

No Lycra Required

Taking advantage of the bicycle as a mobility device

by Jeffrey J. Cain, MD

Ever worry about covering long distances on foot in social situations with your able-bodied friends? If so, one solution might be sitting in your garage right now, just gathering dust. Your bicycle might just be a great mobility device for such situations.

Sure, everyone knows how well a bicycle works for exercise with amputees. A bicycle naturally bears the weight of a prosthetic leg and is a fun and relatively easy way for an amputee to exercise. But a bicycle is not just for those wearing Lycra and shoes with toe clips. It can also be a great way to cover ground for other purposes. If you walk long distances to get to some type of event, your prosthesis might cause you pain or you might be too tired to do anything when you get there. By riding a bike there, you can save your energy for standing and participating in the event itself. In addition, if ridden carefully, a bike can help you blend in naturally with the crowd and won't attract as much attention

as many other types of mobility devices.

Perhaps you can identify with Mary Ellen Buning, Joel Berman, and me – three amputees who have found the bicycle to be the perfect solution to some of the mobility challenges in our lives.

In the 70s, when Mary Ellen entered college at the University of Florida with a recent above-knee amputation of her right leg from cancer, she was a bit worried about the long distances on the notoriously hot and hilly Gainesville campus. Walking four to five blocks in humidity could cause a lot of friction within her prosthetic socket, which could quickly injure the skin of her residual limb.

When a friend suggested that she use a bicycle for transportation like other students, she was at first skeptical because she had not been on a bike since her amputation. Just a few minutes of practice, however, allowed her to rediscover the stability and ease of motion of a bicycle.

In no time at all, she developed the endurance to cover four to five miles with her bike on campus. As a result, she arrived for classes and school activities with extra energy instead of wasting it on the long



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walk over. Even better, unlike those using a car, she could park right next to her destination.

A few tricks that Mary Ellen found useful include using toe clips with her pedals to keep her prosthetic foot in place; weighting the underside of the pedals so that the pedal and toe cage automatically rotate to the right position; and starting with the prosthetic foot in the clip close to the ground before pushing off with her sound foot.

Although I am a double below-knee amputee and faced somewhat different challenges than Mary Ellen did, I also realized that a bicycle could be useful for my own situation.

As a pilot, I sometimes fly into small airports in the Midwest that are a couple of miles from town (and, more importantly, a couple of miles from food or shelter). Plus, I really enjoy giving kids rides in my biplane during air shows, where distances at the airport between food, gas and the restroom may be more than a mile. My solution is to carry a bicycle that folds up and fits in the cockpit of



Mary Ellen Buning still finds a bike helpful today.

Photo courtesy of m cohns, AT Partners, UCDHSC

my plane (or in a car). Not only does it help me cover the long distances at the airport easily, it saves my energy for flying the kids. Plus, with the seat height lowered, the bike doubles as a portable chair for the air show!

Most below-knee amputees find that they can ride bicycles unmodified, although toe clips or pedals with older-style rubber and metal surfaces may help keep prosthetic feet in place. Almost any style of bicycle will work for amputees, but recent amputees or those who are just returning to riding

may want to consider a “townie”-style bike that allows riders to put their feet flat on the ground while stopped. At home, my '55 Schwinn Cruiser ensures that my dog regularly gets to the park for a walk, even on “bad leg days.”

Joel Berman has also discovered the advantage of using a bicycle in social situations. An athletic above-knee amputee, Joel is the director of Adaptive Adventures and a national leader in adaptive sports and recreation.

A big fan of outdoor concerts and sporting events in Chicago, Joel found walking the distances from the remote parking at these events and then standing in crowds to be challenging. His solution is to bring an old “beater” bicycle to these events and to ride or push it at walking pace even in crowds. By doing this, he arrives at the events rested and gets to use his “stand time” having fun with his friends instead of using it for the walk. When he uses a bicycle, he never has to worry about parking or changes in plans. And an old bike and a simple lock eliminate any security concerns.

In addition to these types of activities, Joel also uses his bike to go “hiking” with his friends on smooth trails in the mountains of Colorado.



Rick Leipold and Joel Berman (standing)

Whether at home or traveling, all three of us have found bicycles to be a great way to explore new neighborhoods, go for “walks” with friends, or attend events that require prolonged standing and still arrive rested while protecting our residual limbs. Your bicycle can also become a “mobility device” for you, and just as importantly, no Lycra is required. ■

Ready to join them on your bike? Information about riding bicycles as an upper-, lower- or multiple-limb amputee is available through the Amputee Coalition of America or from online resources.

For More Information

Adaptive Adventures

www.adaptiveadventures.org

www.activelivingmagazine.com/artman/publish/article_68.shtml

www.amputee-online.com/amputee/onyerbike.html

www.oandp.com/edge/issues/articles/2005-01_10.asp

www.onelegtim.com/bicycle.html