



Fireworks are a part of many American seasonal celebrations, but many people fail to realize just how dangerous they really are.

Many firework accidents each year result in life-altering injuries for people of all ages.

Firework injuries can be particularly difficult to treat because they involve both burn and blast injuries, which damage tissues from the skin through the bone, sometimes causing partial or complete hand amputation.

Fireworks caused over 11,000 injuries in 2016, most commonly damaging hands and fingers.

Sparklers, which many parents consider safe, burn at greater than 1,000 degrees F and can quickly cause serious injury. Sparklers resulted in 1,300 hand/finger reported injuries in 2016.

Injuries to the hand may include disfigurement and permanent disability, affecting jobs and life satisfaction.

As hand surgeons who specialize in this type of injury, ASSH urges the public to understand that:

- All fireworks are inherently dangerous.
- Firework use should be limited to professional display; explosive materials should only be handled by professionals.
- Firework injuries to the hand can be devastating and have large personal and economic costs.

Fireworks are unpredictable, and even trained technicians are susceptible to injury.

Yet, we understand that consumers may continue to use fireworks, so we recommend additional safety precautions should always be taken:

1. Use personal protective equipment, including eye protection, when handling any flammable material.
2. Ensure that people nearby are aware of any plan to ignite fireworks and are in a safe area.

3. If attending a public display, pay close attention and obey all rules and regulations established by the authorities and crew in charge of safety.
4. Do not consume alcohol or use other drugs when choosing to use a firework, as it may impair judgment and dexterity.
5. [ASSH's full position statement](#) includes additional safety recommendations from the National Council on Firework Safety.

Hands are our primary tools for exploring the world; an injury can permanently impact your home and work life.

Please be safe this season!

Hand surgeons care for people after a large variety of traumatic injuries.

Firework injuries pose unique and significant challenges due to burns and blast injuries that may result in visible, extensive scarring.

Additionally, firework injuries are responsible for soft tissue and bone damage that may require amputations, multiple surgeries, and hospitalizations.

The hand and fingers represented the most common region of the body injured at 33% of all injuries, with the head and face being the second most common body region.

A large number of injuries (22%) occur in children under 9 years of age, with many of these injuries in unsupervised children.

In people of all ages, a firework injury to the upper extremity can have functional, economic, and psychological impact that is often underestimated.

Thermal and blast injuries from fireworks are largely avoidable.

Injuries most frequently occur to people using fireworks directly, but injuries also occur to unadvised bystanders.

Many people are surprised to learn that simple fireworks, such as sparklers, burn at greater than 1000 degrees F and can quickly cause serious injury.

Explosive fireworks are unpredictable and can cause serious burns as well as blast injuries, which can involve loss of portions of the extremities or damage to other vital organ systems such as the eyes and ears.

Consumer grade (class C) fireworks by definition contain less than 50 milligrams of powder and include devices such as sparklers, Roman candles, firecrackers, shells, snakes, and party poppers.

The impact of a firework injury on a person's life can be profound, particularly when involving a hand or finger injury.

Employment is frequently negatively affected after a firework injury. Injury and surgery often require time away from work, resulting in loss of wages and productivity.

The economic impacts of firework injuries are seen both at the personal and societal level through loss of productivity and increased healthcare cost.

Beyond the economic impact, the psychological and emotional distress that can result from loss or change of function is unquestionably impactful to both the injured individual and his or her family.

Expanded safety precautions Include:

Understanding that fireworks continue to be used by consumers currently, some additional safety recommendations should be followed in order to mitigate some of the inherent danger they cause.

1. Personal protective equipment, including eye protection, should be used with all flammable material.
 1. Care must be taken when using any flammable material as serious injury to the skin and other vital structures can occur.
2. People nearby who are not participating in firework ignition can be accidentally injured.
 1. The person using the fireworks should take care that others are aware of the plan to ignite fireworks and should always point them in a safe direction.
 2. If attending a public display, pay close attention and obey all rules and regulations established by the authorities and crew in charge of safety.
3. People should not consume alcohol or use other drugs when choosing to use a firework as it may impair judgment and dexterity.
4. In addition to the above recommendations, further safety recommendations advised by the National Council on Firework Safety should be followed.
 1. Do not permit children to handle fireworks.
 2. Direct supervision of teenagers by parents should occur at all times.
 3. Only use fireworks outdoors.
 4. Do not mix fireworks and alcohol.
 5. Have a designated single shooter for firework ignition. Read all labels/warnings/instructions.
 1. Never hold a firework that is not meant to be held.
 6. Light only one firework at a time.
 7. Never relight a firework that does not go off.
 1. Wait 20 minutes before handling it and place it in bucket of water.
 8. Have a bucket of water and hose ready to put out any fires.
 9. Used fireworks should be soaked in water, placed in nonflammable trashcan away from any flammable objects.
 10. Do not use homemade fireworks.
 11. Obey all laws

Hand and upper extremity injuries can be devastating.

After hand and upper extremity injury, chronic pain and permanent disability are among many factors that individuals encounter on a daily basis.

Thermal burns and explosive injuries from fireworks are common and can be disfiguring.

The hand is one of our primary tools for exploring the world and for many people is required for their employment.

Any injury to the hand and upper extremity can permanently impact your home and work life.

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