

# UNINTENTIONAL INJURIES

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# UNINTENTIONAL INJURIES

## Background

Unintentional injuries include injuries from motor vehicle crashes, pedestrian, bicycle, and equestrian activities; drowning; unintentional shootings; recreational and sports-related activities; fires and burns; suffocation; poisoning; choking; and falls.

## Size

### *San Diego County*<sup>2</sup>

In 1996, 693 persons in San Diego died due from unintentional injuries; 82 were children.

#### **San Diego County deaths due to unintentional injuries**

◀ **1996 rate:** 22.8 deaths per 100,000 population per year, age adjusted; 25.8 not age adjusted. (Table 1)

◀ **1993-1996 Trend:** Stable from 25.7 to 25.8 per 100,000 (not age adjusted). (Fig. 1)

Fall-related deaths **increased** from 2.1 per 100,000 to 3.0 (not age adjusted) between 1993 and 1996. (Table 2)

In 1996, 1,275 children were treated in Children's Hospital and Health Center Trauma Center and 116 children were admitted to the UCSD Burn Institute.<sup>1</sup>

In San Diego County:<sup>1</sup>

- ◀ Eighty-two children died from unintentional injuries in 1996.
- ◀ Forty-nine percent of childhood unintentional injury fatalities are 15-19 year olds.
- ◀ The leading cause of childhood unintentional injury death is motor vehicle crashes and 80% occur to adolescent drivers and passengers ages 15-19.
- ◀ The second leading cause of childhood unintentional injury death is pedestrian and bicycle related.
- ◀ Drowning is the third leading cause of childhood injury death.
- ◀ In 1996, 1,275 children were treated in Children's Hospital and Health Center Trauma Center and 116 children were admitted to the UCSD Burn Institute.

### *National*

One out of every fourteen deaths in the United States is the result of an injury – 65% unintentional and 35% intentional.<sup>3</sup>

In 1996, unintentional injuries caused 93,874 deaths in the United States – 30 deaths per 100,000 population.<sup>4</sup>

Motor vehicle crashes account for approximately half of the deaths from unintentional injuries; falls rank second, followed by poisoning, drowning, and home fires.<sup>3</sup>

## Seriousness

**Average Years of Productive Life Lost in San Diego County: 30.1 years**

**Healthy People 2000 Objective:** The San Diego County rate of deaths due to unintentional injury (22.8) is less than the Healthy People 2000 Objective (29.3).

### *San Diego County (1996)<sup>1</sup>*

Forty-nine of childhood unintentional injury fatalities were 15-19 year olds.

The leading cause of childhood unintentional injury deaths is motor vehicle crashes and 80% occur to adolescent drivers and passengers age 15-19.

The second leading cause of childhood unintentional injury death is pedestrian and bicycle related injuries.

Drowning is the third leading cause of childhood injury death.

### *National*

Unintentional injuries are the leading cause of death for people aged 1 to 34.<sup>3</sup>

Unintentional injuries are the fifth leading cause of death in the United States, killing over 93,320 people in 1995.<sup>3</sup>

Unintentional injuries are the leading cause of death of children under 14 years old. They take more young lives than disease, homicide or suicide.<sup>5</sup>

Motor vehicle crashes, poisoning, drowning and falls account for the majority of adult injury deaths.<sup>3</sup>

In 1995, over 143,000 Americans died from injuries from motor vehicle crashes, falls, fires, drowning, poisoning, homicides, and suicides.<sup>3</sup>

In 1994, 4.5 million people were hospitalized and 34.9 million people visited emergency departments as a result of an unintentional injury.<sup>3</sup>

Unintentional injury costs are estimated at more than \$244 billion annually.<sup>3</sup>

Unintentional injuries cause:<sup>1</sup>

- ◀ School and work absenteeism
- ◀ Increased hospitalization
- ◀ Permanent physical disabilities
- ◀ Economic loss

### *Childhood Injury*

According to the National Safe Kids Campaign, unintentional childhood injury is the leading cause of death of children age 14 and under.<sup>5</sup>

The National Safe Kids Campaign reports:<sup>5</sup>

- ◀ Each year, one quarter of all children sustain injuries serious enough for medical attention.
- ◀ Falls account for 30% of all unintentional injuries for children followed by motor vehicles crashes, fire/burns and poison.
- ◀ Injuries are the leading cause of medical spending for children ages 5 – 14.
- ◀ Many of the consequences of unintentional injuries are developmental delays in cognitive, perceptual and motor/language skills.

Nationally, fires are the second leading cause of unintentional injury death among children.<sup>3</sup>

**Table 1**  
**San Diego vs. the Nation—Unintentional Injury**

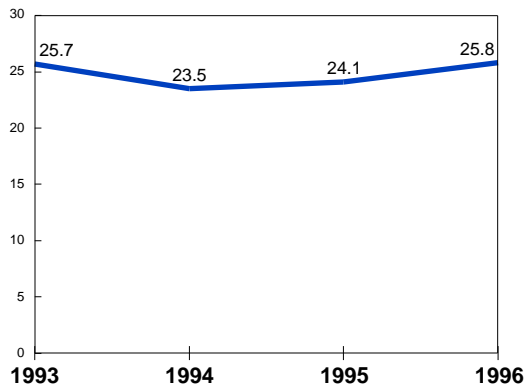
San Diego County 1996**	County Trends 1993-1996	California	National	HP2000 Objective**
22.8 (age adjusted)	Stable 25.7 - 25.8 (not age adjusted)	Not available	Not available	29.3 (age adjusted)

**Death Rates\*<sup>2</sup>**

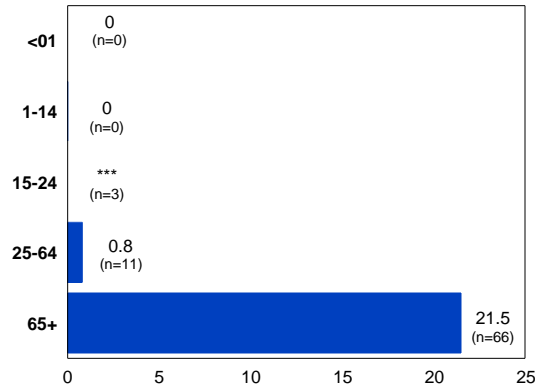
**Table 2**  
**San Diego vs. the Nation—Fall-Related Death Rates\* 1996<sup>2</sup>**

San Diego County 1996**	County Trends 1993-1996	California 1992	National 1995	HP2000 Objective**
1.6 (age adjusted)	Increased 2.1 - 3.0 (not age adjusted)	2.1	2.6 (not age adjusted)	2.3 (age adjusted)

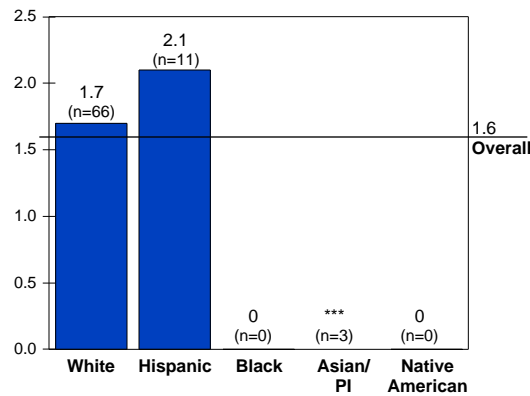
**Figure 1**  
**Unintentional Injury Death Rates\* San Diego County Trend 1993 - 1996\*\*<sup>2</sup>**



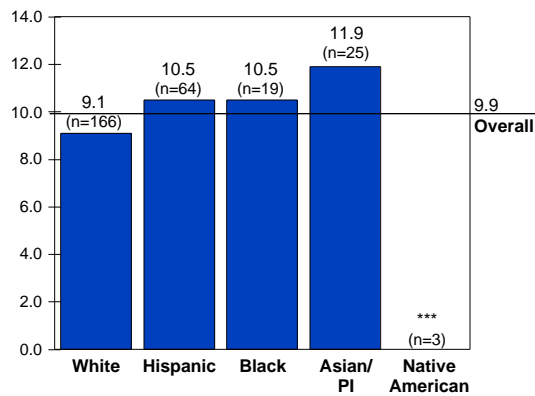
**Figure 2**  
**Fall-Related Death Rates\* by Age Group San Diego County 1996\*\*<sup>2</sup>**



**Figure 3**  
**Fall-Related Death Rates\* by Race/Ethnicity San Diego County 1996 \*\*<sup>2</sup>**



**Figure 4**  
**Motor Vehicle Death Rates\* by Race/Ethnicity San Diego County 1996\*\*<sup>2</sup>**



\* Rates per 100,000 population

\*\* Age adjusted using the US 1940 standard million population

\*\*\* Rate not calculated for less than 5 cases

**Motor Vehicle Injuries**

In 1996, there were 43,449 motor vehicle deaths in the US – a motor vehicle fatality rate of 16 deaths per 100,000 population.<sup>4</sup>

Motor vehicle crashes are the leading cause of death for Americans aged 1 to 24.<sup>3</sup>

The cost to society of crashes exceeds \$150 billion annually.<sup>3</sup>

Approximately 2,075 motorcyclists died in crashes in 1996 in the US.<sup>3</sup>

Motor vehicle crashes cause 44% of all spinal cord injuries.<sup>3</sup>

**Fires**

In 1996 there were an estimated 417,00 residential fires in the United States, which killed 4,035 individuals and injured an additional 18,875 people. Direct property damage caused by these fires was approximately \$4.9 billion.<sup>3</sup>

**Falls**

Falls are the second leading cause of injury deaths among people aged 65 to 84 and the leading cause of death for people aged 85 and older.<sup>3</sup>

Falls are the most common cause of injuries and hospital admissions for trauma among the elderly.<sup>3</sup>

Falls account for approximately 87% of all fractures among people aged 65 and older and are the second leading cause of spinal cord and brain injury.<sup>3</sup>

Falls account for 90% of the most severe playground-related injuries.<sup>3</sup>

**Drowning**

In 1995, drowning ranked as the fifth unintentional-injury related cause of death, after motor vehicle crashes, other unintentional injuries, falls, and poisonings.<sup>3</sup>

Drowning is the second leading cause of injury-related death for children and youth aged 1 to 19, accounting for 1,502 deaths in 1995.<sup>4</sup>

**Risk Factors**

**Childhood Injury**

The San Diego County Safe Kids Coalition reports:<sup>1</sup>

- ◀ Age and environmental hazards are risk factors for childhood unintentional injuries.
- ◀ Most childhood unintentional injury deaths in San Diego County occur between May and August.

**Fires<sup>3</sup>**

- |   |  |
|---|--|
| ◀ Low-income or less educated communities | ◀ Incorrect use of alternative heating sources                         |
| ◀ Children under 5 years of age           | ◀ Inadequate supervision of children                                   |
| ◀ Older adults                            | ◀ Unusable exits because of security devices used to prevent break-ins |
| ◀ Absence of working smoke alarms         | ◀ Substandard housing, particularly substandard electrical systems     |
| ◀ Careless smoking                        | ◀ Little or no fire safety education                                   |
| ◀ Abuse of alcohol or other drugs         |  |

### Falls<sup>3</sup>

- < Older adults
- < Dementia
- < Visual impairment
- < Neurologic or musculoskeletal disabilities or difficulties in gait and balance
- < Psychoactive medications
- < Slippery surfaces or loose rugs
- < Uneven floors or unstable furniture
- < Stairs or objects on the floor
- < Poor lighting

### High Risk Populations

**Age(s):** The 75 and older age group has more than twice the rate of deaths due to unintentional injuries (79.7 per 100,000) as the next highest group. Ages 35-44 have a rate of 38.6 and ages 65-74 have a rate of 33.8. **(Fig. 5)**

Younger children, males **(Fig. 6)**, minorities and poor children suffer disproportionately from unintentional injuries.<sup>1</sup>

**Ethnicity(s):** In 1996, Blacks had the highest rate of deaths due to unintentional injuries (55.4) followed by Asian/PI (34.2) (age adjusted). **(Fig. 7)**

**County Areas:** (1996 age adjusted rates)

- < **Region:** North Inland **(Fig. 8)**
- < **SRAs:** Escondido, Central, El Cajon **(Table 3)**

The motor vehicle death rate per 100,000 people is especially high among 16 to 24 year olds and people aged 75 and older. **(Fig. 9)** At all ages, males have higher motor vehicle death rates per 100,000 compared to females.<sup>3</sup>

Motorcycles are more likely than cars to be involved in crashes.<sup>3</sup>

Seventy-five to eighty percent of all hip fractures are sustained by women.<sup>3</sup>

For all age groups, drowning rates are almost 2 to 4 times greater for males than for females.<sup>3</sup>

Drownings are 60% more likely to occur at homes with in-ground pools without isolation fencing.<sup>3</sup>

### Prevention

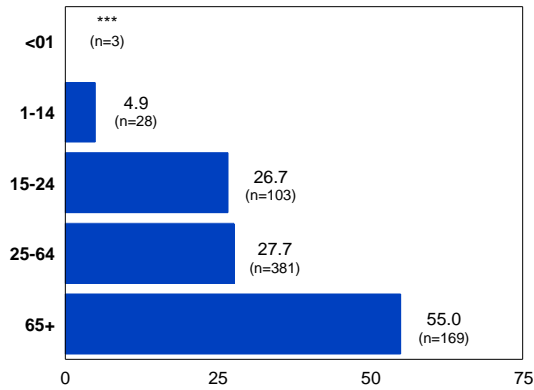
Healthy People 2010 states that injury prevention must involve health, education, transportation, law, engineering, and safety efforts and recommends increasing the number of public and private schools that teach about injury prevention and safety in a required health education course.<sup>3</sup>

Preventing injuries costs less than treating them. Each child safety seat saves \$85 in direct medical costs and another \$1,275 in other costs to society. Bicycle helmets save \$35 each in direct medical costs and other costs to society. Smoke detectors save \$35 in direct medical costs and an additional \$865 in other costs to society.<sup>3</sup>

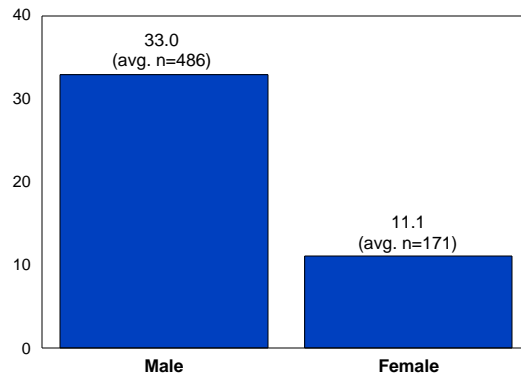
Safety belts, when used, are the single most effective means for occupants to reduce the risk of death and serious injury in a motor vehicle crash. In 1996, if all passenger vehicle occupants had buckled up, an estimated 20,169 lives could have been saved.<sup>3</sup>

To reduce youth motor vehicle crashes, 18 states have implemented some form of graduated licensing laws to allow young drivers to gain driving experience at incremental rates.<sup>3</sup>

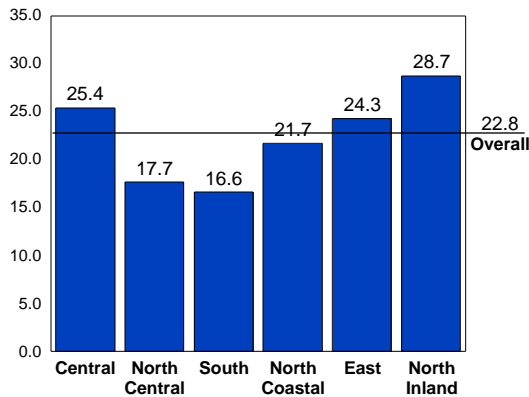
**Figure 5**  
**Death Rates\* by Unintentional Injuries by Age San Diego County 1996<sup>2</sup>**



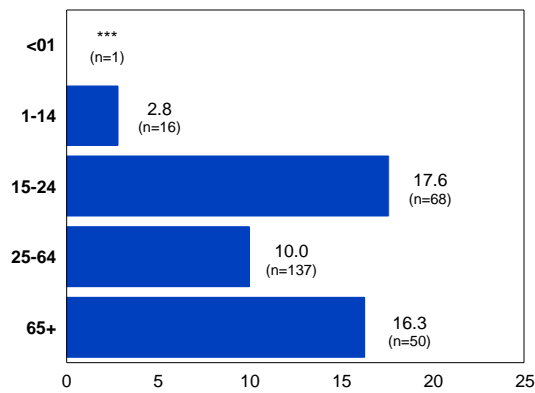
**Figure 6**  
**Death Rates\* by Unintentional Injuries by Gender San Diego County 1993-1996<sup>\*\*</sup>,<sup>2</sup>**



**Figure 7**  
**Unintentional Injury Death Rates\* by Region San Diego County 1996<sup>\*\*</sup>,<sup>2</sup>**



**Figure 8**  
**Motor Vehicle Death Rates\* by Age Group San Diego County 1996<sup>2</sup>**



**Table 3**  
**Deaths by Unintentional Injuries by Race/Ethnicity San Diego County 1996<sup>\*\*</sup>,<sup>2</sup>**

	Overall	Asian/PI	Black	Hispanic	Native American	White
Number	693	39	42	131	7	473
Rate*	22.8	34.2	55.4	21.7	18.4	22.9
YPLL****	24.2	24.3	32.5	30.6	30.8	21.3

**Table 4**  
**San Diego County SRAs with the Highest Unintentional Injury Death Rates,\* 1996<sup>\*\*</sup>,<sup>2</sup>**

San Diego County	Escondido	Central	El Cajon
22.8 (693 cases)	34.9 (50 cases)	32.6 (61 cases)	28.5 (35 cases)

\* Rates per 100,000 population

\*\* Age adjusted using the US 1940 standard million population

\*\*\* Rate not calculated for less than 5 cases

\*\*\*\* Years of Productive Life Lost per death

People wearing helmets are 29% less likely to die in a motorcycle crash and 67% less likely to have a brain injury. Less than half of the States mandate helmet use by all riders.<sup>3</sup>

It is estimated that as many as 90% of unintentional injuries can be prevented. The National Safe Kids Campaign recommends a combination of the following efforts to effectively reduce the incidence and severity of unintentional injury related death and disability:<sup>5</sup>

- ◀ Education
- ◀ Environmental improvements
- ◀ Engineering modifications
- ◀ Enactment and enforcement of legislation and regulations
- ◀ Economic incentives
- ◀ Community empowerment
- ◀ Program evaluation

According to the National Center for Injury Prevention and Control, example injury prevention programs include:<sup>6</sup>

- ◀ Programs that target drinking driving through emergency department based interventions and evaluation of mandatory substance abuse assessment and treatment programs
- ◀ Programs that promote the use of child safety seats through education and information campaigns, loaner programs, training programs for parents, and stricter enforcement of laws
- ◀ Programs to increase the use of bicycle helmets

## Model Programs

### *California Center for Childhood Injury Prevention*<sup>7</sup>

- ◀ Goal is to reduce the frequency, severity, and cost of child and adolescent injuries
- ◀ Assists health agencies and programs to incorporate childhood injury prevention strategies into their ongoing efforts to improve the health and safety of young people
- ◀ Provides technical assistance to state and local individuals and organizations involved in childhood injury prevention
- ◀ Technical assistance includes needs assessment, data analysis, identifying intervention strategies, and program design, development, implementation, and evaluation
- ◀ Maintains a resource library on injury prevention interventions and educational materials
- ◀ Conducts training workshops and conferences on injury control and prevention

### *San Diego Safe Communities*<sup>8</sup>

- ◀ Targets all traffic-related injuries including motor vehicle, rail, motorcycle, bicycle, and pedestrian
- ◀ Goal of reducing the number of traffic-related injuries and fatalities through a best practices approach to injury prevention
- ◀ Program activities include needs identification, needs prioritization, intervention development, and evaluation
- ◀ Developed regional coalitions and compiled baseline injury statistics for each target community
- ◀ Currently conducting a countywide needs assessment of best practices in injury prevention
- ◀ Program has successfully partnered with agencies to promote injury prevention in each of the target communities



***Fire and Burn Prevention Education, Burn Institute, San Diego County<sup>9</sup>***

- ◀ Goal of reducing the incidence of burn injuries in children and adolescents through age appropriate education programs
- ◀ Conducts community education programs, distributes educational materials, and provides individual interventions for youth with high risk fire setting behavior

***Buckle Up San Diego<sup>10</sup>***

- ◀ Goal of reducing deaths and injuries through maximum use of seat belts and child passenger safety seats
- ◀ Conducts child passenger safety seat education workshops, neighborhood clinics, and safety checkpoints
- ◀ Produces a resource directory on childhood injury prevention including resources for child passenger safety and seat belt use
- ◀ Seat belt and child passenger safety use has increased in a targeted area from 14% to approximately 80%

***Childhood Lead Poisoning Prevention Program<sup>11</sup>***

- ◀ Goal of identifying and reducing the number of children with childhood lead poisoning in San Diego County
- ◀ Program targets parents, caregivers, and children under 6 years of age
- ◀ Conducts blood lead testing in early education programs such as Head Start
- ◀ Provides community education to parents through bilingual and bicultural community representatives and provides education to health care providers
- ◀ Integrating childhood lead poisoning prevention education programs into existing youth programs such as Girl Scouts, Head Start, and WIC
- ◀ Community representatives educate and screen approximately 10,000 people per year
- ◀ Working with public health nurses and environmental health specialists to identify sources of lead and push for national recall of certain products

***Heads Up Bicycle Safety Program<sup>12</sup>***

- ◀ Targets San Diego county elementary and middle school students and their families
- ◀ Goal of reducing the number of bicycle related injuries, especially head injuries
- ◀ Focus is on increasing awareness about bicycle safety, including the importance of bicycle helmets
- ◀ Program components include school-based education for students, take home education and a quiz for students and parents, and a discount helmet sales offer
- ◀ Program is offered at approximately 300 schools and is reaching approximately 225,000 students

Resources

**Local**

- San Diego County Safe Kids Coalition, (619) 576-1600
- Trauma Research and Education Foundation, (619) 295-5428
- Burn Institute, (619) 541-2277
- Emergency Medical Services, Health and Human Services Agency, County of San Diego, (619) 285-6429
- California Center for Childhood Injury Prevention, (619) 594-3691, [www.injuryprevention.org](http://www.injuryprevention.org)

**National**

- Alcohol-Related Injury and Violence Project, [www.traumafdn.org/ariv](http://www.traumafdn.org/ariv)
- National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, [www.cdc.gov/ncipc](http://www.cdc.gov/ncipc)
- National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention, [www.cdc.gov/niosh](http://www.cdc.gov/niosh)
- National Highway Traffic Safety Administration, [www.nhtsa.dot.gov](http://www.nhtsa.dot.gov)
- Injury Control Resource Information Network, [www.injurycontrol.com/icrin](http://www.injurycontrol.com/icrin)
- Children’s Safety Network, National Injury and Violence Prevention Resource Center, [www.edc.org](http://www.edc.org)
- National Safe Kids Campaign, [www.safekids.org](http://www.safekids.org)
- Bicycle Head Injury Prevention Project, [www.dhs.cahwnet.gov/ps/cdic/epic/html/bhipp.html](http://www.dhs.cahwnet.gov/ps/cdic/epic/html/bhipp.html)
- Child Passenger Safety Advocacy, [www.childsafety.org](http://www.childsafety.org)
- Safety Belt Safe, [www.carseat.org](http://www.carseat.org)
- Consumer Product Safety Commission, [www.cpsc.gov](http://www.cpsc.gov)
- Childhood Lead Poisoning Prevention, [www.childlead.com](http://www.childlead.com)
- Safe Communities, [www.nhtsa.gov.dot.gov/safecommunities](http://www.nhtsa.gov.dot.gov/safecommunities)

**Table 5  
San Diego vs. the Nation—Motor Vehicle Deaths Rates\* 1996<sup>2</sup>**

San Diego County 1996**	California 1995	National 1995	HP2000 Objective**
1.6 (age adjusted)	2.1	2.6 (not age adjusted)	2.3 (age adjusted)

\* Rates per 100,000 population

\*\*Age adjusted using the US 1940 standard million population

References

1. San Diego County Safe Kids Coalition. (1997, July). Childhood Unintentional Injuries 1996

Report Card and 1997/98 Action Plan.

2. Unless otherwise noted, all San Diego unintentional injury statistics were based upon information provided to the San Diego County Health and Human Services Agency from the California Department of Health Services, Center for Health Statistics, Vital Statistics Section California
3. United States Department of Health and Human Services. (1998). Healthy People 2010, Draft Report for Public Comment. Washington, DC: US Government Printing Office
4. Centers for Disease Control and Prevention. National Center for Health Statistics FASTATS. Retrieved from the World Wide Web: <http://www.cdc.gov/nchswww/fastats/fastats.htm>
5. National Safe Kids Campaign. Retrieved from the World Wide Web: <http://www.safekids.org>
6. National Center for Injury Prevention and Control. Retrieved from the World Wide Web: <http://www.cdc.gov/ncipc>
7. California Center for Childhood Injury Prevention, (619) 594-3691
8. Safe Communities, Emergency Medical Services, County of San Diego, Health and Human Services Agency, (619) 285-6429
9. Burn Institute of San Diego, (619) 541-2277
10. Buckle Up San Diego, (619) 576-1499
11. Childhood Lead Poisoning Prevention Program, County of San Diego, Health and Human Services Agency, (619) 515-6694
12. Heads Up Bicycle Safety Program, Trauma Research and Education Foundation, (619) 295-5428

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