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Authors

Abbasi, Ali B

Zambeli-Ljepović, Alan

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DON'T ASK US TO STOP CYCLING: A SURGICAL PERSPECTIVE

Ali B. Abbasi, MD, MPhil¹, and Alan Zambeli-Ljepović, MD, MHS¹

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¹Author affiliations: Department of Surgery, University of California, San Francisco (UCSF).

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Corresponding author, requests for reprints: Ali Abbasi, MD, MPhil; UCSF Department of Surgery, 513 Parnassus Avenue, S-321, San Francisco, CA 94143; e-mail: Ali.Abbasi@ucsf.edu

Running head: Don't Ask Us to Stop Cycling

How do you get to work?

As committed cyclists, our response to this question stirs up disbelief, even dismay, among colleagues. “How can you still bike, seeing what we see in the trauma bay?” some ask. Others urge us to stop cycling to work and drive instead. Our colleagues’ concerns are understandable: hundreds of thousands of cyclists are injured in crashes in the U.S. every year, and hundreds more are killed.¹ Having personally contributed to the former statistic, we appreciate the concern for our well-being. But we don’t think abstinence from cycling is the solution — for us or our patients.

In a way, advice to stop cycling is evidence of positive change in our field. As surgeons, we increasingly recognize that our role extends beyond treating injuries; we also educate and advocate to prevent injuries from happening (again). But this admirable impulse must be balanced against the broad spectrum of our patients’ preferences. Counselling avoidance of a common, lawful, and enjoyable mode of transportation is not the right strategy for primary or secondary prevention; it alienates our patients and compromises our credibility. Instead, let us use “what we see in the trauma bay” to personalize conversations about risk with individual patients and to think more broadly about how to create a safer environment for those patients.

A surgeon’s responsibility: thinking beyond the individual

At a minimum, we must encourage all cyclists, especially those injured in a crash, to follow evidence-based recommendations. Although trauma recidivism is high, especially among young people, we may be able to reduce it by viewing injury as a “teachable moment.” For cyclists, teaching points include wearing a properly fitted helmet, following the rules of the road, not cycling while intoxicated, and using lights and reflectors to maximize visibility on the road. As an example, helmet use is associated with large risk reductions for head and facial injury, hospital and intensive care unit length of stay, and mortality.² These data have prompted trauma centers like Zuckerberg San Francisco General Hospital to provide a helmet to every patient presenting with a cycling-related head injury. Other trauma centers, including Stanford and the Children’s Hospital of Philadelphia, have developed outreach programs to teach local schoolchildren safe cycling practices and work with local police departments to promote helmet use. On a multinational level, hospitals have partnered with the nongovernmental organization Safe Kids to provide helmets to children in need.

These cyclist-centered interventions are critical, but they are not enough. Even though more and more cyclists are using helmets, cycling injuries and deaths continue to rise.¹ Perhaps this is why some surgeons categorically advise against bicycle commuting. We suggest a different approach: expanding our view of cyclist safety to the environment that surrounds

cyclists and directly affects their safety.³ Of the ten bicycle safety facts highlighted in a recent statement by the American College of Surgeons,⁴ only two (inequity in law enforcement and creation of bicycle lanes) address this environment; the rest focus on individual-level factors. This is a missed opportunity in injury prevention.

As direct witnesses to the horrors of traumatic injury, surgeons have long advocated for a safer world without committing to abstinence. In the early days of the automobile, the American College of Surgeons passed a resolution calling for safer car doors and seatbelt standards. More recently, surgeons and firearm owners jointly recommended reasonable firearm safety policies that include a host of interventions beyond the individual level, including addressing cultural factors, technological innovation, and public health research. It is time to apply the same advocacy framework to cycling safety.

What constitutes effective advocacy?

We could start by using existing data from major US cities to educate local officials and community members about the relationship between cyclist injury and urban architecture. In New York City, researchers showed that intersections, the most common location of cyclist collisions, can be designed to reduce the risk of severe injury.⁵ In Boston, a concerted effort to promote safe cycling increased total bicycle lane mileage from 0.034 to 92.2 miles between 2007 and 2014. While the number of cyclists rose, the odds of cyclist injury dropped by 14% per year.⁶ And in San Francisco, voters chose to keep part of a major public park closed to motorists, turning a busy road into a recreational zone.⁷ These examples support a broader base of evidence that increased presence of cyclists and pedestrians on city streets reduces the chance of either one colliding with a motorist.⁸

Advocacy should also address troubling disparities in cycling safety. Even in cities that have implemented cycling infrastructure, marginalized neighborhoods (with higher proportions of poverty and Black and Hispanic residents) have disproportionately higher rates of cycling injuries and fatalities.⁹ At local trauma centers, surgeons could initiate or support groups like the aforementioned community outreach programs that focus on these historically neglected neighborhoods. At the national level, a united surgical voice from the American College of Surgeons or through the Congressional Bike Caucus could make a powerful call for federal investment in cycling infrastructure with a focus on equity.

Finally, we could be more vocal about the health benefits of cycling. A bicycle commute builds exercise into the day and is associated with lower rates of cardiovascular disease and related mortality, type II diabetes, and cancer. On a population level, these benefits may outweigh cycling-related risks: on meta-analysis, all-cause mortality decreases with increasing cycling

volume.¹⁰ Compared to driving in busy cities, cycling has a more predictable commute time and can save hundreds of dollars in monthly parking fees. It also measurably reduces air and noise pollution – benefits that aren't specific to cyclists; they extend to us all.

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