

REPORTING FROM ... THE NATIONAL ACADEMY OF NEUROPSYCHOLOGY'S SPORTS CONCUSSION SYMPOSIUM

**The NHL releases the first data from its
concussion program.
But what do the numbers mean?**

by Peter Keating



Getty Images

A pair of Sharks players help a teammate off the ice.

Seven hundred and fifty-nine National Hockey League players have been diagnosed with concussions since 1997, according to data released for the first time by the NHL and presented Tuesday at the National Academy of Neuropsychology's Sports Concussion Symposium in New York.

That's an average of about 76 players per season and 31 concussions per 1,000 hockey games—both figures that have remained fairly stable from year to year. "We should understand that concussions are an issue in hockey, and the trend doesn't appear to be changing at this time," says Dr. Ruben Echemendia, chairman of the NHL/NHLPA Concussion Working Group and president of NAN.

The NHL's concussion program, which operates under an agreement between the league and the NHL Players' Association, focuses on using neuropsychological testing, both to learn about the effects of concussions and to help manage injuries. The NHL has been conducting baseline tests of players since the 1997-98 season. After a player is injured, doctors or trainers administer additional rounds of memory and motor-skill tests; they can then compare his performance to his baseline scores

to help determine when he can return to the ice. (As in the NFL, team doctors make return-to-play decisions on a case-by-case basis.) And the large batch of testing data the NHL has collected contains some interesting and unexpected trends.

For instance, test scores and symptoms vary widely by the native language players speak, apparently because of cultural differences. French-speaking players are much more likely to report headaches than Russians, and Swedes are more likely to say they are going sleepless than Czechs.

Another tidbit from the data trove: Thirty percent of NHL players diagnosed with concussions have normal physical readings but abnormal neuropsychological testing scores. That's important evidence that says testing is helping to protect injured players who might otherwise be returned to the ice. "The NHL/NHLPA Concussion Working Group recently has confirmed, based on data that have been collected since the onset of the NHL/NHLPA testing program, that neuropsychological testing is an appropriate tool to use, in conjunction with other tools, by physicians who are making return to play decisions," NHL Deputy General Counsel Julie Spar Grand says. "The data we collected have significantly contributed to the knowledge in this area."

Test scores and symptoms vary widely by the native language players speak, apparently because of cultural differences. French-speaking players are much more likely to report headaches than Russians, and Swedes are more likely to say they are going sleepless than Czechs.

But after 11 years of compiling statistics, the league's researchers are just beginning to scratch the surface of the questions that are most relevant to players and fans. In the high-speed and violent world of hockey, players often take blows to the head that exceed 100 times the force of gravity, and repeated brain trauma has shortened the careers of NHL stars such as **Pat LaFontaine**, **Eric Lindros** and **Keith Primeau**. Moreover, as players get bigger and improved equipment allows more aggressive play, there are indications that hits are getting worse.

For instance, although the frequency of concussions didn't change much from the 2005-06 season to 2006-07, the number of games players missed because of concussions and related problems jumped 41 percent to 760, according to an analysis conducted last year by the *Orange County Register* of California. But the league can't say yet what kinds of hits NHL players are most susceptible to—whether most concussions are caused by, say, blows to the back of the head. And it doesn't know yet to what extent players who suffer multiple concussions are risking long-term brain damage. "That's where we want to get, but we're not there yet," says Echemendia. "Long-term, we want a better understanding of the biomechanics of these injuries and their effects on the brain."

In the short term, the league will continue to study injured players. "As [team physicians] get more educated and players get more educated, we may actually see an increase in reported injuries," Echemendia says. "Hopefully, we will hit pay dirt down the road, in that concussions will be managed better and players will spend more time on the ice. But how to get the number to go down? That's the million-dollar question."