

Ann Arbor Center for Independent Living

University of Michigan
Model SCI Care System

Michigan Resource Guide
for Persons with Spinal Cord Injury



Technology

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Introduction

Technology is any application of science that improves an activity or process. Not all technology is “high tech.” Technology *may* be the latest high tech electronic device, but it can also mean having a manual wheelchair fitted in the best way possible to avoid physical strain. Technology can be a wonderful tool to achieve your life goals. However, when technology is discussed in rehabilitation, experts often find it difficult to agree on definitions and categorizations. To clarify important areas of technology for you, the following guidelines and resources are presented based on the most up-to-date information available. They are intended to be both helpful and easy for you to use.

Home Medical Equipment

NEW EQUIPMENT

MedEQUIP

www.med.umich.edu/homecare/about/medequip.htm

2705 S. Industrial
Ann Arbor, MI 48104
800-530-0714



Functional Solutions Catalogue

www.beabletodo.com

North Coast Medical,
Inc.
18305 Sutter Boulevard
Morgan Hill, CA 95037
800-235-7054

Sammons Preston Functional Solutions Catalogue

www.sammonspreston.com

270 Remington Blvd
Suite C
Bolingbrook, IL
60440-5071
800-323-5547

Mobility Monthly

www.mobilitymonthly.net

Magazine provides
information on new and
used equipment

P.O. Box 108
Cedar Springs, MI
49319

616-696-1538

Email:

mobilitymonthly@tm.net

To locate a Medical
Equipment provider near
you, contact your local
Lowe's, Home Depot, or
Sears store. Also check
in the Yellow Pages
under:

- Home Health Care
Equipment and
Supplies
- Handicapped
Equipment Sales and
Service
- Handicapped
Assistance Products

*Be sure to first check
with your insurance
company to see if they
have a preferred
medical equipment
provider in your area.*

USED/FOR LOAN OR PURCHASE

Epilepsy Foundation of Michigan

www.epilepsyfoundation.org/michigan

800-377-6226

Wheelchairs



Celebration of Wheels

<http://lenmac.tripod.com>

A great resource on
wheelchairs that
includes innovations in
equipment and stories
about active wheelchair
users. Discusses public
attitudes and includes
links to other websites
that build a community
of support for
wheelchair users.

Email:

lenmac@hotmail.com

Rehabilitation Engineering Research Center on Wheeled Mobility (RERC)

www.ercwm.pitt.edu/RERCWM_Int/Intro.html

The latest wheelchair
information.

WheelchairNet

www.wheelchairnet.org/WCN_TownHall/Docs/whatswcn.html

WheelchairNet is a community for people who have a common interest in (or in some cases a passion for) wheelchair technology and its improvement and successful application. WheelchairNet is a virtual community... a community that exists only in "cyber space." For people who have an interest in wheelchairs and how wheelchairs can best serve the needs of people who use them.

National Registry of Rehabilitation Technology Suppliers

"Consumers can be certain that people with the title Certified Rehabilitation Technology Supplier or CRTS next to their name provide the best rehabilitation technology and services available."

If you need extremely well qualified help with your wheelchair, contact any of the following certified wheelchair technology specialists and providers:

University of Michigan Health System Wheelchair Seating Service

2850 South Industrial Suite 200
Ann Arbor, MI 48104
734-971-8286

Wheelchair Seating Service rehabilitation specialists provide enabling technology in the areas of wheeled mobility, seating, and ambulation equipment, which are designed to meet the needs of people with long-term disabilities.

Service

Wheelchair Seating Service assures long-term support and service for the equipment we provide. Our manufacturer-trained technicians attend classes, trade shows and other continuing education opportunities to upgrade their knowledge of the latest technologies.

- Free in-house estimates
- Road service available for a nominal fee

Wheelchairs

- Adult and pediatric
- Manual, power, reclining, lightweight, tilt-in-space

- Customized seating and positioning
- Standing wheelchairs and frames
- Custom electronics and driving systems
- Representing: Invacare, E & J, Quickie, Jay, New Abilities, Otto Bock, Roho and others
- Exclusive dealer: *Tongue Touch* key pad drive system

Scooters

- Indoor and outdoor units, split frame, and 3-or-4 wheel drives
- Custom scooter seating
- Full repair facility
- Representing: Invacare, Pride, and Leisure Lift

Hospital Beds

- Manual and fully electric
- Rehab beds in full, queen and king sizes
- Low-air-loss mattresses

Patient Lifts

- Arjo lifts
- Manual and electric patient lifts

Bathroom Safety Equipment

- Wall grab bars
- Tub transfer benches

- Commodes
- Elevated toilet seats
- Shower chairs
- Tub lifts

Sports Center

If you are looking for a hand-powered cycle, a state-of-the-art water ski, a racing chair, or cutting-edge snow ski equipment, call Wheelchair Seating Service at 734-971-8286 for more information.

Customer Satisfaction

Feedback from people we serve at the University of Michigan Wheelchair Seating Service helps to insure excellence. We invite you to evaluate our performance in detail through our Quality Improvement Program and Customer Response Surveys. Our goal is for you to be able to choose Wheelchair Seating Service with complete confidence.



Michael Barner, CRTS

U of M Wheelchair
Seating Service
734-975-7452
mkbarner@umich.edu

E. Scott Fillion, CRTS

U of M Wheelchair
Seating Services
734-975-7452
esfillion@umich.edu

Christopher Savoie, CRTS

U of M Wheelchair
Seating Services
734-975-7452
csavoie@umich.edu



Saginaw Medical Service, Inc.

www.saginawmedical.com
3960 Tittabawassee
Saginaw, MI 48604
989-793-6000
Email:
sms3960@aol.com

Thompson Pharmacy & Medical

www.thompson-pharmacy.com
324 S. Union Street
Traverse City, MI
49684
800-968-4210
231-947-4212
Email:
shawn@thompson-pharmacy.com

Cole Rehabilitation

James A. Cole, CRTS
Technologies, Inc.
4180 Keller Road
Suite A
Holt, MI 48842
517-694-1170
517-694-1327 (Fax)
<http://colerehab.com/>
Email:
cole@colerehab.com

National Seating & Mobility, Inc.

www.nsm-seating.com
1876 Austin Drive
Troy, MI 48083
248-740-8858

Bay Home Medical & Rehab

www.bayhomemedical.com
707 Parsons Road
Traverse City, MI
49686
231-933-1200

Apria Healthcare

www.apria.com
One Ajax Drive #200
Madison Heights,
Michigan 48071
248-643-4140

**Orthotics
and
Prosthetics**

**University of Michigan
Orthotics and
Prosthetics Center**
www.med.umich.edu/pmr/op/orthotics.htm
2850 S. Industrial
Suite 400
Ann Arbor, MI 48104
734-973-2400

This center has provided comprehensive services to clients from the University of Michigan Health System and to clients referred directly by their physicians since 1936. A physician prescription is required for all services. UMOPC provides a full range of pre-fabricated and custom orthotic devices. The center provides a full range of soft good and post-mastectomy products in our "Personal Touch" program. We have pedorthists who design, fabricate, fit and modify shoes and foot orthoses. And finally, our prosthetic team designs and fabricates a prosthesis that is most appropriate for individuals' needs (both physiological and

psychological). Please stop by and meet our board certified and registered staff members in our accredited facility.

**Becker Orthopedic
Appliance Company**
www.beckerortho.com
635 Executive Drive
Troy, MI 48083
248-588 7480

33301 S. Woodward
Avenue
Birmingham, MI 48009
248-644-4540

5210 Highland Road
Waterford, MI 48327
248-674-9600

19251 Mack Avenue
Suite 180 Grosse Pointe
Woods, MI 48236
313-640-7750

**Becker Custom Seating
Department**
www.beckerortho.com
1729 East 14 Mile Road
Suite 250
Troy, MI 48083
248-588-7480

**Henry Ford Hospital
HealthCore**
www.henryfordhealth.org/body.cfm?id=40572
21651 Melrose Avenue
Southfield, MI 48075
248-353-2468
800-221-7553
info@healthcorecares.com

**The Detroit Institute
for Children**
www.detroitchildren.org
5447 Woodward
Avenue
Detroit, MI 48202
313-832-1100

**Genesys Orthotics and
Prosthetics**
www.genesys.org
One Genesys Parkway
Grand Blanc, MI 48349
810-606-5000

**Huron Valley
Associates Inc.
Rehab Engineering
Center**
400 South Mechanic
Street.
Jackson, MI 49201
517-788-6424
517-788-7594 (Fax)

**Huron Valley
Associates Inc**
2711 Carpenter Road
Ann Arbor, MI 48108
734-973-7828
734-973-7895 (Fax)

**Mary Free Bed
Orthotics and
Prosthetics**
www.maryfreebed.com/secondary.aspx?channelpostingid=66&parentnavid=66
235 Wealthy SE
Grand Rapids, MI
49503
800-528-8989

**Mary Free Bed
Orthotics and
Prosthetics**
(E.H. Rowley)
1414 Eastern SE
Grand Rapids, MI
49507
800-876-0496

**Mecosta County
Hospital**
Professional Bldg
415 Mecosta
Big Rapids, MI
800-474-0324

**Holland Community
Hospital
Rehab Services**
www.hollandhospital.org
175 S. Waverly Street
Holland, MI 49423
800-474-0325

**Mary Free Bed
Custom Seating**
[www.maryfreebed.com/
secondary.aspx?channel
postingid=150](http://www.maryfreebed.com/secondary.aspx?channelpostingid=150)
Rehab Tech Center
235 Wealthy SE
Grand Rapids, MI
49503
616-242-0342

**Northern Orthotics
and Prosthetics, Inc.**
509 Superior Avenue
Baraga, MI 49908
906-353-7161
906-353-7000 (Fax)

**Northwest Orthotics
and Prosthetics, Inc.**
39830 Grand River
Suite B1D
Novi, MI 48375
248-337-1443
248-477-1509 (Fax)

**Springer Prosthetic &
Orthotic Services, Inc.**
200 North Homer Street
Lansing, MI 48912
517-337-0300
517-337-2262 (Fax)

1205 Mission, Suite 14
Mt. Pleasant, MI 48858
989-772-8841

**Teter Orthotics and
Prosthetics, Inc.**
3507 West Front Street
Traverse City, MI
49684
231-947-5701
231-947-1370 (Fax)

1415 Kilborn Drive.
Petosky, MI 49770
231-347-5510

Wexford Plaza
116 E. Nelson Street
Cadillac, MI 49601
231-779-8022

701 North Otsego Street
Gaylord, MI 49735
800-346-0161

Milltown Medical Bldg.
1200 North Down River
Grayling, MI 49738
800-346-0161

Westshore Hospital
1465 E. Parkdale
Avenue
Manistee, MI 49660
800-346-0161

341 Long Rapids Plaza
Alpena, MI 49707
616-779-8022

Memorial Hospital
1 Atkinson Drive
Ludington, MI 49431
800-346-0161

**Twin Cities Orthotic
and Prosthetic Services**
709 Midway Avenue
St. Joseph, MI 49085
269-983-6118
269-983-7577 (Fax)

3933 Gull Road
Kalamazoo, MI 49001
269-349-2276

Wolverine Orthotics
39750 Grand River
Avenue
Novi, MI 48375
248-476-2933
248-476-3574 (Fax)

Ventilator
Programs

**MedEquip
University of Michigan
Health System**
2705 S. Industrial
Ann Arbor, MI 48104
800-530-0714

MedEquip is a full service Home Medical Equipment company, including ventilator support. MedEquip offers positive and negative pressure ventilators. For any ventilator assistance questions contact **Kathy Barnum, RRT at 734-615-3267** by email kbarnum@med.umich.edu



Trail's Edge Camp

University of Michigan Health System
Mary Dekeon
Room 5815 Box 0208
200 E. Medical Center Dr.
Ann Arbor, MI. 48109
734-763-2420

Trail's Edge Camp is a five-day, five-night summer camp for medically fragile, ventilator dependent children. These campers are typically thought to be too "fragile" to go to camp because of the specific care they require.

Trail's Edge campers, generally between the ages of 4 to 18, are given a unique opportunity to experience the joy of the great outdoors.

The International Ventilator Users Network

www.post-polio.org/ivun/index.htm

IVUN links ventilator users with each other and with health care professionals interested in the options available for mechanical ventilation and home care.

Assistive Technology

University of Michigan Rehabilitation Engineering Center

Simon Levine, Ph.D., Director
Donn Hilker, M.S., ATP Rehabilitation Engineer
University of Michigan Rehabilitation Engineering Program
1C335 UM Hospital
Ann Arbor, MI 48109
www.med.umich.edu/rehabeng/index.htm
734-936-7170

What is Assistive Technology?

Assistive technology includes both the equipment and services that can enhance the independence of an individual with a disability. Many consider assistive technology to be tools that help overcome obstacles after spinal cord injury. Since it is difficult to find agreement of the definition of assistive technology in the community, it is very important to clearly focus on what you want to accomplish with these tools.

There are many ways to categorize assistive technology. The list below gives an idea of what is available.

Computer Access and Applications includes special hardware (equipment that attaches to the computer) and software (programs that run on the computer) to enable control of a computer. Some examples include controlling the mouse by moving only your head, or talking to the computer instead of typing on a keyboard. The choices available

today allow for a wide range of abilities, including very limited physical ability.

Environmental Control technologies include a variety of devices that can make access to your home possible. This includes both devices for safety as well as those that enable you to return to your normal activities of daily living. Some examples include a specialized remote control that allows a user to control the TV, VCR, cable, telephone, and lights all through a switch that responds to sipping or puffing on a straw interface. Like many other assistive technologies, there are choices that provide for different abilities.

Mobility and Seating/Postural Support is typically considered as two separate assistive technologies; however, the consumer will probably get these services from one provider. Although the rehabilitation professionals consider this area as assistive technology, we set aside its own section since it is so substantial. Please refer to the “Mobility” section of this chapter.

Augmentative and Alternative Communication (AAC) provides alternative methods or enhancements to verbal communication. Sometimes a spinal cord injury can affect vocalization. An AAC device can enable its user to communicate through a system that can speak. It is strongly recommended that these types of services are coordinated with your speech-and-language specialist.

Sensory Aids accommodate partial or total loss of hearing or vision or both. There a wide variety of resources available to address these issues alone. It is best to consult your SCI physician if the onset of these impairments were during or after your injury.

Other: Sometimes the environment of use describes the technology best, such as those related to work and school. You may encounter technologies labeled for these environments or specialist who just work in these areas only.

How can I get this equipment?

With the wide use and acceptance in our society of the internet, it is easy to find resources on technology. Please proceed with great caution. Many of these sites were developed by those who sell this equipment and you may be subjected to “vendor bias”. We strongly recommend that you consult or be evaluated by a qualified **assistive technology practitioner (ATP)**. The role of the ATP is not to sell equipment, but to listen to the needs of their clients and help them select the most suitable technology tool. There is now a certification for ATPs through RESNA and we strongly recommend you inquire about this from any provider you seek www.resna.org/NewCertPract/GettingCertificate.php

703-524-6686. This provides a baseline standard for experience and training similar to those you would expect from your therapist or physician. This is not to say that the person you are currently working with is not qualified; however, the ATP

certification provides a framework from which to review the qualifications of someone you do not know yet.

Because there are many tradeoffs when using different assistive technologies it is important to have an ATP on your team before making a purchase. A big problem with assistive technology use today is that there are still a lot of people who worked hard to get it, but are not using it. This is why this resource is not intended to be a gallery of devices. We feel that it is very important for your success to work with or just talk to an ATP before finalizing your assistive technology purchase.

Where can I find a service provider?

There are many ways to search for an ATP. We suggest one that is currently in your rehabilitation team. If you are not aware of the resources within your rehabilitation or medical team, you can contact your SCI physician. If you are being followed at the University of Michigan Hospitals and

Health Center (or would like to), please contact:
Donn Hilker, M.S., ATP
Rehabilitation Engineer
University of Michigan Rehabilitation Engineering Program
www.med.umich.edu/rehabeng/index.htm
1C335 UM Hospital
Ann Arbor, MI 48109
734-936-7170
hilker@umich.edu

If you are still not sure whom to contact, please use the ATP directory at RESNA
www.resna.org/PracInAT/CertifiedPractice/Directory/Practitioners.html
703-524-6686.

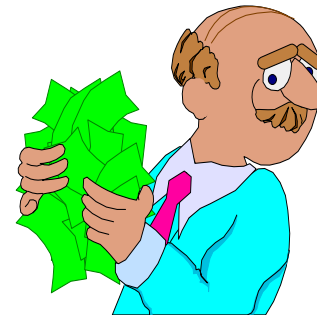
Who pays for assistive technology?

This is sometimes a complex question to answer, as there may be a variety of options that could apply to you. It depends on what you are trying to achieve and what kind of funding resources are applicable to this need and your benefits and rights. You may have to be a patient in some circumstances as the pathway to identify covered benefits and services can be

lengthy. Unfortunately, sometimes there may not be a funding resource that addresses your goal. A financing program, the Alternative Financing Technical Assistance Project, has been set up to help bridge any burdens imposed by self-pay. Please find details here:

In Michigan:
www.michiganloanfunds.org
800-828-2714

Elsewhere:
www.resna.org
703-524-6686



Regardless, it is recommended that you work with your ATP to help determine funding avenues appropriate to your assistive technology goals. It is also strongly recommended that you begin to understand what kind of insurance coverage you have and what this covers.

For example, assistive technology can be funded as a medical necessity or an accommodation through third party payers such as private medical insurance, auto insurance (Michigan No Fault), Workers' Compensation, Medicaid, Medicare, and Children's Special Health Services; as well as through state vocational rehabilitation services and legislature e.g., Education for the Handicapped Act EHA reauthorized in 1990 and the Individuals with Disabilities Education Act (IDEA, P.L. 101-476 amended in 1997 address assistive technology accommodations in public schools).

Again, it is very helpful to have an ATP help sort this out with you, as coverage situations can be complex. For example, Medicaid will regularly cover appropriate electric wheel chair accommodations, but not computer access or environmental control systems.

Listed below are websites that you may find helpful. If you do not

have access to the internet, please call your local public library and ask about their internet capability and accessibility. Typically, the librarians are very helpful and resourceful.

ABLEDATA Informed Consumer's Guide to Funding Assistive Technology

www.abledata.com/abledata_docs/funding.htm

Neighborhood Legal Services, Inc (National Assistive Technology Advocacy Project)

www.nls.org/natmain.htm

Are there any resources that can help me?

Yes. Again, it is suggested that you consider consulting an ATP to help sort through what applies to you.

Below are resources that are local and state-wide.

Glen Ashlock Technology Specialist Ann Arbor Center for Independent Living

www.aacil.org/atc.html
3941 Research Park Dr.
Ann Arbor, MI 48108
734-971-0277

University of Michigan Rehabilitation Engineering Program

www.med.umich.edu/rehabeng/

1C335 UM Hospital
Ann Arbor, MI 48109

Email:

734-936-7170

RehabEng@umich.edu

Community Technology Centers

www.mcc.edu/12_satellites/ctc_index.shtml

810-232-2526

mbrooks@mcc.edu

Mott Community College, in partnership with several community organizations, established three Community Technology Centers to serve residents in the Enterprise Community, populations with disabilities and individuals and groups throughout the city of Flint, Michigan.

Several access centers will provide an array of activities for community residents within the following areas of learning:

1. Instruction and hands-on experience that will increase their knowledge and skills in using computers as a tool.
2. Self-paced computer-based training and tutorials (CBT's) that will improve their formal and informal

- educational capacity.
3. A direct connection to Mott Community College for all steps of the admissions process, and an array of class offerings that will make college more accessible.
 4. A communication link to resources in the community.

Each center will provide eight state-of-the-art networked personal computers and will be open nearly 50 hours a week including evenings and weekends.

Approximately 100 to 120 residents per week will use each center for an average of 3-4 hours per individual. Mott Community College (MCC) will serve as the Hub Site for the centers, providing access to the internet; two-way audio/video conferencing; access to services and classes at the college; technical support; and overall management of the project.

Activities offered include adult education support, computer-based training and tutorials, computer proficiency, internet and e-mail access, two-way

interactive seminars and workshops, pre-school and family activities, and senior sessions.

Great Lakes ADA & IT Center
www.adagreatlakes.org
800-949-4232

Michigan Assistive Technology Resource (for Michigan Intermediate School Districts)
www.cenmi.org/matr
800-274-7426

Michigan Assistive Technology Loan Fund
www.michiganloanfund.org
800-828-2714

MDCD/MRS Michigan Department of Career Development and Michigan Rehabilitation Services
www.michigan.gov/mdcd/0,1607,7-122-25392---,00.html
The Disability Resources Regional Directory for Michigan
www.disabilityresources.org/MICHIGAN.html

Outside Michigan
There are other similar resources in other states. Should you be interested in resources outside Michigan, please use the RESNA resource:

www.resna.org/taproject/index.html or
703-524-6686

Suggested Reading

Spinal Network: The Total Wheelchair Resource Book 3rd Edition
Published by Nine Lives, Inc.
Chapter 10, Computers & Assistive Technology
Distributed by Leonard Media Group
P.O. Box 220
Horsham, PA 19044
888-850-0344, x4

Living In The State Of Stuck How Assistive Technology Impacts the Lives of People with Disabilities, 3rd Edition By Marcia J. Scherer, February 2000, ISBN 1-57129-079-6
www.brooklinebooks.com/disabilities/assistive/stuck.htm
800-666-2665

More
Important
Web Links

**Rehabilitation
Engineering and
Assistive Technology of
North America**

www.resna.org

ADA Home Page

www.ada.gov

**National Assistive
Technology Research
Institute (NATRI)**

<http://natri.uky.edu/index.html>

**Spinal Cord Injury
Peer Information
Library on Technology**

www.scipilot.com

A resource about spinal cord injured consumers' experiences.

**The International
Center for Disability
Resources on the
Internet**

www.icdri.org/index.html



**Michigan Assistive
Technology Loan Fund**

www.michiganloanfund.org

c/o United Cerebral
Palsy Michigan
3401 E. Saginaw
Suite 216
Lansing, MI 48912
800-828-2714
517-203-1200

The Michigan Disability Rights Coalition (MDRC) has established the Assistive Technology Loan Fund to help people with disabilities purchase assistive technology devices and services. If you qualify, you can borrow up to \$20,000 for purchase of assistive technology devices and services, including modification of vehicles and homes.

**Michigan Assistive
Technology Resource
(MATR)**

www.cenmi.org/matr

800-274-7426
MATR provides information on assistive technology for sale or loan.

**United Spinal Assoc:
A Web Guide To
Wheelchair & Assistive
Technology Choices**

www.usatechguide.org

Assistive Media

400 Maynard Ste 404
Ann Arbor, MI 48104
www.assistivemedia.org

Assistive Media is the only service on the Web that delivers spoken-word recordings of traditional print media for people who have difficulty reading text because of a visual, physical, or perceptual disability.

