Motor Vehicle-Related Injury Hospitalizations

A Report on Motor Vehicle-Related Injury Hospitalizations
Age 0 to 14 Years
Virginia 2000

Prepared by

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I. Introduction

In 2000, 362 children of the age group 0 to 14 were hospitalized and 32 died due to motor vehicle related injuries. Among those who were hospitalized, 37% were passengers of motor vehicles, 21% were pedestrians and 8% were bicyclists. The motor vehicle injuries for children of age 0 to 14 years had a total cost of injury hospitalizations of $4,582,967 and an average length of stay (LOS) of 3.6 days.

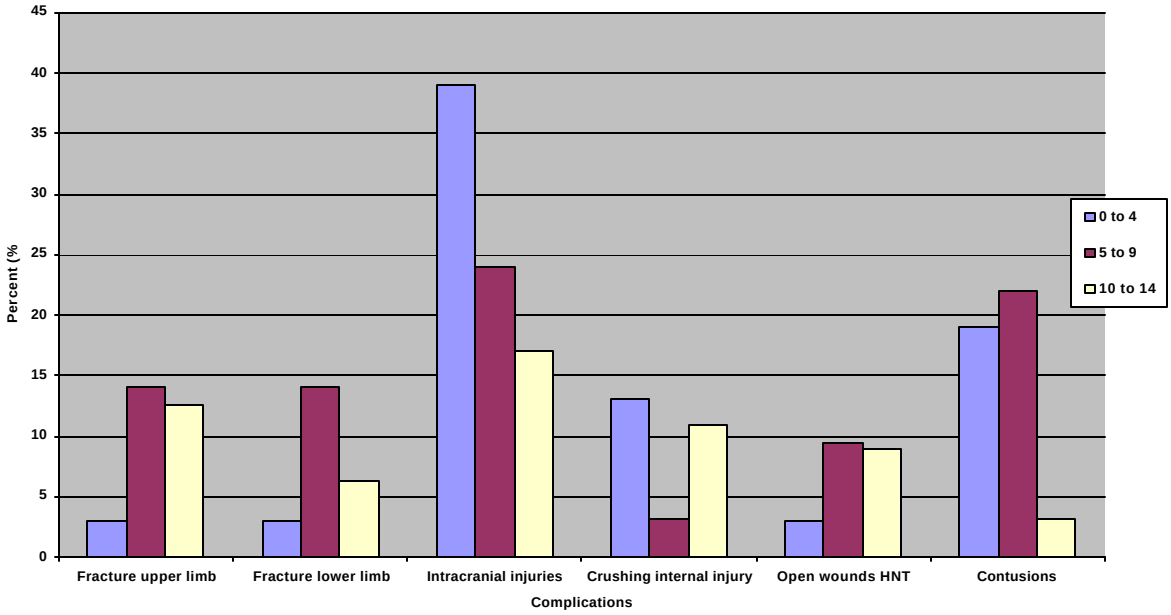
II. Passengers

In 2000, 105 child passengers aged 0 to 14 were hospitalized and 11 died due to motor vehicle traffic crashes. The injuries resulted in serious complications. Twenty-six percent of the injured child passengers suffered intra-cranial injuries, 17% suffered fractures of the upper or lower limbs and 14% suffered of contusions (Table 1 & Figure 1). Hospitalizations of the child passengers (0 to 14 years) resulted in total hospital charges of $1,134,538 and average LOS of 4 days.

TABLE 1: TYPES OF INJURIES EXPERIENCED BY CHILD PASSENGERS AS A RESULT OF MOTOR VEHICLE TRAFFIC CRASHES, AGE 0 TO 14 YEARS, VIRGINIA 2000

	0-4 Y		5-9 Y		10-14Y	
Complication	**Count**	**Col %**	**Count**	**Col %**	**Count**	**Col %**
Fracture neck femur	0	0	1	3	2	6
Spinal cord injury	0	0	0	0	1	3
Skull face fractures	2	6	0	0	1	3
Fracture upper limb	1	3	5	14	4	13
Fracture lower limb	1	3	5	14	2	6
Other fractures	0	0	0	0	7	20
Sprains and strains	0	0	0	0	3	6
Intra-cranial injuries	12	39	9	24	6	17
Crushing internal injury	4	13	1	3	4	11
Open wounds HNT	1	3	3	9	3	9
Contusions	6	19	8	22	1	3
Other injuries external causes	1	3	1	3	0	0
Abdominal pain	1	3	2	6	1	3
Rehabilitation care prostheses fit	1	3	1	3	0	0
Other	1	3	1	3	0	0
Total	**31**	**100**	**37**	**100**	**35**	**100**

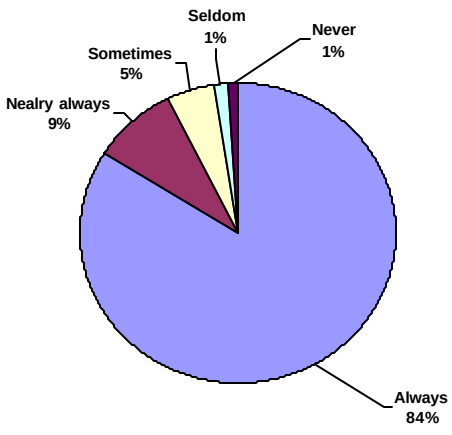
FIGURE 1: TYPES OF MOTOR VEHICLE INJURIES EXPERIENCED BY CHILD PASSENGERS, AGE 0 TO 14 YEARS, VIRGINIA 2000



Prevention

Always use appropriate safety restraints. Riding unrestrained is the greatest risk factor for death and injury among child occupants of motor vehicles. In 1997, the Behavioral Risk Factor Surveillance System (BRFSS) in Virginia showed that 16% of the children under the age of 16 years do not always use safety seatbelts when they ride in a car (Figure 2). The results of a 2001 survey on safety restraint use of occupants under 16 years of age in metropolitan areas of Virginia showed that the total restraint use was 66% and the correct use was 56%.

FIGURE 2: HOW OFTEN DOES THE CHILD IN YOUR HOUSEHOLD USE A CAR SAFETY SEATBELT WHEN RIDE IN A CAR? BRFSS, VIRGINIA 1997



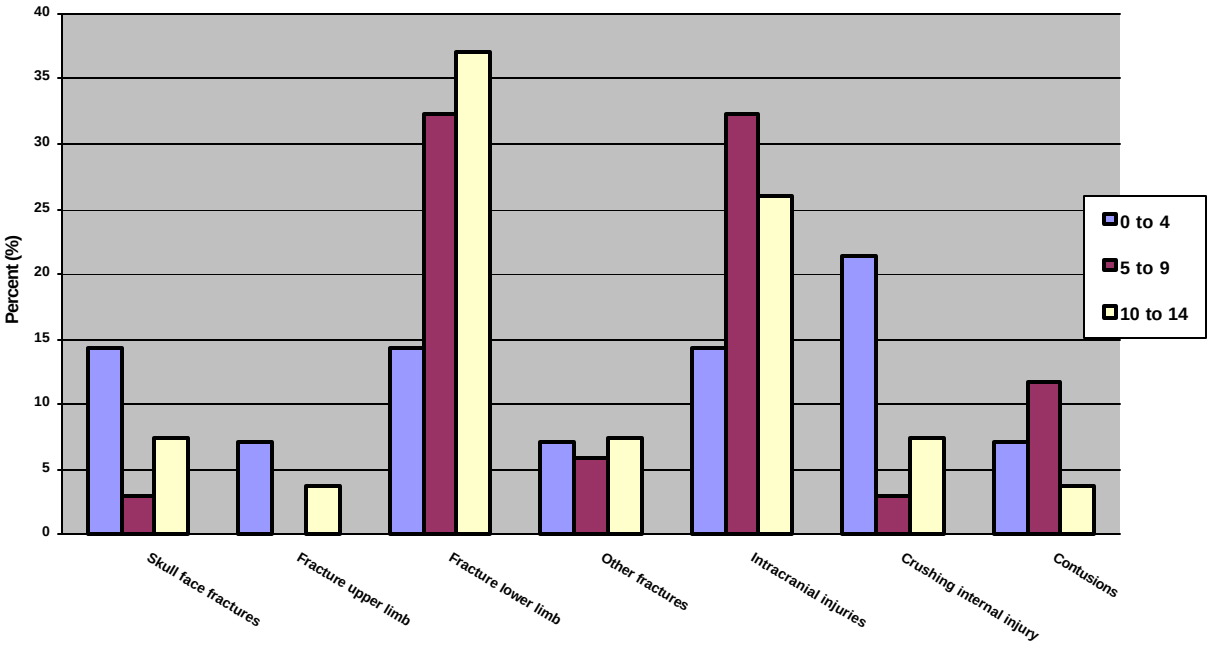
III. Pedestrians

In 2000, 75 pedestrians aged 0 to 14 were hospitalized and 4 died due motor vehicle traffic crashes. This type of injury resulted in a variety of complications. Thirty-one percent of the injured children suffered fracture of the lower limbs, 27% suffered intra-cranial injuries and 7% suffered skull and face fractures (Table 2 & Figure 4). Hospitalization of the injured children resulted in total hospital charges of $1,179,319 and average LOS of 5 days.

TABLE 2: COMPLICATIONS OF MOTOR VEHICLE TRAFFIC CRASHES RESULTING IN PEDESTRIANS INJURY HOSPITALIZATIONS, AGE 0 TO 14 YEARS, VIRGINIA 2000

	0-4 Y		5-9 Y		10-14Y	
Complication	**Count**	**Col %**	**Count**	**Col %**	**Count**	**Col %**
Senility organic MR	0	0	0	0	1	4
Skull face fractures	2	14	1	3	2	7
Fracture upper limb	1	7	0	0	1	4
Fracture lower limb	2	14	11	32	10	37
Other fractures	1	7	2	6	2	7
Intra-cranial injuries	2	14	11	32	7	26
Crushing internal injury	3	21	1	3	2	7
Open wounds extremities	0	0	1	3	0	0
Contusions	1	7	4	12	1	4
Other injuries external causes	1	7	2	6	0	0
Rehabilitation care prostheses fit	1	7	1	3	1	4
Total	**14**	**100**	**34**	**100**	**27**	**100**

FIGURE 3: TYPES OF INJURIES EXPERIENCED BY PEDESTRIANS AS A RESULT OF MOTOR VEHICLE TRAFFIC CRASHES, AGE 0 TO 14, VIRGINIA 2000



Prevention

1- Physically separate pedestrians from motor vehicle traffic by putting up physical barriers, using pedestrian bridges, overpasses, underpasses, traffic islands, and other similar measures.

2- Design communities that favor pedestrian access (e.g., more sidewalks and pedestrian malls) and combine residential, work, and shopping areas into close geographic units. Such proximity would decrease residents' reliance on motor vehicles for daily errands and activities.

3- Children should be taught to:

- Understand and obey traffic signals and signs
- Cross at corners, using traffic signals and crosswalks
- Stop at curb or at the edge of the road if there is no curb, before crossing the street
- Crossing when the street is clear, and keep looking both ways while crossing
- Walk, don't run across the street
- Walk facing traffic, on sidewalks or paths
- Walk as far as to the left as possible if there are no sidewalks
- Watch for cars that are turning or backing up
- Try to make eye contact with drivers before crossing in front of them
- Wear bright clothing in the daytime and retro-reflective materials at dawn and dusk

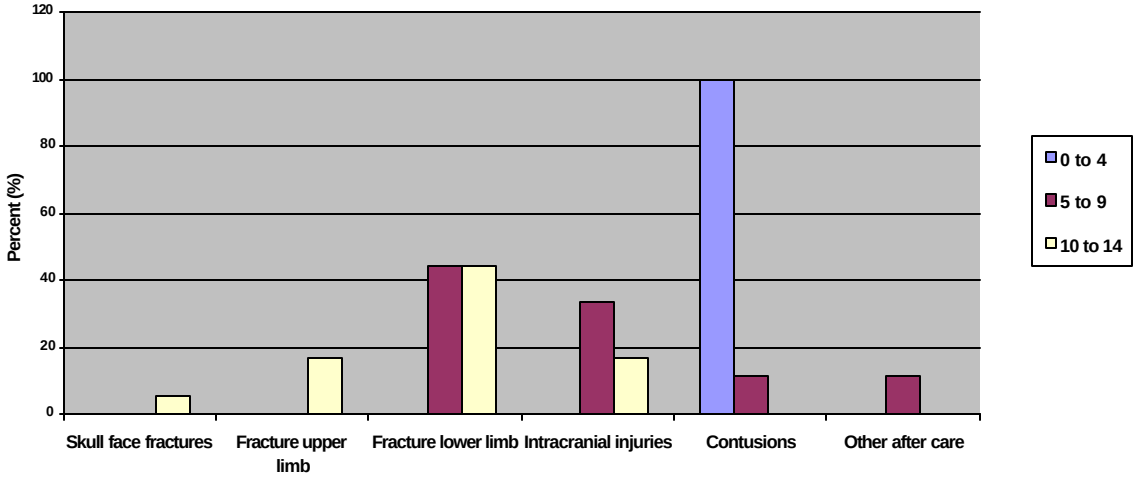
IV. Pedal Cyclists

In 2000, 28 children aged 0 to 14 were hospitalized and 3 died due to motor vehicle traffic collision with pedal cyclists. Injuries resulting from collision between motor vehicle traffic and pedal cyclist resulted in sever complications. Forty-three percent of the injured children suffered fracture of the lower limb, 21% suffered intra-cranial injuries and 11% suffered fracture of the upper limb (Table 3 & Figure 4). Hospitalization of the injured children resulted in total hospital charges of $482,741 and average LOS of 3 days.

TABLE 3: COMPLICATIONS OF MOTOR VEHICLE TRAFFIC CRASHES RESULTING IN PEDAL CYCLIST INJURY, AGE 0 TO 14, VIRGINIA 2000

	0-4 Y		5-9 Y		10-14Y	
Complication	**Count**	**Col %**	**Count**	**Col %**	**Count**	**Col %**
Skull face fractures	0	0	0	0	1	6
Fracture upper limb	0	0	0	0	3	17
Fracture lower limb	0	0	4	44	8	44
Intra-cranial injuries	0	0	3	33	3	17
Crushing internal injury	0	0	0	0	1	6
Open wounds HNT	0	0	0	0	0	0
Contusions	1	100	1	11	0	0
Other injuries external causes	0	0	0	0	1	6
Rehabilitation care prostheses fit	0	0	0	0	1	6
Other after care	0	0	1	11	0	0
Total	**1**	**100**	**9**	**100**	**18**	**100**

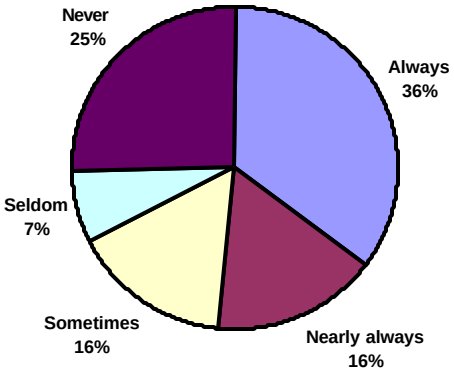
FIGURE 4: COMPLICATIONS OF MOTOR VEHICLE COLLISION WITH PEDAL CYCLISTS, AGE 0 TO 14 YEARS, VIRGINIA 2000



Prevention

Wearing a bike helmet reduces the risk of brain injury by 88% and reduces the risk of injury to the face by 65%. In 1999, the results of the Behavior Risk Factor Surveillance System (BRFSS) in Virginia showed that 25% of the children under age of 16 years don't wear a bike helmet when riding a bicycle and 39% do not always wear a bike helmet (Figure 3).

FIGURE 5: HOW OFTEN DOES THE OLDEST CHILD IN YOUR HOUSEHOLD WEAR A BICYCLE HELMET? BRFSS, VIRGINIA 1999



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