interest in wheelchair technology. Its purpose is to serve the information needs of anyone interested in wheeled mobility, though its primary audience is the person who uses a wheelchair. Lots of information here on every aspect of wheelchairs, including guidelines for choosing them. See their Wheelchair University section also.

<http://www.thewheelchairsite.com/>

The Wheelchair Site: Independent Consumers Guide to Wheelchairs, Scooters & Accessories

This site provides information on different types of wheelchairs, mobility aids and accessories. It also has information on issues like accessibility and maintenance.

<http://www.whirlwindwheelchair.org/>

Whirlwind Wheelchair International (WWI)

Whirlwind Wheelchair International (WWI) is the communications hub of the Whirlwind Wheelchair Network of independent wheelchair-producing workshops in developing countries. Founded in 1989 as the Wheeled Mobility Center (WMC), WWI's primary mission is 1) to teach wheelchair riders in developing countries to design, build, and repair their own wheelchairs; 2) to enable rider/builders to create businesses for the manufacture and distribution of wheelchairs to others; and 3) to foster the ever-widening Whirlwind Network of rider/builders around the world who exchange ideas for the continuous improvement of wheelchair design.

<http://www.womenpushingforward.net/>

Women Pushing Forward

PO Box 3940

Berkeley, CA94703

E-mail: info@womenpushingforward.net

The mission of Women Pushing Forward is to enable women with disabilities around the world to increase wheeled mobility options for themselves and others through collaborations involving wheelchair building, mentoring and support.

The following books and videos are available for free loan from the PRC library. For more information, please see www.paralysis.org and click *Borrow from Our Lending Library* under PRC Quick Links.

Books

- Axelson, Peter et al. **A Guide to Wheelchair Selection.** Washington, D.C: PVA Publications, 1994.
- Axelson, Peter et al. **The Manual Wheelchair Training Guide.** Santa Cruz, CA: Pax Press, 1998.
- Axelson, Peter et al. **The Power Wheelchair Training Guide.** Minden, NV: Pax Press, 1998.
- Batavia, Mitch. **The Wheelchair Evaluation: A Clinician's Guide.** Boston: Jones and Bartlett, 2009. 2nd ed.
- Burrus, Jere Gandolf. **Wheelchair Maintenance and Repair: A Stitch in Time.** Austin, TX: University of Texas at Austin, 1982.
- Cooper, Rory. **Wheelchair Selection and Configuration.** New York: Demos, 1998.
- Karp, Gary. **Choosing a Wheelchair: A Guide for Optimal Independence.** Cambridge, Mass: O'Reilly, 1998.
- Mayall, Jan. **Positioning in a Wheelchair: A Guide for Professional Care Givers of the Disabled Adult.** Thorefore, NJ: SLACK, 1995.
- Steinberg, Marco. **Prototype for a Plywood Wheelchair.** Cambridge, MA: Harvard University Graduate School of Design, 1999.
- **Wheelchair Accessories.** Oxford, UK: Disability Information Trust, 1998. Note some of the equipment mentioned here may not be available outside of the UK.

Videos

- **How to Maintain Your Wheelchair.** Jackson Heights, NY: Eastern Paralyzed Veterans Association, 1998. (29 minutes)
- **Wheelchair Battery Safety Hazards.** The Med Group.

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