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Trampolines: A safe way for kids to jump for joy?

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Watching high level gymnasts perform is awe-inspiring.--their skill, their finesse, the way they just appear to float in the air—amazing! But, those gymnasts did not just awaken one morning able to achieve those great feats; tireless hours were spent supervised by experienced coaches to acquire those skills. It was actually a competitive gymnast named George Nissen who designed the modern trampoline in 1945. Initially trampolines were used as a training tool for gymnasts and acrobats. Recreational use of home trampolines increased through the 1990s, peaking in 2004. Now the new trend is indoor commercial trampoline parks where multiple contiguous trampolines are setup side-by-side in a large room with padded walls. And. Of course, they have become a popular choice for children's birthday parties and family outings.

Kids and adults love these trampoline parks and their backyard trampolines, but are they safe?

According to the American Academy of Pediatrics (AAP), the answer is a resounding "NO!" The AAP's Council on Sports Medicine and Fitness just released a new policy statement last month strengthening their previous 1999 stand to strongly discourage trampoline use. But, why? While data on home trampoline use has been hard to collect, there are over 3000 known trampoline-related injuries annually and it is estimated that injury numbers may approach 100,000 trampoline-related injuries per year. Most injuries involve the arms and legs but 10-17% are injuries to head and neck and may be catastrophic leading to permanent disability and death.

The trampoline is so soft and bouncy, how do injuries occur?

It's actually the bounce of the trampoline that causes the problem as jumpers are launched higher and farther than just jumping from the ground. Injuries occur when jumpers fall from the trampoline onto the ground, springs, frame or other nearby hazards. Additionally, when multiple jumpers use the trampoline simultaneously injury

rates sky rocket. Heavier, larger jumpers create more recoil propelling smaller users higher and thus increasing impacts upon landing. Larger jumpers also may land on smaller jumpers causing broken bones and other injuries. Studies have shown that the smaller jumpers are 14 times more likely to sustain an injury than their heavier playmates.

Do we really have to say goodbye to the backyard trampoline? Can't we just jump "safely"?

After the AAP's 1st policy statement in 1999, multiple trampoline regulation agencies (including the US Consumer Safety Commission, International Trampoline Industry Association (ITIA) and the American Society of Testing and Materials Trampoline Subcommittee) tried to improve safety standards for trampolines by extending padding to the frame and springs, improving the quality of padding and prohibiting the inclusion of ladders in the packaging to help prevent young children from accessing trampolines without adult supervision. However, the effect of these measures on injury rates has yet to be proven. Additionally, there are concerns regarding actual decreasing quality of recreational trampolines over the past few decades as the expected recreational trampoline life span has decreased from 10 years to 5 years according to the ITIA.

And, what about the trampoline parks? They're safe, right?

Unfortunately, commercial recreational jump parks may not be any safer than backyard trampolines because currently there are no consistent safety rules and regulations at jump parks. Additionally, they allow multiple simultaneous jumpers. And while some make an effort to separate jumpers of different age groups, children often develop at very different rates so two different 10 year-olds can be dramatically different in height and weight. Studies have shown that there is significantly increased risk for injuries to the smaller jumpers.

Commercial recreational jump parks should not be confused with trampoline use as a part of a structured training program (i.e. gymnastics). Competitive trampoline programs use trampolines that are significantly larger and have much more extensive rim of high-quality padding over the springs and frame. Also within training program, athletes are closely supervised by experienced coaches and often use harnesses to master tumbling skills. New skills are acquired slowly after a foundation of underlying strength and developmental ability is demonstrated. Being a part of a structured training program is the safest way to use trampolines.

Injury Prevention Tips

If, despite the AAP's strong recommendations, your patients just aren't ready to break the trampoline habit just yet, then here are some things you can do to try to minimize injuries.

- 1) Limit the trampoline to one user at a time. The more jumpers, the higher the injury risk, especially when jumpers are different sizes (i.e. young children and adolescents)
- 2) Adult-supervision at all times. However, injuries can still happen; one-third to one-half of all injuries occur despite adult supervision.
- 3) No somersaults or flips. Permanent devastating neck and spine injuries occur from somersaults or flips that went badly.
- 4) Set trampoline at ground level with a safe surrounding area without any hazards.
- 5) Install adequate well-maintained, appropriately positioned protective padding.
- 6) Inspect protective padding and net enclosure frequently and replace parts as needed.
- 7) Check your homeowner's policy to verify that your insurance covers trampoline-related claims.

Read the full AAP Policy Statement in *Pediatrics* at
<http://pediatrics.aappublications.org/content/early/2012/09/19/peds.2012-2082>