

IUSM Department of Pediatrics

# Pedal Power: A Guide for Parents

Safety Education and Outreach

Created by the  
Safety Education and Outreach Department  
Indiana University School of Medicine  
In collaboration with  
The Indiana University School of Physical Education  
Adaptive Mobility Department

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## Introduction

There are few things that matter more in the life of any child than the chance to ride a bike. To ride a bike means everything: freedom, independence, ability to do something on one's own, and a chance to explore the world. How wonderful it is for every child to reach this milestone. All of us can remember the first time we rode a bike.

But many children never get that chance. Many children, because of special health care needs or disabilities, are not able to use conventional bikes and adapted bikes are out of reach possibilities, given the high cost of this equipment. And, for all of our efforts at Riley Hospital to provide children with the best of care to be able to return home, without the ability to fully participate in their community, we have not completed the job.

Adapted bikes are a very tangible step that can be taken to help put children with disabilities or special health care needs out into everyday life with friends and family. Why should a child who has left our hospital return home to sit on the porch to watch others ride by? This is the promise that Riley Hospital for Children tries to fulfill to every family, the promise of a life that is healthy, safe, and productive. Children with disabilities or special health care needs sometimes need tools to accomplish that goal and adapted bikes are a perfect vehicle for cultivating within a child independence, pride, control over one's life, friendships, and courage to explore new places. Yes, riding a bike can do that for every child. What a small investment indeed to transform a child's life into growth and possibilities.

When you read this operations manual, read it with the understanding that Riley Hospital's Adapted Bike Safety Program was built with one goal: to keep *all kids safe*. Our hospital's injury prevention programming through the Safety Education and Outreach Department recognizes that injury prevention education is for all children. Sometimes, in the case of children with special health care needs or disabilities, you need to take one additional step beyond promoting a safety message; sometimes, you need to get the equipment directly into the child's hands.

We are forever grateful to our partners at the Indiana District of Kiwanis International and the Riley Children's Foundation who have nurtured the development of this program since its beginning. We are grateful to private donors who have believed in this program and through their support, made it possible for us to give children their first bike and helmet ever. We are grateful to our partners inside Riley Hospital, our colleagues at Rehabilitation Services and Clinical Engineering, who have helped us to identify children and who have assembled the bikes for kids ready and eager to ride.

This operations manual can get you started in your community to offer an Adapted Bike Safety Program for children who would otherwise not have the chance. Some things in life always remain the same and the chance to ride a bike- properly and safely, of course- will always be an opportunity that should await every child.

Ora Hirsch Pescovitz, MD.  
President and Chief Executive Officer  
Riley Hospital for Children

## Acknowledgements

Many people worked together to develop the Adapted Bike Project at Riley Hospital for Children. Their ideas, suggestions, valued support, and beliefs that all children should enjoy the opportunity to ride a bicycle are reflected in this manual. We thank all of them for their special roles in this project and for their continuing commitment to this work. Rebecca Waterman and Michael Graham were lead writers on this manual.

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## CHAPTER 1

### A bike of my very own

Remember when you rode your bike for the very first time? Remember the feeling of new freedom and pedaling to move faster than ever before, and knowing you could decide when and where to go? That first ride, that first bike always will remain as one of the first steps in the life of any child toward independence.

But for many children with disabilities or special health care needs, riding a bike is an experience that is denied when conventional bikes cannot be used. For many families of children with disabilities or special health care needs, the cost of adapted bikes makes purchase impossible. Third party payers or insurance companies cannot make purchase of an adapted bike a reimbursement priority without a body of research that supports the value of this equipment as a part of a child's rehabilitation.

Unfortunately, little research currently exists that shows the physical and emotional gains that can be achieved by a child with disabilities or special health care needs who has a bike. At the same time, few resources are available in this country to teach children with disabilities or special health care needs about bike safety. Is bicycling only for children who are able-bodied? Do only children who are able-bodied get injured?

All children can enjoy the bicycling experience. And all children can learn how to prevent injuries and to be safe. At the Safety Education and Outreach Department (formerly Community Education and Child Advocacy) of Riley Hospital for Children, Indiana University School of Medicine, research has been made possible through a grant award from the National Highway Traffic Safety Administration and Indiana District of Kiwanis International, to learn about the impact use of adapted bikes has on rehabilitation progress of children with special health care needs or disabilities. Through collaboration with the Indiana University School of Physical Education's Adapted Physical Program, 10 children with cerebral palsy were followed over a six-month period to measure whether gains in self-esteem, strength, and physical function occur as a result of regular riding of an adapted bike.

## Purpose of this manual

*No child should be denied the opportunity to enjoy the bicycling experience, even when conventional bikes cannot be used.*

Many parents and professionals may not be familiar with adapted bikes and the potential benefits this technology can have on a child's rehabilitation progress and overall emotional and physical growth. This manual is designed to increase parents' knowledge of available resources and possibilities for accessing adapted bike technology.

This manual serves as a reminder to parents of children with special health care needs or disabilities that there are fundamental basics to bike safety that apply to all children. All children should select a bike that fits them properly. All children must wear an approved and properly fitted bicycle helmet. All children must develop and practice bike control skills. All children must learn and apply knowledge in bike and traffic safety.

An informed parent can help open up new possibilities, potential, and direction for a child. With the information in this manual, parents can begin conversations with other care providers and professionals about identifying how an adapted bike can become an everyday vehicle for a child's rehabilitation, independence, and abilities for enjoying regular physical and recreational activity with friends and family.

## CHAPTER 2

# The Adapted Bike Project

The Safety Education and Outreach Department has encouraged bike safety classes since 1995. Our bicycle and pedestrian safety program, Racing For Safety, provides a resource guide to educators statewide who are interested in planning and presenting bike and pedestrian safety courses. This program received national recognition in 1997 from the Secretary of Transportation's Community Partnership Awards Program and was commended for connecting with many partners across the state to teach bike safety at the local level. But the program was not yet complete, since its focus at that time was on reaching children who are able-bodied.

The idea for the adapted bike project began from a conversation that took place between a parent of a child with special needs and a staff member from the Safety Education and Outreach Department. The parent stated that, although her daughter had made improvements through occupational and physical therapy treatments, the child was not included in bike riding with the other children in the neighborhood during the summer. Subsequently, the child spent much of the summer sitting on the porch by herself. Department staff began to think, "How could we create a situation where we can provide children with special needs an opportunity to be involved in bike riding with children who are able-bodied?" The answer: adapted bikes.

The first step was to research what type of adapted bikes were available to meet the needs of children with special needs. Most children who are unable to ride a bike cannot do so because of disabilities in their upper extremities, lower extremities, or a combination of the two. Other children cannot ride because of postural, visual or cognitive disabilities. Through our research, we found many companies that specialize in providing adapted bikes that help children with these disabilities to ride bikes.

Although our research found that there are many companies that specialize in producing adapted bikes, we also discovered that these bikes typically are very expensive. They range in price is from several hundred to over one thousand dollars. Through conversations with parents of children with special needs, we learned that few of these children had their own adapted bike. Some of these caregivers were not even aware that these bikes existed; others knew of the bikes, but could not afford them. One way to obtain these bikes is through insurance providers. But to do this, the physical and emotional benefits of adapted bikes would have to be documented. Unless we could get insurance reimbursement by documenting the physical and emotional benefits gained through bike riding, many of these families would not likely be able to own an adapted

bike. A grant award from the National Highway Traffic Safety Administration and the Indiana District of Kiwanis International made it possible for us to develop a study to examine the physical and psychological effects that these bikes have on the children, while also teaching them how to ride safely.

Ten children with cerebral palsy who had never ridden a bike participated in this study. Participants were children between 7 and 16 years old. All but one child was at the functional cognitive level above age 7 years. Most of the children had the clinical diagnosis of spastic diplegia.

The 10 children agreed to participate in a nine-month study (February to October 1999). From the beginning, each child realized the incredible opportunity that he or she was given by participating in our study. One child summed it up best when he excitedly stated, "I have waited my whole life for this day!"

To validate data, functional tests were administered by researchers from the Indiana University School of Physical Education, who specialize in Adapted Physical Education. Initial, midpoint, and final tests of functional tasks, strength and self-esteem of each participant were recorded. In addition, the participants were required to ride their bike a minimum of 30 minutes three times a week during the study. Each week, participants filled out data collection sheets that documented the number of times and days that the child rode his or her bike.

After the comprehensive tests were administered, each child received his or her bike. Before the children were allowed to take their bikes home, they were required to attend a bike safety day. To enhance each child's safety it was imperative that the study participants learn bike safety. Studies show stark consequences for bike riders who are uninformed: Fewer than half of children ages 5 to 14 wear helmets when participating in any wheeled activities, and more than a third of children who use helmets wear them improperly. Nearly half of children ages 14 and under hospitalized for bike-related injuries have traumatic brain injuries. It is estimated that 75% of fatal head injuries among child bicyclists could be prevented by the child wearing a bike helmet. Wearing a bike helmet reduces the risk of head injury by 85% and the risk of brain injury by as much as 88% (Safe Kids Worldwide: "Facts about injuries to children riding bicycles, 2006").

All study participants, accompanied by their family and friends, attended the bike safety day. Each child was fitted with a helmet and instructed that it must be worn every time the child rides. In addition to helmets, the children were given a bell or horn, a water bottle, and pamphlets on safety information. The children learned about the importance of obeying street signs and how to use hand signals while riding. Props, such as a Jell-O

mold of the brain, were used to show how fragile the brain is and why it must be protected.

Finally, the children with their families received their new bikes and proceeded outside to practice the skills that they had just learned. For the families and everyone involved, this was a special day to witness 10 children experience an activity that all children enjoy but has never before been available to them, bike riding! Family members were able to share a special moment, as this was the first time that they were able to ride bikes together!

The children continued to ride their bikes through the summer. Riding logs were completed by families to track bike use and document events while using the bikes. A home visit was completed at the beginning of the summer to check bike safety and maintenance. Physical and emotional gains continued to be measured during the riding period. The children participated in the continued testing until October 1999.

## Grants and Financial Support

*There are several areas to consider when seeking financial support for an adapted bike.*

To fund a project, both public/government and private institutions have monies available for research and philanthropic ventures. Some institutions to consider when looking for funding are large companies (both national and regional), hospitals, private foundations (i.e. Allstate Foundation, Ronald McDonald House Charities, Lowe's Home Safety Council, etc.), major employers in the local area, and service organizations (i.e. Kiwanis Clubs, the Lion's Club, Boy/Girl Scouts etc.). Most of these institutions list grant funding on the Internet and in literary publications. Consult a library in your area for assistance with these searches.

Regional or national institutions typically fund research studies versus funding the purchase of an adapted bike for individual purposes. If your goal is to fund a bike for an individual child, local resources are a better source. Contact local churches, civic groups (i.e. Kiwanis, Boy/Girl Scouts, Lion's Club), or businesses. If you live near a university, college fraternities and sororities do fund raising and may be a source of financial support for obtaining bikes.

When contacting organizations for funding, a phone call is the first step. Most organizations will request further information, such as a letter of inquiry. If you are applying for a grant, follow the instructions on the grant application. Each grant contains

the lists of the criteria or requirements for eligibility. Depending on the particular grant, criteria range from specific to more general requirements. When attempting to obtain funding for an individual child, a letter describing why your child would benefit from the bike could be written by the parent and child. In addition, letters of support from the doctor or therapist could be added. Mark Schmeler wrote an article titled *Strategies in Documenting the Need for Assistive Technology: An Analysis of Documentation Procedure* (Technology Special Interest Section Quarterly, Vol 7(3), September 1997, Published by the American Occupational Therapy Association, Inc.). This article could be a good guide for writing a letter of support. If the organization sponsoring the grant agrees, bring your child in for a meeting and have the child explain why he would like the bike. Be creative!

### Selecting an appropriate bike

There are two major steps in determining the appropriate bike for the child. The first is consultations and the second is proper selection.

#### **Consultations necessary before purchasing an adapted bike**

Before purchasing a bike for an individual child, several consultations should be obtained.

1. Consult the family physician. The doctor needs to examine the child and approve the child's participation in bike riding. The doctor will also be able to monitor physical and emotional changes resulting from riding the bike.
2. Consult an occupational or physical therapist. These professionals have the knowledge to select a bike that will fit a child. In addition, these professionals can monitor physical and emotional changes and are able to incorporate the benefits of bike riding into the child's every day activities. The therapist must determine if the child's current rehabilitation status allows him to participate in bike riding. Be sure to take this information with you when discussing a bike for a child.
3. If the child wears leg braces, it is important to schedule an appointment with the child's leg brace provider, most likely an orthotist, physical or occupational therapist. These appointments are to ensure that wearing the braces while bike riding is not causing any physical problems or discomfort to the child. This should be done before and after receiving the bike.

Once consultations are complete, a determination on the appropriate bike can be made.

#### **Selecting an adapted bike**

For most children who cannot ride a two-wheel bike, the best option is to purchase a three-wheel bike. From a basic three-wheel design, many options can then be added to fit each child's needs.

*Upper extremity challenges:* Hand straps for assistance while holding onto the handlebars and larger handlebars are two options for these challenges. Both adaptations assist the child with maintaining his grasp.

*Lower extremity challenges:* Foot straps or foot platforms can be added to a bike to hold the foot in place and assist with pedaling. Abductor wedges are available. This wedge is attached to the bike between the child's legs and assists the child in maintaining proper leg alignment. Tricycles also are built for persons who are not able to use leg motion but are able to use arm motion to propel the bike. The arm cycles can be propelled using a circular or a rowing motion.

*Combination of upper and lower extremity challenges:* For these children, models are created that incorporate both the hands and the feet in pedaling. Like the other cycles, these hand-powered cycles can add trunk and foot support.

*Poor postural control:* To aid in a child's sitting balance, a trunk support brace can be added to the bike. Safety belts also can be added to assist the child in maintaining balance and proper positioning. A padded head brace is available for a child with poor head control.

*Visual or cognitive challenges:* Tandem bikes (an extended bike in which one rider rides behind another) are one option. These bikes allow a person who is able bodied to ride with a child who has challenges to ensure that the child steers safely. Side by side bikes also provide options for persons who have one or more of the challenges mentioned above. These models give the child more steering control, which allows her to participate physically at a higher level of control.

If a person cannot ride a bike at all, there are options available to include the person in bike riding. One such cycle attaches to a wheel chair and allows the child to join others in a bike ride. Other options are pull behind carts, which are available in all sizes to include everyone in bike riding. These are hitched to a bike and allow the child to be pulled in a miniature trailer. Persons riding in tandem also need to wear a helmet.

These are just a sample of the types of bikes available today that can be adapted to meet the needs that the child may have. There are several resources that can be used to obtain the proper adapted bike to meet the individual child's needs:

1. There are national and local companies that specialize in their production. Using the attached bike company list, an individual can request catalogs, free of charge, for bikes of interest.
2. The best resource to select a bike for a child is the occupational or physical therapist. They can size bikes and recommend adaptations. However, since adapted bikes are a new product, many therapists may not be aware of the many bikes available commercially. By bringing the list to their attention and ordering catalogs, they will have the skills necessary to help you select a bike for your child.
3. Visit local bike shops. Local bike shops may have some models of bikes available. They also can size the bike that is appropriate for the child, and make minor adaptations. These stores also sell the necessary safety equipment that the child needs to minimize injuries from crashes.

## Bike safety for children

### *Bicycling is for all kids ... of all ages*

Every one of all ages and abilities can enjoy the bicycling experience. Riley Hospital for Children supports programming and information resources that help make it possible for children of all ages to bicycle and to be safe bike riders. While some children and adults with disabilities or special health care needs may not be able to use conventional bikes, there are different models of adapted bikes that are commercially available and that can adapt to different needs for positioning and mobility. This list, which is not intended to be all inclusive, provides an introduction to many of the manufacturers and distributors of these products.

Children and adults with disabilities or special health care needs can benefit considerably from the opportunity to bicycle. Bicycling helps them to realize many benefits, including increased social activity with friends and family members and opportunities to improve physical function and coordination abilities. Therapists and other medical professionals can work with families to shape individual goals for children and adults with disabilities or special health care needs to develop a healthy and fit lifestyle that includes bicycling as a regular recreational activity.

Before anyone ever rides a bike, it is important to take the time to teach and learn the basics of bike safety, operation, and maintenance. Regardless of a person's ability, the

basic guidelines for bike safety remain the same for all riders. These guidelines must be followed by everyone:

- Wear a bike helmet. Anyone who rides a bike must wear a properly fitted and approved bike helmet. Bike helmets must meet current safety standards set by the U.S. Consumer Product Safety Commission. Bike helmets must fit snugly on the rider's head with the chin strap snugly secured. If the rider falls from a bike, is involved in a bicycle crash, or if the helmet contacts a hard surface, the bike helmet must be replaced.
- Know the rules of the road. All riders must be able to demonstrate knowledge of basic bike safety practices: bike hand signals, riding bikes with traffic, how to respond to traffic safety signs.
- Be seen and heard. Reflectors, lights, horns, and flags help people to see and/or hear a bike at all times of the day. Do not ride a bike at night when you cannot be seen by motor vehicle drivers. If riding a bike at dusk or dawn, make certain all bike riders wear light colored or reflective clothing to be easily seen.
- Prepare for safe bike rides. Drink plenty of fluids before, during, and after a bike ride to prevent dehydration. Take water with you on a bike ride and plan to make frequent stops so that no one becomes overheated. During the late spring and summer months, use sunscreen to help prevent sunburn. Pack a first aid kit and cell phone (if available) for the bike ride to be able to react to any immediate first aid emergencies. Prior to bike riding, talk with your physician to identify any issues relating to your rider's medications and their use prior to, during, and after a bike ride and their impact on your rider if he becomes overheated.
- Learn bike maintenance. Riders and families should know basic bike maintenance responsibilities, which include regular inspections of brakes, gears, tires, and bike seat and handlebars. Periodic inspections should review that all parts are intact and in working order.
- Provide supervision. All riders require supervision to varying degrees, depending upon their age, development, and ability. People with disabilities or special health care needs may require extra attention, particularly since bike riding may be a new experience and may be exercising newly developing motor and control skills.

Insert bike helmet fitting instructions here

Insert bike helmet fitting instructions here

## Types of Adapted Bikes

### **Foot driven cycles**

Foot driven cycles resemble a standard tricycle that is modified to meet special needs. The three wheeled styling offers a wider base of support to allow increased independence for those with balance issues. They are suitable for children and adults with a wide range of physical problems from mild balance problems to more severe disabilities.

Optional Accessories: A front hand brake for safety, trunk and hip supports, a fixed position wheel and foot saddle attachments to the pedals which helps the peddling action, an adductor support to help with scissoring of the legs, along with numerous other accessories to aid in proper positioning and safe riding.

### **Hand driven cycles**

Like the foot driven cycle, the hand driven cycle also provides a wider base of support for increased stability. The hand driven cycle would be ideal for those with poor balance, reduced leg strength, incomplete para- or tetraplegia, hemiparesis, generalized muscle weakness, amputation, or back pain. Multiple accessories are available including various seating options for increased stability and comfort.

Optional Accessories: A front hand brake for safety, trunk and hip supports, a fixed position wheel and foot saddle attachments to the pedals which helps the peddling action, an adductor support to help with scissoring of the legs, along with numerous other accessories to aid in proper positioning and safe riding.

### **Tandem cycles**

Tandems, or two person models, are available for those riders who would prefer to ride with another person rather than be totally on their own. Several different designs include side by side tandems, front and back tandems that are versatile so that the rider with a disability may ride in either position, and a wheelchair based tandem where a bicycle attaches to the rear of and pushes a wheelchair. In some models, the wheelchair is detachable for participation in activities while you are out. Certain tandem bicycles allow for there to be a passive rider who can sit back and enjoy the experience of riding without the physical exertion involved.

The **Recumbent Cycle** places the rider in a reclined position, while the **Prone** positioning cycles place the rider in a forward leaning posture with their legs behind them in relation to the midline. This is recommended for those with high extensor tone and/ or poor head and trunk control.

The **bicycle trailer** attaches to the back of a standard adult bicycle. Various seating devices and accessories are available based on the needs of the consumer.

To assist in your search for the product that fits your individualized needs, we have developed a categorization system. Following each company name there is a series of letters that correspond with a letter in the key below. Determine what criteria the product you are searching for needs to meet, and then eliminate those who do not, speeding up the process.

Example: If I was searching for an adult (A), recumbent bike (R), It would be likely that I would find one possible product on the Freedom Concepts Inc. website since the categorization letters include "A" and "R".

Category Key:

A – Adult                      C – Children                      T – Tandem                      U – Upright  
P – Prone                      R – Recumbent                      BT – Bicycle Trailer

AmTryke/Ambucs  
(C,U)



Specializes in hand / foot driven therapeutic tricycles for individuals of all ages and offers patients improvement in several different areas such as motor skill development.

PO Box 5127 High Point, NC 27262

Phone: 1-800-838-1845

Fax: 1-336-852-6830

Website: <http://ambucs.org>

E-mail: [ambucs@ambucs.org](mailto:ambucs@ambucs.org)

Angletech  
(A,C,R,T)



Manufactures custom fit hand and foot powered recumbent tricycles for all ages and abilities. These tricycles offer the rider comfort, fun, and safety.

1483 Garden of the Gods Road, Colorado Springs, CO, 80907.

Phone: 1-719-687-7475

Website: <http://cycledifferent.com/>

Email: [angeltech@me.com](mailto:angeltech@me.com)

Bike On  
(A,C,R)



Makes hand-cycles with a large variety of different designs meant to cater to the needs of the rider. These tricycles can be used by children as well as adults.

72 College Street, Warwick, RI 02886

Phone: 1-888-4bikeon (424-5366) or 1-401-821-7544

Website: <http://www.bike-on.com>

E-mail: [info@bike-on.com](mailto:info@bike-on.com)

Blue Sky Carts  
(A,C,BT)



Manufacturer of a “special needs trailer” to be attached to the rear of an adult bicycle. Weight Capacity – 200 lbs. Various accessories such as a canopy kit are available.

1614 Southside Road, Sutherlin, OR 97479

Phone: 1-541-459-2978

Website: <http://blueskycyclecarts.com>

E-mail: [sales@blueskycyclecarts.com](mailto:sales@blueskycyclecarts.com)

Consumer Care  
Products Inc.  
(C,U)



It is important to wear a properly fitted helmet for every ride

A catalog based company manufacturing pediatric hand and foot powered trikes and a do-it-yourself upper trunk support kit and belt.

W282 N7109 Main Street, Merton, WI 53056

Phone: 1-262-820-2300

Fax: 1-800-977-2256

Website: <http://www.consumercarellc.com>

E-mail: [CCPI@consumercarellc.com](mailto:CCPI@consumercarellc.com)

CycleTote Corp  
(C,BT)



Manufactures a special needs trailer / stroller that can fit an occupant up to 5'4" in height and 170 lbs. This product can accommodate multiple seating systems such as a panda or tumble form feeder / carrier seat. Various accessories are available.

517 Link Lane, Ft. Collins, CO 80524

Phone: 1-800-747-2407

Fax: 1-970-530-0232

Website: [www.cycletote.com](http://www.cycletote.com)

E-mail: [cycletote@cycletote.com](mailto:cycletote@cycletote.com)

The Dragonfly  
Toy Co.  
(C,A,P,U)

Manufacturer of pediatric and adult prone / upright and hand / foot driven tricycles.

291 Yale Ave.

Winnipeg, MB, Canada R3M OL4

Phone: 1-800-308-2208

Fax: 1-204-453-2320

Website: [www.dragonflytoys.com](http://www.dragonflytoys.com)

Email: [sales@df toys.com](mailto:sales@df toys.com)

Equipment Shop  
(C,U)



Manufactures adapted tricycles for young children and accessories including upright handlebars, back support, pommel, and foot pedal attachments for do-it-yourself adaptations.

Box 33, Bedford, MA 01730

Phone: 1-800-525-7681

Fax: 1-800-793-7922

Website: <http://www.equipmentshop.com>

E-mail: [info@equipmentshop.com](mailto:info@equipmentshop.com)

Flaghouse  
(C,A,U,P,R,T)



A catalog based company carrying more than 25 different hand and foot powered tricycles and accessories for all ages and abilities. To request a "special populations" catalog, contact them at:

601 Flaghouse Drive, Hasbrouck Heights, NJ 07604-3116

Phone: 1-800-793-7900

Fax: 1-800-793-7922

Website: [www.flaghouse.com](http://www.flaghouse.com)

E-mail: [sales@flaghouse.com](mailto:sales@flaghouse.com)

Freedom  
Concepts Inc.  
(C,A,P,U,R,T)



Manufactures custom fit, foot powered tricycles for all ages. Various accessories such as a chest harness and Velcro foot straps are available for purchase.

Canada: PO Box 45117, RPO Regent, Winnipeg, Manitoba, Canada-R2C 57C

US: 3651 Lindelle Road Suite D239, Las Vegas, NV 89103

Phone: 1-800-661-9915

Fax: 1-204-654-1149

Website: [www.freedomconcepts.com](http://www.freedomconcepts.com)

E-mail: [mobility@freedomconcepts.com](mailto:mobility@freedomconcepts.com)

The Freedom  
Ryder  
(A,R)



A hand powered bicycle you steer by leaning your body. It combines the fun of cycling and the benefits of an upper-body workout with the sensation of slalom skiing.

Bike International, Ltd.

20589 S.W. Elkhorn Ct., Tualatin, OR 97062

Phone: 1-800-800-5828

Fax: 1-970-221-4308

Website: <http://www.freedomryder.com/>

E-mail: [mikelofgren@freedomryder.com](mailto:mikelofgren@freedomryder.com) or text 1-503-692-1029

Green Speed  
(A,R)



Human powered transportation. Green Speed specializes in recumbent bikes.

US distributor: Jerome Hediger, 330 Cally Ln., Highland, IL 62249

Phone: 1-618-3955

Australia: 69 Mountain Gate Drive, Femtree, Gully VIC 3156

Phone: +613 9758 5541 Fax: +613 9752 4115

Website <http://www.greenspeed.com.au/>

E-mail: [ian@greenspeed.com.au](mailto:ian@greenspeed.com.au)

Handcycles by  
Palmer  
(A,C)

Hand cycles for both adults and children.

PO Box 5707, Endicott, NY 13763

Phone: 1-800-847-1304 or 1-607-754-2957 Fax: 1-607-754-1954

Website: [www.palmerind.com](http://www.palmerind.com)

Email: [palmer@palmerind.com](mailto:palmer@palmerind.com)

Invacare  
(C,A,U,R)



Manufactures upright and recumbent hand cycles for adolescents and adults.  
One Invacare Way, PO Box 4028, Elyria, OH 44035-4049  
Phone: 1-800-333-6900  
Website: [www.invacare.com](http://www.invacare.com)

Lightning  
Handcycles  
(A, R)

Lightweight handcycles.  
312 N. 9<sup>th</sup> Street Suite B, Lompoc, CA, 93436-4967  
Phone: 1-805-736-0700  
Website: [www.lightningbikes.com](http://www.lightningbikes.com)  
Email: [information@handcycle.com](mailto:information@handcycle.com)

Mobility &  
Access, Inc.  
(C,A,T)



Formerly Frank Mobility Systems. Manufacturer of the "Duet", a wheelchair bicycle tandem which is a bicycle that has a wheelchair attached to the front that can be easily removed for wheelchair participation in other activities.  
1003 International Drive, Oakdale, PA 15071-9223  
Phone: 1-844-562-8034 (toll free)  
Fax: 1-724-695-2922  
Website: [www.mobilityaccess.com](http://www.mobilityaccess.com)  
E-mail: [duetbike@frankmobility.com](mailto:duetbike@frankmobility.com)

Palmer Industries  
(A,C)



It is important to wear a properly fitted helmet for every ride

Manufactures handcycles for adults and children. Also has several different options such as foot pedal combination, seats, and a basket to carry things  
PO Box 5707 Endicott, NY 13763  
Website: <http://palmerind.com>  
E-mail: [palmer@palmerind.com](mailto:palmer@palmerind.com)

Power Pumper  
(C,U)



The Power Pumper is made for children ages 5-11. Often used for rehabilitation because it encourages normal movement of upper and lower extremities, it has been found to be helpful for children with Autism, low muscle tone, Spina Bifida, Cerebral Palsy, and developmental disorders as well as many others.  
Columbia-Inland Corporation  
606 15th St., Oregon City, OR 970045  
Phone: 503-657-6676  
Website: [www.powerpumper.com](http://www.powerpumper.com)  
E-mail: [info@powerpumper.com](mailto:info@powerpumper.com)

Quickie Designs,  
Inc  
(C,A)

Manufactures hand-cycles that are designed for high performance for all ages.  
505 West Thomas Road, Phoenix, AZ 85013  
Phone: 1-800-236-4215  
Website: [www.quickie-wheelchairs.com](http://www.quickie-wheelchairs.com)

Rifton Tricycles  
(C,A,U)



Manufactures a foot-powered tricycle in three different sizes for children and adults up to 200 pounds. Additional accessories available for customization.

P.O. Box 260, Rifton, NY 12471-0260

Phone: 1-800-571-8198

Website: [www.rifton.com](http://www.rifton.com)

E-mail: [sales@communityproducts.com](mailto:sales@communityproducts.com)

Spokes 'n Motion  
(A,R)



Spokes 'n Motion is a specialist in adaptive sports equipment and the promotion of sports equipment for persons with disabilities. They sell both Prashberger and Freedom Ryder handbikes.

2535 South Wadsworth Blvd, Lakewood, CO 80227

Phone: 1-303-922-0605

Fax: 1-303-265-9685

Website: <http://www.spokesnmotion.com>

E-mail: [info@spokesnmotion.com](mailto:info@spokesnmotion.com)

Sunrise Medical  
(A,C,R)



Produces a variety of hand cycles for adults and children with all ranges of abilities. They also offer a product to transform your wheel chair into a bike.

2842 N. Business Park Ave, Fresno CA 93727

Phone: 1-800-333-4000

Website: [www.sunrisemedical.com](http://www.sunrisemedical.com)

E-mail: [webmaster@sunmed.com](mailto:webmaster@sunmed.com)

ToniCross  
Tricycles  
(C,A,U)



Manufactures foot powered tricycles for pediatric and adolescent consumers up to 180 pounds.

9435 Waterstone Boulevard, Cincinnati, OH 45249

Phone: 1-877-808-4540

Website: [www.adaptivespecialties.com](http://www.adaptivespecialties.com)

Trailmate  
(C,A,U,R,T)



Manufactures various tricycles for adolescents and adults with unique features such as a step through design and swing away handlebars.

2359 Trailmate Drive, Sarasota, FL 34243

Phone: 1-800-777-1034

Fax: 1-800-477-5141

Website: [www.trailmate.com](http://www.trailmate.com)

E-mail: [info@trailmate.com](mailto:info@trailmate.com)

Triaid  
(C,U)

Manufactures hand and foot powered tricycles for children up to 130 pounds.

PO Box 1364, Cumberland, Maryland 21501-1364

Phone: 1-800-306-6777 Fax: 1-310-759-3525

Website: [www.triaid.com](http://www.triaid.com)

Email: [sales@triaid.com](mailto:sales@triaid.com)

Varna  
Innovation &  
Research  
(A,R)



Designs and manufactures cycles and handcycles.  
1635 Queequeg, Gabriola Island, BC VOR 1X5  
Phone: 250-247-8379  
Website: [www.varnahandcycles.com](http://www.varnahandcycles.com)  
Email: [Varna@varnahandcycles.com](mailto:Varna@varnahandcycles.com)

It is important to wear a properly fitted helmet for every ride

Worksman  
Cycles  
(A,U,R)



Offers a full variety of Adult Tricycles, Folding Bikes, Tandems, Cruisers, Middleweight Bicycles and even Dual Rider Tricycles. Even if you cannot balance a 2-wheel bike, there is a Worksman Pleasure cycle right for you.  
94-15100th Street, Ozone Park, New York 11416  
Phone: 1-888-3wheeler or 718-322-2000 Fax: 718-529-4803  
Website: [www.worksman.com](http://www.worksman.com)  
Email: [cycles@worksman.com](mailto:cycles@worksman.com)

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