Memorandum

Date: June 25, 2003

TO: N.J. Scheers, Ph.D., Director
Office of Planning and Evaluation

THROUGH: Susan W. Ahmed, Ph.D., AED
Directorate for Epidemiology
Russell H. Roegner, Ph.D., Director
Division of Hazard Analysis

FROM: Linda M. Hooper, Health Statistician
Division of Hazard Analysis

SUBJECT: Head Injury-Related Deaths to Children Under 15 Years Old, Calendar Years, 1991-2000

This memorandum presents head injury-related deaths\(^1\) to children under 15 years of age in the United States for the calendar years 1991 through 2000.

Based on data from the National Center for Health Statistics (NCHS), the total number of deaths related to head injuries to children under 15 years in the U.S. showed a marginally significant decrease (p=0.068) of 17 deaths per year between 1991 and 2000. The estimated head injury deaths to children under 15 related to consumer products\(^2\) showed a small but marginally significant decrease (p=0.077) of 4 deaths per year during this 10-year period. For children under 15, head-injury deaths related to consumer products accounted for about 13 percent of the total number of head injury deaths each year. The population-based rates of head injury deaths per million children indicated small but statistically significant decreases of 0.5 per year (p=0.005) for the total number of deaths and of 0.1 per year (p=0.013) for consumer product-related deaths (see Table 1 and Figures 1-2).

Table 2 shows a breakdown of consumer product-related head injury deaths into (1) deaths related to bicycles and (2) deaths related to other: off-road motor vehicles such as snowmobiles, go-carts, or ATVs; falls from one level to another such as stairs/steps, windows, beds/chairs, playground equipment, or building structure; falls from same level (as in sports or in recreational activities) such as skiing, roller blading, ice skating, etc.; cutting or piercing instruments such as lawn mowers, power tools, or machinery; explosions such as fireworks, aerosol cans, or pressure cookers; and injury by other unspecified or unknown if accidental. During this 10-year period, head injury-related deaths associated with bicycles showed a small but statistically significant decrease of 4 deaths per year (p=0.006). The population-based rate of deaths per 1 million children associated with bicycles indicated a small but statistically significant decrease of 0.1 deaths per year (p=0.002) during the same period.

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\(^1\) Deaths as the result of head injuries and no other causes.

Table 1. Total and Consumer Product-Related Rates of Head Injury Deaths To Children Under 15 Years Old, 1991-2000

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Head Injury-Related Deaths</td>
<td>1883</td>
<td>1730</td>
<td>1893</td>
<td>1835</td>
<td>1680</td>
<td>1719</td>
<td>1672</td>
<td>1673</td>
<td>1757</td>
<td>1730</td>
</tr>
<tr>
<td>Population Based Rates / Million</td>
<td>34.2</td>
<td>31.0</td>
<td>33.4</td>
<td>32.1</td>
<td>29.2</td>
<td>29.8</td>
<td>28.9</td>
<td>28.8</td>
<td>30.1</td>
<td>28.7</td>
</tr>
<tr>
<td>Consumer Product-Related Head Injury Deaths4</td>
<td>271</td>
<td>232</td>
<td>254</td>
<td>250</td>
<td>236</td>
<td>206</td>
<td>235</td>
<td>209</td>
<td>233</td>
<td>235</td>
</tr>
<tr>
<td>Population Based Rates / Million</td>
<td>4.9</td>
<td>4.2</td>
<td>4.5</td>
<td>4.4</td>
<td>4.1</td>
<td>3.6</td>
<td>4.1</td>
<td>3.6</td>
<td>4.0</td>
<td>3.9</td>
</tr>
</tbody>
</table>


Figure 1. Total Number of Head Injury Deaths and Consumer Product-Related Head Injury Deaths to Children Under 15 Years, 1991-2000

Sources: National Center for Health Statistics (NCHS) and U.S. Consumer Product Safety Commission CPSC), Directorate for Epidemiology, Division of Hazard Analysis and Division of Hazard and Injury Data Systems.

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Figure 2. Head Injury Death Rates and Consumer Product-Related Head Injury Death Rates to Children Under 15 Years, 1991-2000

![Chart showing head injury death rates](chart.png)

Sources: National Center for Health Statistics (NCHS), U.S. Census Bureau, and U.S. Consumer Product Safety Commission, Directorate for Epidemiology: Division of Hazard Analysis and Division of Hazard and Injury Data Systems.

Table 2. Consumer Product-Related Head Injury Deaths To Children Under 15 Years Old, 1991-2000

<table>
<thead>
<tr>
<th>Year</th>
<th>Bicycle</th>
<th></th>
<th>Other</th>
<th></th>
<th>Total Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Deaths</td>
<td>Rate/Million</td>
<td>Deaths</td>
<td>Rate/Million</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>112</td>
<td>2.0</td>
<td>159</td>
<td>2.9</td>
<td>271</td>
</tr>
<tr>
<td>1992</td>
<td>107</td>
<td>1.9</td>
<td>125</td>
<td>2.2</td>
<td>232</td>
</tr>
<tr>
<td>1993</td>
<td>123</td>
<td>2.2</td>
<td>131</td>
<td>2.3</td>
<td>254</td>
</tr>
<tr>
<td>1994</td>
<td>120</td>
<td>2.1</td>
<td>130</td>
<td>2.3</td>
<td>250</td>
</tr>
<tr>
<td>1995</td>
<td>110</td>
<td>1.9</td>
<td>126</td>
<td>2.2</td>
<td>236</td>
</tr>
<tr>
<td>1996</td>
<td>87</td>
<td>1.5</td>
<td>119</td>
<td>2.1</td>
<td>206</td>
</tr>
<tr>
<td>1997</td>
<td>103</td>
<td>1.8</td>
<td>132</td>
<td>2.3</td>
<td>235</td>
</tr>
<tr>
<td>1998</td>
<td>81</td>
<td>1.4</td>
<td>128</td>
<td>2.2</td>
<td>209</td>
</tr>
<tr>
<td>1999</td>
<td>83</td>
<td>1.4</td>
<td>150</td>
<td>2.7</td>
<td>233</td>
</tr>
<tr>
<td>2000</td>
<td>87</td>
<td>1.4</td>
<td>148</td>
<td>2.5</td>
<td>235</td>
</tr>
<tr>
<td>Total</td>
<td>1,013</td>
<td></td>
<td>1,348</td>
<td></td>
<td>2,361</td>
</tr>
</tbody>
</table>

Sources: National Center for Health Statistics (NCHS), U.S. Census Bureau, and U.S. Consumer Product Safety Commission, Directorate for Epidemiology: Division of Hazard Analysis and Division of Hazard and Injury Data Systems.
Methodology

All death certificates filed in the U.S. are compiled by the National Center for Health Statistics (NCHS) into multiple cause mortality data files. The mortality data files contain demographic information as well as the International Classification of Disease codes for the underlying cause of death and up to 20 contributing conditions. The data are compiled in accordance with the World Health Organization (WHO) instructions, which request that member nations classify causes of death by the current Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death. The International Classification of Diseases (ICD), Ninth Revision was implemented in 1979 and was in effect between 1979 and 1998. The ICD has been revised approximately every 10 years since 1900. The purpose of the revision is to stay abreast of medical advances. The introduction of the Tenth Revision of ICD (ICD-10) in mortality statistics for selected causes of death was implemented in 1999. This report on head injury-related deaths to children under 15 years old was based on the Ninth and Tenth Revisions of the International Classification of Diseases for the years 1991-1998 and 1999-2000, respectively.

ICD-10 differs from ICD-9 in several respects. ICD-10 is far more detailed than ICD-9, with about 8,000 categories compared with about 5,000 categories; ICD-10 uses alphanumeric codes compared with numeric codes in ICD-9. The introduction of a new revision of the ICD can create discontinuities in trend data. The extent of this discontinuity can be measured using a comparability ratio, which is computed through a double coding of a large sample of the national mortality file, once by the old version (ICD-9) and again by the new version (ICD-10). The results can be expressed as a ratio of the number of deaths for a cause of death by the later revision divided by the number of that cause of death coded and classified by the earlier version. A comparability ratio less than “one” represents fewer deaths being classified to a hazard group under ICD-10 compared to the hazard group under ICD-9. A comparability ratio greater than “one” represents a larger number of deaths being classified to a hazard group under ICD-10. The comparability ratio used in this memo is one because the comparability ratios were one or very near one with the exception of a few categories, such as (1) cut/pierce, (2) hot object/scald, (3) machinery, and (4) natural/environmental3. For the 2002 head injury-related deaths, these categories account for a very small portion of head injury-related deaths (only 2 cases). The discontinuities in cause-of-death statistics resulting from these classification and rule changes are critical when the interpretation of mortality trends is needed.

The following steps are used to determine the number of head injury-related deaths (where head injury was determined to be the cause of death in the presence or absence of other cited injuries) to children associated with the use of consumer products from 1991 through 2000:

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1. Search the NCHS data for head injury-related deaths\textsuperscript{6} with the injury codes (N codes):

### 1991-1998

<table>
<thead>
<tr>
<th>NCODE</th>
<th>Contributing Cause of Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>800.0-804.9</td>
<td>Fracture of Skull</td>
</tr>
<tr>
<td>850.0-854.9</td>
<td>Intracranial injury (excluded skull fracture)</td>
</tr>
<tr>
<td>873.0-873.1</td>
<td>Open wound to head</td>
</tr>
<tr>
<td>905.0</td>
<td>Late effect of fracture of skull &amp; face bones</td>
</tr>
<tr>
<td>907.0</td>
<td>Late effect of intracranial injury (excluded skull fracture)</td>
</tr>
<tr>
<td>907.1</td>
<td>Late effect of injury to cranial nerve</td>
</tr>
<tr>
<td>910.0</td>
<td>Superficial injury to face, scalp, and neck</td>
</tr>
<tr>
<td>920.0</td>
<td>Contusion of face, scalp, and neck</td>
</tr>
<tr>
<td>925.0</td>
<td>Crushing injury of face, scalp, and neck</td>
</tr>
<tr>
<td>951.0-951.9</td>
<td>Injury to other cranial nerve(s)</td>
</tr>
<tr>
<td>957.0</td>
<td>Superficial nerves of head and neck</td>
</tr>
<tr>
<td>959.0</td>
<td>Head injury unspecified</td>
</tr>
</tbody>
</table>

### 1999-2000

<table>
<thead>
<tr>
<th>NCODE</th>
<th>Contributing Cause of Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>S00</td>
<td>Superficial injury of head</td>
</tr>
<tr>
<td>S00.0</td>
<td>Superficial to scalp</td>
</tr>
<tr>
<td>S00.7</td>
<td>Multiple superficial injuries of head</td>
</tr>
<tr>
<td>S00.8</td>
<td>Superficial injury of other parts of head</td>
</tr>
<tr>
<td>S00.9</td>
<td>Superficial injury of head, part unspecified</td>
</tr>
<tr>
<td>S01</td>
<td>Open wound of head</td>
</tr>
<tr>
<td>S01.0</td>
<td>Open wound of scalp</td>
</tr>
<tr>
<td>S01.7</td>
<td>Multiple open wound of head</td>
</tr>
<tr>
<td>S01.8</td>
<td>Open wound of other parts of head</td>
</tr>
<tr>
<td>S01.9</td>
<td>Open wound of head, part unspecified</td>
</tr>
<tr>
<td>S02</td>
<td>Fracture of skull and facial bones</td>
</tr>
<tr>
<td>S02.0</td>
<td>Fracture of vault of skull</td>
</tr>
<tr>
<td>S02.1</td>
<td>Fracture of base of skull</td>
</tr>
<tr>
<td>S02.7</td>
<td>Multiple fractures involving skull and facial bones</td>
</tr>
<tr>
<td>S02.8</td>
<td>Fracture of other skull and facial bones</td>
</tr>
<tr>
<td>S02.9</td>
<td>Fracture of skull and facial bones, part unspecified</td>
</tr>
<tr>
<td>S03</td>
<td>Dislocation, sprain and strain of joints and ligaments of head</td>
</tr>
<tr>
<td>S03.3</td>
<td>Dislocation of other and unspecified parts of head</td>
</tr>
<tr>
<td>S03.5</td>
<td>Sprain and strain of joints and ligaments of other and unspecified parts of head</td>
</tr>
<tr>
<td>S04</td>
<td>Injury of cranial nerve</td>
</tr>
<tr>
<td>S04.1</td>
<td>Injury to oculomotor nerve</td>
</tr>
<tr>
<td>S04.2</td>
<td>Injury of trochlear nerve</td>
</tr>
<tr>
<td>S04.3</td>
<td>Injury of trigeminal nerve</td>
</tr>
<tr>
<td>S04.4</td>
<td>Injury of abducent nerve</td>
</tr>
<tr>
<td>S04.5</td>
<td>Injury of facial nerve</td>
</tr>
<tr>
<td>S04.6</td>
<td>Injury of acoustic nerve</td>
</tr>
<tr>
<td>S04.7</td>
<td>Injury of accessory nerve</td>
</tr>
<tr>
<td>S04.8</td>
<td>Injury of other cranial nerves</td>
</tr>
<tr>
<td>S04.9</td>
<td>Injury of unspecified cranial nerve</td>
</tr>
</tbody>
</table>

\textsuperscript{6} All deaths that resulted from head injury as a cause of death or among other causes of deaths.
S06  Intracranial injury
   S06.0  Concussion
   S06.1  Traumatic cerebral oedema
   S06.2  Diffuse brain injury
   S06.3  Focal brain injury
   S06.4  Epidural haemorrhage
   S06.5  Traumatic subdural haemorrhage
   S06.6  Traumatic subarachnoid haemorrhage
   S06.7  Intracranial injury with prolonged coma
   S06.8  Other intracranial injuries
   S06.9  Intracranial injury, unspecified
S07  Crushing injury of head
   S07.1  Crushing injury of skull
   S07.8  Crushing injury of other parts of head
   S07.9  Crushing injury of head, par unspecified
S08  Traumatic amputation of part of head
   S08.0  Avulsion of scalp
   S08.8  Traumatic amputation of other parts of head
   S08.9  Traumatic amputation of unspecified part of head
S09  Other unspecified injuries of head
   S09.0  Injury of blood vessels of head, not elsewhere classified
   S09.1  Injury of muscle and tendon of head
   S09.7  Multiple injuries of head
   S09.8  Other specified injuries of head
   S09.9  Unspecified injury of head
T00  Superficial injuries involving multiple body regions
   T00.0  Superficial injuries involving head with neck
T01  Open wounds involving multiple body region
   T01.0  Open wounds involving head with neck
T02  Fractures involving multiple body regions
   T02.0  Fractures involving head with neck
T03  Dislocations, sprains, and strains involving multiple body regions
   T03.0  Dislocations, sprains, and strains involving head with neck
T04  Crushing injuries involving head with neck
   T04.0  Crushing injuries involving head with neck
T06  Other injuries involving multiple body regions, not elsewhere classified
   T06.0  Injuries of brain and cranial nerves with injuries of nerves and spinal cord at neck level
T90  Sequelae of injuries of head
   T90.0  Sequelae of superficial injury of head
   T90.1  Sequelae of open wound of head
   T90.2  Sequelae of fracture of skull and facial bones
   T90.3  Sequelae of injury of cranial nerves
   T90.5  Sequelae of intracranial injury
   T90.8  Sequelae of other specified injuries of head
   T90.9  Sequelae of unspecified injury of head
2. Estimate the numbers of consumer product-related head injury deaths for 1991-2000 by using the criteria described in *Estimates of Consumer Product Related Deaths, 1984 -1998 (Updated and Revised, October 2001)*, Ault, Kimberly, Ph.D., U.S. CPSC, Directorate for Epidemiology, Division of Hazard and Injury Data Systems.\(^7\)

- Select all (100%) head injury-related deaths to the victims (drivers, passengers, persons injured while boarding or alighting) of bicycles, off-road motor vehicles, or snowmobiles.
- Select all (100%) head injury-related deaths from falls from playground equipment, chairs, or beds.
- Select all (100%) head injury-related deaths to the victims who were struck against or struck by objects or persons, in sports.
- Select all (100%) head injury-related deaths associated with fireworks.
- Select the remaining head injury-related deaths by location or based on proportion of deaths estimated to fall under CPSC jurisdiction for each year.
  - Home (100%)
  - Recreation (80%)
  - Resident/Institution (80%)
  - Public Building (10%)
  - Street/Highway (0%)
  - Farm (0%)
  - Other Specified (10%)
  - Industrial Place (0%)
  - Not Specified Location, Late Effects, or Injury Undetermined Whether Accidentally or Purposefully (based on proportion of deaths estimated to fall under CPSC jurisdiction for each year)

3. From step #2, estimate the total number of consumer product-related head injury deaths (where head injury was determined to be the cause of death in the presence or absence of other cited injuries) according to the Division of Hazard Analysis's head injury-related death decisions:

- **Head** - The case contains at least one head injury code. It may also contain other non-head injury codes. If these non-head injuries are not believed to be severe enough to have caused the death in the absence of a head injury, the case is included in the head injury group.

- **Multiple** - The case contains at least one head injury code. It also contains other non-head injury codes. Cases included in this category are those in which the injury

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\(^7\) Technical support from Thomas J. Schroeder, Division of Hazard and Injury Data Systems, Directorate for Epidemiology, CPSC.
associated with the non-head injury code is severe enough to have caused the death
even if there were no head injury.

4. Examine a breakdown of the total number of consumer product-related head injury deaths
obtained in step #3 by using the external codes: ECODE for the calendar years 1991-1998
and ICD10 for the calendar years 1999-2000. These codes are presented below:

**Bicycles**

1. 1991-1998:

   E800.3 – Railway accident involving collision with rolling stock – pedal cyclist
   E801.3 – Railway accident involving collision with other object – pedal cyclist
   E802.3 – Railway accident involving derailment without antecedent collision – pedal cyclist
   E803.3 – Railway accident involving explosion, fire, or burning – pedal cyclist
   E804.3 – Fall in, on, or from railway train – pedal cyclist
   E805.3 – Hit by rolling stock - pedal cyclist
   E806.3 – Other specified railway accident – pedal cyclist
   E807.3 – Railway accident of unspecified nature – pedal cyclist
   E810.6 – Motor vehicle traffic accident involving collision with train – pedal cyclist
   E811.6 – Motor vehicle traffic accident involving re-entrant collision with another motor vehicle – pedal cyclist
   E812.6 – Other motor vehicle traffic accident involving collision with motor vehicle – pedal cyclist
   E813.6 – Motor vehicle traffic accident involving collision with other vehicle – pedal cyclist
   E814.6 – Motor vehicle traffic accident involving collision with pedestrian – pedal cyclist
   E815.6 – Other motor vehicle traffic accident involving collision on the highway – pedal cyclist
   E816.6 – Motor vehicle traffic accident due to loss of control, without collision on the highway – pedal cyclist
   E817.6 – Non-collision motor vehicle traffic accident while boarding or alighting – pedal cyclist
   E818.6 – Other non-collision motor vehicle traffic accident – pedal cyclist
   E819.6 – Motor vehicle traffic accident of unspecified nature – pedal cyclist
   E820.6 – Non-traffic accident involving motor driven snow vehicle – pedal cyclist
   E821.6 – Non-traffic accident involving other off-road motor vehicle – pedal cyclist
   E822.6 – Other motor vehicle non-traffic accident involving collision with moving object – pedal cyclist
   E823.6 – Other motor vehicle non-traffic accident involving collision with stationary object – pedal cyclist
   E824.6 – Other motor vehicle non-traffic accident while boarding or alighting – pedal cyclist
   E825.6 – Other motor vehicle non-traffic accident of other and unspecified nature – pedal cyclist
   E826.1 – Pedal cycle accident – pedal cyclist
   E826.9 – Pedal cycle accident – unspecified person
   E827.1 – Animal-driven vehicle accident – pedal cyclist

2. 1999-2000:

The following fourth-character subdivisions are for use with categories V10-V18:

   .0 Driver injured in non-traffic accident
   .1 Passenger injured in non-traffic accident
   .2 Unspecified pedal cyclist injured in non-traffic accident
.3 Person injured while boarding or alighting
.4 Driver injured in traffic accident
.5 Passenger injured in traffic accident
.9 Unspecified pedal cyclist injured in traffic accident

V10 – Pedal cyclist injured in collision with pedestrian or animal
V11 – Pedal cyclist injured in collision with other pedal cycle
V12 – Pedal cyclist injured in collision with two or three-wheeled motor vehicle
V13 – Pedal cyclist injured in collision with car, pick-up truck or van
V14 – Pedal cyclist injured in collision with heavy transport vehicle or bus
V15 – Pedal cyclist injured in collision with railway train or railway vehicle
V16 – Pedal cyclist injured in collision with other non-motor vehicle
V17 – Pedal cyclist injured in collision with fixed or stationary object
V18 – Pedal cyclist injured in non-collision transport accident (includes fall/thrown from pedal cycle, overturning, not specified, or without collision)
V19 – Pedal cyclist injured in other and unspecified transport accidents
V19.0 – Pedal cycle driver injured in collision with other and unspecified motor vehicles in non-traffic accident
V19.1 – Pedal cycle passenger injured in collision with other and unspecified motor vehicles in non-traffic accident
V19.2 – Unspecified pedal cyclist injured in collision with other and unspecified motor vehicles in non-traffic accident (pedal cycle collision NOS, non-traffic accident)
V19.3 – Pedal cyclist injured in unspecified non-traffic accident (pedal cycle accident NOS, non-traffic accident, pedal cyclist injured in non-traffic accident NOS)
V19.4 – Driver injured in collision with other and unspecified motor vehicles in traffic accident
V19.5 – Passenger injured in collision with other and unspecified motor vehicles in traffic accident
V19.6 – Unspecified pedal cyclist injured in collision with other and unspecified motor vehicles in traffic accident (pedal cycle collision NOS-traffic)
V19.8 – Pedal cyclist injured in other specified transport accidents (trapped by part of pedal cycle)
V19.9 – Pedal cyclist injured in unspecified traffic accident (pedal cycle accident NOS)

Other Consumer Products

1. 1991-1998:

E820.0 – Non-traffic accident involving motor driven snow vehicle – driver
E820.1 – Non-traffic accident involving motor driven snow vehicle – passenger
E820.2 – Non-traffic accident involving motor driven snow vehicle – motor cyclist
E820.3 – Non-traffic accident involving motor driven snow vehicle – passenger on motorcycle
E820.4 – Non-traffic accident involving motor driven snow vehicle – occupant of street car
E820.5 – Non-traffic accident involving motor-driven snow vehicle – rider of animal
E820.7 – Non-traffic accident involving motor-driven snow vehicle – pedestrian
E820.8 – Non-traffic accident involving motor driven snow vehicle – other specified person (other than above)
E820.9 – Non-traffic accident involving motor driven snow vehicle – unspecified person
E821.0 – Non-traffic accident involving other off-road motor vehicle – driver
E821.1 – Non-traffic accident involving other off-road motor vehicle – passenger
E821.2 – Non-traffic accident involving other off-road motor vehicle – motor cyclist
E821.3 – Non-traffic accident involving other off-road motor vehicle – passenger of motor cycle
E821.5 – Non-traffic accident involving other off-road motor vehicle – rider of animal
E821.7 – Non-traffic accident involving other off-road motor vehicle – pedestrian
E821.8 – Non-traffic accident involving other off-road motor vehicle – other specified person (other than above)
E821.9 – Non-traffic accident involving other off-road motor vehicle – unspecified person
E880.0 – Fall on/from escalator
E880.9 – Fall on/from other stairs or steps
E881.0 – Fall from ladder
E881.1 – Fall from scaffolding
E882 – Fall from/out of building or other structure
E883.0 – Accident from diving or jumping into water
E884.0 – Fall from playground equipment
E884.2 – Fall from chair
E884.3 – Fall from wheelchair
E884.4 – Fall from bed
E884.5 – Fall from other furniture
E884.6 – Fall from commode
E884.9 – Fall from one level to another
E885 – Fall on same level from slipping, tripping, or stumbling
E886 – Fall on same level from collision, pushing, or shoving, by/with other person
E886.0 – Fall same level: sports, tackles
E886.9 – Fall same level, other and unspecified
E887 – Fracture, cause unspecified
E888 – Other and unspecified fall
E916 – Struck accidentally by falling object
E917.0 – Struck against or struck accidentally by object or person: in sports
E917.9 – Struck against or struck accidentally by object or person: other
E918 – Caught accidentally in/between objects
E919.3 – Accidents caused by metal working machines
E919.4 – Accidents caused by woodworking and metalworking machines
E919.8 – Accidents caused by other specified machinery
E919.9 – Accidents caused by unspecified machinery
E920.0 – Accidents caused by cutting and piercing instruments or objects: powered lawn mower
E920.1 – Accidents caused by cutting and piercing instruments or objects: other powered hand tools
E920.2 – Accidents caused by cutting and piercing instruments or objects: powered household appliances and implements
E920.3 – Cutting and piercing instruments or objects: knives, swords and daggers
E920.4 – Cutting and piercing instruments or objects: other hand tools and implements
E920.8 – Cutting and piercing instruments or objects: other
E920.9 – Cutting and piercing instruments or objects: unspecified
E921.0 – Accident caused by explosion of pressure vessel: boilers
E921.1 – Accident caused by explosion of pressure vessel: gas cylinders (air tank, pressure gas tank)
E921.8 – Accident caused by explosion of pressure vessel: other specified (aerosol can, automobile tire, pressure cooker)
E921.9 – Accident caused by explosion of pressure vessel: unspecified
E923.0 – Accident caused by explosive material: fireworks
E923.2 – Accident caused by explosive material: gasses
E923.9 – Accident caused by explosive material: unspecified
E928.8 – Other and unspecified environmental and accidental causes: other
E928.9 – Other and unspecified environmental and accidental causes: unspecified accident
E929.0 – Late effects of accidental injury: motor vehicle accidents
E929.1 – Late effects of other transport accidents
E929.3 – Late effects of accidental fall
E929.8 – Late effects of other accidents
E929.9 – Late effects of unspecified accidents
E985 – Injury undetermined whether accidentally or purposely inflicted: air guns
E986 – Injury undetermined whether accidentally or purposely inflicted: cutting and piercing instruments
E987 – Injury undetermined whether accidentally or purposely inflicted: falling from high place
E988.8 – Injury by other and unspecified means, undetermined whether accidental: other specified means
E988.9 – Injury by other and unspecified means, undetermined whether accidental: other unspecified means
E989 – Late effects of injury, undetermined whether accidentally or purposely inflicted

2. 1999-2000:

V86.0 – Driver of all-terrain or other off-road motor vehicle injured in traffic accident
V86.1 – Passenger of all-terrain or other off-road motor vehicle injured in traffic accident
V86.2 – Person on outside of all-terrain or other off-road motor vehicle injured in traffic accident
V86.3 – Unspecified occupant of all-terrain or other off-road motor vehicle injured in traffic accident
V86.4 – Person injured while boarding or alighting from all-terrain or other off-road motor vehicle
V86.5 – Driver of all-terrain or other off-road motor vehicle injured in non-traffic accident
V86.6 – Passenger of all-terrain or other off-road motor vehicle injured in non-traffic accident
V86.7 – Person on outside of all-terrain or other off-road motor vehicle injured in non-traffic accident
V86.9 – Unspecified occupant of all-terrain or other off-road motor vehicle injured in non-traffic accident
W00 – Fall on same level involving ice and snow (excludes: ice-skates, skis, stairs and steps)
W01 – Fall on same level from slipping, tripping and stumbling (excludes: ice or snow)
W02 – Fall involving ice-skates, skis, roller-skates, or skateboards
W03 – Other fall on same level due to collision with, or pushing by, another person
W05 – Fall involving wheelchair
W06 – Fall involving bed
W07 – Fall involving chair
W08 – Fall involving other furniture
W09 – Fall involving playground equipment
W10 – Fall on and from stairs and steps (escalator, incline, ramp, ice/snow on stairs and steps)
W11 – Fall on and from ladder
W12 – Fall on and from scaffolding
W13 – Fall from, out of or through building or structure (balcony, building, floor, railing, window, etc.)
W16 – Diving or jumping into water causing injury other than drowning or submersion (hitting bottom, wall, diving board of swimming pool, or water surface)
W18 – Other fall on same level (bumping against object, from/off toilet)
W19 – Unspecified fall
W20 – Struck by thrown, projected or falling object
W21 – Striking against or struck by sports equipment
W22 – Striking against or struck by other objects
W23 – Caught, crushed, jammed or pinched in or between objects
W25 – Contact with sharp glass
W26 – Contact with knife, sword, or dagger
W27 – Contact with non-powered hand tool
W28 – Contact with powered lawnmower
W29 – Contact with other powered hand tools and household machinery
W31 – Contact with other and unspecified machinery
W35 – Explosion and rupture of boiler
W36 – Explosion and rupture of gas cylinder
W37 – Explosion and rupture of pressurized tyre, pipe, or hose
W38 – Explosion and rupture of other specified pressurized devices
W39 – Discharge of firework
W49 – Exposure to other and unspecified inanimate mechanical forces
Y28 – Contact with sharp object, undetermined intent
Y29 – Contact with blunt object, undetermined intent
Y30 – Falling, jumping or pushed from a high place, undetermined intent
Y33 – Other specified events, undetermined intent
Y85.0 – Sequelae of motor-vehicle accident
Y85.9 – Sequelae of other and unspecified transport accidents
Y86 – Sequelae of other accidents
Y87.2 – Sequelae of events of undetermined intent
Y89.9 – Sequelae of unspecified external cause

cc: Deborah K. Tinsworth
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