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.
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@tme.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

Epilepsy Foundation of Michigan
www.epilepsyfoundation.org/michigan
800-377-6226

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.rercwm.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.

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<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Contact Information</th>
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<tr>
<td>Michael Barner, CRTS</td>
<td>U of M Wheelchair Seating Service</td>
<td>734-975-7452  <a href="mailto:mkbarner@umich.edu">mkbarner@umich.edu</a></td>
</tr>
<tr>
<td>E. Scott Filion, CRTS</td>
<td>U of M Wheelchair Seating Services</td>
<td>734-975-7452 <a href="mailto:esfilion@umich.edu">esfilion@umich.edu</a></td>
</tr>
<tr>
<td>Christopher Savoie, CRTS</td>
<td>U of M Wheelchair Seating Services</td>
<td>734-975-7452 <a href="mailto:csavoie@umich.edu">csavoie@umich.edu</a></td>
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<tr>
<td>Cole Rehabilitation</td>
<td>James A. Cole, CRTS Technologies, Inc.</td>
<td>4180 Keller Road Suite A Holt, MI 48842 517-694-1170 517-694-1327 (Fax) <a href="http://colerehab.com/">http://colerehab.com/</a> Email: <a href="mailto:cole@colerehab.com">cole@colerehab.com</a></td>
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<tr>
<td>National Seating &amp; Mobility, Inc.</td>
<td><a href="http://www.nsm-seating.com">www.nsm-seating.com</a></td>
<td>1876 Austin Drive Troy, MI 48083 248-740-8858</td>
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<tr>
<td>Bay Home Medical &amp; Rehab</td>
<td><a href="http://www.bayhomemedical.com">www.bayhomemedical.com</a></td>
<td>707 Parsons Road Traverse City, MI 49686 231-933-1200</td>
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<tr>
<td>Thompson Pharmacy &amp; Medical</td>
<td><a href="http://www.thompson-pharmacy.com">www.thompson-pharmacy.com</a></td>
<td>324 S. Union Street Traverse City, MI 49684 800-968-4210 231-947-4212 Email: <a href="mailto:shawn@thompson-pharmacy.com">shawn@thompson-pharmacy.com</a></td>
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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](http://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 Point Woods, MI 48236
313-640-7750

**Becker Custom Seating Department**

[www.beckerortho.com](http://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](http://www.henryfordhealth.org/body.cfm?id=40572)

21651 Melrose Avenue
Southfield, MI 48075
248-353-2468
800-221-7553

[info@healthcorecares.com](mailto:info@healthcorecares.com)

**The Detroit Institute for Children**

[www.detroitchildren.org](http://www.detroitchildren.org)

5447 Woodward Avenue
Detroit, MI 48202
313-832-1100

**Genesys Orthotics and Prosthetics**

[www.genesys.org](http://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)

**Mary Free Bed Orthotics and Prosthetics**


235 Wealthy SE
Grand Rapids, MI 49503
800-528-8989
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<tr>
<th><strong>Mary Free Bed Orthotics and Prosthetics</strong></th>
<th><strong>Northwest Orthotics and Prosthetics, Inc.</strong></th>
<th><strong>Westshore Hospital</strong></th>
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<td>341 Long Rapids Plaza Alpena, MI 49707 616-779-8022</td>
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<td><strong>Mecosta County Hospital</strong></td>
<td><strong>Springer Prosthetic &amp; Orthotic Services, Inc.</strong></td>
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<tr>
<td>Professional Bldg 415 Mecosta Big Rapids, MI 800-474-0324</td>
<td>200 North Homer Street Lansing, MI 48912 517-337-0300 517-337-2262 (Fax)</td>
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<td></td>
<td>1205 Mission, Suite 14 Mt. Pleasant, MI 48858 989-772-8841</td>
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<td><strong>Holland Community Hospital Rehab Services</strong> <a href="http://www.hollandhospital.org">www.hollandhospital.org</a> 175 S. Waverly Street Holland, MI 49423 800-474-0325</td>
<td><strong>Teter Orthotics and Prosthetics, Inc.</strong> 3507 West Front Street Traverse City, MI 49684 231-947-5701 231-947-1370 (Fax)</td>
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<td>Wexford Plaza 116 E. Nelson Street Cadillac, MI 49601 231-779-8022</td>
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<td>701 North Otsego Street Gaylord, MI 49735 800-346-0161</td>
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<td>Milltown Medical Bldg. 1200 North Down River Grayling, MI 49738 800-346-0161</td>
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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.

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](http://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.michiganloans.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 wheelchair 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
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

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

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.

More Important Web Links