

EXHIBIT

3

DATE

2/10/15

CDC

CDC Home Search Health Topics Z

SB 154

MMWR

Weekly

October 18, 1996 / 45(41);884-7

The content, links, and pdfs are no longer maintained and might be outdated.

- The content on this page is being archived for *historic and reference purposes only*.
- For current, updated information see the
- [MMWR website](#).

Hunting-Associated Injuries and Wearing "Hunter" Orange Clothing -- New York, 1989-1995

"Hunter" orange (i.e., fluorescent or international orange) is worn by hunters to increase their visibility and to reduce their potential for being mistaken for game. Although education courses for hunters promote the use of hunter orange, hunters in New York are not required to wear high-visibility clothing. To examine factors associated with two-party hunting injuries involving firearms (i.e., the injury resulted from the intentional or unintentional discharge of the firearm of another hunter), including the use of hunter orange, the New York State Department of Environmental Conservation (DEC) and the New York State Department of Health analyzed hunting-associated injury reports during 1989-1995. This report describes three of the 62 reported hunting-associated injuries during 1995 and summarizes information about two-party hunting-associated injuries involving firearms during 1989-1995. The findings indicate that most injured hunters in two-party incidents were not wearing hunter orange.

In New York, reporting of hunting injuries involving firearms is required by law, and all incidents are investigated, either by local law enforcement officers or a state environmental conservation officer. Hunting-injury reports filed with DEC include a description of the event, the primary factor contributing to the injury as determined by the investigator, and the type and color of clothing worn by the participants. Hunter orange use was defined as the wearing of one or more of the following solid orange colored garments: hat, coat, vest, or pants. The number of licensed hunters in New York during 1989-1995 was used as the denominator to calculate injury rates. Case Reports

Case 1: On December 3, 1995, four hunters separated to flush deer out of an overgrown field. Two hunters walked through the field attempting to drive deer toward the other two hunters who were in a stationary position. One of the stationary hunters observed movement in the thick brush and,

believing the movement to be a deer, fired his shotgun at a range of 48 yards. However, the movement had been caused by a hunter who was not wearing orange and who was struck in the chest by the shotgun slug and killed.

Case 2: On October 30, 1995, two hunters looking for grouse became separated while hiking through an area of dense brush. One hunter flushed a grouse, which took flight, and fired at the bird. The other hunter, who was in the line of fire 25 yards away and dressed in camouflage clothing, was wounded by 12 pellets to the upper body.

Case 3: On May 1, 1995, a licensed guide assisted a client in hunting turkey. The guide issued calls to attract turkeys. Another hunter in the area heard the calls and, believing that a turkey was nearby, began to move through open woods toward the sound. The hunter, who was wearing camouflage clothing, moved to within 40 yards of the guide and fired his shotgun after observing movement. The guide, who was not wearing orange, was wounded by shotgun pellets in the shoulder, neck, and face.

Injuries During 1989-1995

During 1989-1995, a total of 508 hunting-associated firearm injuries were reported to DEC, representing an annual mean rate of 9.8 injuries per 100,000 licensed hunters. Of these 508 injuries, 39 (8%) were fatal, 152 (30%) involved one person, and 356 (70%) involved two persons (rate: 6.9). Of the 39 fatal injuries, 31 (79%) were two-party incidents.

Among two-party injuries, big-game (e.g., deer and bear) hunters accounted for 135 (38%) injuries, including 25 (81%) fatalities. Turkey hunters accounted for 78 (22%) injuries, including two (6%) fatalities; and small-game (e.g., rabbit, squirrel, pheasant, grouse, raccoon, and woodchuck) hunters accounted for 132 (37%) injuries, including three (10%) fatalities.

Of the 331 (93%) two-party injuries in which the estimated distance from the hunter to the injured hunter was recorded, 54 (16%) occurred at a range of less than or equal to 10 yards, 161 (49%) between 11-50 yards, and 116 (35%) at greater than 50 yards. In 125 (35%) incidents, the primary contributing factor was listed as injured hunter mistaken for game (Table 1). In 79 (22%) incidents, the injured person was out of sight of the hunter, and 60 (17%) incidents occurred when the injured person was in the line of fire. Of 78 injuries associated with turkey hunting, 61 (78%) were the result of one hunter mistaking another for game.

Wearing of hunter orange was determined for 343 (96%) two-party hunters who were injured. In 259 (76%) incidents, the injured hunter was not wearing hunter orange. Of the 125 incidents in which the injured hunter was mistaken for game, 117 (94%) were not wearing hunter orange, and six (5%) were wearing hunter orange; for two (1%), hunter orange information was not recorded. Wearing of hunter orange was determined for 77 (99%) of 78 persons injured who were hunting turkey; none were wearing hunter orange.

In 1992, DEC interviewed 576 randomly selected licensed hunters in New York about the use of hunter orange clothing. Of the 559 (97%) respondents who hunted big game, 452 (81%) reported routine use of hunter orange clothing. Of the 566 (98%) respondents who hunted small game, 359 (63%) reported routinely wearing hunter orange clothing.

Reported by: W Jones, M O'Hara, Sportsman Education Program; JE Kautz, PhD, Bur of Wildlife, New York State Dept of Environmental Conservation, Albany; B Hutton, Bur of Injury Prevention, D Ackman, MD, Div Of Chronic Disease Prevention, D Morse, MD, State Epidemiologist, New

York State Dept of Health. State Br, Div of Applied Public Health Training (proposed),
Epidemiology Program Office, CDC.

Editorial Note

Editorial Note: Based on estimates by the International Hunter Education Association (IHEA), in 1995, approximately 17 million persons purchased hunting licenses in the United States (excluding Alaska) (1). In 1995, IHEA reported 1201 hunting injuries involving firearms, including 107 (9%) fatalities (2). Of these injuries, 851 (71%) involved two parties, including 69 (5.8%) fatalities.

In 40 states, hunters are required to wear hunter orange; however, in some states, regulations apply only to hunting on public lands or hunting big game. In New York, the 1992 survey indicated that an estimated 19% of big-game hunters and 37% of small-game hunters did not routinely wear hunter orange clothing. The finding that approximately 72% of injured hunters in two-party incidents were not wearing hunter orange clothing is consistent with previous reports that found low proportions of hunter orange use among injured hunters (3,4).

In New York, hunter orange clothing was not usually worn by persons who bowhunted, hunted with muzzle-loaded firearms, or hunted waterfowl -- activities which accounted for only 10 (3%) two-party injuries during 1989-1995. However, 22% of two-party injuries involved turkey hunting; most (78%) injuries resulted from one hunter mistaking another for game. None of the turkey hunters involved in a two-party injury were wearing hunter orange, and many were dressed in complete camouflage because of the perception that turkeys will see and avoid displays of hunter orange. Because turkey hunting often occurs in areas of thick brush or undergrowth, increasing hunter visibility may be particularly important in preventing "mistaken for game" injuries.

Since 1960, the state legislature in New York has required that all first-time hunting license holders complete a hunter-education course. From 1965 to 1994, reported hunting injuries in New York decreased steadily from 157 (22.3 injuries per 100,000 licensed hunters) to 52 (7.2) and from 11 deaths to one death. In 1991, DEC reviewed hunting-injury reports and concluded that most hunting injuries were associated with violations of basic firearms safety rules. DEC also found that most hunters who were injured as the result of being "mistaken for game" or "in line of fire" were not wearing hunter orange at the time of injury (3).

In 1992, DEC initiated a campaign in New York to promote basic firearms safety and the use of hunter orange clothing through hunter education courses, meetings with hunter organizations, and advertisements in hunting literature. During 1992-1995, following the initiation of this safety promotion campaign, the average annual injury rate decreased 27% compared with the rate during 1988-1991.

The routine wearing of hunter orange clothing can increase visibility of hunters, especially if worn in combinations that display orange in all directions. Efforts to increase the use of hunter orange also should include education of experienced hunters to wear hunter orange and, for turkey hunters who do not wear hunter orange, to display hunter orange near their calling location.

References

1. Workman D, ed. Hunter education instructor 1996. Vol 24. Seattle: Outdoor Empire Publishing, 1996:4-10.

2. International Hunter Education Association. 1995 Hunting accident report. Seattle: Outdoor Empire Publishing, 1996.
3. New York State Department of Environmental Conservation. Hunting accidents in New York: their causes and prevention. Albany, New York: New York State Department of Environmental Conservation, 1994.
4. Cole TB, Patetta MJ. Hunting firearm injuries, North Carolina. Am J Public Health 1988;78:1585-6.

Table_1

Note: To print large tables and graphs users may have to change their printer settings to landscape and use a small font size.

TABLE 1. Number and percentage of two-party hunting-associated firearm injuries, by factor contributing to injury * and "hunter" orange use + by injured hunter -- New York, 1989-1995

Contributing factor			Injured hunter wearing hunter orange					
			Yes		No		Unknown	
			No.	(%)	No.	(%)	No.	(%)
Mistaken for game	125	(35)	6	(5)	117	(94)	2	(1)
Out of sight	79	(22)	29	(37)	46	(58)	4	(5)
In line of fire	60	(17)	18	(30)	37	(62)	5	(8)
Unintentional discharge	39	(11)	11	(28)	27	(69)	1	(3)
Struck by ricochet	37	(10)	13	(35)	23	(62)	1	(3)
Other/Unknown	16	(5)	7	(44)	9	(66)	0	(0)
Total	356	(100)	84	(24)	259	(73)	13	(4)

* Determined by a local law enforcement officer or a state environmental conservation officer following an investigation of the injury.

+ Wearing any one of the following solid orange garments: hat, coat, vest, or pants.

[Return to top.](#)

Disclaimer All MMWR HTML versions of articles are electronic conversions from ASCII text into HTML. This conversion may have resulted in character translation or format errors in the HTML version. Users should not rely on this HTML document, but are referred to the electronic PDF version and/or the original MMWR paper copy for the official text, figures, and tables. An original paper copy of this issue can be obtained from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20402-9371; telephone: (202) 512-1800. Contact GPO for current prices.

**Questions or messages regarding errors in formatting should be addressed to mmwrq@cdc.gov.

Page converted: 09/19/98

[HOME](#) | [ABOUT MMWR](#) | [MMWR SEARCH](#) | [DOWNLOADS](#) | [RSS](#) | [CONTACT](#)
[POLICY](#) | [DISCLAIMER](#) | [ACCESSIBILITY](#)

PDF GENERATED BY

Morbidity and Mortality Weekly Report

Centers for Disease Control and Prevention

1600 Clifton Rd, MailStop E-90, Atlanta, GA 30333,

U.S.A



[Department of Health](#)

[and Human Services](#)

This page last reviewed 5/2/01