

●● GOING FROM RIDING A BIKE TO ACCEPTING THE ROLE OF BEING A VICTIM CAN BE VERY DIFFICULT.

spokesman. Check Yourself published three PSA videos speaking to running, cycling, and swimming, with the PSA on cycling dealing with how to share the road with cars.

Aside from a basic 10-point safety checklist that can be found on USAT's website, the guide also offers tips that may not seem so obvious, like using front and rear running lights. Decades of research have shown that drivers' late detection of cyclists is a leading cause of car-bike crashes, and that using lights improves your likelihood of being seen—even during the day. There's also new technology, like MIPS-equipped helmets that claim increased concussion protection for when you do end up on the ground, and safety cameras that record high-definition footage constantly, providing a record in case of an accident (see "Technology to Save Lives" sidebar, opposite page, for more). When it comes to actually riding, CycleSmart focuses on four things: staying alert; communicating clearly with other road users; obeying traffic laws; and keeping safety in mind, including making good decisions when passing, riding single file and along the road shoulder where possible, and keeping your brake shifters accessible. Some of the recommendations are contentious within the bike community—like riding as far to the right as possible rather than taking the lane—but ultimately lend themselves to safer rides.

McGonigal is just as concerned about veteran riders as he is about newbies, because experience can breed complacency. "Any time we get comfortable in doing something, we let our guard down a little bit," he says. "Even if you've ridden a route hundreds of times, you still have to be aware on that particular day, in that moment, to what the conditions are ... because unfortunately [a crash] can happen to anybody at any time."

With some of the equipment that's unique to our sport, sometimes triathletes need to take special care. Tri bikes affect riding in two key ways that present different safety concerns: First, aero positioning places body weight farther forward, changing a rider's center of gravity and making the bike's handling more sensitive. Aero also puts a rider's hands farther away from the brakes. "When your body position is like that ... your reaction time changes pretty substantially," McGonigal says. A road bike keeps the rider more upright, compared to being in an aero position, which makes it easier to stare downward and straight ahead, rather than seeing the whole picture.

Juggling three sports can also make it hard for triathletes to

ride with other people—which presents another layer of safety concern. For starters, group riders can be more visible to drivers than a solo cyclist. And if a crash does happen during a group ride, a buddy can call for help. Group outings also help newbies learn

to safely pass other riders and give them safe distance—all part of road sharing that affects how cars will pass you ... or hit you.

WHEN THE WORST HAPPENS

Jeffrey Bradley is an emergency room physician at Foothills Medical Centre and Peter Lougheed Hospital, both located in Calgary, Canada. He's also a competitive triathlete who has served as a volunteer medic at the Kona Ironman World Championship. This year he qualified to race the event. From a medical standpoint, he says there is a crash protocol that victims should follow if they're not incapacitated. "If you're in the middle of the road, you need to get to the shoulder so you don't get struck by another vehicle," he says. Once you're out of further harm's way, you should evaluate your mental and physical states while staying as immobile as possible to avoid worsening potential spinal injuries. "You don't want to convert a stable spinal fracture into something where you have paralysis or permanent neurological deficits," he says.

Bradley, who has sustained concussions from bike crashes, says it's important to figure out whether you're mentally capable of making decisions for yourself. "I'd start with your head. Do you know where you are, do you remember what day it is? Do you remember earlier in the ride? If you have a friend there, that's even better because they can talk to you and make sure you're making sense," he says. From there, check for any pain, tenderness, or numbness in your spine and neck. Next, focus on your core—do you feel pain in your stomach? Are you breathing okay? Check your extremities—are you able to stand up? Is there any pain in your arms or legs? Can you move your arms over your head?

"If you can do any of those things, I think you're pretty safe to get up, gather yourself, and kind of assess if you have other major injuries," says Bradley, who cautions that adrenaline can mask serious trauma. Ultimately, it's safest to call for help, stay still, and wait for first responders to arrive. "A lot of us are Type-A personalities, where if we just have scrapes or are sore [we] might just continue riding. But that's probably not the safest thing to do," Bradley says, adding that some injuries can take days to fully present themselves.

If you've self-cleared yourself medically, it's time to check over your equipment and cover yourself legally and financially, just like you would do following a non-injury auto accident. "Call the police," says Maney, a cyclist advocate and director of Bike

Law—a collective of lawyers who represent cyclists. She adds that while waiting for officers, you should collect photo evidence of the car, bike, license plate, and driver. Have your ID ready (always carry identification on rides), get the name and insurance information of the driver, collect any witness contact information, and ask the driver to remain on scene. When officers arrive, make sure to file a police report.

More than anything else, make sure to accept help—whether that be from paramedics, fire officials, or police. "Going from riding a bike—which is something that you absolutely love, makes you feel empowered, and gives you a sense of freedom and joy—to accepting the role of being a victim can be very difficult," Maney acknowledges, but insurers and lawyers can't help you establish claims without a paper trail.

As for a return to riding, it's important to take things slowly as you regain your fitness, Bradley says. Getting back to training too soon can increase your odds of reinjury and prolonged pain, especially if you have soft tissue or musculoskeletal issues. "For 99 percent of us, this is a hobby: Don't rush it," he says. "Go slowly and work with your physician or physical therapist to make a safe return-to-sport plan. Listen to your body; if it's still sore, then you probably aren't ready to get back into hard training."

LETTER OF THE LAW

In a 2017 study of 100 cyclists' riding data, Tampa's Center for Urban Transportation Research found that while drivers and cyclists obey traffic laws at similar rates, drivers were responsible in every three out of four near-miss situations. Even so, the study's authors aimed the majority of their habit-adjusting safety recommendations at cyclists, and that impulse is part of a trend: In the Center for Disease Control's official recommendations for minimizing bike deaths from car crashes, none of the recommendations are targeted at drivers. Ironically, a 2017 study in the *Journal of Transport and Land Use* found that when cyclists do break the law, it's almost always out of self-preservation.

A 2013 article in the journal *Public Health Reports* found that distracted drivers are increasingly responsible for road deaths among cyclists. While more than 40 states have bans on texting while driving, nearly half do not impart fines on distracted drivers. Only 30 states have enacted Three-Foot Laws (laws that mandate drivers give cyclists three-or-more feet when passing), and the degree to which they penalize lawbreakers varies.

Despite everyone's best efforts to increase rider awareness, use safety technology, and be better educated on crash protocol, experts agree that creating a culture shift among drivers is the ultimate goal.

"Within our community, we can sit there and argue about the importance of hi-viz or riding two abreast, or taking the lane, or not coming to a complete stop at a stop sign—and while these are important conversations to have for sure, none of that matters if we're getting plowed over from behind at 70 miles per hour by someone who is checking his Zillow app notification," Maney says. "For a lot of the super close calls that we learn about, the driver is distracted. That's something that, as a cyclist, is completely out of our control. Until there's a stigma attached to distracted driving, the same way that Mothers Against Drunk Driving did for driving while intoxicated, [the statistics aren't] gonna change." ●●



"Share the road" hasn't resonated with all drivers, so some innovative companies are pursuing ways to make cyclists as safe as possible.

Trek Bicycles, through its Bontrager brand, has subsidized studies through Clemson University that are investigating the impact of biomechanical motion on driver recognition—or the idea that humans are more likely to respond cautiously to movement that looks "human." The researchers have been studying the effect of lights on riders' ankles that track human pedaling motion, compared to static bike-mounted lights.

App and gear makers have introduced products that help cyclists stay connected to emergency contacts in the event of a crash. Social fitness app Strava now allows Premium users to store an emergency contact's number and elect to notify that person at the start of every workout. Garmin—whose bike computers and fitness watches are popular among triathletes—has been adding crash sensors to its tracking products. Safety sensors like **ICEdot** attach to helmets and can send alerts after identifying crashes.

Some technologies are built to keep both cyclists and drivers more alert to each other. **Garmin's Varia** ecosystem of car-sensing bike lights automatically adjust their flash patterns as cars approach cyclists from behind, while cockpit displays let cyclists know that a car is coming. Bike lights from **beryl** (formerly Blaze) emit a fine green line a few feet to the left of a cyclist like a makeshift bike lane. Manufacturer **Lumos** has been selling connected helmets with integrated rear lights that double as turn signals operated via wireless remotes.

"Heads Up Display" glasses, from companies like **Solos** and **Everysight**, connect with fitness trackers and bike computers, and superimpose collected data onto glasses lenses to keep your eyes always on the road.



ICEdot Crash Sensor - \$100; Site.icedot.org



Garmin's Varia line - \$70 and up; Garmin.com



beryl Laserlight - \$165; Beryl.cc



Lumos Helmet - \$180; Lumoshelmet.com



Solos Smart Glasses - \$500; Solos-wearables.com



Everysight Raptor Glasses - \$500; Everysight.com