Learn more about...

E-BIKES & E-SCOOTERS

E-bikes and e-scooters have changed how American families get around. Sales have surged: more than 1.7 million e-bikes sold in 2024, a nearly 75% increase in a single year, with e-scooter use rising right alongside them.[1] For families, that means more independence for kids, less driving for parents, and a fun way to get outside together. It also means a fast-growing safety problem that most parents have not seen coming.

E-scooter injuries among children under 15 more than doubled in 2024, reaching 17,641.[2] E-bike ER visits for children ages 10 to 17 have more than tripled since 2019.[3] An e-bike or e-scooter is not just a faster version of a bicycle. It rides differently, fails differently, and carries risks that pedal bikes do not.



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The Numbers Behind the Injuries

E-bikes and e-scooters are growing in popularity faster than the safety habits that protect riders, especially young ones.

The U.S. Consumer Product Safety Commission (CPSC) tracks e-bike and e-scooter injuries through hospital emergency rooms nationwide. The data is moving in one direction, fast.

E-Bikes

- **293%** increase in e-bike injuries from 2019 to 2022[1]
- **More than tripled** ER visits for children ages 10-17 on e-bikes since 2019[3]
- **6 times** the injury rate for children ages 10-15 compared to other age groups[3]
- **201** pediatric e-bike trauma cases at one children's hospital in 2025, up from 125 the year before[4]

E-Scooters

- **80%** increase in e-scooter injuries in a single year, from 64,312 in 2023 to 115,713 in 2024[2]
- **38.3%** of pediatric e-scooter injuries occur in the 11-14 age group, the largest of any age group[5]
- **40.4%** of pediatric e-scooter injuries are fractures, dislocations, strains, or sprains[5]

The Most Alarming Number...

Head trauma from e-bike crashes increased **49-fold** between 2017 and 2022.[6] The leading cause: children riding without a properly fitted helmet. Studies show children on e-bikes wear helmets less often than children on regular bicycles, and they are hospitalized at higher rates when they crash.[6] The same pattern is playing out with e-scooters. A bike helmet, worn correctly, can reduce the risk of a serious head injury by up to **85%**.[7]

Know What Your Family is Riding

Type	How the Motor Works	Top Assisted Speed	Typical Age
Class 1 E-Bike	Pedal-assist Only	20 MPH	Often allowed for younger riders
Class 2 E-Bike	Throttle or pedal-assist	20 MPH	Many states restrict to 14 or 15+
Class 3 E-Bike	Pedeal assist only, often with a speedometer	28 MPH	Riders must be 16 or older in most states
E-Scooter (consumer)	Throttle, stand-up posture	15 - 20 MPH	Most states require riders to be 16 or older
E-Scooter (high-powered)	Throttle, often with a seat	25 - 30 MPH	Often regulated as a moped

State laws vary widely. Some states require helmets for all riders under 18 on any class of e-bike or e-scooter. Five states (Connecticut, Maryland, West Virginia, Massachusetts, and Louisiana) require helmets for all ages on every class.[8] Check your state's rules before your child rides.

For most young riders, a Class 1 pedal-assist e-bike or a low-speed e-scooter is the safest and most appropriate choice.

Why E-Bikes and E-Scooters Are Different from Pedal Bikes

They look familiar. They do not behave the same way.

Parents who learned to ride on traditional bikes often assume an e-bike or e-scooter is the same machine with a small motor attached. The differences matter, and they explain why injury rates are climbing.

- **Speed:** A Class 3 e-bike can reach 28 mph under pedal assist. Even a typical e-scooter at 15-20 mph is faster than most riders, especially children, can safely react to a pothole, parked car, or sudden turn.
- **Weight:** E-bikes typically weigh 50 to 70 pounds, two to three times a standard bike. They are harder for a child to maneuver at low speeds and harder to lift after a fall.
- **Small wheels (e-scooters):** E-scooters have wheels half the size of a typical bike, which makes them far more vulnerable to potholes, cracks, and debris that a bike would roll right over.
- **Stand-up posture (e-scooters):** Standing on a moving platform offers far less stability than sitting on a bike. A small bump or sudden brake can launch a rider over the handlebars.
- **False confidence**: Higher speed and longer ranges encourage riders to go farther from home, on busier roads, before they have the experience to handle them.

Keeping Your Family Safe

Helmet, every ride, no exceptions. Choose a properly fitted bike helmet that meets CPSC standards. A helmet correctly worn can prevent up to 85% of head injuries.[7] For higher-speed riding, a helmet rated for higher impact (mountain bike or motorcycle-style) offers more protection.

Match the ride to the rider. Resist letting younger children ride Class 2 (throttle) or Class 3 (28 mph) e-bikes, or high-powered e-scooters. For most riders under 16, a Class 1 pedal-assist e-bike or a low-speed e-scooter is the right starting point.[9]

Practice in a safe area first. Empty parking lots, driveways, and quiet streets are the place to learn how the throttle and brakes feel before riding in traffic.

One rider per device. Doubling up is one of the most common causes of e-scooter and e-bike crashes. The vehicle is rated for one rider for a reason.

Wear bright clothing and use lights. E-bikes and e-scooters go faster than drivers expect from a "bike." Make sure your rider is visible.

Follow traffic rules. Both follow the same rules of the road as bicycles: ride with traffic, use hand signals, stop at signs and lights, yield to pedestrians.

No phones, no earbuds. Distracted riding is just as dangerous as distracted driving, and at 20-28 mph, even more unforgiving.

Set family rules and ride together. Where can they ride? How far? When do they have to be home? Riding with your child for the first weeks builds skills and trust.

Battery Safety Matters Too

Lithium-ion batteries in e-bikes and e-scooters can catch fire if they are damaged, overcharged, or charged with the wrong charger. In 2023, lithium-ion batteries from these devices caused 267 fires in New York City alone, injuring 150 people and killing 18.[10] Charge batteries on a hard surface (not on a bed or couch), use only the manufacturer's charger, do not leave a charging battery unattended overnight, and stop using any battery that is swollen, damaged, or hot to the touch.



Citations

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[3] "E-Bike Injuries Among Children and Adolescents." U.S. Consumer Product Safety Commission, NEISS data, 2019-2024.

[4] "New E-Bike Study Addresses Speed-Related Trauma Risk for Kids and Teens." Rady Children's Hospital / CHOC Pediatrica, 2025.

[5] "Disparities in Incidence and Severity of Electric Scooter Injuries in Children." Journal of Pediatric Surgery / ScienceDirect, 2025 (NEISS data, 2020-2024).

[6] "Statement on Electric Bicycle Safety and Injury Prevention." American College of Surgeons, 2024; "Electric Bikes Are Emerging as Public Health Hazard." ACS Bulletin, 2024.

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[10] "Lithium-Ion Battery Fires from Micro-Mobility Devices." Fire Department of the City of New York, 2024.

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