

How Safe Are Trampolines?

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As a family wellness chiropractor, you might see some of the children in your practice with minor to moderate injuries related to trampoline usage. This article is dedicated to providing extensive details as to why a trampoline is not the safest choice for children. If a parent asks if they should purchase one, the answer should be, "No, I wouldn't advise it." If they do have a trampoline, make sure they are supervising their children at all times.

Introduction of the Trampoline

Trampolines first became popular in the early 1960s when people were stretching fabric over large holes in the ground. Next, the fabric was put on legs or poles, but these left dangerously large gaps around the edges, and there was nothing to stop a jumper from falling off. Modern designs are supposed to be safer by ringing the trampoline with netting, but this hasn't done much to decrease the number of injuries.

History of Injuries

The American Academy of Pediatrics (AAP) issued warnings in 1977, 1981 and 1999 emphasizing the dangers of trampolines and recommending they not be used in the home or as part of PE courses at schools. Despite these warnings, visits to emergency rooms skyrocketed between 1990 and 2005.

A 1998 article in *Science Daily* reported that 250,000 trampoline-related injuries were treated in hospital ERs between 1990 and 1995. The annual number of injuries had grown from 29,600 to 58,400 per year. A 1998 report in the *Journal of Bone and Joint Surgery* revealed 43 percent of all injuries were sustained by children between the ages of 5 and 9, while 28 percent were sustained by children between the ages of 10 and 14. Even more distressing is that more than 15 percent of injuries were suffered by children *under the age of 4*. Clearly, children under the age of 14 are sustaining the majority of the injuries.

Pediatric Neurosurgery reported in 2000 that trampolines were responsible for more than 6,500 pediatric cervical spine injuries in 1998. In 2001, the Consumer Product Safety Commission (CPSC) estimated there were 91,870 ER visits due to trampoline-related injuries. Of those injured, 93 percent of the victims were under the age of 15 and 11 percent were under the age of 5. The CPSC has further reported that since 1990, there have been 11 deaths, six of which involved children under the age of 15.

Recent Statistics

Consumer Reports released a study in 2004 stating that 98,000 people were treated in ERs because of trampoline use in 2003. More than 50,000 of these cases were children. The AAP released the latest numbers from the National Electronic Injury Surveillance System (NEISS) in 2007. The study relied on

data from 2000-2005 to estimate the number of ER visits for trampoline-related injuries by children under the age of 18. It then compared that with the data obtained from 1990 to 1995. Results showed there were an estimated 41,600 ER visits per year from 1990 to 1995, compared with an estimated 88,563 visits per year from 2000 to 2005 - an increase of 133 percent. The authors of the study believe more needs to be done to educate the public about the dangers of home trampoline use. They further state that more extreme measures need to be taken to stop parents from purchasing this apparatus that has proven to be so dangerous.

Ban Trampolines?

Studies have proven that education about trampoline risks has not helped to reduce the number of injuries. In fact, the number of injuries has increased exponentially each year, leading the AAP to characterize trampoline injuries among children as an "epidemic" and to recommend banning them from home use entirely.

Gary Smith, chairman of the AAP Committee on Injury, Violence and Poison Prevention and former director of emergency medicine at Children's Hospital of Columbus, has been a longtime supporter of a complete ban on home trampolines. In 1998, he stated, "We've seen the number of trampoline-related injuries skyrocket in just six years, and the trend doesn't show any signs of slowing down. Instead, it's continuing to increase." His research showed the injuries sustained during trampoline use were enough to support a ban:

- The number of injuries increased by 98 percent during a six-year study.
- Younger children tended to have injuries to their arms, the majority of which were fractures or dislocations.
- Younger children also had a higher rate of facial injuries - most often lacerations.
- Older children most often sustained injuries to their legs - bruises, sprains, strains and contusions.
- Approximately 3 percent of all injuries required hospitalization.
- Twelve percent of the injuries to young children and 7 percent of injuries to older children were to the head and neck.

Smith also stated that while most of the injuries sustained were to the children's extremities, there have been reports of death and severe injuries to the spinal cord "which usually lead to paralysis and quadriplegia."

"It's alarming that these injuries are increasing at a rate that is rare to see for any other product out on the market," Smith said. "This is a public-health problem that needs to be addressed with stronger strategies than those currently in place."

Surprisingly enough, more than twice as many trampoline-related injuries are treated in hospital ERs annually compared to baby-walker injuries. There is a virtual consensus on the need to ban baby walkers, while trampolines, clearly the more dangerous item, are still being sold for home use.

In a 2005 article in *USA Today*, Smith's message remained the same: "Where we have gone wrong is that [trampolines] have popped up in many backyards, and parents don't realize the danger involved. They're using them as toys without recognizing the hazards."

Safety Nets Don't Make Them Safe

Many parents have taken the warnings to heart and have purchased safety nets to place around the trampoline. However, these safety measures do not correct the problem of the dangerously large gaps between the springs or stop more than one child from being on the trampoline at a time. History proves the only way to truly keep children safe from a trampoline is to not let them on one.

The Chiropractic Factor

The best way to protect children is to encourage parents not to use a trampoline or at least to supervise the child at all times. As a family wellness chiropractor, there are several regions of the spine with which we should be concerned when a child has been injured from trampoline usage. Upper cervical trauma, sacral injury (similar to repetitive-stress syndrome) and flexion-extension injury to the lumbar spine all may be consequences of trampoline use. Should the child have moderate to severe complaints, it warrants taking radiographs and including orthopedic and neurological testing.

Resources

1. [Consumer Product Safety Commission.](#)
2. www.consumerreports.org.
3. "Study of Trampoline-Related Injuries Calls for Ban on Devices." *Science Daily*.
4. *Pediatric Neurosurgery*, 2000;32(4).
5. "It's the Peak Season for Trampoline Injuries." *USA Today*, June 15, 2005.
6. *AAP News*, September 2007;28(9):2.

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