



## **HAZARD ANALYSIS: CRIB-RELATED DEATHS**

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## EXECUTIVE SUMMARY

In support of U.S. Consumer Product Safety Commission (CPSC) efforts to address deaths in baby cribs, Directorate for Epidemiology staff conducted an analysis of fatal crib-related incidents that occurred between January 1, 1997, and July 15, 2002.

Highlights of this analysis are as follows:

- During this time period, a total of 156 crib-related deaths were reported to CPSC. About 80 percent of the victims were younger than one year, and about 60 percent of the victims were male. Most deaths resulted from positional asphyxia or suffocation, and occurred in the victim's home.
- Of the 156 deaths, 62 involved full-size cribs, 17 involved non-full-size or portable cribs, and 77 involved cribs of unknown type.
- While age of the crib was often unknown, few of the cribs appeared to be new. Many appeared to be older models in poor condition. In some cases, repairs had been attempted with such items as shoelaces, string, dishtowels, wire, coat hangers, tape, and inappropriate hardware.
- Most often, positional asphyxia/suffocation was reported without extensive detail about the circumstances involved, although bedding items were frequently reported as being present. Other deaths involved hardware problems; entrapment between the crib and another object; entanglement in window covering cords near the crib; entrapment between the mattress and side rail; structural failure; improper mattresses; and bedding entanglement.
- Almost all of the cases involving hardware problems involved missing or loose screws, brackets, or other attachment devices that fastened the sides of the cribs to the end panels. Generally, a side of the crib would loosen, creating a space that the child would slip through, and become entrapped by the head or chest. Structural failures of cribs most often involved broken or missing crib rails or slats.
- It appears that mandatory and voluntary efforts to address entrapment from improper slat spacing, entanglement on corner post projections, entrapment in end panel cutouts, and failure of mattress support hardware have been reasonably successful. However, problems remain with the re-use of cribs, particularly with regard to attachment hardware. Improved performance requirements and/or construction techniques may be needed to address this hazard. Other actions may be needed to inform consumers of the dangers of using structurally unsound cribs, improper mattresses, and cribs near window covering cords. Also, it is important to continue to provide parents and caregivers with information about a safe sleep environment for infants and young children.

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# **CRIB-RELATED DEATHS**

## **I. BACKGROUND**

In recent years, the U.S. Consumer Product Safety Commission (CPSC) has received reports of about 30 deaths annually from crib-related incidents involving infants and toddlers. While crib-related deaths have declined considerably from the yearly toll of 150 to 200 in the early 1970's, the number of deaths with cribs remains higher than with any other nursery product.

Past CPSC efforts to address crib-related hazards have included the publication of mandatory standards for full-size cribs in 1973 and non-full-size cribs in 1976. These standards included requirements for side height, slat spacing, mattress fit, and other aspects of crib performance and construction. In 1982, these standards were amended to include mandatory requirements that prohibited hazardous cutouts in crib end panels.

CPSC staff has also been involved in the development of voluntary standards for cribs through ASTM International, a voluntary consensus standards organization (previously known as the American Society for Testing and Materials). Standards to address additional hazards of 1) entanglement on corner posts on full-size and non-full-size cribs and 2) structural and mechanical failures of full-size cribs were originally published in 1986 and 1988, respectively. An ASTM voluntary standard for the performance of non-full-size cribs was published in 1997. In April 1999, the voluntary standard for full-size cribs was revised to include improved slat requirements. This standard was published in June 1999. CPSC's mandatory rulemaking to address crib slat disengagement hazards, initiated in 1996, is currently on hold, pending evaluation of industry conformance to the revised voluntary standard.

A March 1994 CPSC staff analysis of crib-related deaths that occurred from 1989 through 1991 revealed that many crib-related deaths occurred in older, previously used models. Infants often became entrapped when the side or end of the crib separated from the rest of the crib structure, usually because of missing or loose attachment hardware. Other deaths involved entrapment between the mattress and crib side due to an undersized or improper mattress; entrapment due to missing, dislodged, or improperly attached mattress support hardware; entanglement of pacifier cords, clothing, or other items around a child's neck on crib corner posts or other crib components; entrapment between broken, missing, or improperly spaced crib slats; and entanglement in nearby window covering cords or other items attached to the crib or adjacent wall.

This analysis is intended to provide a current overview of the circumstances involved in crib-related deaths, with an emphasis on hardware and other structural and performance problems which could be addressed through improvements to existing safety standards or other remedial efforts.

## **II. METHODOLOGY**

Fatal crib-related incidents included in this analysis were obtained from a retrospective review of CPSC data files.<sup>1</sup> These files were searched for incidents that occurred between January 1, 1997, and July 15, 2002, using product codes for portable cribs (product code 1529); cribs, non-portable (product code 1543); and cribs, not specified (product code 1545). Products that were marketed as portable crib/play yard combinations were included only if the product was used primarily as a crib (as reported by the owner). Deaths involving Sudden Infant Death Syndrome (SIDS) were excluded.

During this time period, a total of 156 deaths were reported to CPSC. It should be noted, however, that this is a minimum figure, because CPSC does not necessarily receive reports of all product-related deaths that occur, and because reporting is not yet complete for all sources for some years. Of these, CPSC conducted telephone or on-site investigations of 101, or almost two-thirds, of the cases, although the level of detail available about the circumstances involved varied considerably.

## **III. RESULTS AND DISCUSSION**

### **Age and Sex**

In the 156 fatal incidents, the victims ranged from less than one month to 26 months of age, although about 80 percent were younger than one year (Table 1). About 60 percent of the victims were male.

### **Cause of Death**

In most cases, death resulted from positional asphyxia or suffocation. Other deaths resulted from ligature strangulation or hanging (window cords), and one death resulted from a broken neck (fall).

### **Location of Incident**

While the location of the incident was not reported in 48 cases, most of the remaining incidents (92 of 108) occurred in the victim's home. An additional 12 deaths occurred in childcare settings, and 4 occurred in foster homes.

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<sup>1</sup> CPSC data files included the National Electronic Injury Surveillance System (NEISS); In-Depth Investigation File (INDP); Death Certificate File (DCRT); and Injury or Potential Injury Incident File (IPII), which consists of medical examiner and coroner reports, newspaper clippings, consumer complaints, government referrals, reports from emergency physicians and other sources.

Table 1. Crib-Related Deaths: Age and Sex of Victims

| Age<br>(in months) | Sex of Victims |      |        |         |
|--------------------|----------------|------|--------|---------|
|                    | Total          | Male | Female | Unknown |
| Total              | 156            | 93   | 62     | 1       |
| < 6                | 59             | 38   | 21     | 0       |
| 6 - 11             | 66             | 36   | 30     | 0       |
| 12 - 17            | 24             | 15   | 9      | 0       |
| 18 +               | 6              | 4    | 2      | 0       |
| Unknown            | 1              | 0    | 0      | 1       |

Source: CPSC data files: NEISS, INDP, DCRT, and IPII (1/1/97 – 7/16/02)  
U.S. Consumer Product Safety Commission/EPHA

### Types and Ages of Cribs

Of the 156 deaths, 62 involved full-size cribs, 17 involved non-full-size or portable cribs, and 77 involved cribs of unknown type (Table 2). In home and foster care settings, 60 of the 68 cribs of known type (88 percent) were full-size, whereas in childcare settings outside the victim’s home, only 2 of the 10 cribs of known type (20 percent) were full-size.

Table 2. Crib-Related Deaths: Types and Ages of Cribs

| Age of Crib    | Type of Crib |           |               |         |
|----------------|--------------|-----------|---------------|---------|
|                | Total        | Full-Size | Non-Full-Size | Unknown |
| Total          | 156          | 62        | 17            | 77      |
| <3 Years       | 11           | 7         | 2             | 2       |
| 3 – 5 Years    | 8            | 6         | 1             | 1       |
| 5 – 10 Years   | 4            | 2         | 2             | 0       |
| >10 Years      | 6            | 5         | 1             | 0       |
| “Old”          | 4            | 1         | 2             | 1       |
| Used, Age Unk. | 16           | 11        | 2             | 3       |
| Unknown        | 107          | 30        | 7             | 70      |

Source: CPSC data files: NEISS, INDP, DCRT, and IPII (1/1/97 – 7/16/02)  
U.S. Consumer Product Safety Commission/EPHA

Few of the cribs, portable or non-full-size, appeared to be new. A total of 11 cribs were reported to be less than three years old, while 22 were reported to be three years or older. An additional 16 cribs of unknown age were reported to have been previously used, and thus were probably not new. Information available about the remaining 107 cribs for which age was unknown suggested that many were older models in poor condition. In some cases, repairs had been attempted with such items as shoelaces, string, dishtowels, wire, coat hangers, tape, and inappropriate hardware. In a number of other cases, the caregivers had pushed the crib up against the wall or other object to stabilize a loose side. In at least one case, the crib was reported to have been retrieved from a garbage dumpster. Often, the caregivers were reported to have been unaware of the hazards involved.

## **Hazard Patterns**

Incidents were classified into hazard patterns according to the circumstances involved, although detailed information was not always available. While some cases fit into more than one category, an effort was made to choose the most specific pattern possible. Overall, the greatest number of deaths (54) involved positional asphyxia/suffocation, a broad category that included a number of cases for which extensive detail about the circumstances was not available. This was followed by hardware problems (29 deaths); entrapment between the crib and another object (13 deaths); entanglement in window covering cords near the crib (12); entrapment between the mattress and side rail, with further detail unknown (11); structural failure (10); improper mattress (9); bedding entanglement (8); and other or unknown circumstances (10). Tables 3, 4, and 5 present the hazard patterns by the ages of the victims involved, the types of cribs involved, and the ages of cribs involved, respectively.

Positional Asphyxia/Suffocation. A total of 54 cases were included in this category, many reported in such general terms as, “positioned face-down in crib,” or “died of positional asphyxia while lying in crib.” In about one-half of the cases, bedding items were mentioned as being present in the crib, although their role in the death was often not clear. Items mentioned included pillows, blankets, bumper pads, comforters, a quilt, a “cover,” and “bedding.” In one additional case, the infant was reported to have been suffocated by a large stuffed bear lying on top of her. The victims in these 54 incidents tended to be younger than those associated with other hazard patterns, in that about 80 percent of the victims were younger than 6 months of age and 94 percent of the victims were younger than one year. Information about the cribs involved in these cases was not well-reported.

Table 3. Crib-Related Deaths: Hazard Pattern by Age of Victim

| Hazard Pattern                   | Age of Victim<br>(in months) |     |        |         |      |      |
|----------------------------------|------------------------------|-----|--------|---------|------|------|
|                                  | Total                        | < 6 | 6 - 11 | 12 - 17 | 18 + | Unk. |
| Total                            | 156                          | 59  | 66     | 24      | 6    | 1    |
| Positional Asphyxia/Suffocation  | 54                           | 43  | 8      | 1       | 1    | 1    |
| Hardware Problems                | 29                           | 2   | 24     | 2       | 1    | 0    |
| Entrapment, Crib & Other Object  | 13                           | 4   | 3      | 4       | 2    | 0    |
| Window Cord Entanglement         | 12                           | 0   | 1      | 10      | 1    | 0    |
| Entrapment, Mattress & Side Rail | 11                           | 1   | 9      | 1       | 0    | 0    |
| Structural Failure               | 10                           | 3   | 6      | 1       | 0    | 0    |
| Improper Mattress                | 9                            | 4   | 5      | 0       | 0    | 0    |
| Bedding Entanglement             | 8                            | 0   | 7      | 1       | 0    | 0    |
| Other/Unknown                    | 10                           | 2   | 3      | 4       | 1    | 0    |

Source: CPSC data files: NEISS, INDP, DCRT, and IPII (1/1/97 – 7/16/02)  
U.S. Consumer Product Safety Commission/EPHA

Table 4. Crib-Related Deaths: Hazard Pattern by Type of Crib

| Hazard Pattern                   | Type of Crib |           |               |         |
|----------------------------------|--------------|-----------|---------------|---------|
|                                  | Total        | Full-Size | Non-Full-Size | Unknown |
| Total                            | 156          | 62        | 17            | 77      |
| Positional Asphyxia/Suffocation  | 54           | 7         | 4             | 43      |
| Hardware Problems                | 29           | 23        | 2             | 4       |
| Entrapment, Crib & Other Object  | 13           | 3         | 0             | 10      |
| Window Cord Entanglement         | 12           | 8         | 2             | 2       |
| Entrapment, Mattress & Side Rail | 11           | 5         | 0             | 6       |
| Structural Failure               | 10           | 5         | 4             | 1       |
| Improper Mattress                | 9            | 4         | 3             | 2       |
| Bedding Entanglement             | 8            | 3         | 1             | 4       |
| Other/Unknown                    | 10           | 4         | 1             | 5       |

Source: CPSC data files: NEISS, INDP, DCRT, and IPII (1/1/97 – 7/16/02)  
U.S. Consumer Product Safety Commission/EPHA



Table 5. Crib-Related Deaths: Hazard Pattern by Age of Crib

| Hazard Pattern                   | Age of Crib<br>(in years) |     |     |      |      |       |      |     |
|----------------------------------|---------------------------|-----|-----|------|------|-------|------|-----|
|                                  | Total                     | < 3 | 3-5 | 5-10 | > 10 | “Old” | Used | Unk |
| Total                            | 156                       | 11  | 8   | 4    | 6    | 4     | 16   | 107 |
| Positional Asphyxia/Suffocation  | 54                        | 2   | 1   | 0    | 1    | 0     | 2    | 48  |
| Hardware Problems                | 29                        | 2   | 4   | 2    | 2    | 2     | 8    | 9   |
| Entrapment, Crib & Other Object  | 13                        | 0   | 0   | 0    | 2    | 0     | 0    | 11  |
| Window Cord Entanglement         | 12                        | 1   | 0   | 0    | 0    | 0     | 0    | 11  |
| Entrapment, Mattress & Side Rail | 11                        | 1   | 0   | 0    | 0    | 1     | 0    | 9   |
| Structural Failure               | 10                        | 2   | 1   | 2    | 0    | 0     | 2    | 3   |
| Improper Mattress                | 9                         | 2   | 0   | 0    | 1    | 0     | 2    | 4   |
| Bedding Entanglement             | 8                         | 0   | 1   | 0    | 0    | 0     | 2    | 5   |
| Other/Unknown                    | 10                        | 1   | 1   | 0    | 0    | 1     | 0    | 7   |

Source: CPSC data files: NEISS, INDP, DCRT, and IPII (1/1/97 – 7/16/02)  
U.S. Consumer Product Safety Commission/EPHA

Hardware Problems.<sup>2</sup> Of the 29 cases involving hardware problems, all but two mentioned missing or loose screws, brackets, or other attachment devices that fastened the sides of the cribs to the end panels. In the 27 cases involving failures of the attachment hardware, a side of the crib loosened, creating a space that the child slipped through, and became entrapped by the head or chest. Most often, the victim was described as hanging by the neck, face into the mattress. Where reported, it appeared that the fixed and drop (adjustable) sides of the cribs were involved in approximately equal numbers of cases. In the two cases that did not involve attachment hardware, failures of mattress support hardware were reported. In these incidents, the mattress support detached from one corner of the crib, allowing the mattress to tip down, creating a gap through which the child slid down and became entrapped by the neck. Most (over 80 percent) of the victims of hardware failure were in the 6 to 11 month age group, although the reasons for this overrepresentation are unclear. Only two of the cribs were reported to have been relatively new, and many were described as being in poor condition. Some were said to have been repaired numerous times, often with what appeared to be hardware that did not come with the crib, or with such items as string, tape, or coat hanger wire. Where reported, all but two of the cribs were full size. The two portable cribs involved in this scenario were old-style wooden models.

<sup>2</sup> Because hardware problems with cribs are the focus of a current CPSC project, a listing of the 29 cases in this hazard pattern is included in the Appendix to this report.

Entrapment between Crib and Other Object. In the 13 cases included in this category, it was reported that the infant died of positional asphyxia when he or she became entrapped between the crib and another object such as a dresser, bed, wall, or windowsill. In one case, the victim became entrapped between the crib and a piece of plywood that was placed on top of the crib to confine the victim. In some instances, particularly with slightly older children, it appeared that entrapment occurred when the child tried to climb out of the crib and fell between the crib and other object. In one such case, the bumper pad in the crib was 12 inches high and the distance from the top of the mattress to the top of the side rail was 15 inches, suggesting to the coroner that the child may have used the bumper pad to climb out. In the cases involving infants younger than 6 months of age, little detail was available about the circumstances. It is possible that some reports of younger victims being “wedged between a crib and bed” actually involved cases in which the infant, who had been left on a bed, rolled into the gap between the bed and an adjacent crib. While the types of cribs involved in this category were not well-reported, all of the cribs of known type were full-size.

Entanglement in Window Cords. In 12 cases, children became entangled in window covering cords near the crib. Most of these incidents involved children 12 months of age or older, who are possibly more active and more able to reach the cords than younger children. Most of the cribs involved in these cases were full-size—while this may not be meaningful, it is possible that the greater height associated with full-size cribs allowed easier access to the cords than many portable cribs would.

Entrapment between Mattress and Side Rail. In the 11 cases in this category, the victims were reported to have been found entrapped between the mattress and side of the crib. Because details were sparse, more specific classification was not possible. It is possible that some of these cases involved cribs with loose sides due to structural or hardware problems, or cribs with undersized mattresses. All but one of the victims was younger than one year of age. While not well reported, all the cribs of known type were full-size.

Structural Failure. Failure of the structural components of the crib was reported in 10 cases. These included entrapment deaths that resulted from breakage of full-size crib rails or slats, missing slats on full-size cribs, collapsing metal support bars on portable cribs, and a broken floor on a portable crib. Only two of the cribs were reported to have been less than a year old.

Improper Mattress. In the nine cases included in this category, five were reported to have involved mattresses that were too small for the crib, allowing the child to become entrapped between the mattress and crib side. Two cases involved a recalled mattress that became compressed under the infant in a way that allowed the child to become entrapped between the mattress and the bottom slats of his crib. In another case, a foam pad had been used as a mattress in a portable crib, resulting in suffocation. In the last case, a child became entrapped between the mattress and mesh side of a portable crib after an extra mattress had been added to the original product by the mother. All of the infants involved in these cases were younger than one year of age.

Bedding Entanglement. In these eight cases, infants were found asphyxiated from bedding items entangled around their head or torso. Examples of this scenario included: “found dead in crib with blanket around neck,” and “child entangled in crib blanket while sleeping.” The types of bedding reported to have been involved in these incidents included sheets (a “large sheet,” a “fitted crib sheet,” a “flannel sheet,” a “twin-size sheet,” and “the crib’s sheet”) and blankets (a “blanket,” a “crib blanket,” and a “home-made blanket”). All but one of the victims in these incidents were 6 to 10 months of age.

Other/Unknown. Ten cases were included in this category. These involved misassembly of a metal crib (two cases), clothing becoming entangled on a crib corner post, a pacifier ribbon becoming caught on a crib rail, a fall from a crib, overlay in a crib by an older infant, entrapment in a hole in the side of a mesh crib, improper replacement of a missing crib end panel with wood paneling (leaving a gap), and overly wide slat spacing. In one case, the circumstances involved in the death were not reported.

#### **IV. CONCLUSIONS AND RECOMMENDATIONS**

Past CPSC research on crib-related deaths revealed hazards with old, used, and structurally unsound cribs. However, it is clear that the number of reported deaths has declined considerably since the 1970’s and that some of the previously identified problems now occur less frequently. Based on our current findings, it appears that mandatory and voluntary efforts to address entrapment from improper slat spacing, entanglement on corner post projections, entrapment in end panel cutouts, and failure of mattress support hardware have been reasonably successful, in that few such cases were recently identified. However, deaths in cribs continue to occur, and strategies need to be developed to address them.

In terms of crib performance, problems remain with continued use and re-use of these products. Due to lack of information about some cases, the extent of this problem is somewhat unclear. However, it is evident that in a number of cases, attachment hardware becomes loose or lost entirely. Repairs are often inadequate, and consumers continue to place their babies in these unsafe cribs. Perhaps there are economic aspects to the continued use of these products, and probably some lack of awareness of the hazards. Regardless, it seems prudent to explore requirements that would improve the performance of attachment hardware or minimize the need for these items in the construction of cribs.

Other actions may be needed to inform consumers of the hazards of using structurally unsound cribs, improper mattresses, and cribs near window covering cords. These are areas in which CPSC has used a variety of informational efforts. However, new parents may not be aware of crib-related hazards previously publicized. Clearly, it is important to continue to provide parents and caregivers with information about a safe sleep environment for infants and young children.

## **APPENDIX**

| Crib Hardware-Related Deaths, 1/1/97 - 7/17/02         |         |       |     |                   |  |              |   |  |
|--|---------|-------|-----|-------------------|--|--------------|---|--|
| Document #   | Date    | Age   | Sex | City/State        | Age of Crib                                      | Type of Crib | Narrative   |  |
| 1 970414HEP9003<br>NEISS<br>970707HCC1348<br>X9772311A | 2/3/97  | 9 MO  | M   | Hartford, CT      | Unk  | Unknown      | Died positional asphyxia when he got trapped between mattress and one of crib's support members. The crib was an older model that had been passed through the family over the years. It was missing numerous parts (nuts, bolts, etc.) Shoe laces, string and dish towels were used to secure the crib's support members together.  |  |
| 2 980223CCC6624<br>9735002961                          | 3/8/97  | 10 MO | M   | Las Vegas, NV     | Unk  | Full-size    | Became wedged between his crib mattress and a loose end of the drop rail frame, dying from positional asphyxia. The side drop rail hardware was loose and had completely separated from the anchor points at the foot end of the crib frame, causing a 3.5-4 inch gap between the drop rail and the side of the mattress. The crib had been used this way for several months.                           |  |
| 3 970826HCC3309<br>X9782763A<br>9748065195             | 4/25/97 | 15 MO | F   | Copperas Cove, TX | 3.5 yrs  | Full-size    | Died of asphyxia when throat was compressed between the headboard or footboard and the rod on which the side rails move. Screws loosened and created a space.   |  |
| 4 970826CAA2388<br>X9782864A                           | 7/19/97 | 6 MO  | M   | Columbus, OH      | Received 10/31/94 from a pregnancy crisis center | Full-size    | Died when his neck became caught between the side rail and headboard of a crib. The side rail was no longer attached at the top of the head and footboard, the top attachment fixtures had pulled out and the support hanger bolts were not tight. It was thought that the crib may have been assembled with the drop side attached to the side of the crib where the stationary side should have been. |  |

|   | Document #  | Date     | Age      | Sex | City/State           | Age of Crib  | Type of Crib | Narrative   |
|---|---|----------|----------|-----|----------------------|--|--------------|---|
| 5 | 980223HCC2306<br>9726049197                           | 8/26/97  | 11<br>MO | F   | Saranac, MI          | Purchased<br>Nov 1993  | Full-size    | Died of asphyxia when she became trapped between the mattress and crib side rail. A plastic clip on the side rail that held it in place fell off allowing the baby to slide through with her chest and face pushed up against the mattress.   |
| 6 | 980626HCC2645<br>9718034729                           | 9/9/97   | 1 MO     | M   | Lafayette, IN        | Second<br>hand   | Full-size    | Died of compression asphyxia when his head slipped between the side rail and mattress of his crib. The crib was second hand and was lacking a screw that would have secured the lower corner of a metal side rail guide. This allowed the side rail to move away from the mattress and headboard. Parents were aware of the absence of the screw.   |
| 7 | 971112CNE5018<br>N97B0114A<br>X9853247A<br>9709025116 | 11/06/97 | 18<br>MO | M   | East Hartford,<br>CT | 10 years<br>old  | Portable     | Screw in corner of wooden porta-crib fell out, allowing the side rails to separate. Child's head was between the rails.   |
| 8 | 980925HCC2851<br>9718040366                           | 12/09/97 | 11<br>MO | F   | Brownsburg,<br>IN    | crib was<br>almost 12<br>years old,<br>used by 3<br>children<br>previously | Full-size    | Head was on the crib's mattress and her torso from the neck down was hanging through the crib, caught between the mattress and the rail. Police report states that the width of the mattress was 4 inches less than the width of the inside rail, and that there was a gap in the railing caused by the railing facing the wall not being secured to the legs of the crib at either end at the bottom of the side rail, allowing it to swing outward. |

|    | Document #   | Date     | Age      | Sex | City/State          | Age of Crib  | Type of Crib | Narrative  |
|----|--|----------|----------|-----|---------------------|--|--------------|--|
| 9  | 980909CNE5283<br>N9890003A<br>C9815004A<br>C9835028A<br>N9810084A<br>X9910156R<br>9712148096 | 12/12/97 | 10<br>MO | M   | Clearwater, FL      | Purchased<br>June 1996                                   | Full-size    | A screw came loose from a the rod that attached a head/footboard to a full size crib, creating a gap between the side rail and head/footboard. Asphyxia due to neck compression.   |
| 10 | 980311HCC0175<br>I9830016A<br>9825030636<br>N9820327A  | 2/14/98  | 9 MO     | F   | Chicopee, MA        | Purchased<br>1993  | Full-size    | Died from asphyxiation when she fell through the bottom crib rail. The screws attached to the bottom rail appeared stripped.   |
| 11 | 990217HCC2277<br>9839042215  | 3/20/98  | 7 MO     | M   | Mansfield, OH       | Obtained<br>used from<br>a<br>pregnancy<br>aid<br>agency | Full-size    | Died when he became trapped between the mattress and side rail of crib. Crib was assembled wrong and missing some hardware.  |
| 12 | 980424HCC3781<br>X9842844A<br>9848032874   | 3/29/98  | 6 MO     | M   | Haltom City,<br>TX  | Purchased<br>at a yard<br>sale                           | Unknown      | Trapped between the mattress and the rails of his crib. A missing pin caused the crib rail to be out of shape, creating a gap. Positional asphyxia.  |
| 13 | 990111HCC2167<br>9839057357  | 6/22/98  | 10<br>MO | F   | Lambertville,<br>MI | Purchased<br>used from<br>a garage<br>sale               | Full-size    | Found in full size crib with head caught between the mattress and side rail. Crib was purchased at a garage sale and it was fixed numerous times because the screws in the railings kept falling out. At the time of the incident, the outer safety rail was pushed out and a plastic toy was wedged between this rail and the mattress, creating a 6 inch gap. Another gap occurred where the rail has a missing screw. This is where the victim was found wedged in the frame. |

|    | Document #   | Date     | Age  | Sex | City/State       | Age of Crib  | Type of Crib | Narrative  |
|----|--|----------|------|-----|------------------|--|--------------|--|
| 14 | 981123CEP9008<br>NEISS<br>990205HCC3157<br>9804032149<br>F9910047A | 10/29/98 | 9 MO | F   | Tucson, AZ       | An old crib purchased at a yard sale shortly before the child was born | Full-size    | Found in crib hanging through the bottom between the mattress and the side rail bars by her neck. A lost bolt and bent rod allowed the side rail to move away from the corner post of the crib. Asphyxia.  |
| 15 | 990609CNE5184<br>N9960114A<br>H0130135A                            | 5/15/99  | 7 MO | M   | Jacksonville, FL | Given to owner and assembled by another party                          | Full-size    | Died from postural asphyxia when his head was lodged between the crib railing and the mattress. The side rail connections on the bottom of the crib were broken, letting the rail swing out from the bottom of the crib.   |
| 16 | 991026CCC2027<br>X99A3425A   | 6/12/99  | 8 MO | F   | Dallas, TX       | Unk  | Full-size    | Found unresponsive, wedged between the mattress and side rail of a crib. There was a missing bracket on the upper left side of the adjustable side rail that allowed it to swing back and forth approximately 6 inches. Positional asphyxia.   |
| 17 | 990921CCC2663<br>X9962183A<br>9921017342                           | 6/14/99  | 7 MO | M   | Loyall, KY       | Obtained used from a neighbor  | Full-size    | Found caught between the side rail of a full size crib and mattress support. The crib was obtained used and in poor condition. The screw used to hold the crib together would no long stay fastened to the wood. The family repaired the crib by tying the end of the crib to the side rails with coat hanger wire. Positional asphyxia. |
| 18 | 991208HCC2095<br>X99A3406A<br>X99B3858A<br>9927027554              | 8/26/99  | 9 MO | M   | Park Rapids, MN  | Very old crib picked up second hand                                    | Full-size    | Found wedged between the mattress and back rail that was not bolted on the bottom. The child slid between the mattress and rail with his chin on top of the mattress and his feet almost touching the floor. Asphyxia.   |



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|----|--|----------|----------|-----|----------------------|---|--------------|---|
| 19 | 991208HCC2096<br>X99A3625A                           | 10/1/99  | 6 MO     | F   | Erie Township,<br>MI | Unk   | Full-size    | Found unresponsive with feet hanging below the level of the crib mattress. Head wedged between the mattress and crib side with child resting on mattress. Crib side was broken (not attached to the head and footboard at the bottom) and hanging away from the crib frame. Mechanical asphyxia.  |
| 20 | 991220CNE5384<br>N99C0123A<br>X0041198A              | 12/16/99 | 6 MO     | M   | Durham, NC           | 15 years  | Full-size    | Suffocated when the crib he was sleeping in collapsed, creating an entrapment space between the side rail and the mattress. Child fell between side rail and mattress when the side rail of the crib separated from the end rail. The crib was not stable and support screws were routinely replaced.   |
| 21 | 020307HCC3138<br>0016001368                          | 02/13/00 | 6 MO     | F   | Payette, ID          | Unk   | Full-size    | Child asphyxiated when she slipped between the mattress and side rail of a crib. The mother had noticed a screw coming out of the side rail and had removed it to prevent injury to an older child. The mother pushed this side of the crib against a wall. She found the victim hanging from the crib with the back of her head against the crib rail. |
| 22 | 000317HNE5459<br>N0030216A<br>X0030979A<br>X0030995A | 3/15/00  | 9 MO     | M   | Turtle Creek,<br>PA  | obtained<br>used--<br>manufactu<br>red in<br>1994 | Full-size    | Died when he became wedged between the mattress of his crib and the crib's sidewall. 3 screws were missing from bracket that attached sidewall to crib, causing the gap.  |
| 23 | 000412HCC2439<br>H0040089A<br>0027011669             | 04/03/00 | 13<br>MO | M   | Shoreview, MN        | purchased<br>many<br>years ago                    | Portable     | Placed in a non-full size crib and was found with his head outside the slats of the crib and his body inside. A screw came out of the top corner rail allowing the end and side rails to separate.  |

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|----|--|--------|------|-----|-----------------|---|--------------|---|
| 24 | 010424HCC3275<br>0041019290<br>X0173243A | 9/1/00 | 9 MO | M   | Springfield, OR | Purchased from a used furniture dealer                              | Full-size    | Died from anoxia when his head and neck became entrapped between the mattress and frame of a crib. The support hook for the mattress platform detached from the bracket on the crib corner post, causing the mattress and platform to tip. The victim dropped feet first through the space between the mattress and crib frame.   |
| 25 | 010726HCC1762<br>0145005276              | 2/6/01 | 9 MO | F   | Clover, SC      | Purchased Nov 1998  | Full-size    | Child asphyxiated after she became entrapped between a crib mattress and the back rail. The two screws that fasten the bottom of the fixed back rail had worked their way out and the rail swung out. She slipped into the gap and was found with her head wedged above the mattress. Another hardware problem the crib had was that the right rear metal hanger support for the mattress pad broke and was fixed with electrical tape. |
| 26 | 010703CCN0719<br>I0170019A<br>X0120826A  | 2/7/01 | 5 MO | M   | Lacon, IL       | Obtained from its original owner (who had purchased it new) in 1997 | Unknown      | Infant died from positional asphyxia after being trapped between the side rail and mattress frame of his crib. A screw that attached the bottom of the fixed side rail to the headboard apparently detached, allowing a space to be created between the side rail and mattress. The child fell through the space and became entrapped by the neck.  |
| 27 | 0147008788<br>020201HCC1246              | 3/3/01 | 8 MO | M   | Athens, TN      | Unk   | Full-size    | Asphyxia, pinning of head between crib mattress and railing. The crib was in need of repair. The steel support that held the mattress to the ends of the crib had come loose at one corner.   |

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|----|----------------------------|--------|------|-----|----------------|-----------------------------------|--------------|---|
| 28 | C0150016A<br>010613CCC3337 | 3/5/01 | 9 MO | F   | Gabbs, NV      | Gift from a relative, history unk | Unknown      | Child died of positional asphyxia as a result of becoming entrapped by the crib frame and mattress. The lower part of the side rail was not properly secured to the crib frame. There were no security pins in the slots designed to hold the lower portion of the side rail. The side rail swung outward, creating a gap into which the infant fell. |
| 29 | 010809HCC2694<br>X0173297A | 5/2/01 | 6 MO | F   | Cincinnati, OH | Quite old                         | Unknown      | Child died from mechanical asphyxia when a crib rail came loose and the child was hung between the mattress and rail. The crib appeared to be old. A screw that held the left side rail to the footboard was out, which allowed the rail to separate and the child to get entrapped.  |
|    |                            |        |      |     |                |                                   |              |   |
|    | <b>Total=29</b>            |        |      |     |                |                                   |              |   |
|    |                            |        |      |     |                |                                   |              |   |

Source: CPSC data files: NEISS, INDP, DCRT, and IPII (1/1/97 – 7/16/02)  
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