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H. Garry Gardner and the Committee on Injury, Violence, and Poison Prevention

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## CLINICAL REPORT

# Office-Based Counseling for Unintentional Injury Prevention

H. Garry Gardner, MD, and the Committee on Injury, Violence, and Poison Prevention

Guidance for the Clinician in Rendering Pediatric Care

## ABSTRACT

Unintentional injuries are the leading cause of death for children older than 1 year. Pediatricians should include unintentional injury prevention as a major component of anticipatory guidance for infants, children, and adolescents. The content of injury-prevention counseling varies for infants, preschool-aged children, school-aged children, and adolescents. This report provides guidance on the content of unintentional injury-prevention counseling for each of those age groups.

## INTRODUCTION

Unintentional injuries continue to be the leading cause of death in children older than 1 year. In 2003, unintentional injuries caused 34.6% of all deaths in 1- to 4-year-olds, 37.8% of all deaths in 5- to 9-year-olds, 37.5% of all deaths in 10- to 14-year-olds, and 49.7% of all deaths in 15- to 19-year-olds. Among all children from 1 to 19 years of age, 64.7% of unintentional injury deaths involved motor vehicles.<sup>1</sup>

Pediatricians play a key role in educating parents about the risks of unintentional injuries and specific measures to minimize those risks, including environmental modification or the use of safety equipment. Anticipatory guidance is a major component of well-child care and injury visits, and parents value the advice and counseling they receive from their pediatricians. Anticipatory guidance for injury prevention should be an integral part of the medical care provided for all infants, children, and adolescents.

Counseling for the prevention of unintentional injuries needs to be appropriate for the child's age and locale. Initially, it is necessary for the counseling to be provided to the parent or caregiver as both the role model for the child's behavior and the person who is most capable of modifying the child's environment. As children mature, counseling should be directed increasingly toward children or adolescents as they become responsible for their own behavior. Physicians are encouraged to document injury-prevention counseling in the medical chart.

In 1983, the American Academy of Pediatrics introduced The Injury Prevention Program (TIPP). TIPP includes a safety-counseling schedule, age-appropriate safety surveys, and age-appropriate safety sheets for families to take home.<sup>2</sup> Physicians may use different parts of TIPP to supplement their anticipatory guidance.<sup>2</sup> The interventions outlined here and in TIPP have been shown to be effective in improving parental safety practices.<sup>3-9</sup> A review of the literature on childhood injury-prevention counseling in primary care settings demonstrated that 18 of 20 studies have shown positive outcomes in increasing knowledge and behavior and in decreasing injury rates in children.<sup>10</sup> A systematic review of 22 randomized,

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

### Key Words

injuries, prevention, anticipatory guidance, infants, children, adolescents

### Abbreviations

TIPP—The Injury Prevention Program

ATV—all-terrain vehicle

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controlled trials of counseling and other interventions in a clinical setting demonstrated improvement in certain safety practices, specifically motor vehicle restraint use, smoke alarm ownership, and maintenance of safe hot-water temperature.<sup>11</sup>

## INFANTS

Advise parents about the following issues:

1. Traffic safety: The correct use of currently approved child safety restraints needs to be discussed. The infant car safety seat should be rear-facing in the back seat, never in the front seat if there is a passenger-side air bag. Infants should never be left unattended in an automobile. Parents need to be reminded of the importance of using their own seat belts.<sup>12</sup>
2. Burn prevention: Smoke alarms in the home should be installed and maintained.<sup>13,14</sup> Hot-water temperature should be set at a maximum of 120°F to avoid scald burns. Parents should be advised not to carry their infant and hot liquids or foods at the same time. Milk and formula should not be heated in the microwave because it can heat unevenly, causing pockets of liquid hot enough to scald the infant's mouth. Electrical outlets should be covered with devices that will not pose a choking hazard.
3. Fall prevention: Window and stairway guards/gates are necessary to prevent falls from heights.<sup>15</sup> Infant walkers should not be used.<sup>16</sup> Infants should never be left alone on any furniture such as changing tables, beds, or sofas.
4. Choking prevention: Small parts or objects can pose a choking hazard to young children. Round or cylindrical and compressible objects and foods can pose life-threatening risks of airway obstruction. Balloons pose a similar risk for young children. To avoid risk of strangulation, parents should be advised to avoid clothes and toys with long strings and cords and to cut looped blind and drapery cords. Suffocation may occur from entrapment in unsafe crib environments and access to waterbeds or plastic bags. Parents should be aware of hazards in any home where an infant spends time.
5. Drowning prevention: Because very young infants drown most commonly in bathtubs and buckets while unsupervised, advise parents never to leave infants or young children in the bathtub or around other bodies of water without constant adult supervision, and advise them to empty and properly store buckets immediately after use.<sup>17-19</sup> Parents should be reminded that infant bath seats or supporting rings are not a substitute for adult supervision.
6. Safe sleep environment: Infants should be placed for sleep in a supine position in a crib that conforms to

current safety standards. Infants should not be put to sleep on soft surfaces such as waterbeds or sofas. Avoid soft materials in the infant's sleep environment. If bumper pads are used, they should be removed when the infant begins to stand. Never leave the crib sides down when the infant is in the crib.<sup>20</sup>

7. Cardiopulmonary resuscitation: It is important that parents become trained in infant and child cardiopulmonary resuscitation and learn how to access their local emergency medical services (eg, 911).

## PRESCHOOL-AGED CHILDREN

Toddlers and young children are more able to explore their environment but do so with little regard to risk or consequences. Parents of preschool-aged children need to be counseled to take a proactive role in protecting their children.

1. Traffic safety: Toddlers may be placed in a forward-facing car safety seat when they reach 1 year and 20 pounds, but it is best for them to remain rear-facing until they reach the highest weight or height allowed in that position by the car safety seat. Preschool-aged children should always ride in the back seat. Parents need to be reminded again of the importance of using their own seat belts.<sup>12</sup> Young children should never be left unsupervised in or around cars. Driveways and streets are particularly dangerous places for children to play. Supervised pedestrian safety begins at this age. Preschool-aged children are not ready to cross the street alone. Children must be watched closely when near driveways and streets.<sup>21</sup> Use of an approved bicycle helmet begins with riding a tricycle or bicycle with training wheels.
2. Burn prevention: Smoke alarm batteries should be checked regularly.<sup>22</sup> Children should be kept away from hot oven doors, irons, wall heaters, and grills. Advise parents to keep hot food and coffee out of the reach of young children.<sup>14</sup> Electrical outlets should be covered.
3. Fall prevention: Toddlers learning to walk and climb need to be protected from stairways, open windows, and heavy furniture that could topple over.<sup>15</sup>
4. Poison prevention: Medicines and household products should be kept out of the sight and reach of children and locked up whenever possible. These items should be purchased and kept in original child-proof containers or blister packs. Ipecac is no longer recommended and, if present in the home, should be discarded. Keep the poison control telephone number (1-800-222-1222) handy.<sup>23</sup>
5. Drowning prevention: Backyard swimming pools or spas need to be completely fenced on 4 sides to separate them from the house and yard; the fence should

have a self-closing, self-latching gate.<sup>24</sup> The gate should open away from the pool and should be checked often to ensure that it is in good working order. Children younger than 5 years should swim only with close adult “touch” supervision.<sup>17-19</sup>

6. Firearm safety: Because of the dangers that in-home firearms, particularly handguns, pose to young children, parents should be advised to keep handguns out of places where children live and play. If parents choose to keep a firearm in the home, the unloaded gun and ammunition must be kept in separate locked cabinets.<sup>25</sup>

### SCHOOL-AGED CHILDREN

Advice to parents of elementary school-aged children begins to be more focused on the child’s behavior. Children begin to learn home safety rules by 3 to 4 years of age.<sup>26</sup> The child should then be included in this learning process, and the parents should be reminded again of their need to model safe behaviors.

1. Traffic safety: When children reach the top weight or height allowed for their car safety seat, they need to ride in booster seats. A booster seat should be used until the child properly fits in the adult seat belt with the shoulder belt lying across the chest, the lap belt low and snug across the upper thighs, and the legs bent at the knees when sitting against the vehicle seat back (usually around 4 feet 9 inches in height and between 8 and 12 years of age).<sup>12</sup> Remind children and parents that no one should ride in the bed of a pickup truck.<sup>27</sup> All-terrain vehicles (ATVs) should not be used by children younger than 16 years.<sup>28,29</sup> Review safe pedestrian practices.<sup>21</sup> Approved bicycle helmets should be worn on every bike ride.<sup>30,31</sup>
2. Water safety: Children 5 years and older should be taught to swim and should be taught appropriate rules for water play. Children must never be allowed to swim alone. Coast Guard–approved personal flotation devices should be worn by all children engaged in any boating activity.<sup>17</sup>
3. Sports safety: Adults who supervise children participating in organized sports programs and recreational activities need to emphasize the importance of safety equipment for the particular sport as well as appropriate physical conditioning for that sport.<sup>32-35</sup> The use of protective equipment for in-line skating and skateboarding needs emphasis.<sup>36,37</sup>
4. Firearm safety: In addition to removing firearms from the home environment where children explore and play, it is important for parents to ask whether there is a gun in any home that their child visits. If parents choose to keep a firearm in the home, the unloaded gun and ammunition must be kept in separate locked cabinets.<sup>25</sup>

### ADOLESCENTS

Injury-prevention advice to adolescents ideally is included in a broader discussion of healthy lifestyle choices, especially the avoidance of alcohol, tobacco, or other drug use. It is important for pediatricians, parents, and schools to remain united in their efforts to promote community choices that, by modifying the adolescent environment, make adolescent risk-taking less likely to occur, thus decreasing the risk of significant injury. Specific areas of injury-prevention guidance include the following:

1. Traffic safety: Encourage seat belt use and discuss the role of alcohol and drugs in teenage motor vehicle crashes. Discuss specific ways to minimize distracted driving, including eating, drinking, and especially using a cellular phone or electronic device while driving. Alert parents and adolescents to the dangers of high-risk situations, including speeding and reckless driving. Encourage compliance with graduated driver-licensing laws. Parents should enact strict rules to limit nighttime driving and the number of passengers in the car.<sup>38</sup> A helmet should be worn whenever riding a bicycle, motorcycle, or ATV.<sup>28,30</sup> ATVs should not be used by children younger than 16 years.<sup>28</sup>
2. Water safety: Discuss the risks of swimming in remote locations and at sites that are not designated as swim areas as well as the dangers of alcohol and other drug consumption during aquatic recreation activities (eg, swimming, diving, boating). The first entry into any body of water should be feet first, and it is important to know the water’s depth and the location of any underwater hazards before jumping or diving. Discuss the need to use an approved personal flotation device whenever the child is riding on a boat or other watercraft or fishing.<sup>17</sup>
3. Sports safety: Adolescents participating in organized sports programs and recreational activities need to be reminded of the importance of safety equipment, including protective eyewear, for their particular sport as well as appropriate physical conditioning for that sport.<sup>32-35</sup> The importance of using protective equipment for in-line skating and skateboarding needs emphasis.<sup>36,37</sup>
4. Firearm safety: In-home firearms are particularly dangerous during adolescence because of the potential for impulsive, unplanned use by teens resulting in suicide, homicide, or serious unintentional injuries. Firearms, and especially handguns, should be kept out of the home. If parents choose to keep a firearm in the home, the unloaded gun and ammunition must be kept in separate locked cabinets. Parents should ask whether there is a gun in any home that teenagers visit.<sup>25</sup>

## CONCLUSIONS

Injury-prevention counseling should be integrated into every well-child visit. Because of time constraints, specific topics could be addressed at different visits and tailored to be appropriate for the season, the child's activities, and concerns and questions raised by the parent. The topics addressed should be documented in the medical record. TIPP information sheets could be attached to vaccine information sheets on each visit. Telephone numbers (eg, poison control center) and Web sites could be posted in the waiting room along with brochures and posters. Parents and children are often receptive to injury-prevention counseling during a sick visit, especially if it is related to an injury, a recent emergency department visit, or injury to a sibling.<sup>39</sup> Finally, pediatricians can be more effective advocates for injury prevention by working with community resources that have a major influence on children,<sup>11</sup> such as the school system, park district, Head Start, child care centers, organizations such as the YMCA, and local media.

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