

[IMAGE]

Your Trampoline Isn't as Safe as You Think

By Deborah Pate, DC, DACBR

Trampoline jumping poses a high risk of injury for both children and adults. Falling off a trampoline or using a trampoline incorrectly can result in strains, sprains, fractures and other injuries, including potentially serious head and neck injuries. There's even a tibial (shin bone) injury that's been labeled a "trampoline fracture" because it generally occurs when a second, usually heavier individual causes the jumping surface to recoil upward as the unsuspecting victim is descending. (To read a personal experience with trampoline fracture from a doctor of chiropractic, visit <http://lifecarechiropractic.com/blog/tag/trampoline-fracture>.) The combined excessive load is thought to produce the characteristic fracture, which is most often seen in children 2 to 5 years of age. This fracture has also been observed when a child is jumping on a bunk-bed mattress and another child pushes up on the mattress from the bunk below.

In fact, the risk of injury is so high that the American Academy of Pediatrics (AAP) says trampolines should *never* be used at home or in outdoor playgrounds. The AAP supports limited use of trampolines in supervised training programs, such as gymnastics and diving classes. Even then, strict safety guidelines must be followed. But for some reason, this advice is not being heeded. Last year alone, an estimated 98,000 people were treated in emergency rooms for trampoline-related injuries; 82 percent were children under the age of 15. The trampoline industry says sales of backyard trampolines have soared, with more than 1 million now sold every year.

trampolines - Copyright © Stock Photo / Register Mark A review of the literature concurs that most injuries happen on the trampoline mat when there are multiple users present. When two masses bounce out of phase on a trampoline, a transfer of kinetic energy from the larger mass to the smaller mass is likely to occur. It is estimated that when an 80Åkg (176 pound) adult is on a trampoline with a 25Åkg (55 pound) child, the energy transfer is equivalent to the child falling 2.8Åmeters (more than 9 feet) onto a solid surface. Additionally, the rate of loading on the child's bones and ligaments is greater than that on the accompanying adult.

Marc Rabinoff, a trampoline safety expert and professor in the Department of Human Performance and Sport at Metropolitan State College in Denver, has labeled trampolines "quad machines," because they can

make you a quadriplegic in four seconds.⁴ Indeed, jumping on a trampoline can cause serious spinal injuries, in particular injury of the cervical spine. (In case you can't imagine this, take a look at this not-so-funny YouTube video: <http://youtu.be/08VIWIEd82Y>.)

Warnings on trampolines say no flips, no jumpers younger than 6 years of age, and only one jumper at a time, but those warnings are often ignored. People don't realize trampolines are a danger in their backyard. Remember, jumping with more than one person on the trampoline is when most of the more serious injuries occur.

The industry states that 50 percent of injuries can be avoided with netting, but they still sell trampolines without nets. Moreover, a net does not protect participants from the recoil injuries that occur with users of different weights. Current guidelines are clear that more than one user on a trampoline at a time is a risk factor for serious injury; however, the majority of injuries still happen in this scenario. There is no substitute for common sense.

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