Short in the Saddle? Bicycling and Erectile Dysfunction

By ACSH Staff — September 1, 2000

In 1997 Irwin Goldstein, M.D., one of America's leading impotence researchers, energized discussion of the pros and cons of bicycling by stating, according to Bicycling magazine: "Men should never ride bicycles. Riding should be banned and outlawed. It's the most irrational form of exercise I could ever bring to discussion."

Goldstein a professor of urology at the Boston University School of Medicine says that in about 100,000 American men penile damage related to bicycle seats has resulted in short-term, long-term, and/or permanent loss of the ability to get or maintain a satisfactory erection. According to his theory, sitting on a bicycle seat temporarily flattens penile arteries, and repeated flattening of these arteries can in time damage them and can thus lead to a blockage that may cause impotence.

Goldstein further states:

\[\text{. . . [I]t is not just a vascular impotence. It is a neurologic pain of the fibers in the region, apparently, that a lot of people get. This also extends to women. . . . [O]ne of the four patients [I saw on Monday] was a woman who could not have orgasms. . . . [F]or a day or two after every ride she experienced numbness of her clitoris. And she has, basically, a neuropathy where she cannot send information from her clitoris to her brain . . . .}\]

Goldstein explains the danger thus: The pelvic bone has two protrusions covered with muscle and fat. These protrusions, called "sit bones," are ideal for supporting the body. No organs attach to the sit bones, and no nerves are related to them. Sitting on a chair or on a similar piece of furniture is not risky for sexual structures, but sitting on and straddling a postlike object is, because such objects do not extend across both sit bones. In this case, a bone to which sexual structures attach supports the body, and the sexual structures are consequently compressed.

Goldstein says that the impotence in his patients is "pretty much irreversible and permanent." He states:
What if I had a product that I sold to the supermarkets of the world and in four percent or so [it] caused irreversible health changes? How long do you think this product would be allowed to be sold in the supermarkets . . . ? Not very long, you would answer. What people want to do is fine. They just have to be informed. The biggest problem that I have with people is not that they want to ride, because if they want to ride, they are adults. They can do what they want. But what constantly comes out of their mouths, is: "If I was only told. I would never have done it. If there was even the possibility of this happening, I would never have done it." That's what irks me . . . . The patient should know and make a decision just like making a decision to fly an airplane. . . . You make a decision to drive a car and you know that cars can have crashes. It's a matter of informing people.

. . . You can enjoy the outdoors and exercise and still not put your penis or clitoris at risk.

Goldstein and his Boston University colleagues have found that moderate-to-complete impotence was more prevalent among 738 members of a bicycling club (4.21 percent) than among 277 members of a running club who were not bicyclists (1.12 percent). In a more recent study on bicycling and erectile dysfunction, Goldstein and associates exhaustively interviewed, and obtained blood samples from, 1,209 noninstitutionalized male residents, aged 40 to 70 years, of 12 cities and towns. Goldstein says of this study:

. . . [T]he long and the short of it is that if you ride three hours a week or more, your odds ratio of having erectile dysfunction is a little over 1.7. You have 1.7 higher odds of having erectile dysfunction than the rest of the population. That is the first ever information about bicycle riding in a population-based study. Virtually all other studies are in-clinic-based studies of people with impotence who come to the doctor's office [to participate in] studies of bicycle riders who complain of impotence. These all have the potential of being biased . . . .

"In the large run," states Goldstein, ". . . [bicycling] three hours per week is dangerous, but a single ride could result in a single fall onto the nose of a ridiculous piece of equipment and [onto] a bar . . . and impotence is permanent and irreversible. . . . [E]xpert riders have accidents just like all other human beings."

Bicycling magazine, which claims a circulation of 280,000, has stated: ". . . [W]ith the exception of Dr. Goldstein, all the doctors we spoke with stated that the health benefits of cycling far outweigh what is still an unknown risk."

Some doctors say that men who are casual bicyclers aren't at risk of developing penile nerve damage unless they fall onto the bike's seat or onto a male bike's "support bar" or "top tube" (the more or less horizontal cylinder adjacent to the seat). Such an accident can cause long-term damage.

"[Urology professor Robert Kessler, M.D.] specifies that those who bicycle more than six hours per week . . . are at risk."

"Body Geometry"

In 1998, Specialized Bicycle Components, Inc., introduced the first bicycle seat marketed as a means of preventing perineal problems and of reducing the risk of genital injury: the Specialized Body Geometry Saddle, a Y-shaped seat that came in two models. "Body Geometry" refers to products from Specialized that have "anatomically proportioned features" developed by Roger Minkow, M.D., the primary designer of the Body Geometry[TM] Sport Saddle. This is a Y-shaped seat whose obvious distinction is a rear, V-shaped opening (see illustration). Specialized exalts the Body Geometry Sport Saddle as "the first medically proven solution to prevent bicycle seat numbness, pain, and sexual dysfunction."
Goldstein states that bicycles lack correct apparatus. He says of the premiere Body Geometry (BG) saddle, however:

... [T]he seat . . . doesn't really address the problem . . . [I]t has all the same problems that all the old seats still have. It still has the long nose, and anyone can fall on the nose in a slip. There is zero evidence that this seat is any better than any other seat.

Robert Kessler, M.D., a professor of urology at Stanford University, recommends the Y-shaped BG seats and the like. He has conducted studies of the premiere BG saddle and says that, by transferring pressure to the sit bones, it relieves pressure on the perineum, the midline, and the nerves and vessels that feed the erectile tissue of the penis. Kessler and Minkow studied 25 men aged 27-62 years who had medical problems related to their bicycling. Kessler says they found that, with the BG saddle, "there was a very significant de-crease in symptoms or a complete loss of symptoms in the majority of patients."

Kessler expounds:

There is no question that cycling in males is associated with problems with erectile dysfunction and with urinary problems, but whether the answer is to stop cycling no, I don't agree with that. The answer is to find out what is the cause of the problem and to get around it, because [Goldstein] has shown in his studies that cycling is important [concerning] cardiovascular status, and the incidence of erectile dysfunction in cyclists is lower than in an age-matched group of males with the same disease, same etcetera, who are sedentary; and obviously that is because of the beneficial . . . cardiovascular effects of cycling. But the incidence of erectile dysfunction is higher in cyclists than in a group of age-matched males, same disease, same age, who jog or who do some other type of aerobic activity other than cycling.

Kessler specifies that those who bicycle more than six hours per week as a fitness method and/or as a means of commuting, for example are at risk.

"Unconvinced"

Last year, one of Goldstein's former students impotence specialist Harin Padma-Nathan, M.D., a clinical professor of urology at the University of Southern California Medical School and the director of The Male Clinic, in Beverly Hills, California told the Los Angeles Times: "I'm unconvinced that bicycling, for the vast majority of men, is an important cause of impotence or erectile dysfunction. . . . [D]oes that risk outweigh the sport's cardiovascular benefits? I think the answer is no."

Richard Lieberman, M.D., a clinical associate professor of surgery at The Pennsylvania State University, has said: ". . . I can think of a lot more things that are deleterious to one's health that should be outlawed before bikes. In fact, the overall vascular health of the cyclist may, in a lot of cases, outweigh some of the local deficit that's created."

Commonsensical Precautions

Commonsensical precautions concerning bicycling and impotence include those indicated below.

- When one notices groin numbness during bicycling, one should take a break or at least rise carefully from the seat.
- One who notices groin numbness during or after bicycling should try to adjust the bike to
reduce that effect.

- Persistent groin numbness calls for the attention of one's personal physician or of a specialist, such as in urology or sports medicine.
- Either the bike seat should be level or its nose should point slightly downward.
- The bike seat should be adjusted so that one's legs are not straight at the bottom of a peddle stroke.
- One should stand occasionally during bicycling if one can do so comfortably.
- One should consider using a relatively wide, cushioned saddle, especially if one is overweight.
- When one stands and straddles one's bike, its "top tube" should be 3-4 inches below one's crotch.
- One should consider cushioning the "top tube."
- One should not jump curbs nor ride over bumps, debris, rocks, or railroad tracks. If one must bike over bumpy, littered, rocky, or otherwise potentially jarring surfaces, one should judiciously use one's legs to prevent perineal trauma.
- One should not bike with one's perineum on the nose of the saddle.

The Bottom Line

There is no scientific evidence that bicycling per se is a lone cause of erectile dysfunction in numerous American bicyclers. There is, however, evidence that it might be a significant factor in impotence among bicyclists in the United States. This is a plausible conjecture, as many Americans routinely bike interminably and/or daringly; use bicycle seats that are hard and noncushioned; and/or set their bike seats too high. Moreover, many ardent bicyclists are lean and are hence susceptible to perineal trauma.

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1 "Erectile dysfunction" refers to a consistent inability to sustain a penile erection sufficient for sexual intercourse. The source of this inability, commonly called "impotence," is usually physical, such as medication side effects or a disease that diminishes blood flow in the penis.

2 In humans, the perineum is the region between the thighs that is traversed by the urogenital canal and the rectum (i.e., the area between the anus and the posterior part of the scrotum or vulva).