

# AMERICAN ACADEMY OF PEDIATRICS

Committee on Injury and Poison Prevention

## Children in Pickup Trucks

**ABSTRACT.** Pickup trucks have become increasingly popular in the United States. A recent study found that in crashes involving fatalities, cargo area passengers were 3 times more likely to die than were occupants in the cab. Compared with restrained cab occupants, the risk of death for those in the cargo area was 8 times higher. Furthermore, the increased use of extended-cab pickup trucks and air bag-equipped front passenger compartments creates concerns about the safe transport of children. The most effective preventive strategies are the legislative prohibition of travel in the cargo area and requirements for age-appropriate restraint use and seat selection in the cab. Parents should select vehicles that are appropriate for the safe transportation needs of the family. Physicians have an important role in counseling families and advocating public policy measures to reduce the number of deaths and injuries to occupants of pickup trucks.

**M**otor vehicle trauma remains a leading cause of death of children. Occupants in pickup trucks should receive the same level of protection provided in other vehicles according to national policies that address protection of motor vehicle occupants. The safety issues relevant for pickup trucks include the following: 1) prohibition of cargo area travel; 2) age-appropriate restraint use; 3) appropriate seat location in the cab; 4) appropriate use of rear seating positions in various models of extended cab vehicles; and 5) risk of air bag-related injuries.

Pickup trucks have become increasingly popular vehicles for passenger transportation. Pickup truck registrations numbered 36.2 million in 1998, representing 17% of registered motor vehicles in the United States.<sup>1</sup> Census data for 1992 indicated that 73% of pickup trucks were used for personal transportation.<sup>2</sup> Restraint use in the cab of pickup trucks has been reported to be lower than restraint use in other passenger vehicles.<sup>3</sup>

### TRAVEL IN THE CARGO AREA

Travel in the cargo area of the pickup truck is a major occupant protection issue that disproportionately involves youth. Because the cargo area is not intended for passenger use, it is neither required nor designed to meet occupant safety standards applicable to passenger locations. Nevertheless, the cargo

area is used for transporting passengers. In 1997, 161 deaths of occupants riding in the cargo area were reported; 77 (48%) were children and adolescents younger than 20 years. Of these occupants, 7 (9%) were younger than 5 years; 15 (19%) were 5 through 9 years of age; 14 (18%) were 10 through 14 years of age; and 41 (53%) were 15 through 19 years of age.<sup>4</sup>

Persons who are injured when traveling in cargo areas of pickup trucks are more likely to sustain multiple injuries and injuries of greater severity and have a greater likelihood of death than do occupants in the cab. The most significant hazard of travel in the cargo area of a pickup truck is ejection of a passenger in a crash or noncrash event (eg, sudden stop, turn, swerve, or loss of balance, as well as intentional or unintentional jumps and falls). Studies have demonstrated that the proportion of occupants ejected from the cargo area markedly exceeds the proportion ejected from the cab.<sup>5-11</sup>

In a recent study of fatalities in pickup trucks from 1987 through 1996, nearly one third of the deaths among occupants of the cargo area were a result of noncrash events. Of the deaths that occurred as a result of cargo area occupants being ejected, 40% were children and adolescents 17 years or younger. Cargo area passengers were 3 times more likely to die than were occupants in the cab. Compared with restrained cab occupants, the risk of death for those in the cargo area was 8 times higher.<sup>12</sup>

Enclosed cargo areas (camper shells) do not provide adequate protection against injury to occupants. In 1997, 14% of cargo area deaths of children and adolescents younger than 20 years were in enclosed cargo areas.<sup>4</sup> Carbon monoxide poisoning, which may result in death, is an additional hazard to those traveling in the enclosed cargo area of a pickup truck.<sup>13</sup>

Fewer than 50% of the states restrict transport of passengers in the cargo area. No 2 states have identical laws, and only 1 state fully prohibits travel in cargo areas. Restrictions in other states vary according to the age groups to which they apply, conditions of travel (eg, if restrained), and presence of an enclosed cargo area.<sup>14</sup> The application of seat belt and child passenger safety laws to travel in pickup truck cargo areas may be an option in some states; however, in certain states, even occupant area seat belt laws do not apply to pickup trucks. Many Native American nations have adopted occupant restraint laws that apply to pickup trucks as well as passenger cars; other nations use the laws of the state.<sup>15</sup>

The recommendations in this statement do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

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## EXTENDED CABS

With increased sales and use of pickup trucks for personal and family transportation, manufacturers have produced vehicles that can accommodate an increased number of occupants. A variety of extended cab vehicles are available with additional seating capacity that may include a rear bench seat, side-facing back seats, a full back seat with lap/shoulder belts, and/or a middle front seat position with a lap belt (also available in standard pickup trucks). Crash data for occupants in these seats are limited. Compatibility issues exist between vehicle seats and safety seats, including booster seats in some pickup truck seating positions. Car safety seats can only fit and be properly secured in a full-size rear or front seat. Many rear-facing car safety seats do not fit in pickup seats with limited space in front of them, and this limited space may not provide adequate head excursion distance for children in untethered forward-facing car safety seats. For older children, booster seats must be used with lap/shoulder belts to provide adequate protection; however, lap/shoulder belts may not be available in pickup rear seats.

## AIR BAGS

Concerns about the safety of children in front passenger seats equipped with an air bag are the same as those for other passenger vehicles. Infants must always ride in rear-facing car safety seats in the back seat until they are at least 1 year old and weigh at least 20 pounds. Infants must never ride in the front passenger seat when it is equipped with an air bag. All children should be properly restrained in car safety seats, booster seats, or lap/shoulder belts appropriate for their size and age. The safest place for children is in the back seat in vehicles with a full-size rear seat. However, if there is no rear seat, the rear seat is not full-size, or the rear seat is incompatible with use of a car safety seat or booster seat, the front passenger air bag should be equipped with an on/off switch to accommodate the safe transport of children. The switch should be off when transporting children in the front seat.

## Hospital Record Keeping

A need for data exists about injuries in extended cabs, use and nonuse of occupant protection systems, and comparisons of injuries and injury mechanisms between enclosed and unenclosed cargo areas. Documentation of the circumstances of injuries that occur in pickup trucks is needed to contribute to epidemiologic data and to develop preventive counseling guidelines.

## RECOMMENDATIONS

1. The most effective prevention strategies to reduce the number of deaths and injuries to children in pickup trucks are the prohibition of travel in the cargo area and age-appropriate restraint use in an appropriate seat location in the cab.
2. Parents should be counseled about the following considerations for selecting or using vehicles to meet the safe transportation needs of the family:

- No passengers should be transported in the cargo area of a pickup truck or a nonpassenger section of any vehicle.
  - Trips should be planned in advance so that an appropriate seat position and restraint device are used for each passenger.
  - Compatibility should be checked between the vehicle seat (front and back seats) and the car safety seat before purchasing a vehicle or a child safety seat.
  - Infants in rear-facing car safety seats should not be placed in front passenger seats when an airbag is present and activated. If no appropriate rear seating position is available, only place the infant in the front passenger seat if an airbag on/off switch is installed and turned off.
  - Car safety seats should fit completely on the rear seat of the pickup truck and can be properly secured facing the rear for infants younger than 1 year and weighing <20 pounds, and facing forward for older children. The addition of a tether may improve the security of a car safety seat.
  - All forward-facing car safety seats should be installed using a top tether in addition to the vehicle belt.
  - Teenagers should agree that they will not ride or transport others in the cargo area of a pickup truck.
3. The who, what, when, where, why, and how of the injury event should be recorded.<sup>16</sup>
  4. Physicians should serve as educators and public policy advocates for measures that will decrease the number of deaths and injuries to children and youth who travel in pickup trucks.
  5. Physicians need to be effective advocates for more stringent and comprehensive state legislation that would prohibit any occupant from traveling in the cargo area of a pickup truck. If the state exempts pickup trucks from seat belt laws, efforts should be made to modify these laws to include all passengers in all seat locations. The American Academy of Pediatrics has developed a model state legislation packet related to travel in pickup trucks.<sup>17</sup>
  6. Law enforcement agencies should be strongly urged to enforce laws relating to occupant travel, including restraint and seat belt use laws, as well as laws prohibiting travel in cargo areas of pickup trucks.

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REFERENCES

1. Teets MK, ed. *Highway Statistics 1996*. Washington, DC: Federal Highway Administration; 1997
2. US Bureau of the Census. *1992 Census of Transportation: Truck Inventory and Use Survey, 1995*. Washington, DC: US Department of Commerce; 1995. Publication TC92-T-52
3. US Department of Transportation, National Highway Traffic Safety Administration, National Center for Studies and Analyses. *Research Note: Observed Safety Belt Use in 1998*. Washington, DC: US Department of Transportation; 1997
4. US Department of Transportation, National Highway Traffic Safety Administration, National Center for Statistics and Analysis. *Fatality Analysis Reporting System*. Washington, DC: US Department of Transportation; 1998
5. Agran PF, Winn DG, Castillo DN. Pediatric injuries in the back of pickup trucks. *JAMA*. 1990;264:712-716
6. Woodward GA, Bolte RG. Children riding in the back of pickup trucks: a neglected safety issue. *Pediatrics*. 1990;86:683-691
7. Williams AF, Goins SE. Fatal falls and jumps from motor vehicles. *Am J Public Health*. 1981;71:275-279
8. Williams AF. Children killed in falls from motor vehicles. *Pediatrics*. 1981;68:576-578
9. Hamar GB, King W, Bolton A, Fine PR. Fatal incidents involving pickup trucks in Alabama. *South Med J*. 1991;84:349-354
10. Agran P, Winn D, Anderson C. Injuries to occupants in cargo areas of pickup trucks. *West J Med*. 1994;161:479-482
11. Fallat ME, Svenson JE, Roussell SS, et al. Hazards to children riding in the back of pickup trucks. *J Ky Med Assoc*. 1995;93:515-518
12. Anderson A, Agran P, Winn D. Fatalities of occupants in cargo areas of pickup trucks. *Accid Anal Prev*. 2000;32:533-540
13. Hampson NB, Norkool DM. Carbon monoxide poisoning in children riding in the back of pickup trucks. *JAMA*. 1982;267:538-540
14. Christoffel T, Agran P, Winn D, Anderson C, Del Valle C. Developing a model law restricting the transporting of passengers in the cargo-areas of pickup trucks. *J Public Health Policy*. 2000;21:61-79
15. US Bureau of Indian Affairs, Indian Health Service. *Inventory of Tribal Traffic Laws*. Washington, DC: US Bureau of Indian Affairs; 1995
16. American Academy of Pediatrics, Committee on Injury and Poison Prevention. The hospital record of the injured child and the need for external cause-of-injury codes. *Pediatrics*. 1999;103:524-526
17. American Academy of Pediatrics. *Children and Pickup Trucks*. Elk Grove Village, IL: American Academy of Pediatrics; 1992. State legislation packet