

PRINT-OSF doctors warn: E-bikes and e-scooters aren't toys

Rising injuries spur safety push

Two pediatric trauma leaders at OSF HealthCare Children's Hospital of Illinois in Peoria are sounding the alarm on the rapid rise of severe injuries tied to e-bikes and e-scooters, emphasizing that the high-speed, heavy devices should be treated more like motorcycles than bicycles, especially for kids.

Charles Aprahamian MD, FAAP, FACS, surgeon-in-chief at OSF Children's Hospital says with the rise of battery-powered devices, surgeons have seen an increase in injuries, especially among children ages 10 to 15.

"The speeds that can be achieved, especially at 28 miles per hour, 25 miles per hour, it becomes more like a motorcycle and not a bicycle. So the injuries you see with e-bikes versus bicycles because of the increased speed are much more severe – higher chance of broken limbs, head injury and spine injury. So it can be quite severe," he points out.

Locally, the hospital has not recorded deaths tied to these devices, but doctors have seen significant life-altering injuries, including permanent traumatic brain injuries and permanent walking impairments. Paul Jeziorczak, MD, MPH, trauma medical director for OSF Children's Hospital of Illinois, says e-bike and e-scooter incidents are starting to overtake other leading causes of serious injury in kids and young adults.

Added weight adds risk

Dr. Jeziorczak says e-bikes' added mass are a major risk factor.

The battery on e-bikes adds 40 to 100 pounds. So for a teenager under that bike, they're not getting up from under it. Dr. Jeziorczak adds that the lower-mounted batteries and motors create a low, heavy center.

"Because of that added weight, the crash becomes more significant. So you can get entangled and trapped, and that added weight can cause more injuries that a normal bike wouldn't."

Orthopedic surgeons have begun using a stark term for one pattern they're seeing. The orthopedic community coined the term 'Lime bike leg' Dr. Jeziorczak says, referring to severe fractures associated with shared and rental e-bikes, including from a company known as Lime.

"If you misstep or try to pedal, that weight can really put a lot of force on the two lower bones in your leg – the tibia and fibula. We're seeing a lot more open injuries where the bone is actually coming out through the leg, causing a lot of soft tissue skin damage, needing a lot more reconstruction.

Both physicians stress that a lack of experience and control – rather than car impacts – is driving many crashes.

"I think e-bike accidents and scooter accidents are most commonly seen when they're going fast and lose control and cause injury versus somebody else hitting them," Dr. Aprahamian observes. "They're

not experienced with either the speed, rules of the road, when to yield, the importance of wearing a helmet – versus what you would go through to have a license.”

Factors like riding at night in dark clothing and wearing headphones amplify danger, he adds.

Wear protective gear

Protective gear, they say, changes the odds. For faster e-bikes, some of the recommendations are to wear full face shields. But at the very least, a helmet is important.

Age appropriateness matters. [The American Academy of Pediatrics wants children to be 16 or over](#) for devices capable of speeds over 20 miles per hour. Illinois is also tightening the rules. A [state law that takes effect in January 2027](#) recognizes e-bike classes by speed and assist type: Class one and two top out at 20 miles per hour. The law says 15 years old is the youngest that you can use those devices. Class three is anything 28 miles per hour or above, and you need a driver’s license and must be 16 years old – similar to a motorcycle.

The physicians cautioned that risks extend beyond crashes to the batteries themselves.

Dr. Jeziorczak emphasizes there have been similar reports of fires that occurred with hoverboards.

“So if there are any issues with that battery, the recommendations are not to plug it in and go to sleep in your house because they can start on fire. If you smell smoke or something weird when it’s charging, the breaker in your house is tripping, don’t try to proceed and ignore those sort of things because they have caused significant burn injuries from setting your house on fire.”

He also warns the batteries can degrade over time and stresses the importance of using the cord that came with the device. Using third-party cords and third-party devices can lead to batteries exploding and fires.

Neither doctor wants to ban fun. They want families to recalibrate risk. Education from parents and families about how these bikes are used is very important.

Key takeaways for families:

- Treat e-bikes and e-scooters like motor vehicles, not toys. Follow age and speed guidelines.
- Always wear a certified helmet. For higher-speed models, consider a full-face helmet and additional protective gear.
- Increase visibility and attention. Avoid dark clothing at night and skip headphones while riding.
- Understand weight and speed. Heavier, faster devices cause more severe injuries, including “Lime bike leg” open fractures.
- Charge safely. Use only manufacturer-approved chargers. Don’t charge while sleeping, and stop immediately if you notice heat, odor, smoke, or breaker trips.