THE GUIDE TO DISABILITY CYCLING

www.bikesnotbarriers.org
**BIKES NOT BARRIERS** is part of Get Cycling: a community interest company which promotes disability cycling in many different ways. Chief Executive, Jim McGurn, writes:

Independent mobility, meaningful exercise, co-ordination skills, a sense of achievement and enormous fun: cycling offers a whole lot of benefits to anyone with a disability.

That’s my son, Joseph on the cover, riding on the front of a tandem trike, with his Mum, Sally, steering from behind. Joseph has Downs Syndrome and autism, so cannot cycle alone on public roads. The solution is perfect for everyone: he loves cycling, it’s totally practical, and it allows the whole family to go out pedalling together. We have a completely different solution for Joseph when it comes to him riding solo in the local park.

That’s us. Your own needs may be completely different. But how do you know what will work for you? For years now we have been helping individuals, families, voluntary groups and special schools with informal advice, and have offered a limited try-out service. This guide is part of our effort to offer more information and practical opportunities to try things out.

Disability cycling is a vast subject, full of pitfalls. The end result may be a lot of fun and new mobility, but getting there is another matter. We often come across people who have bought the wrong bike, or perhaps the person it’s intended for just does not get on with it. There has to be a chance to try out a broad range of cycles, from many suppliers, and with good advice, before a decision is made – and there has to be back-up if it does not work out quite right.

At last we have a well-resourced national advice and try-out facility: where we can demonstrate almost every kind of cycle and adaptation in a relaxed, unpressurised environment. It also allows us to hire out and sell new and refurbished cycles. Our special needs bike try-out roadshows have been visiting schools and public parks for eleven years, and will continue to do so, but we now have a comprehensive service for individuals and professionals which has never existed before. We even organise our own disability cycling Festivals with over a hundred cycles to try out for free. It may be coming to your region soon...

Bikes not Barriers is the name we give to all our disability services. Our work reflects our strong personal interest and the commitment of all our wonderful staff. This is all part of our role as a community interest company.

You’ll find lots more information, and details of bikes, on the website: [www.bikesnotbarriers.org](http://www.bikesnotbarriers.org)

If you want to try out a good selection, then come and see us, or come to one of our events. Keep an eye on the news section of this website for upcoming roadshows, festivals and assessment visits in your area.

By using our services you help make us stronger, and if you buy from us you help fund all the useful work that we do all over the UK.

Happy Cycling!

Jim McGurn
TRICYCLES

Trikes come in many shapes and sizes. Most have two wheels at the back. This gives a carrying space between the rear wheels, and a familiar steering arrangement at the front. Others have two wheels at the front, with Ackermann steering. This usually gives you more stability, and gives a better view of wheel clearance.

Wheel size is usually either 20” or 24”. Smaller wheels give a lower centre of gravity (good), but the larger wheels give a smoother ride. Higher quality trikes have differential gearing, meaning both wheels are powered together, giving better handling and control.

If you’ve never ridden a bicycle you’ll probably sail off on a trike with no problem at all. But if you’re used to two wheels it may take ten minutes practice for you to get over the reaction that you need to steer to balance. Your brain needs to convince itself that you’re not on two wheels! Once you’ve got tricycling skills you keep them for life.

Trikes are safe, sure and visible on the roads. Since you don’t wobble at low speeds you can use fantastically low gears without falling off. And if you tire half way up a hill, just put the brakes on and rest a while. There are a few drawbacks: they can be difficult to store - although some can fold to some extent. They weigh more than equivalent two-wheelers, have higher rolling resistance, and they can still tip over if ridden too fast round bends. If this is a potential problem, look at the Quad on the next page.

Back supports, footplates and other adaptations are possible on almost all machines. Virtually all tricycles can be retrofitted with an electric-assist system.

Trikes can make a huge difference to many people’s lives – and you see more and more of them around.

CLASSIC TRIKES

For more information on tricycles visit www.bikesnotbarriers.org

CLASSIC TRIKES

For more information on tricycles visit www.bikesnotbarriers.org

JIVE

A rugged, no-nonsense single-speed trike. It’s actually designed for industrial use, so will take some stick. The relatively high step-over height will not suit everyone. A basket or box can be fitted to the back. Note that there are no mudguards. For teenagers and adults.

For more information on tricycles visit www.bikesnotbarriers.org

For more information on tricycles visit www.bikesnotbarriers.org
MAXIRAD 20"

This trike from Germany has 20" wheels and is ideal for shorter people. Height-adjustable handlebars and seat plus a low step-through frame. The large rear basket makes best use of the carrying capacity.

TERRAIN MOUNTAIN TRIKE

Great for looking cool, but also for going off-road. Hand made in Germany, the Terrain has 24 gears with gripshift, twin hydraulic disc brakes and (very importantly) differential gearing giving equal and constant transmission to both rear wheels on uneven ground.

QUAD

Easy step-over, more stability than a tricycle and reassuring car-like handling. We can offer a range of quads from the relatively basic model to sophisticated options that can carry riders weighing up to 160kg.

ATALA FOLDER

Designed in Italy, this is a good, elegant, general purpose steel-frame trike which folds in the middle for easier storage. 24" wheel at the front and 20" at the back. The step-over height is moderately low.

PASHLEY TRI-1

A lightweight 20" wheel tricycle by Pashley. A high quality, lightweight cycle with top quality parts. It comes in a standard version, or as a single speed special needs tricycle without a freewheel. All Tri-1s are available in folding versions, which involve a hinge in the frame.

TADPOLE TRIKES

Two wheels at the front make these more stable and easier to steer than conventional trikes. Seeing the full width in front of you makes it easier to judge clearances. Being like a standard bike at the back, it is easy to alter the gearing etc. Note the low-step-over frame and the great carrying capacity.

For more information on tricycles visit www.bikesnotbarriers.org
Trikes for Children

MUSKATEER CHILD’S TRIKE
An attractive, 14” wheel trike for any child. Parent control handle, back-support and other adaptations can be supplied. For inside leg 12” to 18”.

LINBIKE BASIS
A fine trike from Holland, with a low step-over frame in lightweight steel. The 26” wheels help the Basis roll comfortably, and the differential gearing powers both wheels and saves on tyre wear. The frame folds in the middle and the handlebars fold down. This all allows the Basis to fit into many cars. A non-folding version is also available.

BMX TRIKE
Street cred on three wheels. BMX-trikes like these can be bought off the shelf. They may have BMX styling but are not BMX strength.

“Post-stroke, I absolutely thought my days of riding a bike were over, but I am now riding the trike every single day, thanks to the Bikes not Barriers people. They guided me to a suitably cool-looking machine and made all the specialised adaptations.”

Simon Pearson
Trikes for Children

NIJLAND ACKY
Dutch engineering at its best for small children. Steering limiter, enclosed transmission, fixed drive, and an adjustable brake lever for smaller hands. Cambered wheels give more stability and manœuvreability due to the resulting lower centre of gravity. 16” front wheel, 12” wheels at the back. For children aged 3 and upwards.

NIJLAND BONDO
All the features of the Acky above, but with 16” wheels at the back, and a 20” wheel at the front. For children aged five and upwards.

SUNNY CLIP TRICYCLE
A superb machine from Holland for larger children and small adults. Low centre of gravity, cambered wheels for stability, differential gearing, steering limiter, fully enclosed transmission, large-lever parking brake, very high quality components, 18” rear wheels, 22” front wheel.

All these cycles are available with electric-assist and also with parent handles with a brake facility. All cycles from Nijland can be fitted with purpose-made adaptations as shown here.

For more information on tricycles visit www.bikesnotbarriers.org
RECUMBENTS

A recumbent has a seat not a saddle. Many are two-wheelers, but we stick to recumbent tricycles in this guide. They give you, essentially, a very comfortable and stable riding position. Some are practical town machines, others are great for getting up some speed and having real fun. They are enjoyed by people with and without disabilities.

Visibility? This is not really an issue if you’re on a bike path. On-road you can use a visibility flag.

One drawback with recumbents for people with certain disabilities is that feet can slip downwards off the pedals, because the pedals are ‘in mid-air’ rather than underneath. This can be counteracted by the use of footplates with straps and a rear lip. Another thing to bear in mind is the height off the ground.

With some particularly low machines some people find it hard to get down low enough and get up again. We urge potential users to come and try out a variety of recumbents at our try-out centre.

Have a spin on a recumbent, and you’ll love it!
A great view, great comfort: just sit back and enjoy!

SINNER COMFORT

Made in Holland. An easy-riding general purpose recumbent, with suspension. Drive is differential, to both of the rear wheels, reducing slippage in the wet, and on cornering.

REHATRI COMFORT

A semi-recumbent trike with above-the-frame steering, adjustable backrest and handlebar position. Fantastically good value.

The Bikes not Barriers KMX track can be brought to any school or public event.

For more information on recumbents visit www.bikesnotbarriers.org
This German recumbent is the perfect all-rounder. It is not designed specifically for the disabled market, but we like its high riding position, large rear rack and general quality. Two wheels at the front give added stability, and make steering easier. Pictured is the electric-assist version.

Lucky 20
An ideal tricycle if you have knee or hip problems. The Lucky 20 has a reassuringly low centre of gravity, and the standard version has a 3-speed hub gear, a steering restrictor, backrest and basket.

For more information on recumbents visit www.bikesnotbarriers.org

KMX
We have been using these for ten years on our general bike try-out roadshows, and we love them! A low, exciting ride. They come in a wide range of sizes and specifications, for children and adults. Very popular in special schools, and a good first recumbent for adults.

Tripod
A sophisticated performance recumbent with high class Dutch engineering. A lot of fun if you like to ride low, and want to get up some speed from time to time. There’s also a tilting version which gives added stability on cornering.
CARRYING CHILDREN

Small children with disabilities can be carried on bikes using standard solutions. For example you can buy a quality child seat from most bike shops.

You can also tow a child trailer. Cheaper ones have steel frames, and the more expensive ones have lighter aluminium frames, a solid base and higher quality fabric. Some are designed for one child, but most carry two children, so can easily carry one child centrally, with luggage space alongside and under the seat. Some convert into buggies once you get to your destination. Check that the trailer’s hitch works with your bicycle’s rear end. Features like hub (or disc) brakes, or smaller than usual wheels, may cause fitting problems.

The Dutch-style box-bike or trike carry one or more children, plus buggy and shopping if you wish. Your child sits in the box in front of you, and is strapped in: protected from the weather by a fabric cover. The better ones have Ackermann steering and a reverse gear for three-point turns.

Pedalled trailer bikes are suited to children aged four to seven, and we set out the pros and cons over the page. With all trailers your child is some way behind you and communication can be difficult. The advantages are ease of use, low purchase cost, and you get your personal bike back when the trailer is taken off! There are also trailer bikes for adults.

CHILD-TRAILERS

This Avenir Cleveland is a good mid-range example. It has a light, aluminium frame and ‘tray’, and is easy to fold. There’s also plenty of room in the rear-access compartment for luggage. Like all such trailers it is designed to stay upright if the towing bike falls over.

BUDDY BIKE

The Buddybike, from the USA, is shorter in length than a standard tandem. The parent behind steers using extended handlebars. The lower front seat permits both riders to enjoy the view and the child has a smaller set of bars to hold onto.

For more information on carrying children visit www.bikesnotbarriers.org
TRAILER TRIKES

On single-wheel kiddie-trailers the child tends to flop from side to side and cause control problems. Your child is also a long way behind you, which can harm communication. Happily there are dedicated special needs trailers. 20” wheel versions for children, and 24” wheel versions for larger children and adults. The parallel wheels allow these trailers to find their own level on the road, making it much easier for you to steer your towing bike. Ride moderately, since they can tip if you turn too fast and sharply, and your passenger may not remember to lean into corners. These trailers fold for easy storage and transportation.

TRAILER BIKE

At last: a single-wheeled trailer which does not flop from side to side alarmingly. Burley have reintroduced their famous Piccolo trailer. Unlike other trailers which connect to the seatpost, this one fits in seconds to a special rear rack, in line with the axle, giving much better handling. It even has an aluminium alloy frame, for lightness, and is fully geared. Another version is single geared. Unless your budget is really tight, there is no reason to put your child on a less stable seat-pin trailer when this one is available.

For more information on carrying children visit www.bikesnotbarriers.org

What a wonderful day! Our pupils present with emotional and behavioural difficulties and the skill and expertise of your staff enabled them to understand the rudiments of riding bikes, to have fun, to take turns and to share. Your team were professional at all times. They were in fact a pleasure to have in school.

Elizabeth Davis, Deputy Headteacher, New Woodlands School, Lewisham
KINDERPOD 2 AND 3 WHEELS from Nijland

The Dutch Bakfiets (box bike) is used to carry children, shopping, buggy and much more. With most Bakfietsen you turn the whole box to steer, which can cause difficulties with steering if you are not used to it. The Kinderpod has Ackermann steering: the box stays still but the wheels turn, making it much easier to control. There is also a reverse gear, so you can do a three-point turn! It comes with a fabric roof with windows, and you can adjust the format of the seating. Of course you can use it for all kinds of tasks: not just carrying children! You may prefer the two-wheeled version, which is more popular with the Dutch, and easier to store, but has not fully caught on in the UK yet. Whether two wheels or three, the whole cycle splits in two for storage. An electric assist version is available. See the section in this guide on electric-assist.

SPECIAL NEEDS BUGGIES

OK, they don’t have pedals on, but they get you places bikes don’t. This is the Independence Max: one of several lightweight special needs buggies for on- or off-road use. These are for all ages, including adults. They fold up into a very compact shape, and come with a full, transparent rainhood. Notice the lambswool seat-liner.

For more information on carrying children visit www.bikesnotbarriers.org
STEER-FROM-REAR TANDEMS

How do you have a disabled person pedalling in front, with the person behind in full control? The answer is a steer-from-the-rear tandem or tandem trike. Another solution from the Netherlands! Quite simply, a steering rod connects the rear bars with the front wheel. The person in front can pedal, and simply holds onto the unmoving handlebars. Alternatively the front bars can be set so that he or she can help steer, but the rear rider always has much more leverage.

Steering from the rear position allows a smaller person to sit at the front: which would make a conventional tandem impossible to ride. You can see what your passenger can see, judge their mood better, and react faster to any problems. You passenger is not looking at your back, and engages better with the world. You are close to each other, so can chat easily. There are tandem tricycle versions which give you the stability while you get your passenger comfortably on board, and easier handling on the road if you or your passenger need that extra assurance. All are easy to ride solo, so are great for dropping your child off at school and carrying back some shopping. These machines need to be tried out for their advantages to be appreciated.

There are versions for children and for adults, and they can be given electric-assist.

For more information on steer-from-rear bikes visit www.bikesnotbarriers.org
Nijland steer-from-rear tandems

Nijland is a family business in Holland which has perfected this design. The Nindos are for children from about 5 years. The Nandos are for children aged around 10 and upwards, and can also take adults.

Both come in two-wheel and three-wheel versions (the latter called Nindo Too and Nando Too). We recommend the tricycle version if the rear rider is not considerably heavier and taller than the front rider. This is why we recommend you come to try them all out and compare!

Nijland have thought of everything. The whole transmission system is fully enclosed, which also makes it weatherproof and therefore low-maintenance. A lever on your handlebar allows you to engage or disengage the pedalling for the front rider. So he or she can be obliged to pedal, or allowed to freewheel. There is also a mounting platform/footrest for the front rider.

They all come with Sturmey-Archer 7-speed hub gears. The tricycle versions have a large rear basket, and differential drive. The differential is important; it means you have drive on both rear wheels and consequentially better road-holding and less tyre wear. This is a quality machine made to Dutch standards, and will last for decades. All kinds of adaptations, such as back supports, can be fitted.

NIJLAND NINDO TOO
Steered from the rear. Notice the low seat position on the front, and the smaller front wheel. The Nando and the Nando Too (below) are for larger front riders.

NIJLAND NANDO TOO
Steered from the rear.

For more information on steer-from-rear bikes visit www.bikesnotbarriers.org
ONE UP ONE DOWN

We described in the previous section all the advantages of steering from the rear: in particular how it makes it easier for the ‘pilot’ to relate to the person in front. But what happens if the front rider needs or prefers a seat rather than a saddle? There are several great solutions to this, and we show some of them here. These are also an option if the passenger is a tall adult, and might obstruct your view of the road ahead. If the front rider is on the tall, large or anxious side, then go for the three-wheels format. The main point with these machines is that the front rider is not a passenger, but is pedalling just like you. The recumbent seat position at the front allows for various support adaptations. If the front rider cannot pedal there are various cycles elsewhere in this guide which will suit.

An electric-assist option is generally available on one-up-one-down cycles, or can be retrofitted.

O.U.O.D. TANDEM TRIKE

A tandem tricycle which allows the front rider to pedal. The recumbent position means that the two riders can communicate easily, and share what they see. The rear rider has a good view of the road ahead. The two wheels at the front give great stability. As we go to press the design illustrated is being superseded.

VAN RAAM DUO

A beautifully designed tandem from Holland.

For more information on one up one down bikes visit www.bikesnotbarriers.org
TANDEMS

Conventional tandems are not usually seen as special needs machines, but can be a relatively cheap way of helping someone get into cycling. Fine for two adults, but the heavier person needs to be on the front.

A tandem is an excellent investment for a cycling family. It can take a child-seat and the long wheel-base, great stability and double power make a tandem great for towing child-trailers or luggage trailers. Some ‘kiddyback’ tandems are low enough at the rear to accommodate children from around six years old.

There are drawbacks: the person on the back (the stoker) can’t see very much, and has to trust the person in front (the captain) to decide on road positioning, which gear to choose, etc. It can also sometimes be hard to communicate with someone directly behind you, and to see how they are getting on.

LINBIKE CLASSIC TANDEM

A typical Dutch machine. A very stable frame with a low step-over height, strong luggage carrier, 7-speed internal hub gears and a fully enclosed transmission. Handlebars fold inwards for easy storage. An all-weather, no-worries Dutch tandem that will last for decades.

ATALA DUO SMART

The unusual arrangement of cranks fitting to rear hub mean that the rear rider is brought closer to the ‘captain’. The compact length also makes it easier to store, and to transport on the back of a vehicle without it sticking out too far, if at all.

STANDARD TANDEM

There are some really good tandems on the market, and some really awful ones. Good tandems have brakes strong enough to stop the moving mass of two riders, and proper tandem transmission sets instead of cheap solutions botched up with tensioners. We have several fine types of tandems to try out at our base in York.

For more information on tandems visit www.bikesnotbarriers.org
SIDE BY SIDE CYCLES

Rare beasts, but perfect for many disabilities. Quadricycles are more stable than tricycles, and steer easily, like a car. They also offer more luggage space. Side-by-side versions make conversation easy, and are known as ‘companion cycles’. There’s a quirk in the law which forbids the use of an electric motor on quadricycles if riding on-road, whereas there is no problem with electric tricycles.

Quadricycles also give you good road presence, and fascinate the general public.

DOUBLE 24

Both riders pedal independently, with the rider on the left in control, as is usual with side-by-sides made in mainland Europe. The standard version has a three-speed hub gear, with a back-pedal brake, but other arrangements are possible. Two shopping baskets on the back. A backrest and supportive seat can be provided for the passenger.

For more information on side by side bikes visit www.bikesnotbarriers.org
Side-by-side cycling makes for lots of fun and easy conversation on the 2-Rider. It has Ackermann steering and independent suspension on all wheels. Riders pedal and choose gear independently. Seats and handlebars can be raised or lowered to accommodate both children and adults. The frame is of lightweight aluminium alloy. There is a handy luggage platform behind the riders. Options include two children’s seats (non-pedalling) on the front part of the frame, and a sun roof. The 2-Rider stands on end for easy storage. Dimensions: 2 metres by 1 metre. Weight only 38 kilos without bumper, luggage tray, kids seats and canopy. 60kg in total.

Pictured is the electric-assist version. Notice the battery under the driver’s seat. Electric versions of quadricycles are not permitted on public roads in the UK, but are fine for private grounds. Most 2-Riders we supply are non-electric.

Fun for the entire family: with adults pedalling on the back, and children enjoying the ride on the front. These quadricycles are pretty bomb-proof and need very little maintenance. They are great for short distances, or going longer distances slowly: not ideal for long stretches on the open road. They can be parked in front of your house like a car, or can be propped up on their rear end for storage.

For more information on side by side bikes visit www.bikesnotbarriers.org
WHEELCHAIR COMBOS

There are two main ways of helping a wheelchair user enjoy cycling, where he or she cannot contribute to the pedalling. One solution is for the passenger to ride in a specially designed road-going wheelchair, to which a ‘bicycle propulsion unit’ is attached. The rear rider pedals and steers. At the destination, the rear unit is uncoupled in seconds, leaving the wheelchair user free to use the chair as normal.

The other solution lies in using a tricycle with a ramped platform on the front, which can carry any rider and wheelchair without complications. These transporter-tricycles are heavier than the wheelchair-tandem solutions, so need low gears. The ones we import from Holland for Bikes Not Barriers have extra gears fitted for British conditions. Electric-assist is an option. Wheelchair transporters are also wider, and do not go through most household doorways.

DRAISIN PLUS

The wheelchair tilts forward for access and the bike section uncouples in seconds, giving you a very useable wheelchair. The propulsion unit tilts slightly as you turn, to give added stability. The wheelchair is ideal for older children and can take large adults. Various seat support options are available.

WULFHORST FORUS

The German-made Forus does what a more expensive wheelchair tandem gives you, with three exceptions. It does not separate to give you an independent wheelchair. It does not tilt forward for easier wheelchair access (though the footplates swing out of the way. It does not have a range of seat options available from the manufacturer, but we may be able to fit an existing bespoke car seat to the Forus. It does have seven-speed gearing, and can come with a power-assist motor (shown fitted here). It also has a distinct advantage over separable combos. Since it does not need to go through doorways like the others, it is wider, giving more stability. It’s also extremely comfortable, with leaf-springs under the front seat!

For more information on wheelchair combos visit www.bikesnotbarriers.org
**WHEELCHAIR TRANSPORTER**

The Nijland Transporter works with all conventional wheelchairs. It comes with pull-out access ramps, lots of easy security strapping, and a fully enclosing chainguard. It’s also collapsible for easier transportation. It takes just a couple of minutes to get your passenger on board: ideal in situations where many different wheelchair users are involved. The disadvantage for some is the unavoidable width, and general weight. This is why we fit very low gears, which limits top speed. Children can be carried with their wheelchair facing the pilot, making communication very easy.

**THE MOUNTAIN TRIKE**

The Mountain Trike takes you to places which were no-go previously, without losing the function and versatility of a standard wheelchair. See www.bikesnotbarriers.org for some amazing video.

**VAN RAAM O-PAIR**

The O-Pair does more or less everything the Draisin Plus does (on the opposite page), but is a bit more compact, and is ideal for children and smaller adults.

Electric-assist version also available. See the electric-assist pages in this guide.

For more information on wheelchair combos visit www.bikesnotbarriers.org
HANDCYCLES

There are two main types of handcycle. Tricycles powered by hand-cranks come in all shapes and sizes, from low recumbents to upright machines with saddles as opposed to seats. They work much better when both hands turn in unison. This is because steering is difficult when your hands are at opposite points in the rotation at any one time. There are versions for all ages, and even options where you can pedal with your feet and with your hands at the same time.

We have found that we need to adapt many commercially available handcycles to avoid the snagging of brake and gear cables.

For more information on handcycles visit www.bikesnotbarriers.org

REHATRI 24"

This popular handcycle has a low step-over frame, and allows easy transfer from wheelchair. The seat is adjustable. It is partly collapsible for storage and transportation.

RECUMBENT HAND-CRANKED

This is a fast, multi-geared road machine. The positions of the seat and foot support are very adjustable, and the angle and position of the hand cranks can also be easily altered.
REHATRI 12"

These fun machines are powered by hands and feet at the same time. A lot of fun, if a bit hard to steer sometimes – so fine for playgrounds and parks. They come in two frame sizes: one with 12” wheels and one with 16” wheels.

TEAM HYBRID COYOTE

This quick-release adaptation fits quickly and easily to all non-foldable wheelchairs. It's hand-made in the UK, out of lightweight aluminium alloy. Available with gearing to your specification. An electric-assist version is available. The advantages of handcycling are well known: better circulation, respiratory functions, muscle strength, weight control and stamina and the coyote provides this an easy to use package.

PFIFF FREEBEE

These are extremely well-made hand-cycle units for wheelchairs. They come from a small German company famous for their wide range of high quality disability cycles and adaptations. The Freebee comes with adapters for all leading wheelchair makes. Pfiff also make the Agile, which is a complete hand-powered tricycle.

For more information on handcycles visit www.bikesnotbarriers.org
ELECTRIC-ASSIST

Electric-assist is a term for bikes with small electric motors. A sensor tells the motor how fast or hard you are pedalling, which gives you extra energy if and when you need it. You get no help if you don’t pedal! The motor works separately from the transmission, so that you can change gears all you want, with the motor available if needed. Usually you simply turn a twist-grip to increase the electric assistance, or you just leave it turned off when you don’t need it. When you get to 15 mph the motor gives you no more help.

The battery is easily removed and taken indoors for recharging. It can usually take four to seven hours to recharge. Lead acid batteries are now rare. Most electric assist cycles are equipped with modern lithium or Nickel Hydride batteries which are lighter and give a greater range than older lead acid batteries. Depending on how much you help out by pedalling, expect around 25 miles on one charge for a two-wheeler and around 18 miles for a tricycle – on fairly flat terrain. Much less in hilly areas. A heavy two-person tandem tricycle may only give you around 9 miles. It also depends on the size and power of the battery. Some people carry a spare one. You can also take a lightweight charger (supplied with the bike) on journeys with you. You can then extend your range by charging up at your destination: which may be your workplace or your leisure destination.

The controls tell you clearly how much battery you have left, and if you run out you can still pedal home, although the bike will be heavier than other bikes due to the weight of the motor and battery. If you have a bike or trike, then there are commercially available retrofit systems.

For more information on electric-assist bikes visit
www.bikesnotbarriers.org

LINBIKE CLASSIC E

The LINBIKE CLASSIC E from Holland has a clever intermediate bottom bracket arrangement allowing the pedals to be sited well forward of the usual position. This gives a riding position which permits the rider to easily place both feet on the ground.

LINBIKE LOW STEPOVER E

An easy step-over Dutch design with aluminium frame and full equipment
Wisper are a UK company known for their technical advances, including their super-lightweight high performance batteries.

Viking Evolution-E

This is a fine general-purpose electric-assist bike at an accessible price.

Raleigh Dover

Raleigh electric-assist bikes are in fact from Kalkhof, a leading German cycle maker. This is top electric bike technology. Like the Wisper, opposite, you have a choice of diamond and open frame versions.

For more information on electric-assist bikes visit www.bikesnotbarriers.org
LINTECH ELECTRIC TRIKE
An easy step-over electric-assist trike from Holland

TEAM HYBRID COYOTE
Electric-assistance for a handcycle.

HELKAMA E-TRIKE
The HELKAMA E-TRIKE has added stability thanks to its ‘tadpole’ form.

RETRO FIT ELECTRIC MOTORS
Got a great bike or trike already? If you want to go further we can fit an electric-assist motor.

For more information on electric-assist bikes visit www.bikesnotbarriers.org
BICYCLES

For many people with disabilities a more or less standard bike can be appropriate. Anyone not yet able to ride a bicycle will find a trainer bike useful. These have low-step-over height and no cranks or pedals. You learn to balance by scooting. Trainer bikes for children are commonly available.

As for conventional bikes, the following criteria may be useful.

**Is it easy to get on?** Bikes with particularly low step-over height are available for all ages.

**Is it easy to get a foot down if needed?** This is mostly about saddle height, but if the saddle is too low then pedalling is very inefficient and there is some loss of control. Some bikes are semi-recumbent, with pedals slightly forward from what is normal. This allows better leg extension while making it easier to put a foot down.

**How easy is it to steer?** This depends on the geometry of the frame. Some are much easier than others, and so you need to try bikes out.

**How easy is it to put the brakes on?** Most can be adapted for both brakes to be operated by one hand, and many come with back-pedal-brakes which do not depend on hand-power.

**How easy is it to pedal?** In general, if you suffer from poor muscle tone, go for a lighter bike with lots of gears. There is also now a huge range of electric-assist cycles, described elsewhere in this guide.

BIKES FOR CHILDREN

Buy a good quality bike, or you’ll be forever fixing it! More expensive children’s bikes will stand up well to abuse, and have long-life components: quality bearings, for example. That quality shows in the little things. Better bikes, for instance, usually have better tyres and inner tubes (fewer punctures.)

CYCLES FOR PEOPLE WITH RESTRICTED GROWTH

These are available from the Bath Institute of Medical Engineering. Telephone 01225 824103. Their website is [www.bath.ac.uk/bime/products/rg_products.htm](http://www.bath.ac.uk/bime/products/rg_products.htm). A demonstration bike is available at Get Cycling’s try-out centre.

For more information on bikes visit [www.bikesnotbarriers.org](http://www.bikesnotbarriers.org)
LINBIKE CLASSIC
An easy step-over Dutch design with an aluminium frame and full equipment.

NIJLAND COMFORT LOW STEP-OVER
This cycle is extended in length, with the pedals in a very forward position, connected to the chainwheel by an intermediate chain. This allows the rider to have a low saddle position while still stretching the legs while pedalling, and still being able to put both feet on the ground when stopped.

ELLIPTIGO CROSS TRAINER
The perfect solution for staying active outdoors, without the jarring impact of running. The Elliptigo spares your knees and gives great aerobic conditioning. It is propelled by a kind of treadle action.

CONVENTIONAL BIKES
If you simply want a conventional bike, Get Cycling can advise on what best meets your needs.

For more information on bikes visit www.bikesnotbarriers.org
ACCESSORIES AND ADAPTATIONS

Here are a few examples of the 30 or so special needs accessories and adaptations which are possible. We give you more details on bikesnotbarriers.org, but you will need to talk to us about what is available, and which can be fitted to what. It’s a very complex subject!

Eccentric Crank
These allow the rider to pedal on a smaller circle, to overcome problems related to movement of the joint.

Crank Shortener
These let you shorten your crank, by bolting into the crank and then the pedal screws into a choice of two holes to give different crank lengths.

Footplate with Leg Support
These foot plates are counterweighted so the side with the buckle is always uppermost. The buckle is useful for stopping feet slipping off pedals. The leg support is another option.

Half Moon Backrests
One of several back support options. Other versions have two half-moons, one above the other.

Fully Supported Backrests
Back support plus side wings. These have several points of adjustability.

Comfort Saddle
There’s a choice of very supportive saddles: some with big springs, others with gel filling, some with both.

Counterweighted Pedal
Counterweighted so the side with the toe-clip is always uppermost.

Pedals with Toe-Clips/Velcro Straps
Specialised pedals, including alloy platforms with toe-clips and adjustable straps. They fit nearly all cycles.

Parent Handle
These help you to control the tricycle while walking behind. Some have a brake facility.

Stabilisers
Adult stabilisers for wheel sizes of 20” and upwards.

For more information on adaptations visit www.bikesnotbarriers.org
How do I know what cycles are available?
This is a general guide, showing examples of each type of cycle. Our website details many more cycles and adaptations than we can describe here. Almost all of the cycles you see here and on our website are also available for try-out, hire or sale through us: some are available only through us, but we are, of course, not the only people supplying disability cycles. We usually have a hundred or so disability cycles to try out: but please phone or email to find out what we have at any given time.

Why are disability cycles so expensive?
There are reasons why disability cycles cost as much as they do. They are made in smaller numbers, they are often brought from abroad, they need more storage space, are hard to transport, and take more staff time to demonstrate. But that does not mean we cannot do our utmost to keep prices down. I hope you agree that we have had a lot of success in this area. However, quality is quality. Bikes which cost more are usually more complex, will last longer, need less maintenance and give a better ride quality. We are happy to explain the pros and cons of each cycle.

If I try out your bikes is there any obligation?
As a community interest company one of our goals is to get more people cycling. We want you to try the bikes we offer and if you enjoy it and want to continue cycling then we will make it as easy as possible for you to buy. If you don’t enjoy it or cycling but right for you at least we’ve both given it a try.

How do I know I’m getting the best deal?
Look at what other companies and organisations are offering. Where we demonstrate and sell bikes supplied by other UK companies, our policy is to do so at the same price they charge. The cost of a refurbished cycle depends on how we obtained it in the first place, and on refurbishment costs. If you feel that our price is not right: talk to us. Since we deal with virtually every company supplying disability cycles, and demonstrate their bikes, our advice is impartial and wide-ranging.

I have looked at the options on bikesnotbarriers.org and still cannot find a solution to my needs.
We will not accept failure! Talk to us, and we’ll look at what we can do.

What about adaptations?
Our staff have to know some fairly complex things: such as which of thirty different adaptations fit onto which of a hundred different cycles. Then we have to keep abreast of developments in electric pedal-assist technology, and be able to retrofit electric-assist if necessary. Staff training is a constant necessity, and we constantly learn from our clients. We are happy to assess your needs in detail.
If I buy a bike does it come ready to ride?

We send out all our disability cycles fully assembled. This can take our skilled mechanics up to two hours for a single machine: even though they’ve done it a hundred times before, and in a fully equipped workshop. If you buy elsewhere do check that the bike comes ready to ride – because costs mount up if you have to take it to your local bike shop for assembly. Not all bike shops know how to service disability cycles.

What are the benefits of coming to York?

A huge range of options in one place, a try-out facility, and the chance to ride along the traffic free riverside paths. We are on the cyclepath network, a hundred yards from the Millennium cyclists’ bridge, which is the junction of five major cyclepath routes. Many visitors enjoy making a weekend of it. They hire cycles by the day, and we knock off the hire charge if they decide to buy. We can also arrange disability-access accommodation if required. If you’re coming to see us please make an appointment so that we can be ready for you and give you the quality time you need. We also need to make sure that the bikes you might like to try out are at base, on the day you want to visit us.

I live no-where near York. Where can I try the bikes out?

Check on our website for details of our disability cycling roadshows and regional festivals. These will increase in number over the coming years. Tell us where you are and what you are interested in. We can often include, by arrangement, a particular disability cycle as part of one of our general local authority bike try-out events coming to a venue near you. We can also perhaps make a home visit. If you are part of a support group, consider inviting us to bring a try-out show to your local organisation.

Where do the bikes come from?

Every time we think we have finally covered all the options we find new and better solutions. We travel extensively abroad to research and try out new bikes, which we add to the range. Many of our bikes come from family businesses in Northern Europe, and we are able to specify for the UK market. We also have various other ‘budget’ cycles from the Far East. We stock and demonstrate cycles from around fifteen different companies.

What’s special about the website?

We were recently awarded a government grant which has allowed us to produce this guide to disability cycling, and also a comprehensive website (www.bikesnotbarriers.org) giving you much more information than we could ever fit in here. We hope it throws light on the huge range of possibilities, and it tells you about our forthcoming disability cycling roadshows and festivals. The website will always be more detailed, more useful and more up to date than this guide can ever be.

I’m on a low income. How can you help?

If the cost is a problem, do ask us about recycled and refurbished machines, and part-exchanges. We usually have a selection of these. By the same token, if you have a cycle which you are no longer using, we may be interested in it. Remember, too, that if you receive disability benefits you can, in most cases, pay zero VAT. Finally, we have put together a document on finding funding. We can email or post you a copy: just ask.

"In all the years I have been at the school I don’t think we have ever had an event that has been enjoyed and appreciated as much by everyone - pupils, teachers and parents alike! It was lively, fun and very professionally delivered, both inside during the presentation and outside on the bikes. We have pupils with many diverse needs but somehow that just wasn’t a problem."

Sue Payne, Alderman Knight School, Tewkesbury
I work at a special school. What can you offer?

Lots. Try-out visits, and supply of cycles, refurbishment of existing cycles, support programmes, free copies of this guide for all parents, demonstrations for parents, organised rides with bikes supplied, special attention within timed visits at our shows and festivals. Contact us for a chat about possibilities.

I’m a member of a voluntary group. What can you offer?

Much of the above, tailored to your needs. We are more likely to be able to offer a visit if there are lots of volunteers there to help out on the day.

What does Get Cycling do the rest of the time?

Get Cycling CiC provides all kinds of cycling events, programmes and publications for the public and private sectors. We have a huge fleet of conventional and unconventional cycles, which we take out as themed touring roadshows to city centres, schools, universities, festivals, playschemes and workplaces. We originated many new ideas in practical cycling promotion and our pioneering work is copied across the UK. Look at www.getcycling.org.uk. You’ll be amazed!

You may not realise what you have managed to arrange for us. We had envisaged a difficult visit with our daughter who could have reacted very badly to a new experience. Add to that two jealous siblings and it could have been a horrible day. You made it a real outing! For a £300 bike, this level of service, including the adaption to the brakes, is very impressive. I hope to meet with your organisation again in the future.

Steve Manderson.

About Bikes Not Barriers...

We work for local authorities and disability groups all over the UK, supplying bike try-out roadshows, festivals and loan programmes. We also increasingly hire out and sell cycles. By buying from us you help fund all of our pioneering disability work.

We’re part of Get Cycling, a Community Interest Company. It’s a fairly new kind of business registration which allows us to function like a charity in some ways, but gives us the flexibility and quick decision-making which a commercial company needs in order to survive and grow quickly. We have no trustees, but are answerable instead to the CiC Regulator, set up by the government (www.cicregulator.gov.uk). If you want to know more about us, get in touch.

Since we are part of Get Cycling CiC we have available hundreds of ‘non-disability’ cycles for partners and siblings of our clients with disabilities. We also try to add some special needs cycles to all of Get Cycling’s general public roadshows.

Our plans for the future? Well, we’d like to establish bases in other parts of the UK, similar to our try-out centre in York – and a permanent touring roadshow visiting disabled groups everywhere. In the short term we still have a long way to go before we consider our current services to be good enough and extensive enough.

There is huge potential for making big differences to people’s lives, which makes us very excited about the future.
• The UK’s largest and most comprehensive try-out facility
• Assessment, sales and hire
• Refurbished and recycled
• Try-out roadshows and disability cycling festivals
• Schools visits
• Regional loan programmes
• Funding advice

Ready for action at the start of a Bikes Not Barriers try-out show.
Bikes not Barriers is part of Get Cycling, a registered community interest company based in York. We organise disability cycling try-out roadshows and festivals around the UK. Our try-out and hire centre is on the riverside cyclepath network in York, very close to the Millennium Cyclists’ Bridge. If you have a disability, please make an appointment: so that we know we have the right experts, bikes and adaptations to hand. We are open 8.30 to 6.00 Monday to Saturday, and 10.00 till 4.30 Sundays.

The Bikes not Barriers website is www.bikesnotbarriers.org

Our main community interest company website is www.getcycling.org.uk

Tel: 01904 636812

Email: admin@getcycling.org.uk

©Get Cycling CIC 2011.
Most of the images in this guide and on our website are our copyright and not to be used without permission.