

HOW BIKE CRASHES HAPPEN

BEHAVIORAL PATTERNS

Children's bike injuries are most often due to bicyclist error, whether or not the incidents involve motor vehicles. Children under age 14 are most at risk for injury as a result of their behavior in four situations.

- ***Rideout:*** Young cyclists commonly ride out into the street from a driveway or alley without looking for or yielding to traffic. Typically, this situation occurs in residential or commercial areas as a child enters the street from a driveway, alley, or from the curb or shoulder in the middle of the block. Children under 8 are most at risk from this behavior.
- ***Intersections:*** Young cyclists have invalid expectations such as: assuming that the motorist will let them go first, misjudging how long the light will stay green or yellow, and assuming that the motorist has seen them. Risky behaviors also cause injuries at intersections. Risky behaviors include not obeying the signs, signals, and rules of the road that pertain to all vehicles, including bicycles.
- ***Sudden swerve:*** Young cyclists are known to make turns without signaling or looking for oncoming traffic (they are commonly attempting to make a left hand turn). The most important tool a young bicyclist can acquire to counter this risk is the habit of looking to the rear for oncoming traffic and yielding to it, before turning, as well as using the proper hand signal to alert motorists of his or her intention.
- ***Wrong-way riding:*** Young cyclists riding against the flow of traffic are one of the single most important factors in bike injuries from collisions with motor vehicles. Few people realize that it is against the law in every state. The reason for this law is to ensure that bicyclists are not in unexpected locations where it is likely that motorists will not see them, or will see them too late to avoid a collision. In addition, a head-on collision occurs with greater impact than any other kind. Wrong-way riders also pose a grave danger to cyclists riding with traffic. There is simply no good reason for riding against the flow of traffic.

UNREALISTIC EXPECTATIONS

Bicyclists, particularly young ones, are not aware of the hazards that could befall them. This lack of awareness leads to unrealistic expectations on the part of many bicyclists including beliefs such as:

- The motorist will see the bicyclist.
- A stopped vehicle will remain stopped.
- A vehicle will go straight, when it actually intends to turn.
- A vehicle will turn, when it actually intends to stay straight.
- A vehicle will continue, when it actually intends to stop.
- A vehicle will turn one way, when it actually intends to turn another way.
- The door of a parked vehicle will not open.

HAZARD PATTERNS

Several hazard patterns have been identified for bike injuries involving children ages 14 and under. They are listed in order of frequency:

- **Performing Stunts:** Eighty-eight percent of riders injured while performing stunts are ages 14 and under. Stunts include jumping over mounds of dirt, ramps, speed bumps, etc., and performing “wheelies.” Eight percent of those injured while performing stunts are ages 14 and under and 80 percent involve boys.
- **Slippery Surfaces:** Hazardous surfaces include those having loose stones/gravel, sand, dirt, mud, grass, leaves, puddles, oil, ice or snow. About two-thirds of these incidents (for all ages) occurred on non-street locations such as unpaved surfaces, trails, sidewalks, playgrounds, and bike paths.
- **Hit Non-Moving Object:** This includes incidents where riders collided with parked vehicles, traffic signs, posts, walls, fences and bushes.
- **Uneven Surfaces:** Children typically learn to ride bicycles on flat, straight surfaces. Riding on uneven surfaces, such as bumps, ruts, grates and holes, often requires more concentration and control.
- **Riding Too Fast:** Speed is another factor often associated with child cyclist injuries. Children ride too fast and cannot control the bicycle when faced with other factors such as uneven or slippery surfaces. Lack of experience is also frequently associated with injuries involving speed.
- **Object Caught in Spokes:** These incidents involve objects such as foot/shoe, book bag, and purse.
- **Hit Moving Objects:** Incidents (for all ages) associated with this hazard pattern typically occurred on neighborhood streets (54 percent) or major thoroughfares (24 percent). Moving objects involved were motor vehicles, animals, pedestrians, and other cyclists. Collisions with motor vehicles account for only 10 percent of childhood bicycle-related injuries but for 90 percent of bicycle-related deaths.
- **Mechanical Failure:** These are incidents attributed to a mechanical or performance problem with the bike such as chains breaking or falling off, brakes failing, or handle bars coming loose. Although the reason for the reported failures cannot be determined, it appears that poor bike maintenance and bike modification were likely contributors to some of these incidents.

Source:

United States Consumer Product Safety Commission. *Bicycle use and hazard patterns in the United States and options for injury reduction*. Washington, DC, 1993.