

FIREWORKS

John R. Hall, Jr.

June 2009



**National Fire Protection Association
Fire Analysis and Research Division**

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Abstract

In 2007, 9,800 fireworks-related injuries were treated in U.S. hospital emergency rooms. The trend in fireworks-related injuries has been mostly up since 1996, with spikes in 2000-2001, primarily due to celebrations around the advent of a new millennium, and in 2005. The highest injury rates were for children aged 5 to 9 and 10 to 14. In 2006, an estimated 32,600 reported fires were started by fireworks. These fires resulted in 6 civilian deaths, 70 civilian injuries and \$34 million in direct property damage. In 2007, more than nine out of ten (92%) emergency room fireworks injuries involved fireworks that Federal regulations permit consumers to use. The risk of fire death relative to exposure shows fireworks to be the riskiest consumer product.

Keywords: Fireworks, fire statistics, NFIRS, NEISS

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Executive Summary

In 2007, 9,800 fireworks-related injuries were treated in U.S. hospital emergency rooms. The trend in fireworks-related injuries has been mostly up since 1996, with spikes in 2000-2001, primarily due to celebrations around the advent of a new millennium, and in 2005. Injuries were higher in 1984-1995 than in recent years but lower in the mid-1970s and earlier.

In 2006, an estimated 32,600 reported fires were started by fireworks. These fires resulted in 6 civilian deaths, 70 civilian injuries and \$34 million in direct property damage.

The largest numbers of fires associated with fireworks were grass fires (10,800 per year), brush fires (7,600), dumpster fires (2,900), unknown-type natural vegetation fires (2,300), and outside trash, rubbish, or waste fires (2,100).

In 2002-2006, 3 people per year were killed in fires started by fireworks, while 7 people per year were killed directly by fireworks. These estimates may overlap, because fireworks can directly kill someone while also starting a fatal fire.

Two of five victims of fireworks injuries in 2007 were under age 15. The highest rates of injuries per million population were for children ages 5 to 9 and 10 to 14. Males accounted for three-fourths (70%) of fireworks injuries.

In 2007, nine out of ten (92%) emergency room fireworks injuries involved fireworks that Federal regulations permit consumers to use.

The risk of fire death relative to exposure shows fireworks to be the riskiest consumer product for death due to fire.

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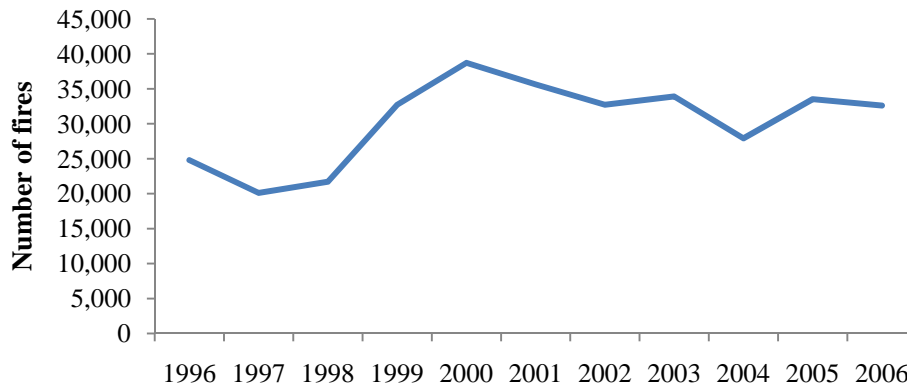
Fireworks

Size of the Fireworks Problem

On Independence Day in a typical year, more U.S. fires are reported than on any other day, and fireworks account for half of those fires, more than any other cause of fires.

- In 2006, fireworks caused an estimated **32,600** reported fires, including **1,700** total structure fires, **600** vehicle fires, and **30,300** outside and other fires.
- These fires resulted in an estimated **6** civilian deaths, **70** civilian injuries and **\$34 million** in direct property damage.

Reported Fires Associated with Fireworks, 1996-2006



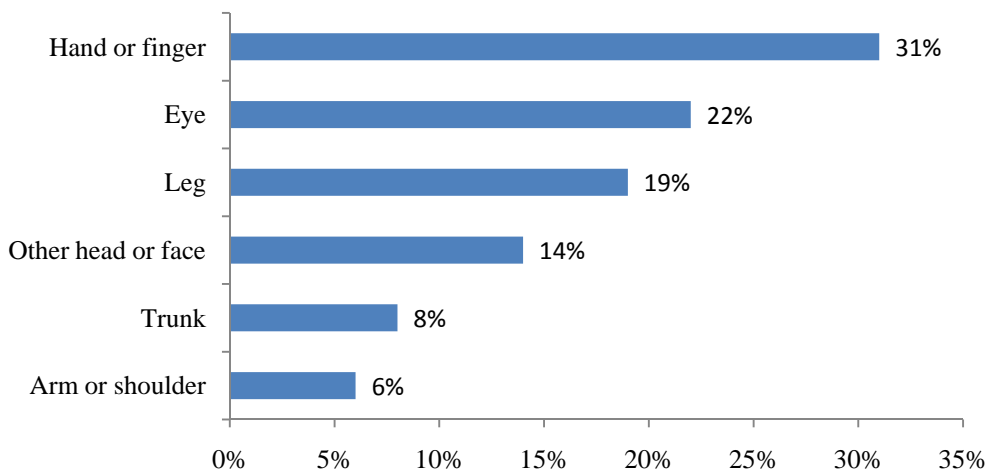
FACT: 900 home structure fires were caused by fireworks in 2006.

Characteristics of Fireworks Injuries

In 2007, U.S. hospital emergency rooms treated an estimated **9,800** people for fireworks related injuries.

- **56%** of 2007 emergency room fireworks-related injuries were to the extremities and **36%** were to the head.

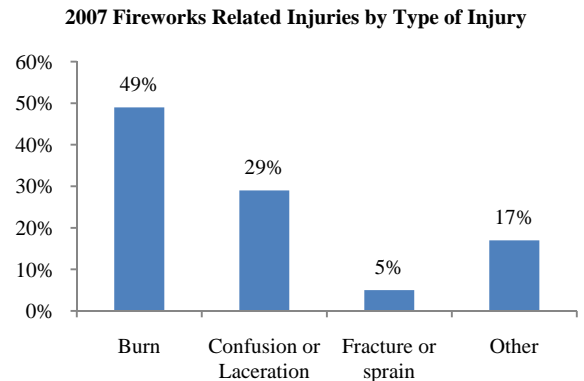
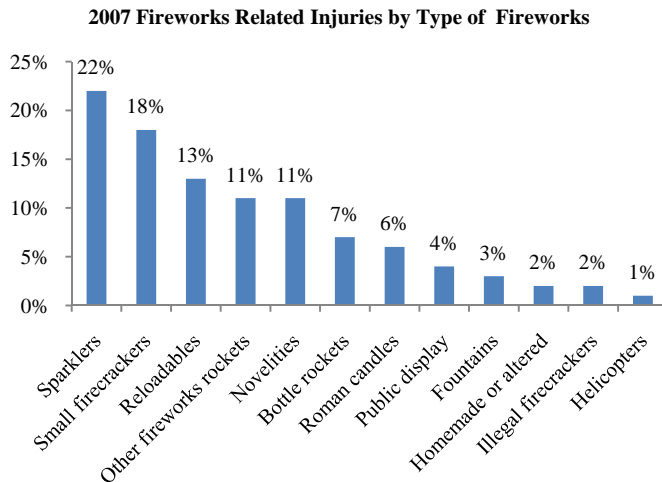
2007 Fireworks-Related Injuries, by Part of Body



FACT: Males accounted for **70%** of fireworks injuries in 2007.

Characteristics of Fireworks Injuries Continued

- **49%** of the 2007 fireworks injuries were burns, while **29%** were contusions and lacerations.
- **Two of five (42%)** people injured by fireworks were under the age of 15.
- The risk of fireworks injury was **two-and-a-half** times as high for children ages 5-9 or 10-14 as for the general population.
- Sparklers, fountains, and novelties alone accounted for **36%** of the emergency room fireworks injuries in 2007.



FACT: 92% of the fireworks injuries treated in hospital emergency rooms involved fireworks that Federal regulations permit consumers to use.

Risk of Private Fireworks Use

The risk of fire death relative to time used shows fireworks as the riskiest consumer product.

- The risk that someone will die from fire when fireworks are being used is higher relative to exposure time than the risk of fire death when a cigarette is being smoked.
- The risks with fireworks are **not** limited to displays, public or private. Risks also exist wherever fireworks are **manufactured, transported, or stored**.
- **“Safe and sane”** fireworks are neither. Fireworks and sparklers are designed to explode or throw off showers of hot sparks. Temperatures may exceed 1200°F.



FACT: The following five states have banned access by the public to all fireworks: **Delaware, Massachusetts, New Jersey, New York, and Rhode Island.**

NFPA encourages people to enjoy public displays of fireworks that comply with NFPA 1123. NFPA is strongly opposed to any consumer use of fireworks.