To reduce the incidence of firearm injury in childhood, having a cohesive plan that parallels a public health approach is essential. Designing strategies that advocate for prevention, alter the environment, and reduce risk factors is the best way to reduce such injuries.

Many programs have been developed to teach children about gun safety. Unfortunately, research has shown that simply telling children to stay away from guns is not an effective intervention. The fact is that children may well play with guns, given the opportunity; however, that is not to say that educating children does not have some effect. We just need to know more about the strengths and weaknesses of the current educational offerings. Currently more than 80 gun safety programs exist. Two of the most well-recognized gun safety programs for children are the “Eddie Eagle Gun Safe Program” from the National Rifle Association and the “Straight Talk about Risks” (STAR) program, developed by the Center to Prevent Handgun Violence.

**Eddie Eagle Gun Safe program**

The Eddie Eagle program was first implemented in 1988. It is intended to be taught by law enforcement agencies, schools, and youth service organizations. The goals of the program are to educate children in kindergarten through sixth grade about gun safety and prevention of firearm injuries. The program has 3 levels to meet the different learning needs of children ages 5 to 12 years. The program levels and associated age groupings are as follows: level 1, kindergarten/first grade; level 2, second/third grade; and level 3, fourth through sixth grades. This program does not teach gun handling, gun classification, or gun use. It also
does not impose any value judgments about guns. Education of children is accomplished through an animated music video that uses the Eddie Eagle mascot; comic books; great coloring books with rhyming lyrics promoting the program's message of stop, do not touch, leave the area, and tell an adult; a parent's guide; and colorful brochures and stickers. This program does not provide information about safe gun storage or trigger locks. The Eddie Eagle printed material is colorful, well presented, and available in English and Spanish languages. The usefulness of this program has been recognized by state legislatures, the National Safety Council, the Police Athletic League, and several other national organizations. Outcome measures on the effectiveness of the Eddie Eagle program are limited to anecdotal testimonials provided by adults who have reportedly witnessed a change in children's behavior after completing the program and internal data collection. No peer evaluation has been reported to date.4

This program was designed for pre-kindergarten through 12th grade to inform children of the risks related to handling guns, help them recognize dangerous situations, help them identify trusted adults, make safe and sound choices, effectively deal with negative peer pressure, and resolve conflicts without violent behavior.

Straight Talk About Risks

STAR3 first began operation in 1992, in response to rising numbers of firearm injuries in childhood. This program was designed for pre-kindergarten through 12th grade to inform children of the risks related to handling guns, help them recognize dangerous situations, help them identify trusted adults, make safe and sound choices, effectively deal with negative peer pressure, and resolve conflicts without violent behavior. The overall goal of this program is to reduce unintentional childhood gun trauamas, injuries, and deaths while teaching gun safety. The curriculum was developed as a result of a pilot investigation done collaboratively by the Center to Prevent Handgun Violence and Dade County, Florida, public schools. The content and educational strategies of STAR are as follows: learning and practicing gun safety skills; role-playing and self-reflection, using common coping mechanisms for anger and fear; and for older children, personal/societal goal setting and leadership skills to be used with peers in the community. STAR also emphasizes the role of parents in preventing access to guns and in communicating dangers of guns to their children. According to the evaluation of an independent research firm,5 the program was appropriately sensitive to developmental level and diverse cultures, but the children's interest in the program declined as they got older. The evaluation revealed that the program was most effective with children in grades 3 to 5.

Steps to Prevent Firearm Injury in the Home program

The best nationally known program for caregivers is the “Steps to Prevent Firearm Injury in the Home”6 (STOP 2) program. It targets health care professionals working with diverse populations. The primary intent of this program is to provide consistent information to caregivers about protecting children from the dangers of unsupervised access to guns. The kit contains a health care provider manual with salient facts, effective counseling tips, an extensive bibliography, family brochures in several languages, and informational posters. The effectiveness of this program depends on the readiness and motivation of the caregivers. Because it is taught in the busy environment of a clinic or physician practice, it may be more difficult to implement.

More evaluation of programs needed

Eddie Eagle, STAR, and STOP 2 were each evaluated and the strengths, weaknesses, gaps, and omissions for each program were compared (Table 1). Each program was evaluated for the presence of the following critical safety elements: how to recognize a gun, not to touch guns, to leave the area of a gun, and to notify an adult. Developmental appropriateness was also evaluated, looking at age groupings and suitability of the material being presented. Additional components reviewed were the presence of
cultural diversity, safe gun storage information, and the use of trigger locks or other safe storage features.

Of the 3 programs that were evaluated, the Eddie Eagle program best met the criteria. Strengths of the Eddie Eagle program include educational material appropriate for intended developmental level and presentation appearance of the printed material. A weakness of this program was lack of education regarding the use of trigger locks or other safety devices.

STAR also included the critical safety components. However, this program has limited application to culturally diverse populations, and developmental levels are not explicit. The wide age range that this program targets presumes that the presenters must have the ability to adapt the materials to the age of their audience. This may not be the case, and presentation may be inconsistent.

STOP 2 was designed to help health care professionals counsel parents on injury prevention strategies. This program discusses strategies for presenting the content to children of different developmental levels, and, like Eddie Eagle, the STOP 2 program does not address safety devices or trigger locks. A strength of this program is the easy-to-read parent brochure, available in several languages.

### ENA’s new gun safety program

As of September 2001, a new program, the Emergency Nurses Association Gun Safety Program, is available through ENA ([800]243-8362). This program’s strength is in how the message of gun safety is delivered. Unlike the other programs, this one has scripted, interactive slide presentations. It also features discussion scenarios, videos, and a music video sung by the Blenders called “Charlie Anyboy,” which tells the story of a young schoolboy with unsupervised access to a gun. It even uses the current lingo of children and TV characters, and also uses role playing. A training module is included to help emergency nurses and other health care professionals learn more about firearms, safe firearm storage, and advocacy opportunities. Presentations for parents and other adults in the community also use an interactive format. This program incorporates many teaching styles. It seems that the more ways something is taught, the more the child remembers.

### Limitations and conclusions

We really do not know if current gun safety programs make a difference and what that difference might be because, unfortunately, we do not have measurable outcome criteria.

### Table 1

<table>
<thead>
<tr>
<th>Focus</th>
<th>Characteristics</th>
<th>Eddie Eagle</th>
<th>STAR</th>
<th>STOP 2*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention</td>
<td>Recognizing a gun</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Prevention</td>
<td>Do not touch</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Prevention</td>
<td>Leave the area</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Prevention</td>
<td>Notify an adult</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Alter environment</td>
<td>Safe storage</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Alter environment</td>
<td>Use of trigger locks</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Education to reduce risks</td>
<td>Cultural sensitivity</td>
<td>Yes</td>
<td>No†</td>
<td>Yes</td>
</tr>
<tr>
<td>Education to reduce risks</td>
<td>Developmental level</td>
<td>Yes</td>
<td>No‡</td>
<td>Yes</td>
</tr>
<tr>
<td>Education to reduce risks</td>
<td>Parental involvement</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*STOP 2 is designed to counsel parents on strategies for gun safety.
†Spanish translations are available for some components.
‡Inadequate separation of content by age.
Gun safety programs need to be followed up with some evaluation of a child’s knowledge of the critical safety components. Some observational criteria need to be established to help determine whether the programs actually change the child’s behavior.

An examination of injury prevention programs—not just gun injury prevention programs, but injury prevention programs in general—showed no conclusive relationship between changes in injury incidence and the educational programs presented. Furthermore, few positive outcomes have yet been identified after firearm safety programs have been conducted. Although we have anecdotal evidence that the programs affect what a child thinks and does, we need to do a better job of measuring this impact.

To reduce firearm injuries in children, gun safety programs must reduce children’s access to firearms and must change attitudes. (Interestingly, parental attitudes will be influenced by what their children learn and expect from them.) School-aged children need to participate in developmentally appropriate gun safety programs that deliver the following messages: stop, do not touch, leave the area of a gun, and tell an adult.

REFERENCES

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