

## POSITION PAPER

# Firearm Injury Prevention

American College of Physicians\*

This paper identifies gun violence and the prevention of firearm-related injury and death as high-priority public health issues. It presents background information on the growing epidemic of gun violence and outlines some of the steps that physicians should take, such as counseling patients about firearm safety and becoming involved in community efforts to prevent firearm injuries. Other positions call for strong legislation to ban the sale and possession of assault weapons, support for law enforcement measures to aid in the identification of weapons used in crimes, and restrictions on the sale and possession of handguns.

This paper is also available at <http://www.acponline.org>.

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Gun violence and the prevention of firearm-related injury and death are public health issues of major and growing concern. The American College of Physicians thinks that gun violence and firearm injury prevention must be dealt with as high-priority public health issues as well as criminal justice concerns. The College thinks that physicians must become more active in counseling patients about firearm safety and more involved in community efforts to restrict ownership and sale of handguns.

Physicians are directly affected by firearm injuries. In a recent survey of College members, 87.7% reported that they personally had treated or knew someone who had been injured in a gun incident (1). Internists are very concerned about the preventable injuries, unnecessary loss of life, and consumption of health care resources caused by firearms. This position paper outlines some of the steps that can and should be taken.

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## Definitions

*Firearms* is a generic term encompassing all guns. The Bureau of Alcohol, Tobacco and Firearms estimates that up to 223 000 000 firearms have been produced in or imported into the United States since 1989 and that 192 000 000 firearms are in private hands (2). It classifies firearms as *rifles* (70 000 000), *shotguns* and other long guns (57 000 000), and *handguns* (65 000 000) (3). Rifles fire solid bullets, whereas shotguns fire shells containing small pellets. These "long guns" usually require the user to fire from the shoulder. Handguns can be held in one hand and are of two major types: *revolvers* and *pistols*. Revolvers usually hold five or nine cartridges, each in a separate chamber within a revolving cylinder, and must be reloaded manually when the cylinder is empty. Pistols are any handguns that do not contain ammunition in a revolving cylinder. They can be manually operated or semi-automatic.

*Semi-automatic weapons* reload automatically but have a trigger that must be squeezed after each firing. They usually carry ammunition in detachable magazines of various capacities. Reloading can be done quickly by simply replacing the preloaded ammunition clip. *Fully automatic weapons* reload and fire continuously when the trigger is held and not released. *Assault weapons* are not precisely defined but are usually considered to be automatic or semi-automatic military-style combat weapons that are capable of rapid fire and use a large magazine.

## Previous College Positions

In fall 1993, the Illinois chapter of the College submitted a resolution to the Board of Governors calling for a ban on the sale and possession of handguns and all assault-type weapons and urging support for other gun control measures. The governors strongly supported the resolution, and the College's Health and Public Policy Committee developed a position paper (4). The paper outlined some preventive approaches that could be taken and offered recommendations for action. In light of the continu-

ing epidemic of firearm-related violence, the College reaffirms each of the following policy statements.

1. *The College supports legislative and regulatory measures that would limit the availability of firearms, with particular emphasis on reducing handgun accessibility. These measures should support restrictions to make handgun ownership more difficult, to reduce the number of handguns in homes, and to eliminate assault weapons.*

2. *The College urges physicians to inform patients about the dangers of keeping firearms, particularly handguns, in the home and to advise them on ways to reduce risk for injury. If a gun is kept in the home, physicians should counsel their patients about the importance of keeping guns away from children and should recommend voluntary removal of the gun from the home.*

3. *The College supports the development of coalitions that bring different perspectives together on the issues of firearm morbidity and mortality. These groups, comprising health professionals, injury prevention experts, parents, teachers, police, and others, should build consensus for bringing about social and legislative change.*

4. *The College supports efforts to improve and modify firearms to make them as safe as possible, including the incorporation of built-in safety devices (such as trigger locks and signals that indicate a gun is loaded). The College also supports efforts to reduce the destructive power of ammunition.*

5. *The College encourages further research on firearm violence and on intervention and prevention strategies to reduce injuries caused by firearms.*

### **New College Positions**

In light of the recent survey of its membership (1) and the continued need to reduce and prevent firearm injuries, the College adopts the following public policy positions, which include major new proposals and proposals that underscore previous positions.

#### **Position 1**

*Gun violence and prevention of firearm-related injury and death are public health issues that demand high priority for public policy.*

*Rationale:* The epidemic of gun violence in the United States has been widely reported (4–11). The statistics are appalling. From 1968 through 1994, the number of firearm-related deaths increased by more than 60% (from 23 875 to 39 720) (9, 10). In 1994, 13 593 people were murdered with handguns; 20 540 Americans committed suicide by using firearms, 1610 people were killed accidentally with firearms, and the remainder died from other firearm-related incidents (12). Since 1991, the annual number of deaths caused by firearms has remained relatively constant. Nevertheless, by the year 2003, gunfire will have surpassed automobile accidents as the leading cause of traumatic death in the United States (13).

In seven states and the District of Columbia, firearm-related deaths already equal or exceed deaths by motor vehicles (10, 14). The number of deaths from brain trauma as a result of motor vehicle accidents decreased by 25% from 1984 to 1992, largely because of the adoption of preventive safety and marketing measures. Meanwhile, death rates for firearm-related brain trauma increased by 13% (15).

More U.S. teenagers die of gunshot wounds than of all natural causes combined (16). From 1985 to 1993, homicides involving firearms in the United States increased by 56%; among 15- to 19-year-olds, the rate increased 212%. The firearm homicide rate for white male adolescent victims more than doubled and the rate for black teenager victims more than tripled (16).

Firearms are involved in 65% of suicides among persons under the age of 25 (17). Suicides among children have been increasing, and the acquisition of guns makes suicide attempts more successful. From 1980 to 1992, the suicide rate for 15- to 19-year-olds increased 28%; for black males in this age group, it increased by 165%; and for all children 10 to 14 years of age, it increased 120%. In Oregon from 1988 to 1993, 78% of suicide attempts with firearms were fatal compared with 0.4% of suicide attempts by drug overdose (18).

For every death involving firearms, twice as many persons with firearm-related injuries need hospitalization and five times as many need outpatient care (19). About 150 000 persons are treated annually in U.S. hospital emergency units for nonfatal gun-related injuries (7). The statistics mask the magnitude of the pain and suffering involved and the tremendous amount of human and health care resources consumed by this epidemic. In the movies and on television, gunshot victims usually die instantly or quickly recover. Reality, however, is different. Recovery can be limited and may involve lifelong disability. The financial costs can be staggering—an estimated \$1.4 billion to \$4.0 billion annually in direct medical costs and \$19 billion annually in indirect costs, such as lost future earnings (20, 21). These costs are reflected in premiums for private health insurance, are often borne by taxpayers through Medicaid, and are often unreimbursed to public and nonprofit hospitals.

The preventable loss of life and injury and the resulting pain, suffering, and consumption of human, economic, and health care resources demand that firearm injuries be considered a public health issue requiring immediate attention. The large number of firearm injuries and deaths that occur among children makes it even more compelling to initiate preventive health care measures. Internists overwhelmingly view firearms violence as a growing public health issue that is worsening (1). Almost 90% of the College membership consider violence prevention to be a priority issue for the College.

## Position 2

*Internists should be involved in firearm injury prevention within the medical field and as part of the larger community.*

*Internists should discuss the dangers of firearm ownership and of having a gun in the home with their patients.*

*Physicians should obtain training on firearms injury prevention, including education about adolescent assault, homicide, and suicide.*

*Physicians should support community efforts to enact legislation restricting the possession and sale of firearms.*

*The College must take an active role in providing education and training for internists on all aspects of violence prevention, including firearm injury prevention.*

**Rationale:** Internists believe that the regulation of firearms can reduce gun injuries and deaths and that physicians should support community efforts to restrict ownership and sale of handguns (1). College members strongly support firearms regulations, such as mandatory registration of all firearms, stricter laws on who should be allowed to buy a handgun, mandatory safety training for gun purchasers, child-proofing of firearms, and a ban on plastic guns that cannot be detected by metal detectors.

Internists agree that physicians should be involved in firearms injury prevention, and 84% of College members think it is appropriate for physicians to provide firearm safety counseling to patients (1). However, less than 20% of practicing internists provide any injury prevention counseling about firearm ownership and storage. Only 5% of internists often talk to patients about the dangers of having a gun in the home, and almost three quarters never discuss the dangers of gun ownership with their patients. Although it may not be practical or necessary to include such counseling in every patient encounter, internists should be prepared to offer this type of patient education, as appropriate, within an overall regimen of preventive health care.

The growing incidence of gun acquisition by teenagers and the increasing rate of firearm homicide among persons younger than 25 years of age suggest that education and training to provide appropriate counseling for this age group and their parents are essential. Although almost half of College members received some training on domestic violence and more than two thirds had training on suicide, very few (14%) had any training on assaults and homicides by adolescents. Not surprisingly, 63% of internists expressed interest in obtaining additional education about firearms injury prevention.

The College promotes the use of information kits on counseling patients about the hazards of firearms. These kits, developed by the American Academy of Pediatrics, include a monograph on the

firearm violence epidemic, suggestions for further reading, a counseling tip sheet, a cassette tape of vignettes of realistic counseling situations, patient education brochures, and office posters. The free kits are available from the Center to Prevent Handgun Violence, 1225 Eye Street NW, Washington, DC 20005; telephone 202-289-7319; fax 202-408-1851.

The College is also a member of the Handgun Epidemic Lowering Plan (HELP) Network, a network of medical and allied organizations and individuals who want to reduce death, disability, and suffering caused by handguns. The Network promotes a public health approach to the handgun epidemic by supporting research and distributing information about firearm injury and strategies to reduce it. For more information, contact the HELP Network, Children's Memorial Medical Center, 2300 Children's Plaza #88, Chicago, IL 60614; telephone 773-880-3826; fax 773-880-6615.

Information about educational and policy activities of the College concerning firearms injury prevention will be posted to the College Web site at <http://www.acponline.org>.

## Position 3

*The College favors strong legislation to ban the sale, possession, and manufacture for civilian use of all automatic and semi-automatic assault weapons. Existing exceptions to the assault weapons ban for hunting and sporting purposes should be more narrowly defined.*

**Rationale:** Since the late 1980s, semi-automatic pistols have increasingly replaced revolvers in firearm crimes. From 1985 to 1994, U.S. domestic production of semi-automatic 9-mm pistols increased 13-fold; annual sales doubled to almost 743 000 pistols. When the 1994 Crime Bill went into effect, more than 3 000 000 9-mm pistols were in circulation. Many of these pistols were used by law enforcement officers, but it was estimated that the number used by criminals had nearly doubled since 1987 (22).

Nationwide data on the types of weapons used in crimes are not available, but reports from major cities indicate that semi-automatic pistols, especially 9-mm pistols, are becoming the weapon of choice among today's criminals (23). In Philadelphia, the proportion of firearm homicides involving semi-automatic pistols increased from 24% in 1985 to 39% in 1990. Medium-caliber or large-caliber weapons (pistols that are 9 mm or more) accounted for 4% of these homicides in 1985 and 26% in 1990. In Chicago, the proportion of homicides involving semi-automatic pistols increased from 15% in 1986 to 46% in 1992. In Los Angeles, gang-related homicides involving semi-automatic pistols increased from 5% in 1986 to 44% in 1994. In Milwaukee,

9-mm semi-automatic pistols were involved in 7% of firearm homicides in 1990 and 23% in 1994 (13).

The increasing number of deaths caused by semi-automatic weapons is due not only to the availability of these weapons but also to their deadliness. At-scene mortality rates for gunshots involving semi-automatic weapons increased from 5% in 1985 to 34% in 1990. Meanwhile, the mortality rate for incidents involving revolvers decreased from 42% to 18% (13).

Although assault weapons are estimated to account for only 1% of the approximately 200 million firearms in circulation, they are thought to be involved in a disproportionate number of crimes (24, 25). In New York City, assault weapons were involved in 16% of all homicides in 1993 (26). However, only the most deadly assault weapons are banned. Federal rules issued in 1989 by the Bureau of Alcohol, Tobacco and Firearms ban 43 types of assault weapons, but the ban applies only to importation of foreign-made weapons (27). The Federal Crime Bill of 1994 (PL 103-322) prohibited large-capacity ammunition devices (such as magazine clips) that hold more than 10 rounds of ammunition and imposed a 10-year ban on the domestic manufacture, sale, or possession of semi-automatic weapons that combine at least two features associated with assault weapons (such as a bayonet mount, flash suppressor, or grenade launcher). The 1994 law specifically banned only 19 semi-automatic assault weapons but exempted 670 others that were claimed to have sporting purposes. The law also permits the sale and possession of all semi-automatic weapons and ammunition produced before its effective date (27).

The College seeks to reduce the availability of weapons designed to kill and maim humans. The College therefore opposes any effort to weaken or repeal the existing ban on military-style assault weapons and favors legislation to strengthen and further restrict the sale or possession of all semi-automatic and automatic weapons and their ammunition. The definition of sporting purposes, used to broadly exempt semi-automatic weapons from federal restrictions on assault weapons, must be narrowly redefined, and licensing and registration provisions must be enforced to assure that guns in private hands for hunting or target shooting are used only for those purposes.

#### **Position 4**

*The College supports law enforcement measures, including required use of tracer elements or taggants on ammunition and weapons and identifying markings (such as serial numbers) on weapons, to aid in the identification of weapons used in crimes.*

*Rationale:* In the absence of a complete ban on the sale and possession of firearms, steps must be taken

to restrict the availability of these deadly weapons and assist law enforcement authorities in identifying persons who use them in crimes. Most states and municipalities already require registration of firearms and licensing of gun owners. Registration, use of taggants, and encryption of identifying markings will help assure that firearms are used as intended if they are to remain available for hunting, target shooting, gun collecting, or self-defense. These measures also facilitate the reporting of stolen weapons and aid police in their identification and recovery.

#### **Position 5**

*The sale and possession of handguns should be restricted.*

*Purchases of handguns should be subject to a waiting period, satisfactory completion of a criminal background check, and proof of satisfactory completion of an appropriate educational program on firearm safety.*

*The scheduled expiration of the waiting period and background check provisions of the Brady Act must be eliminated.*

*Handguns should not be sold to minors, persons with criminal records, or persons who are known threats to themselves or others.*

*Permits to carry concealed weapons should be issued only to persons with special justifiable needs, such as law enforcement personnel.*

*The College supports a ban on plastic guns that cannot be detected by metal detectors or standard security screening devices.*

*All firearms should incorporate safety features to make them as child-proof as possible.*

*The College favors strong penalties and criminal prosecution for persons who sell guns illegally.*

*Rationale:* About one third (77 000 000) of all firearms in the United States are handguns, and more than half of these firearms (40 000 000) have been produced within the past 20 years (2). Assaultants armed with handguns committed more than 1 000 000 violent crimes in 1993—that is, 86% of the 1.3 million crimes in which the offender had a firearm (24). In four of five homicides involving a firearm, the murder weapon was a handgun. Handgun homicides increased 25% from 1990 to 1994. In 1994, almost half of all murders of persons younger than 18 years of age involved handguns; a decade earlier, handguns were involved in one quarter of such murders (24).

Firearms in the home pose more of a threat to members of the household than to intruders. Having a firearm in the home increases the risk for death by suicide fivefold (28). The risk for death by homicide is three times greater in households with a firearm; this risk is greatest from family members and close acquaintances (29).

Most College members (57%) favor the enact-

ment of laws banning the possession of handguns except by police or other authorized persons (1). An overwhelming number (84%) favor restricting the possession or sale of handguns, and nearly all (95%) agree that not everyone should be allowed to buy a handgun. The College supports measures, such as the Brady Act, that require a 5-day waiting period for the purchase of a handgun. This stipulation was designed to deter crimes of passion and suicides by providing time for such potential purchasers to cool off and for the police to check criminal records (30). Since the Brady Act went into effect on 28 February 1994, more than 100 000 convicted felons and other prohibited purchasers have been blocked from buying a handgun (31). It was anticipated that within 5 years of enactment of the bill, a nationwide computerized system would be in place for instant checking of criminal records. It does not now appear that such a system will be fully operational on schedule, and the waiting period provisions of the Brady Act remain scheduled to expire in 1999.

National public opinion polls also indicate widespread support for restricting access to firearms (32). Approximately 90% of Americans (including 92% of gun owners) think that people with criminal histories should be prohibited from owning or purchasing guns. Eighty-nine percent of Americans support the prohibition of selling firearms to children younger than 18 years of age. Most Americans (69%) agree that stricter laws would reduce the number of persons killed by guns in arguments, and 68% think that stricter laws would reduce the number of accidental deaths and suicides from guns. More than half of Americans (58%) believe that stricter laws would reduce violent crime. More than 91% of internists support stricter laws on the sale of guns (1), and almost three quarters agree or strongly agree that gun control legislation reduces firearm injuries and death (74%) and that the sale and possession of handguns should be restricted (76%) (1).

Adoption of a gun licensing law in Washington, D.C., in 1976 resulted in an abrupt decrease in firearm-related deaths by homicide (change, -25%) and suicide (change, -23%) (33). No similar reductions occurred in homicides or suicides by other means or in firearm-related deaths in adjacent metropolitan areas in Virginia and Maryland. The District of Columbia continued to have a high homicide rate that surged again in the late 1980s (corresponding to the spread of crack cocaine), but the law prohibiting the purchase, sale, transfer, or possession of handguns by civilians is attributed with preventing an average of 47 deaths each year since implementation.

Differences in handgun control laws accounted for striking differences in firearm-related homicide and suicide rates in Seattle, Washington, and adjacent Vancouver, British Columbia (34). The two

cities had similar demographic characteristics and rates of criminal activity, but Vancouver had stricter controls on handguns and a homicide rate from handguns that was one fifth of that in Seattle. Homicide rates by methods other than handguns did not substantially differ between the two cities. The suicide rate by handgun for young adults was six times higher in Seattle than in Vancouver (35).

Laws that restrict the frequency and volume of firearm purchases can also be effective in stemming the illegal supply of guns. In July 1993, a Virginia law limited purchases of handguns to one per month per person from licensed dealers. The law was designed to cut down on illegal trafficking of guns. Previously, the number of handguns that one person could purchase was unlimited, and almost 35% of guns recovered from crime scenes in New York, New Jersey, Connecticut, Rhode Island, and Massachusetts originated in Virginia. After the law was implemented, Virginia was the source of only 15.5% of illegal guns recovered in these states (36).

The high incidence of injury and death in children and young adults from firearms highlights the need to restrict gun sales to persons younger than 20 years of age and to adopt design features that make it difficult for children to operate firearms. The annual number of homicides and suicides among school-age children has doubled in the past decade (37, 38). Children are increasingly at risk for being shot even while at school. Homicides are the predominant cause of death at school (80%), and firearms account for three quarters (77%) of these deaths. Handguns accounted for 89% of the weapons that could be identified in firearm-related deaths at school; half were automatic or semi-automatic (39). One study (40) indicated that 12% of students reported carrying a weapon onto school property at least once within the 30-day study period, and 4% reported missing school because they felt unsafe.

Reducing the exposure of children and young adults to firearms is clearly a preventive action that can help save lives. The rationale for prohibiting the sale of firearms to persons with criminal records or histories of mental problems and persons who are subject to a restraining order for domestic violence or stalking incidents is also obvious.

Limiting permits for carrying concealed weapons to persons who have legitimate reasons, such as law enforcement officers, is in the public interest, and the rationale for this policy is self-explanatory. Likewise, banning plastic guns (not toys) that are designed to evade detection by standard security devices, such as metal detectors and airport x-ray machines, will help prevent injuries from these weapons.

The College also favors firearm safety training programs and requirement of proof of satisfactory completion of such courses before being allowed to

purchase a firearm. The College supports community programs to encourage persons to voluntarily surrender firearms. Such programs could provide financial incentives to turn in firearms and should provide amnesty from prosecution for any violations of laws prohibiting the possession of firearms.

## Conclusion

The growing incidence of firearm violence has reached epidemic proportions. Members of the College overwhelmingly agree that firearm violence and the prevention of firearm injuries and deaths are public health issues of increasing concern and that physicians should be involved in counseling patients and supporting community actions to reduce injuries and deaths involving firearms.

In 1991, the editor of *The New England Journal of Medicine* (41) suggested that society should evaluate the risks and benefits of restricting access to firearms, much as physicians consider options in medical decision making. He observed that personal ownership of firearms has both benefits and risks, but "when we exceed some threshold level of firearm-induced injuries and deaths, we should be willing to restrict their use." Despite surveys of firearm owners indicating that they believe guns provide them with protection, studies show that suicides, criminal homicides, and accidental deaths in the home outnumber deaths attributable to self-defense by 40 to 1 (42). The staggering death toll from firearms, particularly among young persons, is unacceptably high. Clearly, the "killing threshold" for severely restricting firearms has been passed.

*Note:* This is an abridged version of a position paper approved by the American College of Physicians' Board of Regents. For copies of the full text, contact Jack A. Ginsburg, MPE, American College of Physicians, 700 Thirteenth Street NW, Suite 250, Washington, DC 20005.

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