

[IMAGE]

Enjoy the Ride

By Dr. Ben Benjamin

Bicycling has a variety of health benefits and is a great way to relax and spend time in the outdoors, but as many people know, it can also cause pain and discomfort. Learn why bike design is key if you want to minimize injury risk and enjoy your ride.

For many people, bicycling is a wonderful option. It provides a great cardiovascular workout, strengthens the legs and puts less stress on the ankles, knees and hip joints than running. Additionally, people of any age and body type can cycle safely while reaping the benefits of being out in the fresh air. According to the 2000-2001 National Survey on Recreation and the Environment, an estimated 80 million Americans cycle for pleasure, exercise or as a means of transportation. You probably know someone who cycles on the road or at the gym as part of their exercise program. Unfortunately, cycling is not a risk-free activity. It can cause many different types of musculoskeletal injuries and depending on the type of seat and frequency of use, can even lead to genital dysfunction and other organ damage over time.

Dangerous Posture

Enjoy your ride on highway - Copyright © Stock Photo / Register Mark Bike design has changed quite a bit over the past few decades. Like everything else in the world today, bikes have gone hi-tech. They are sleeker and lighter, and generally look more appropriate for the Tour de France than for recreational cycling. Most bicycles on the market today force the rider to constantly lean forward. This forward-bent, flexed position reduces wind resistance and maximizes power, but at a high cost to the human body. While professional athletes are trained to maintain this position with minimal ill effects, the average rider may experience a variety of harmful consequences.

Continual tension is placed on the muscles, tendons, joints, and supporting ligaments from the hands through the shoulders and into the back. As a result, bumps in the road send shocks of stress through these structures, making them more vulnerable to injury. This position also requires that the head, one of the heaviest parts of the body, be held up with the neck in extension for long periods of time, which fatigues muscles and tends to hinder circulation and nerve impulses down the arms. At the same time, the low back

ligaments are kept in a constantly stretched position, making them vulnerable to damage by sudden additional forces. Mountain biking in a forward-bent position is particularly risky because of the jolting effects of uneven, rough terrain. Frequently the biker's hands will become cold due to diminished circulation. This may be followed by numb-like sensations, setting the stage for injury to the wrists and elbows. Just from hitting a few bumps in the road, it's easy for the wrist to get sprained in such a stressed position.

Dangerous Pressure

Enjoy your ride on mountain top - Copyright © Stock Photo / Register Mark As harmful as cycling can be to our upper bodies, it can potentially do even more damage to the pelvic region. Almost all bikers have experienced some discomfort in the perineal area [your lower groin / lower pelvic region] or at the ischial tuberosities (the sit bones; basically the bones under the flesh of your buttocks), areas of the body that make near-constant contact with the bike seat, especially after long rides. In some people, cycling can cause highly uncomfortable saddle sores, or even genital numbness. Findings from the Massachusetts Male Aging Study suggest this numbness can interfere with sexual functioning and may be associated with more serious medical problems including genital pain, urinary tract disorders, erectile dysfunction (ED) and localized atherosclerosis.

Optimal Bike Design

The first challenge in making cycling safer and more comfortable is finding a better seat. A number of different companies have come out with innovative designs, including seats with split saddles that can be adjusted to the width of your sit bones, saddles without noses, saddles with depressions in the middle of them, and saddles with extra padding. These can make a big difference for many people. (See sidebar.)

The second challenge is to address the issue of body positioning. If a forward-bent posture is so problematic, what is a healthier alternative? I asked Tommy Thompson, former chair of Alexander Technique International, this very question. (The Alexander Technique is a method for teaching individuals how to restore healthy body alignment and movement patterns.) According to Thompson: "Sitting totally erect is the healthiest position for the neck and back." This means that the low-tech bikes of 30 years ago, as clunky as they may have looked, were actually more in tune with good body mechanics. Stationary bikes also tend to allow for a more upright, balanced posture. The challenge is to find a modern, nonstationary bike that still allows for proper alignment.

Healthy Bicycle Options

Bicycles

Day 6 Comfort Bicycles: This is the only bicycle I've found that addresses all of the health risks discussed in this article.

Day 6 Bicycles
851 Bridger Drive
Bozeman, MT 59715
1-888-789-DAY6(3296)
www.day6bicycles.com

Bicycle Seats

BiSaddle Seat: The BiSaddle seat consists of two small parallel mini seats that can be adjusted for width and angle to be centered under the sit bones. This seat has an opening in the front center portion for accommodating the perineum, dorsal artery, and vein. It works equally well for individuals with a narrow or wide pelvis.

Bycycle Inc.
780 SW Menefee Ln.
Portland, OR 97239
1-877-397-2165
www.bycycleinc.com

Hobson Bike Seat: The Hobson Bike Seat consists of two, side-by-side, oval-shaped seats. You can vary the width between the seats in order to make the appropriate space for the perineum. This seat is good for individuals with a wider pelvis. For those with a narrower pelvis, the hamstrings are somewhat compressed with each pedaling action.

Hobson Associates Inc.
6924 Canby Ave #101
Reseda, CA 91335
1-800-582-8088
hobsoninc-at-aol.com
www.hobsonseats.com

Spongy Wonder Bike Seat: The Spongy Wonder Bike Seat has dual flat platforms, which are wider than the other seats. The platforms are inwardly and outwardly adjustable so you can customize your fit.

Spongy Wonder, Inc.
2 Woodside Drive
Riverview, New Brunswick,
E1B 4G9 CANADA
jhdixon-at-rogers.com
www.spongywonder.com

DDwings Ergonomic Bike Saddle: The DDwings Ergonomic Bike Saddle has the widest sitting area on the dual platform. The front part of the seat has a spring-loaded hinge to allow the seat to move up and down with the thigh as you ride.

DDwings Techno
89 Morse St.
Watertown, MA 02472
617-686-6879
www.ddwings.com

The Seat: "The Seat" looks like the back half of a regular bicycle seat with no nose in front. This seat is especially well-suited for women; since it does not have a space for the perineum to be suspended, it may not be as comfortable for men.

The Seat
Ergo, LLC
P.O. Box 659
Carnation, WA 98014
contact-at-ergo-theseat.com
www.ergo-theseat.com

The ideal bike in this regard looks like a cross between a recumbent and a traditional bike, and combines the advantages of both. **[See first listing in sidebar.]** Like a recumbent bike, it places much less stress on the body. The rider remains in an erect sitting position, with no pressure on the wrists, elbows or shoulders. The neck is fully upright and the low back is supported. In addition, the bike has a shallow seat (complete with a back rest), enabling you to sit on your sit bones as you would in a chair, without putting any pressure on the perineal area. This bicycle also avoids some of the drawbacks of recumbents, including problems with visibility (being so low that it's hard to see and be seen) and difficulty raising the front tire to get up onto a curb.

Like many other inventions, this one was inspired by the creator's own personal challenges. The bike's designer, Kelly Hutson, once ran a landscaping company and hurt his back doing manual labor. As his kids got to an age at which they were starting to ride bikes, he tried riding with them, but found it was too stressful on his back. He made up his mind to figure out what he had to do to relieve the pressure.

Using one of his wife's old bikes as a starting point, he embarked on a process of trial and error until he wound up with a bike that would work for him. When Hutson started riding the bike around his hometown, a lot of people started commenting on it, noticing how comfortable it looked and wondering where he got it. Eventually he decided it would be worth manufacturing and figured out how to get it professionally engineered.

According to the company that produces the bicycle now, it has been well-received by people who haven't ridden a bike in a while, particularly those who stopped riding because of perineal numbness or neck, back, wrist or shoulder pain.

Personally, I was impressed by how much more restful and enjoyable cycling became for me. Now this is the only type of bike I ride. I was concerned at first that I couldn't stand up in the pedals, which I would typically do whenever I went up steep hills. However, I found that with the back rest for support, pedaling uphill was easy.

Within the mainstream biking world, this new, healthier option faces some obstacles. The primary barrier is aesthetics; an upright bicycle with a back rest looks quite different from a standard sleek, racing model. You will never be mistaken for a Tour de France competitor. On the other hand, you also won't walk away with the standard stiff neck, sprained wrist and sore behind.

The point is that if you're a cyclist or are considering starting to bike, or know someone who falls into either category, make sure you consider the health risks associated with many standard bike seats and forward-bent posture - as well as the healthier alternatives that are available these days. After all, making sure you're safe and comfortable is the number-one priority if you want to enjoy any activity over the long term and stick with it. Whether you plan on cycling as a form of exercise or as a great way to enjoy the outdoors and spend time with friends and family, you deserve to do it the right way and minimize your risk of injury.

Ben Benjamin, PhD, holds a doctorate in education and sports medicine, and was founder of the Muscular Therapy Institute. Dr. Benjamin has been in private practice for more than 45 years.

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