



# Bicycle, In-Line Skating & Skateboarding Safety

## Overview

Over 70 percent of children between the ages of 5 and 14 ride bicycles. In-line skating and skateboarding are also very popular among this age group. Although a great form of exercise, riding a bike, in-line skating, or skateboarding without protective gear can be dangerous. Next to motor vehicle-related injuries, bicycles injure more children than any other consumer product, according to the National SAFE KIDS Campaign. The most common and often most serious injury sustained with a bike, on in-line skates, scooters, or while skateboarding, is a head injury. Head injuries are the leading cause of death and disability in these types of crashes. Wearing a helmet can reduce the risk of death or injury and reduce the severity of the injury in the event of a crash. However, even with aggressive bicycle helmet programs and laws, only 15 to 25 percent of children 14 and under usually wears a helmet.

Wearing a helmet whenever riding a bicycle, in-line skates, or a skateboard should be an automatic habit. Helmets should fit properly on your child's head and also be fastened correctly. A properly-fastened and fitting helmet does not move around on the head.

## Prevention

### **Buying the right bicycle:**

It is important that the bicycle your child rides is the right size. In addition, consider the following recommendations:

- The bicycle should not be too big or complicated.
- Your child should be able to place the balls of his/her feet on the ground when sitting on the seat.
- The bicycle should have a bell or horn.

### **Buying the right helmet:**

Although helmets can cost between \$13 and \$50, they can save money by possibly preventing a visit to your child's physician or the emergency room. When shopping for a helmet, take your child with you - a child will be more likely to wear a helmet if he/she picks it out. Helmets should meet the following requirements:

- The helmet should be approved by the American National Standards Institute (ANSI), the American Society for Testing and Materials (ASTM), the US Consumer Product Safety Commission (CPSC). Approved helmets meet stringent safety standards.
- Your child should like his/her helmet (bright-colored helmets with stickers are very popular). This will increase the likelihood that he/she will wear it consistently

- The helmet should fit your child's head so that when the straps are snug, the helmet does not move around on the head.

Some helmets are multi-sport, which can be used for inline-skating, skateboarding, bicycling, or other wheel sports. Helmets that specifically are called "bicycle helmets" are designed only for that sport. Helmets come in many sizes and varieties, including many infant sizes.

### **Proper helmet wear:**

Helmets come with sponge pads to adjust the fit on your child's head. A properly-fitted helmet should meet the following requirements:

- The helmet should fit snug, not moving on the head.
- The front edge of the helmet should be two finger widths above the eyebrows.
- Front and back straps of the helmet should form a V just below the ear.
- Front straps should be vertical and the rear straps should be flat.
- The chinstrap should be snug when your child opens his/her mouth (one finger should fit between the chin and chin strap when the mouth is closed).

### **Road rules:**

Since most bicycle crashes occur because the child breaks a traffic rule, it is important to teach your child the traffic and road rules. Besides wearing a bicycle helmet, teach your child the following traffic and road rules:

- Stop before riding into traffic from a driveway, sidewalk, parking lot, or other street.
- Look left, right, and left again to check for cars.
- If the road is clear, enter.
- Ride on the far right of the road, with traffic.
- Ride so cars can see you, wearing brightly colored clothes, especially at night.
- Obey all traffic signals and stop signs.
- Look back and yield to traffic coming from behind before turning left.
- Ride bicycles in single file.
- Look for uneven pavement or other surface problems.

**Special Note:** Try to avoid letting your child ride his/her bicycle, in-line skates, or skateboard during non-daylight hours or during bad weather. If your child does ride at night, make sure his/her bicycle has a headlight, flashing taillight, and reflectors.

### **In-line skates:**

Even experienced in-line skaters can crash and sustain injuries. The following recommendations were derived from the National Safety Council and the US Consumer Product Safety Commission (CPSC):

- Always wear protective gear, such as elbow and kneepads, gloves, helmets, and wrist guards.
- Buy durable skates with proper ankle support.
- Always warm up your muscles before skating by skating slowly for five minutes or more.
- Skate with knees slightly bent to maintain balance.

- Practice stopping, which is done by bringing the foot with the heel stop forward until the heel stop is level with the toes of the other foot, bend the front knee, and lift the front foot's toes.
- Always skate on the right side of sidewalks and other paths.
- Pass on the left and warn others that you are passing.
- Avoid skating in the street, especially where there is a lot of traffic.
- Look for uneven pavement or other surface problems.
- Check your skates regularly for wear and tear. Make sure the wheels are tightened.

### **Skateboards:**

Skateboards should never be used on surface streets. Even experienced skateboarders can fall, so learning how to fall safely can help reduce the risk of severe injuries. The following are recommendations from the National Safety Council about how to fall correctly:

- When losing your balance, crouch down on the skateboard so your fall is short.
- Try to land on fleshy parts of your body when falling.
- Try to roll as you fall, which prevents your arms from absorbing all the force.
- Try to relax, rather than remaining stiff when falling.

When riding a skateboard, children should obey all traffic rules. Other safety precautions to take when skateboarding include the following:

- Wear protective gear such as helmets, padding, and closed-toe and slip-resistant shoes.
- Check the skateboard for wear and tear.
- Only allow one person per skateboard.
- Do not hitch rides from bicycles, cars, or other vehicles.
- Carefully practice tricks in designated skateboarding areas.

## **Identifying High-Risk Situations**

Most crashes involving children on bicycles, in-line skates, or skateboards occur because the child breaks a traffic rule. The majority of bicycle-related fatal crashes involve collision with a motor vehicle.

### **Bicycles:**

Learning to ride a bicycle is a part of most childhoods in the US - with more than 70 percent of children ages 5 to 14 (27.7 million) riding bicycles. Children ride their bicycles more than average adults - as much as 50 percent more - which results in children accounting for almost one-quarter (21 percent) of all bicycle-related deaths and more than 54 percent of bicycle-related injuries.

Common errors made by young children riding bicycles include the following:

- riding into the street without stopping
- running stop signs
- turning left or swerving into traffic that is coming from behind
- riding against the flow of traffic

However, when children wear helmets while riding their bikes, they can reduce the risk of head injury by 85 percent (head injury is the most common cause of death in bicycle-related deaths).

### **In-line skates:**

In-line skating has rapidly gained popularity since off-season ice hockey players began practicing with them in the 1980s. It is estimated by the National Safety Council that there are 20 million in-line skaters annually (all ages). According to the National SAFE KIDS Campaign, children ages 0-14 sustain over 38,000 roller skating injuries each year.

In-line skating crashes can occur even if the child is experienced in the sport. High-risk situations for in-line skaters include the following:

- learning to skate
- skating in the street
- crossing streets in densely populated areas
- changes in skating path conditions (such as traffic, water, potholes, or other debris)
- weather conditions that can change the surface condition of the road

As with bicycles, helmets can protect the in-line skater from serious, sometimes fatal, head injuries. In addition, other safety gear such as elbow and kneepads, gloves, and wrist guards can also minimize injuries in the event of a fall.

### **Skateboards:**

Skateboards, though popular among children and adolescents, send an estimated 61,000 children to hospital emergency rooms for treatment of injuries each year, according to the National SAFE KIDS Campaign. The most common injury from a skateboard crash is a fracture, although some skateboard falls or collisions with motor vehicles can be fatal.

Most skateboard crashes occur because of irregular riding surfaces. In addition, inexperience (a skateboarder who has been skating for less than a week) accounts for one-third of all injuries. An injury to the wrist (sprain or fracture) is the most common result of a fall.

Helmets and other protective gear, such as slip-resistant, closed shoes, wrist braces, and other padding may help reduce the severity of injuries in the event of a fall.

## **Injury Statistics and Incidence Rates**

The following statistics are from the National SAFE KIDS Campaign, the National Highway Transportation Safety Administration, and the American Academy of Pediatrics (AAP):

### **Injury and death rates:**

- More than 3.5 million children 14 and under suffer medically treated sports injuries each year.

- Nearly 50 percent of children 14 and under hospitalized for bicycle-related injuries are diagnosed with a brain injury.
- Motor vehicles are involved in the majority (more than 90 percent) of bicycle-related fatal crashes.
- Nearly 270,000 children ages 14 and under are treated in hospital emergency rooms for bike related injuries.

**Where and when:**

- Most child and adolescent bicycle crashes occur between May and August and between the hours of 3 p.m. and 6 p.m.
- The majority of child and adolescent bicycle-related fatalities occur on minor roads, typically within one mile of the home.
- When children and adolescents ages 14 and under ride their bicycles during non-daylight hours, they are four times more likely to be injured.
- The majority of bicycle-related fatal crashes (80 percent) among children and adolescents ages 14 and under occur because of the bicyclist's behavior, such as riding into the street without stopping, swerving into traffic, running stop signs, or riding against the flow of traffic.

**Who:**

- The majority of children (70 percent) between the ages of 5 and 14 years ride bicycles.
- Children ages 14 and under are five times more likely to sustain injuries in a bicycle-related crash than any other age group.
- Any child who rides without a bicycle helmet increases his/her risk of sustaining a head injury in a crash, and increases the risk of being involved in a fatal crash by 14 times.
- Children under age 10 are at higher risk of serious injury, including head injuries.

**Helmets:**

- Only 15 to 25 percent of children ages 14 and under use bicycle helmets, although statistics show the helmet can drastically reduce the risk of death and injury and the severity of injury. Bicycle helmets should also be used when riding scooters.
- Bicycle helmets can reduce the risk of a head injury by 85 percent and brain injury by 88 percent.
- Children between the ages of 11 and 14 reportedly are least likely to use a bicycle helmet (11 percent).
- Children whose helmets fit poorly are twice as likely to sustain a head injury in a bicycle crash as children whose helmets fit properly.

*Available online at [www.musckids.com](http://www.musckids.com)*

This handout was developed to help individuals understand more about injury prevention measures. It is meant to be used as a guide. Please consult the manufacturer's instructions and/or your healthcare provider if you have any questions.