

Serious hockey injuries among young children skyrocketing, study finds

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The incidence of hockey-related injuries among children aged 9 to 14 leading to emergency department visits more than doubled between 1990 and 2006, according to a new nationwide study.

There were 2,935 hockey injuries treated in emergency departments in that age group in 1990, increasing to 7,713 in 2006 - an increase of 163 percent.

The [injury](#) incidence among teens aged 15 to 18 didn't increase as much as that of younger [children](#), but still grew 85 percent during the same time period.

The startling increase in injuries calls for more attention to safety, according to researchers at Ohio State University and The Center for Injury Research and Policy at Nationwide Children's Hospital in Columbus.

"The incidence of ice hockey injuries will likely continue to increase, given the sport's growing popularity, unless we make a concerted effort to make sure kids wear the proper protective equipment," said Jeff Deits, lead author of the study, who did the work as part of his master's degree project at Ohio State's School of Physical Activity and Educational Services.

This study is the first long-term assessment of hockey injuries in a broad, national sample, said Deits, who is now an assistant athletic

trainer at Wichita State University. It appears in the September-October issue of the *Journal of Athletic Training*.

The study uses data from the National Electronic Injury Surveillance System, which collects injury reports from a sample of 100 U.S. hospitals. Deits examined all [emergency department](#) records from 1990 through 2006 that involved playing ice hockey, including both structured games and those in which people were playing on ponds or open rinks.

Overall, hockey injuries in all age groups combined increased during that time period, but not significantly. But there were significant increases in injury rates both among children and teens, and among females generally.

Among girls and women, the incidence of hockey injuries increased 347 percent from 1990 to 2006. Females also made up an increasingly larger proportion of total hockey injuries, increasing from 4.8 percent from 1990 through 1999 to 8.9 percent from 2000 through 2006.

"Women are about as likely to be injured playing hockey as men, and their participation has increased greatly, which explains why women's injuries have increased so much," Deits said.

Part of the large increase in children's injuries undoubtedly is the result of more children playing the sport, said Sarah Fields, co-author of the study and associate professor of [physical activity](#) and educational services at Ohio State.

For example, the number of high school students playing ice hockey in school-sanctioned leagues increased 88 percent from 1990 to 2006.

However, injury rates seem to be outpacing the growth in participation, Fields said.

"We can't tell for sure, but we believe that hockey is a much more serious sport now than it was in 1990, so kids are probably spending a lot more time on the ice. That results in more chances for injury," Fields said.

Deits and Fields said one of the more surprising findings was that nearly one in four ice hockey injuries was to the face or mouth.

"The only hockey players who should not be required to wear a face mask are NHL players," Deits said. "The majority of these facial injuries are preventable if players used face masks and shields."

The researchers suspect that players in youth hockey leagues, where face masks are required, may not be wearing this protection during non-contact drills.

"Players and coaches may think they don't need masks during skating drills, but we know from other research that when you fall on the ice, you usually injure your face because your hands slide out from under you," Fields said.

"We encourage parents and coaches to require kids to wear face masks and shields every time they are on the ice."

Another concerning finding from the study was the number of concussions among young players. Concussions were more common among those under age 18 (accounting for 9 percent of all injuries) than for those older than 18 years (3.7 percent of all injuries).

"The brains of children and adolescents are more likely to sustain a traumatic brain injury, even at a lesser force, than a mature brain," Deits said. "There's been more focus on traumatic brain injuries in recent years, especially among children, and that's very appropriate."

One way to protect children may be to limit body checking among younger players, Fields said. As of now, players are allowed to begin checking in pee-wee hockey, which starts at about age 11. The American Academy of Pediatrics has recommended that body checking not be allowed in children under the age of 15.

"If we could eliminate checking in pee wee leagues, we think it would reduce the number of emergency department visits for kids in those leagues," she said.

Deits said parents need to understand the risks involved in hockey, while doing everything they can to reduce those risks.

"Hockey is a full-contact, high-speed sport, at least among older kids and adults. Parents need to make sure their children wear all the protective equipment that's required, but realize there will always be risks involved."

Provided by The Ohio State University

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