

The Dangers of Biking

By Ben Benjamin, PhD

Cycling has changed dramatically in the past 25 years. Hi-tech bikes have gradually taken over the market, to the point that finding a bike that allows you to sit upright in a balanced position is difficult.

Bikes are sleeker, lighter, and designed as if the rider intended to participate in the Tour de France. Competitive road racing mandates the flexed position to reduce wind resistance and deliver maximum power to the pedals. Off-road racing adds punishing forces from irregular terrain. If this forward-bent position is assumed by the average rider, the consequences are likely to be more severe. Many bicycles on the market, such as road bikes and mountain bikes, force your body to constantly lean your weight forward, increasing the danger of injury. The forward-bent position may be slightly more efficient for riding speed, but it places enormous stress on the low back, neck, shoulders, elbows and especially the wrists. Road bikes on which the rider is bent forward are harder on the back and neck. Mountain bikes ridden on rough terrain are rough on the wrists, elbows and shoulders, especially if the rider leans forward on the hands.

In the forward-bent position, continual tension is placed on the muscles, tendons, joints and supporting ligaments, from the hands, through the shoulders and into the back. Because these structures are under tension, bumps in the road send shockwaves of stress through the elbows, the shoulders and the very sensitive wrist joints, making all of these areas more vulnerable to injury. Furthermore, the head, which is one of the heaviest parts of the body, is held up with the neck in extension for long periods of time, fatiguing the muscles of the neck and reducing the circulation and nerve impulses down the arms. The low back ligaments also are in a constantly stretched position, which makes them more vulnerable to damage by sudden additional forces. But the greatest stress is placed on the wrist joints and their surrounding ligaments.

Mountain biking in this position is particularly dangerous because of the uneven terrain riders often traverse. Sudden wrist sprains may occur merely as a result of hitting several bumps in the road. The biker's hands often lose circulation and become cold in this position. This may be followed by a numbing sensation,

setting the stage for injury to the wrists and elbows. The bikes of 30 years ago may have looked "clunkier," but they were more in tune with sound body mechanics. Sitting upright, as one might do at the gym on a stationary bike, is great exercise without the strain on the body's joints and ligaments.

What can we do to cycle and stay injury-free? If you are a recreational biker, try to find a bike that allows the body to remain in a completely upright position. You can also buy new handlebars or extensions, which allow you to ride more upright. If you are a serious biker who races regularly, and you want to ride a road bike in the forward-bent posture, make sure you warm up your neck and back thoroughly before riding. Take frequent breaks in which you regain an upright position. Work to make your hamstrings and quadriceps flexible and strong. This will help protect your back. A sufficiently flexible person should be able to bring the heel of the foot to the buttock with relative ease to stretch the quadriceps, and be able to place the hands or at least the fingertips on the floor while bending forward with the knees straight to stretch the hamstrings.

Without preventive care, many cycling injuries will likely occur. Recumbent bikes are a good alternative, because they are much easier on the body. Bicycles that make our clients continually lean forward may be good for our business as massage therapists, but they are not good for the health of our clients.

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