Molly's Last Ride

TWELVE-YEAR-OLD MOLLY STEINSAPIR CRASHED ONTO THE PAVEMENT FROM A RAD POWER E-BIKE AND NEVER WOKE UP. WITH A POORLY REGULATED E-BIKE INDUSTRY, WHO IS RESPONSIBLE WHEN A CHILD DIES?



This story will begin and end on a breathtaking stretch of tarmac called Enchanted Way. The hills cradling Los Angeles are woven with roads like this —dead-end residential streets that corkscrew toward the sky, the views and the homes expanding as you ascend. Enchanted Way lies in Pacific Palisades, an affluent neighborhood on L.A.'s Westside that borders Malibu, Santa Monica, Brentwood, and the Pacific Ocean. If you are a fit road cyclist with proper gearing, it's a nice little grind. According to the workout app Strava, the final 0.3 mile of Enchanted Way rises 150 feet, with a sustained pitch topping 14 percent. On a clear day you can see all the way to Catalina Island, 45 miles to the south, from the cul-de-sac at the top. It's the kind of spot where anyone on a bike might pause to soak in the vertiginous panorama.

This story also begins with two preteen girls on a bicycle—to be specific, since it matters, on an electric bike made by the ascendant Rad Power Bikes. It was the final day of January 2021, on yet another balmy morning in Los Angeles. An 11-year-old named Eme Green was piloting the e-bike, and her friend Molly Steinsapir, 12, was nestled behind her on a cushioned seat intended for a second passenger. Molly and Eme were friends and neighbors, and both lived about a half mile downhill from this dramatic perch. One can imagine or at least hope that the girls felt some awe and delight up there, marveling at the expanse of earth and ocean and blue sky before them.

But then they turned that e-bike downhill and a terror unfolded. As Molly's parents would later allege in a lawsuit, Eme could not stop the RadRunner, and the two girls crashed at high speed near the bottom of the steepest stretch of Enchanted Way. Molly, who was wearing a bike helmet, hit the pavement hard and lost consciousness.

Tragically, she would never wake up. Despite a series of increasingly desperate surgeries to address her head injuries, Molly would be pronounced dead a little more than two weeks later.

Of course, with a devastating crash like this, in which a beloved child dies, the aftershocks of the loss never stop. For Jon and Kaye Steinsapir, Molly's parents, the grief of losing their eldest child is too large to properly express. Their daughter went out for a bike ride with a pal and never came home. So of course, this is an intensely personal story.

But it's also a contentious legal story. The Steinsapirs are suing Rad Power Bikes, and their legal complaint alleges that the Seattle-based company should be liable for Molly's death. Both of Molly's parents are successful lawyers—Jon is a music attorney who represented Michael Jackson's estate for more than a decade, and Kaye is an employment attorney—people who have the knowledge and resources and clout to turn their grief and their grievances against Rad Power into a high-powered legal tsunami. Kaye, an articulate storyteller, has taken her heartbreak to social media, picking up more than 120,000 Twitter followers along the way. Outlets like the *New York Times*, the *Los Angeles Times*, and *People* magazine have amplified the Steinsapirs' contention that the e-bike manufacturer is to blame.



Kaye and Jonathan Steinsapir at their home in Pacific Palisades, California, on October 9, 2022.

All of this comes at a time when electric bikes are exploding in popularity in the U.S. More than 1 million <u>e-bikes</u> were sold here in 2021, and it would not be hyperbolic to say that e-bikes could reshape the future of transportation. Massive numbers of people have discovered that e-bikes can replace many car trips, that they have an extremely low operating cost and a tiny environmental footprint, and that they're fun to ride and can sidestep traffic. In the greater Los Angeles area where the Steinsapirs live—and in lots of other affluent communities around the country—e-bikes have become a de facto mode of transportation for kids of middle and high school age. These bikes give teens and preteens who are too young to drive enormous freedom and range, and also free their parents from the need to chauffeur them around town.

This, of course, is hardly the only demographic spurring the massive growth of the e-bike market—there is also a huge contingent of adult <u>commuters</u> and utility riders and fun seekers. And perhaps no company has profited more from the emergence of this market than Rad Power Bikes. Just in the year 2021, the company raised more than \$300 million in funding from large institutional investors to help fuel its explosive growth trajectory. Named after its founder and former CEO, Mike Radenbaugh, the company rose above a crowded marketplace that lacked clear leaders, thanks to a line of cool-seeming e-bikes sold directly to consumers at price points between \$1,500 and \$2,500.

This story will raise questions that don't lend themselves to straightforward answers. Some are philosophical questions that you'll have to ponder yourself; some are legal questions that lawyers will argue and possibly a jury will have to deliberate; and some are questions that only legislative or regulatory bodies can address. Should children be allowed to ride e-bikes? How do you balance responsibility between parents and the companies that make those bikes? Should there be significantly more proactive regulation of e-bikes by the government, given that some e-bikes may not be as safe as they should be? And in the absence of such regulation, do the companies that make and market e-bikes—particularly the companies that sell relatively inexpensive e-bikes directly to the customer—have an ethical or legal obligation to do more?

None of the answers, however they are formulated or enacted, will diminish the loss of Molly Steinsapir. That precocious 12-year-old is gone forever. But her parents are determined to hold accountable the company that made the e-bike from which she tumbled onto the pavement and died. And along the way, the questions pushed into the public eye through cases like the one the Steinsapirs are mounting could present a reckoning for the unregulated growth of e-bikes.

Molly was born on a Tuesday in October 2008. Kaye and Jon Steinsapir say their daughter was a stubbornly benevolent force from day one. Parents project all sorts of superlatives onto their offspring, of course, but Molly's credentials are strong.



Kaye and Molly Steinsapir, age 12.

When she was 4, Molly decided to be a vegetarian. Nobody at home or in her preschool suggested or encouraged the decision. "It happened as soon as she realized what meat was," Kaye says, recalling that efforts to cajole Molly to occasionally eat fish were not successful. "She thought it was very cruel to eat animals." Molly tried to proselytize for the cause with her good friends and refused to participate in fishing at summer camp because she believed hooks were barbaric, and from that point on she remained a vegetarian.

I am sitting with Kaye and Jon in the living room of their home in Pacific Palisades in August of 2022, and I can hear the bemused and reverential love in their voices as they tell stories of their daughter. How she became preoccupied with Syrian President Bashar al-Assad and the use of chemical weapons on innocent families. How she challenged Jon's use of male pronouns to talk about God, and how when he held his ground, the kid called his mother to lobby the issue. (At Molly's memorial service, Jon admitted that in the weeks of intense prayer that preceded his daughter's death, he finally altered this practice, citing former Supreme Court Justice Felix Frankfurter—"Wisdom too often never comes, and so one ought not to reject it merely because it comes late.")

In third grade, Molly and her classmates were told to prepare a report on a great American. Most kids chose the obvious classics—Washington and Lincoln and Jefferson, Jackie Robinson and Martin Luther King Jr. Molly took a deep dive into the life of Deborah Sampson, the first woman to fight in the U.S. military. Molly vividly described how Sampson dressed as a man, fought bravely in the American Revolution until shot and injured, and how she was initially denied a pension because she was a woman. Jon, who describes himself as a history buff, recalls a conversation he and Kaye had with Molly's teacher after that—each of them had assumed that one of the others suggested the topic. But none of them had heard of Deborah Sampson before.

Molly was serious about fun, too. She loved Disney movies and Broadway musicals. She liked but didn't love Taylor Swift. She loved to bake and got pretty good at it during the pandemic. She liked to watch *Shark Tank*. She saw *Hamilton* in Chicago and knew the words to every song. In fact, Molly

loved to act and sing; it was one of her biggest passions. She played Princess Jasmine in a summer production of *Aladdin* and had roles in *Peter Pan* and *Guys & Dolls*. Kaye also says that when Molly was in a play, she would memorize every character's lines. "It was like a job for her," Kaye says, as if she was ready to step in as the understudy for any role in the production.



Kaye looks through Molly's baby pictures and some of her artwork.

Maggie Shannon

Molly was perhaps most joyful at the beach, which was only a few minutes from home. She was a strong swimmer and loved to boogie board and play in the surf. "She was fearless in the ocean," Kaye says.

Both of Molly's parents pause. "She was so cautious in everything," Kaye says, her voice trailing off before she can finish the sentence.

"Except the ocean," Jon continues. "It was a place where she was very free and not scared." The room is quiet for a moment after that.

Molly had a sleepover the night before her fateful crash. The pandemic had in so many ways fundamentally altered the experience of young people.

Molly had been extremely excited about entering sixth grade in a new school—the Geffen Academy, an academics-intensive private school associated with

UCLA—but she never got to attend a day of class in person. All of her classes were on Zoom.



The final 0.3 mile of Enchanted Way rises 150 feet, with a sustained pitch topping 14 percent.

Maggie Shannon

And so, when Molly was allowed to have her best friend, Eme, over for the night, it was a very big deal. Kaye let the girls make a giant mess in the kitchen as Molly showed her pal how to bake her Aunt Polly's chocolate chip cookies from scratch. Kaye remembers standing next to the door of her daughter's bedroom and hearing how excited the girls were to be together. She thought about whipping out her phone to record the joyful banter—a long-awaited sign of something like normalcy—but didn't.

In the morning the girls made another mess baking cinnamon rolls, and then sat in matching pajamas watching *The Little Mermaid*. Kaye thought it was cute and snapped a photo with her phone and texted it to Eme's mom, who's a friend of hers. She replied that if at some point the girls wanted to ride Eme's sister's new electric bike (it was a bat mitzvah gift), they were

welcome to walk over and use it. The girls would eventually get dressed and do that, but for a long time they lingered in front of the TV in their pajamas.

After they got dressed and headed out, Kaye remembers drinking coffee and feeling good that the kids were getting outside on such a beautiful day. Jon was playing with their dog, Calvin. Then the phone rang. They both thought it was odd—the landline rang so infrequently, and most of the incoming calls were solicitors or random callers. Nonetheless, Kaye picked up the phone.

On August 1, 2022—roughly 18 months after the crash that had killed their daughter—Jon and Kaye Steinsapir filed suit against Rad Power Bikes, citing product negligence, breach of warranty, strict product liability, and wrongful death. *Bicycling* has reviewed a copy of that complaint, and Rad has filed an answer denying any responsibility or wrongdoing. The case is scheduled for late 2023. (The family also sued the companies associated with the Giro helmet Molly was wearing, though it is not clear whether they have an interest in aggressively pursuing a grievance against Giro, Bell, and Vista Outdoor or if those entities were added to the complaint as a legal maneuver. The family and their attorneys would not comment on the matter.)

In a separate but related legal matter, the Steinsapirs entered into a settlement agreement in March 2022 with Eme's family, the Greens, for \$1.5 million. That settlement was challenged by Rad Power, which filed a cross-complaint against the Greens, alleging that they should be required to compensate the bike brand for a portion of any liability losses it might incur. But in December, the judge in the case approved the settlement, tossing aside Rad's cross-complaint.

The complaint that the Steinsapirs filed against Rad Power is a remarkably cinematic legal document, vividly recounting Molly's life and death and itemizing a long list of allegations—about the defects of the e-bike Molly had been riding and about Rad Power's culpability for the way it designed, manufactured, and marketed that bike. (One experienced bicycle attorney had this to say about it: "In 50 years, I've not seen a complaint like that—it's more like a novel than a complaint. It's a demand letter with a legal treatise.")



A RadRunner e-bike like the one Molly was riding when she crashed.

Trevor Raab

The 34-page document is a bit circumspect about specific flaws or product failures that caused the crash that killed Molly, but it does allege major design problems with the RadRunner. First, the complaint alleges, the bike had an "unusually low" trail that would make it unstable at high speed. ("Trail" is a technical term that represents the horizontal distance from where a bike's front wheel touches the ground to where the steering axis intersects the ground, a factor that influences the handling of a bike.) Second, the complaint asserts that Rad's decision to outfit (or "spec," in industry parlance) the RadRunner with a combination of disc brakes and quick-release axles is a "known safety hazard" that can cause wheels to wobble or even fall off during hard braking. The complaint alleges that this is what happened in the crash that killed Molly. The complaint also raises questions about the safety of the rear seat of the RadRunner and argues that Rad Power should be held liable for failing to take more action to discourage children from riding its products.

I shared the complaint with experienced product designers and executives in the e-bike and bicycle business, as well as attorneys with experience in bicycle liability cases. The consensus was that some of these allegations were partially or completely off the mark as stated. But these same industry experts also expressed concerns that there are safety issues with the bike and many other low-cost direct-to-consumer e-bikes, and that as the litigation continued, these concerns would likely emerge in sharper relief. And in the end, the Steinsapirs assert, the objective of the initial complaint is not to definitively answer the question of exactly what went wrong with the bike; that will happen in the discovery phase, into which the case has now proceeded.

"The complaint's description of the quick release loosening due to interaction with the disc brake use is novel, and probably wrong—I can't think of how that would happen in normal use," says legendary bike engineer Keith Bontrager, who read the document. "It is not clear what specific chain of events led to the loss of control, whether it was a mechanical failure or rider error. From the limited information available, it does not seem like the front wheel separated from the fork."

But then he addresses the other side. "I see hundreds of kids using these bikes," says Bontrager, who lives in the Bay Area. "There's always a temptation to spec a quick release, and in this case I think it's a really bad idea. It's a marginal specification. I don't think Rad is to blame for those kids riding up and down that hill. But, based on the number of kids riding the bikes, the company probably knew they were getting into risky territory. And I think Rad Power is massively exposed by the use of these bikes by kids. I don't know how they can prevent that, but it seems fairly clear that they haven't tried very hard."

Peter Wilborn, a Florida-based attorney and founder of the Bike Law Network, has a similar view. "It's clear to me from the complaint that the family's attorneys are trying really hard to assert that there's something specifically wrong with the bike," he says. "But if they knew something specific, it would be in the complaint." Wilborn adds that he still thinks everyone, parents included, should be concerned about the impact of children riding throttle-powered e-bikes.

"I don't think the bike's trail had anything to do with what happened. But the bike likely uses OEM parts the original equipment manufacturer," or parts made by another company] that are safe on a bike one-third the weight, but not designed for a much heavier, motorized bike. Rad doesn't appear to have broken a law, and can assert they don't have to be held to a higher standard than the law. But I would ask Rad, 'What do you think about how kids are using your product, and what are you doing to address that?"

The complaint alleges that Rad Power Bikes has been negligent in failing to do more to discourage children from using its products—asserting, in fact, that the company has tacitly marketed to young people and their parents. The complaint notes that the owner's manual for the model Molly was on states that "the RadRunner is designed for use by persons 18 years old and older," but that "this caution occurs in small print on page 49 of a 57-page manual." The complaint also alleges that the company's website is full of "glowing reviews from adults who have written about buying Rad e-bikes for their children," quoting a number of reviews from people talking about children younger than Molly having fun riding Rad e-bikes.

Just to be clear, children under the age of 16 are prohibited by California law from piloting a Class 3 e-bike, which can reach 28 miles per hour, but presently no age restrictions exist for riding Class 1 and Class 2 e-bikes like the RadRunner that Eme and Molly were on. So Rad Power is not violating any laws in this case, even accepting the Steinsapirs' argument that Rad Power marketed its products to minors. But surely company officials now know that young riders have fueled a big chunk of the brand's growth, and in the absence of new laws or regulations about who can use Rad's products, several industry and legal experts I talked to questioned whether Rad has a "duty of care"—a legal term denoting a party's obligation to use reasonable care to avoid injuring people—to either make its bikes safer for young riders or to discourage them from riding e-bikes. "The end user [for Rad] is an affluent teenager who might not have a ton of riding experience," says Hong Quan, founder of the e-bike brand Karmic. "I'd like to ask Mike [Radenbaugh] if he's concerned that his product is not designed for them."

Rad Power representatives did not respond to my repeated requests for an interview but ultimately offered a statement regarding this case. "The entire Rad Power Bikes team extends its deepest condolences to the Steinsapir family on the tragic loss of Molly Steinsapir. We are aware of the lawsuit that the family has filed. Rad Power Bikes does not comment on pending litigation, including this case, and therefore has no comment on the allegations in their complaint or the underlying accident."

(Mike Radenbaugh announced in November 2022 that he was stepping down as CEO to focus on e-bike advocacy and innovation. In a letter to customers on January 24, 2023, the new CEO, Phil Molyneux, said: "As a young company, we recognize that we have made mistakes. Now we are dedicated to learning from them.")

For pretty obvious reasons, the complaint does not address the Steinsapirs' own responsibilities in this horribly tragic case. They didn't purchase an ebike for their daughter and were not aware of any specific or general reasons why Molly should have refused an invitation to ride on her friend's sister's bike. "My heart is broken for them," says attorney Wilborn. "No one has thought through the consequences of young kids essentially driving heavy, difficult-to-control, throttle-powered e-bikes. When I grew up, the consequences of kids free-ranging on bikes were things like skinned knees or a broken bone, but now the repercussions have been multiplied."

"It's terrible what happened," says Joshua Hon, founder of Tern bicycles, a longtime leader in the higher-end e-bike market. "An 11-year-old should never be coming down that road on that bike. The parents shouldn't have allowed it to happen. There has to be user responsibility, too. If a 12-year-old gets into my car and rolls it down the hill and gets into an accident, well, that's a user error. That's not, 'Hey, my 12-year-old couldn't control the car and that's the car manufacturer's fault." That said, Hon notes that Tern's current policy regarding this issue is to simply advise customers to follow the laws in their city and state, but that the company is presently reexamining this position in light of litigation like that brought by the Steinsapirs.



Kaye and Jonathan with their two sons Eli and Nathaniel in Molly's room.

Maggie Shannon

Kaye and Jon Steinsapir understandably bristle at the suggestion that they should be held responsible for what happened to Molly. "The failure to warn is really significant in a situation like this," says Kaye, who says she didn't even really know what an e-bike was at the time and that she'd frequently seen other kids even younger using similar bikes in the same manner. "One thing that many people don't fundamentally understand is that consumer product safety in this country happens in response to tragedies and failures. And it doesn't happen at the outset, because as a country we have decided we value entrepreneurship and business and letting people just go to market, and then we find out if the thing is safe or not as it is sold and marketed and used."

As previously noted, the Steinsapirs' legal complaint alleges that the manual for the RadRunner contained one sentence—in small type on the 49th page of the large booklet—stating that "the RadRunner is designed for use by persons 18 years or older." That language has since been changed. Now the manual's first interior page bears this warning: "This ebike is not to be operated by anyone under the age of 16."

Rad Power declined to comment on when the change was made or how the company might communicate this position to potential consumers, but it did offer a related statement. "Rad's stance has always been that its ebikes should not be operated by anyone under the age of 16 (some previous models were at least 18 years old), and the appropriate age warnings have always appeared in all of the owner's manuals," a company rep stated. "Rad Power Bikes' ebike is not to be operated by anyone under the age of 16. Children under the age of 16 may lack the necessary judgment and skill to safely operate the ebike, potentially resulting in damage to the bike, damage to other property, serious injury, and/or death."

I suppose this is an appropriate moment to share that I have two RadRunners sitting in my garage. I bought one in August 2020 for my older son, who was 15 at the time, and I had a good enough impression of the bike to purchase another one soon thereafter for my younger son, then 14. I assembled both bikes on the back patio. I live in a suburban beach community in Los Angeles County, and in the past few years, DTC (direct-to-consumer) ebikes like those made by Rad Power have become a de facto mode of transportation for kids between the ages of 11 and 16. The RadRunner appears to be the most popular e-bike in this category by a wide margin—kids like the low-slung design, and parents like the classy but playful marketing as well as the wallet-friendly price. I was aware that certain compromises were made to hit that price point, but I initially felt it was a solid and extremely fun bike for the money.

For the record, I think e-bikes are one of the more transformative products to come along in our lifetime. They exponentially expand the number of people who can get around on a bicycle. They are fun to ride and useful—able to reduce peoples' dependence on driving, which helps fix complicated problems like traffic congestion and bad air quality. In short, I think e-bikes can help change the world for the better. Still, I've learned the hard way that not all e-bikes are created equal.

Roughly a month after my younger son got his RadRunner, he mentioned that the brakes weren't working so well. I went out to the garage and discovered that I could easily squeeze both brake levers all the way to the handlebar grips—meaning the brakes weren't working at all. But I know that the cables on new bikes can stretch, so I did some googling and watched a couple of very useful YouTube maintenance videos that Rad Power had produced. Then I made a few adjustments to get the disc brakes back in seemingly perfect working order. But a couple of weeks later, I saw my son dragging his sneakers on the ground to help stop the bike and found that the brakes were once again useless.

Thus began a regular cadence of brake repair. I make a point of inspecting and adjusting my kids' brakes every two or three weeks. In two years I have purchased more than 10 sets of brake pads. I bought and installed Kevlar pads, which are more durable, and I also brought the bikes into a few shops to see if their mechanics could address the issue better than I could. (Neither effort fixed the problem.) Perhaps because I'm an experienced bike rider, I felt a great deal of concern about the situation, knowing that I live in a community with steep hills and busy streets and worrying about my kids being suddenly confronted with a braking failure.

Then I started talking to my neighbors. During the pandemic, hundreds of teenagers in my community took to the streets on RadRunners and other inexpensive DTC ebikes with mechanical disc brakes, and I discovered that many of them were having similar issues. Some parents were clued into the problem and were either scheduling regular maintenance with local shops or learning how to make the fixes at home, while others had no idea that their kids were riding heavy electric bikes that couldn't stop properly without frequent maintenance. I started a thread on Nextdoor with a summary of the problem and how to address it, and soon I was DMing with parents who wanted tips on barrel and caliper adjustments.

One of my neighbors—his name is Ezra Holland and he lives about five blocks from me—says that almost immediately he started noticing disturbing braking issues with the RadRunner he purchased early in 2022. Two or three weeks after he got it, Holland, an experienced road cyclist, noticed that the responsiveness of the brakes was poor, and he decided to remedy the problem by tightening the cables that run from the levers to the calipers. But he learned that this only bought him a few weeks, and that after tightening those cables a few times, one of the calipers clicked into a different position where there was zero braking action. "That is pretty scary," he says.

Thus began a year of education, vigilance, maintenance, and communication with Rad. Holland now buys pads in bulk on Amazon; he checks and adjusts both calipers every two weeks, always on alert for a failure. He's experienced the rear brake fail going downhill and is especially concerned about that happening while his 17-year-old is using the bike. Rad has sent him new brakes and new pads, but Holland says that in his ongoing phone calls with the brand, customer service reps and supervisors have told him that other customers aren't experiencing braking issues like he has. But he alone knows a half dozen friends and neighbors struggling with the same problems. "I just got to a point where I started questioning my own thinking, because they keep saying I'm wrong," he says. "I start thinking that maybe I'm just making a fuss here for no reason. Which I think is not fair, because I think it's not true."

Holland says that in his most recent exchange with Rad customer service, the rep emailed him that it is "not uncommon" for owners to adjust their brakes "every couple of hundred miles or so." Which in his case would be every few weeks. "That's totally unreasonable," he says, adding that the same rep urged him not to explore swapping out the mechanical disc brakes on the bike for hydraulic brakes for safety reasons. "I found that hilarious."

As I dug a little deeper, I talked to some Rad Power owners who'd had bad crashes and felt that issues with their e-bike were to blame. Though I am not aware of any studies concerning the frequency of these crashes, the anecdotes stuck with me. The complaints I heard fell into two categories—people who say they suddenly lost braking power and crashed, and people who say their front wheel came off the bike as they were riding it. In other words, potential issues with the mechanical disc brakes or with the quick-release mechanism on the bike.

Tawny Redford and her daughter were riding Rad Power e-bikes in the posh L.A. neighborhood of Bel Air this past July. She says they rode all the way to the top of Bel Air Road and soaked in the sweeping canyon views. Redford says she even joked with her daughter about the worst-case scenario: "Wouldn't it be crazy if your brakes went out [on the way down]?" But that's exactly what she says happened. "I had both hands on the brakes and they went from working to not working," says Redford, who often rides hilly terrain near her home in Laguna Niguel and says her husband checked the brakes frequently. With the bike picking up speed and the brakes inoperable, Redford tried to intentionally crash into a grassy plot backed by a fence. She estimates she was traveling 25 to 30 miles per hour and says her front wheel was wobbling. She landed on her back and hit a drainpipe and wound up with her back fractured in three places, a broken rib, a bad case of PTSD, and almost \$40,000 in medical bills (before insurance). Now her daughter, 14, doesn't ride her Rad ebike to school anymore. "She has to go down a steep hill on a dirt trail every day to ride to school," Redford says. "I'm not sure these bikes are great for any age if the brakes don't work."

"I had to go through some personal therapy," she adds, noting that she began to have panic attacks for the first time in her life. "I was worried about braking even in a car."

David Ng asserts that he had a bad crash after the front wheel of his Rad bike came off. He was riding on a bike trail in Washington, D.C., on a nearly new RadMini Step-Thru—he says it was two weeks old and had maybe 70 miles on it. Ng says he built the bike himself. "I'm a software engineer," he says. "I read the instructions and followed directions. It felt like everything was tightened properly." In any case, as he was riding on the path, he went down

a dip, and maybe 15 seconds later the front of the bike plunged to the ground as the fork scraped on the pavement. The front wheel rolled off into the woods as he continued along the trail. Ng says the nut for the quick release came off and he never found it. In the ensuing crash, the handlebar hit him in the groin area. Ng says he wound up with injuries to his femoral artery and may have to take blood thinners for the rest of his life. "It feels like a safety issue," he says. "They should change their design. I'm a little salty about it."

Brody Darlington was only 11 when he crashed. He was staying with his grandparents near Coos Bay, Oregon, and hit the ground when the front wheel of one of their RadRunners came off on a quiet paved road. He had to take a 90-minute ambulance ride and then a Life Flight helicopter to a hospital in Eugene where he underwent surgery to relieve pressure beneath his cracked skull. He needed a second Life Flight to Portland, where he spent his recovery. Darlington is out of the woods now, but his grandmother, Jane, says he couldn't run or play contact sports for six months. "To see him with breathing tubes was terrifying," she says.

To be sure, it is unclear what caused these and other crashes. Some could simply be user error on the part of inexperienced riders who are not prepared to stop or control a heavy bike going fast. Some could be because of errors made in the assembly or maintenance of the bikes—although it's worth noting that allowing consumers to circumvent professional assembly and regular maintenance is part of the DTC e-bike business model. Braking failures could be caused by an owner's failure to replace pads or adjust cables when needed. A quick-release failure could be caused by someone putting on a wheel improperly. But then again, many of these crashes could have been caused by the failure or inadequacy of inexpensive components—a flimsy bushing in the quick release, for instance, or cheap pads that won't last long when stopping a 65-pound bike that often goes 20 miles an hour.

Trying to definitively tease out the cause of these issues may be pretty contentious, but trying to understand the implications of these issues is pretty stark. My neighbor, Ezra Holland, related a story from a recent drive near home. "I watched two girls on a Rad e-bike ride downhill through a stop sign at an intersection and almost get run over, and then repeat the same thing at the next intersection," he recalls. "So I pulled over and stopped them and said, 'Do you realize how dangerous what you're doing is?' And their answer to me was, 'We don't know what to do—our brakes don't work."

After spending more than an hour with me celebrating the life of their daughter, Jon and Kaye Steinsapir are ready to talk about the day Molly crashed. Late afternoon light is streaming into the living room of their home in the Pacific Palisades; their dog, Calvin, is barking his head off in the yard because he wants to be inside. The air feels still, quiet, heavy. Jon gets up and paces around the room for a minute, then sits back down.

Kaye describes answering the landline that morning. Eme's mom was calling; she said they needed to come over right away, that the girls had crashed on the bike, that they should bring the car. That was odd because the Greens lived only five or six houses up the street.



The families live about a half mile from Enchanted Way. Molly and Eme crashed at high speed near the bottom of the steepest stretch $Maggie\ Shannon$

So Kaye and Jon jumped in the car and drove to the house. Two of Eme's siblings were standing in the driveway, crying. They said to keep driving uphill. Then the Steinsapirs heard sirens and saw a fire truck and an ambulance racing up the street. They followed the emergency vehicles, winding up increasingly steep hills toward the top of Enchanted Way. Jon was thinking maybe she had a broken leg or something.

Then they got to the scene and saw Molly lying face down in the street, her turquoise helmet still strapped to her chin. Kaye got out of the car and sprinted to her daughter. Jon admits that he froze. "I just couldn't," he says. "I just took out my phone and tried to call my mom. It's like primal, you know—you want your mom."

"And the mom, of course, is the one that runs right in," Kaye says, as she and Jon share a smile.

The paramedics worked very carefully on Molly, who was not conscious, and eventually moved her onto a gurney and then into the ambulance. One of the paramedics rode in the back with Molly, so Kaye had to sit up front. She remembers snapping at the driver after he asked her to help him figure out the fastest route to UCLA Medical Center. But there she was, pulling up Waze as she called back to Molly in the rear: "Molly, mom's right here. I'm right here, you're okay, I got you."

When they got to the hospital, Kaye watched as a huge team descended on Molly —30 people in white coats with masks and shields. Molly looked so small on that hospital bed. Then they wheeled her away and left Kaye standing alone in the hallway. Kaye says her head was spinning, so she climbed onto an empty gurney in the hallway, and just cried.

By the time Jon made it to the hospital, Molly was already being prepped for surgery. Surgeons initially told them that there was a small bleed in her head, between her brain and her skull. Nobody wants to hear that, of course, but initially the doctors seemed cautiously optimistic that the injuries weren't as bad as they could have been. One doctor said he thought Molly might remain unconscious for a couple of weeks and then have to deal with light sensitivity and headaches.

But the cautious hope faded about five days later. Jon recalls waking up in the hospital on the Friday morning after the crash and seeing a small team huddled around his daughter. They said something wasn't right and that they needed to run some tests right away. Two and half hours later they came back and said Molly needed immediate surgery, and in the middle of that procedure, the surgeon called Jon and Kaye—she says the doctor seemed "rattled"—to get permission to do a more aggressive procedure. The Steinsapirs understood the stakes. The doctors were scrambling to save their daughter.

But the swelling in her brain was too great. In the span of 24 hours, Kaye and Jon went from guarded optimism to facing decisions about organ donation. They thought hard about what Molly would want—to help other people—and signed the paperwork. "It was really hard to leave her there on life support," says Kaye. "We couldn't stay with her, and it was a while before they could do the procedures" to harvest her organs. For Jon and Kaye, it's like Molly died several times—when doctors declared her deceased with no brain activity, when they said their last goodbyes a few days later, when her heart was removed from her body. There was a time the Steinsapirs say that UCLA lost track of their daughter's body; Jon says it was like a macabre version of searching for an Amazon package that had been misdelivered.

The organ donation snafus brought a traumatic end to a traumatic ordeal, but now the Steinsapirs are tearing up as they detail where all of Molly's organs eventually wound up. Her kidneys got a woman off dialysis. Her lungs went to a woman who was battling pulmonary disease—and she wrote the family a beautiful note about how it changed her life. And Molly's heart and liver went to a 14-year-old boy who had spent most of his life in the hospital, a boy who would not be alive today without those organs.

The e-bike market went from promising to scorching during the pandemic. Larry Pizzi, general manager at Alta Cycling Group and chair of the electric bike subcommittee at the nonprofit People for Bikes, says 1.1 million e-bikes were sold in the U.S. in 2021, according to People for Bikes research. Of that whopping total, he says, fewer than 200,000 were purchased through a bike shop—meaning that as many as 900,000 e-bikes were purchased through direct-to-consumer channels.

When asked to summarize the overall level of regulation in the e-bike market, Pizzi chuckles. "It's sort of the Wild West," he says, itemizing how a few rules codified by the federal government haven't changed since they were created two decades ago. "Absolutely anyone with a couple hundred thousand can start an e-bike company. You can go to a trade show in China. And people who are not qualified are doing this and applying a brand graphic, and voilà, they're in the e-bike business."



Kaye and Jon at home on October 9, 2022.

Manufacturers in the e-bike space concur. "You just have to pick up a catalog and start ordering," says Hong, founder of the DTC brand Karmic. "You can buy a quick release for 50 cents or spend \$50 on thru axles. Most people want to go after the mass market. The factory will build whatever you want." Hong notes that his startup's first-generation e-bike was spec'd with quick release and mechanical disc brakes, but he modified the design to incorporate thru axles and hydraulic disc brakes after customers complained. "My worst fear is that something bad happens when a customer uses the product."

Josh Hon of Tern has that fear too. "The DTC brands like to say, 'we take out the middleman so it's cheaper,' but as we in the bike industry know, you can take out some cost by cutting out the dealer and service, but the reality is that a lot of the price reduction comes from cutting corners on component quality," he says. "So I tell people outside the bike industry that basically when you're choosing bike parts, it's a factor of 10. You can buy a tire in China for a dollar, or you can buy one for 10 dollars." Hon then opines, "and the parts that are one, two, three dollars... they're not designed for regular usage, let alone usage on a heavy e-bike."

But while countries in the European market have more robust standard requirements for e-bikes (and some countries, such as Germany, are pursuing even stricter regulations on certain types of e-bikes), the U.S. market is virtually without differentiated standards for e-bikes versus nonelectric bikes. A DTC brand can source whatever brakes it wants or put any fork it can find to meet a target price point, even on a heavy cargo bike. So however dubious a brand's spec might seem, a company is most likely violating no consumer product safety regulations with its choices. "And the truth is, most customers don't understand why they'd want to spend another \$500," Quan says.

The primary regulation governing e-bikes in the U.S. is included within the Code of Federal Regulations Part 1512. Codified in 2003, it defines e-bikes by the somewhat simple description: A two- or three-wheeled vehicle with fully operable pedals and an electric motor of less than 750 watts and can go no faster than 20 miles an hour on a paved level surface while ridden by an operator who weighs 170 pounds. In 20 years, nothing has been changed or supplemented under this federal regulation. (Pizzi notes solemnly that "a couple hundred thousand" e-bikes a year are imported into the U.S. one at a time from some online marketplaces, "and many of those bikes don't even comply with 1512.")

"Some DTC brands are doing a good job—but spec is a huge problem," Pizzi says. "It's a race to the bottom. From an industry association perspective, so many units are sold into the market beyond the scope of our constituents—it will have a negative impact. We have to tout the value of buying from a trusted brand that is being built by a qualified mechanic and given aftercare." Hon concurs. "Our view is that e-bikes are complicated mechanical vehicles that need service," he says. "They're like cars or motorcycles or scooters. Imagine you have a car, and the brakes aren't working well, and someone tells you to watch a video to do it yourself. I'm very happy buying a shirt or a pair of socks online and having it delivered to my door. But those things don't need service."

Hon also feels that brands need to do more to spec their bikes with safety in mind. "We would not put low-cost mechanical disc brakes on a heavy cargo bike," Hon says. "Consumers need to realize there is no general certification or safety standard that is required, so each brand is making these decisions. And that when people are making lots of money, sometimes these decisions are made too fast and without adequate testing and the ultimate loser is the user. Consumers need to educate themselves."

Keith Bontrager puts it tersely. "The cheapest bikes aren't always the cheapest in the long run."

But to be clear, Rad Power and other reputable DTC brands have broken zero rules spec'ing bikes with inexpensive components. Likewise, they have not broken any existing laws governing the required ages to ride an e-bike; they simply tell consumers to follow federal, state, or municipal guidance on that matter. "It would take an act of Congress to change the regulations," Pizzi says. "Or a lot of deaths to move the CPSC."

Hon feels that more needs to be done—by either the government or the brands themselves. "In the absence of government standards, it's up to the brands who are building these bikes to make them safe," he says. But economic incentives do not always align, and "[t]his is what government is there for," he says. "Let's make some rules about minimum quality standards that the U.S. consumer can accept. And for safety as well. Because the consumer, especially with a new product, doesn't understand the potential risks."

At Tern, all e-bikes under development are tested rigorously by a third-party laboratory to meet or exceed stricter European Union standards for the bike's battery system and carrying capacity—even if the bike is destined for U.S. consumers. "Regulation and rules and certification standards make a difference," says Hon. "Imagine if you didn't have to certify a car and you could just go over to China and find some factory with open molds, and you just buy the cheapest car components and just come over and sell it online without needing to worry about service. People would distrust the quality of cars." When asked to comment on how they test the safety and capacity of the rear seat on the RadRunner, a Rad spokesperson emailed the following statement: "We comprehensively test our products to guarantee quality and compatibility and to all compliance and regulatory requirements in the markets we serve."

The holidays were looming when I spoke with Kaye and Jon Steinsapir one last time this past December. Kaye described the entire stretch from October to February as "one long dark night." It's a span that includes Halloween, Thanksgiving, Hanukkah, winter break, and the anniversaries of Molly's crash and death.



A mural dedicated to Molly Steinsapir on the exterior of the Pierson Playhouse in Pacific Palisades, California.

No lawsuit will bring Molly back. But it could force the industry and regulatory bodies to do more so that more kids don't get hurt or die. Lawyers and legislators can decide where the burden lies, but the undeniable reality is that e-bikes need to meet higher safety standards.

After my first meeting with Kaye and Jon at their home in August, I decide to retrace the route of Molly and Eme's final ride. For the most part, it's straightforward and lovely—relatively quiet and wide suburban streets that seem like a great place for kids to ride a bike. I can hear birds chirp and smell ocean air and see sunlight sparkling on the Pacific. I picture the girls rolling up Enchanted Way on a similarly beautiful day, enjoying the magic of cruising through this landscape.

Then Enchanted Way pitches skyward and my mood gets heavy. It's not someplace you'd want to be on a bike with braking issues. It's not someplace you'd want two kids to be sitting on a 65-pound e-bike. It's not the kind of place anyone, even an experienced rider, would want to dump a bike in a panic.

From the vantage point of the cul-de-sac up top, it's easy to see all the questions about this case without really seeing any of the answers in sharp focus. But it seems clear that not answering those questions has consequences. I start my descent, then stop briefly at the precise crash site, noted in the legal complaint, weighed down by the fear that Molly Steinsapir must have felt in the moments before everything went dark.



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