

LIGHTS OUT FOR NFL
First work stoppage since 1987 seems certain after talks break down, players decertify union, Stories, S2



401 DIXIE INFINITI
5500 Dixie Road, Mississauga Ontario
The New 2011 DODGE
www.401dixieinfiniti.com
905-238-5500

NHL union head plays it safe in turbulent times



DENNIS COOK/AP
Don Fehr has attended "four or five" games in 100 days on job.

You'd think he would have. Just as a matter of protocol. You know, talked to Sidney Crosby.
"I have not talked to him directly in the last several weeks," confirmed Don Fehr.
Fehl's standing as the game's most important player with Fehr's new to his politically complex job as executive director of the NHL Players' Association, and with the hockey landscape seemingly littered with zombie-like, concussed players like Crosby unable to deal with bright lights or even turn the wheels of an



DAMIEN COX

exercise bike — Fehl wouldn't have been in closer contact with the sidelined Pittsburgh Penguins star.
Then again, maybe this is the slow but steady, turtle-beats-the-hare approach to governing. That may also explain why he's only

attended, by his count, "four or five" games since taking over the job on Dec. 18, a job for which he is reportedly being paid \$3.5 million per year — "a little high," he says.
"I've seen games or parts of games on television, obviously watch the news in the evening and so on, and I'm sure I'll go to a bunch of post-season games," Fehl said in a one-on-one interview with the Star this week.
"I'll tell you why. You can pick up a lot watching games, and to a certain extent listening to commentary may teach you a little more than in a stadium where you

don't get all the replays.
"But I've got an awful lot to learn, an awful lot of people to talk to. I've been doing an awful lot of traveling, talking to players, and so you do the best you can."
Major no mistakes about it: Fehl is taking a very cautious approach to this new post, which may well be the smart way to do it. He doesn't know the game, but he's well aware of the danger in this union getting out in front of important issues before the players have decided what they want.

COX continued on S4



Toss out those ineffective '70s-style hockey helmets. The new wave of headgear promises to dramatically cut the risk of life-altering injuries

The new MI helmet, above, is backed by former NHL great Mark Messier.

The radical design of the "Vault," left, was inspired by the helmets worn by knights in medieval Europe.

A mini replica of the Bauer helmet worn by more NHL players than any other model.

Collision coverage

ROBERT CRIBB
SPORTS REPORTER

In the beginning, there was Donald Brashear's head absorbing a two-handed Marty McSorley slash before bouncing off the ice into unconsciousness.

That brain-jiggling genesis moment a decade ago triggered a concussion, widespread public outrage, a 23-game suspension and a criminal assault conviction.

For Jeff Archbold, it also triggered inspiration. Since witnessing the McSorley swing, and a string of other equally troubling scenes since, the Toronto-based forensic engineer has been working on what he believes will be a better hockey helmet.

While the concussion debate in hockey has largely focused on rules of the game, engineers and designers believe the real answers to life-altering head injuries lies in the laws of physics.

And they're busy trying to reinvent standards that haven't dramatically changed in nearly 40 years.
"From the beginning, I knew you had to have an air-filled sack inside the helmet," says Archbold, the 42-year-old president of ForceCap Technologies, which recently obtained a U.S. patent pending on its design.

"Just like an air bag in a car, if you bump someone in front of you, it doesn't go off but if you have real impact, it does."

The air-filled "bladders" are designed to dissipate sudden jolts of force and reduce the G-forces on brains floating inside skulls. Smack your head hard enough to deploy the bladder and you've got scientifically calibrated evidence of a hit worthy of attention from a trainer or doctor.

HELMETS continued on S4



The Jofa hockey helmet was most famously worn by Wayne Gretzky.

'Helmet standards haven't kept up,' expert says

HELMETS from S1

It's among a new generation of outside-the-box designs promising to reinvent the look and efficacy of hockey headgear.

Toronto's Impact Machine Design Inc. also has a U.S. patent pending for a radically redesigned helmet called the "Vault," inspired in part by a 14th-century Italian armet.

"It's a concept for a better fit and a face guard that doesn't come into contact with the jaw," says product designer and senior partner Morgan Matthews. "Every helmet with a face guard relies on the chin to diffuse energy. No matter where you get hit, it goes to the chin or jaw and that's one of the most vulnerable places."

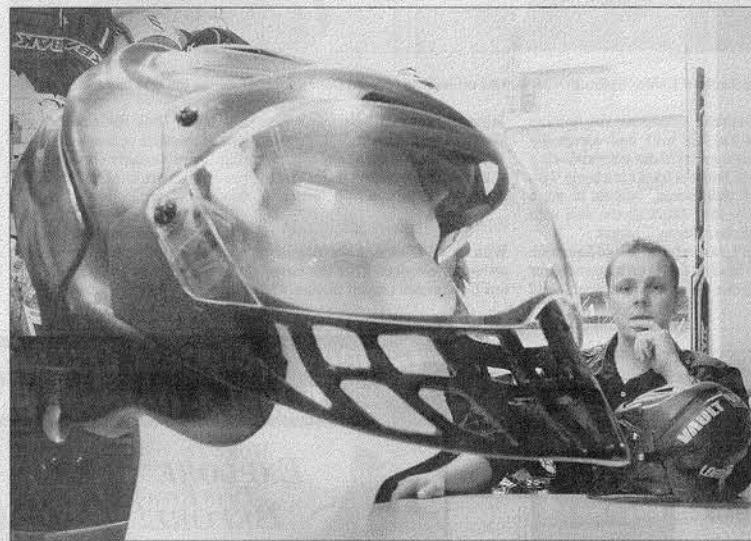
Matthews left a job at helmet-maker Itch and struck out on his own a decade ago after seeing little interest in developing new thinking around hockey head protection.

"You're never going to get a better fit with the current (hockey helmet) design," he says. "Helmet standards haven't kept up with current medical research on the brain and, in my opinion, with the capabilities of design and processes available today with moulding, foam and materials."

The original Canadian standards for hockey helmets date back to the 1970s. To the naked eye, not much has changed since.

The Canadian Standards Association's panel of experts reviews its standards every five years and has made occasional updates since the '70s, said spokesperson Anthony Toderian.

But designers say those changes have been more about tinkering



KEITH BEATY/TORONTO STAR

Morgan Matthews, senior partner at Toronto's Impact Machine Design Inc., with his new helmet, the "Vault."

than transforming. And there remain serious challenges.

The CSA's technical committee on hockey helmets "is very aware of the recent issues and concerns related to head injuries in hockey" and will examine the issue at the meeting in April, said Toderian.

For now, there is no such thing as a helmet that prevents concussions. And it may never come, experts say.

"I'm not very hopeful," says Dr. Pat Bishop, retired professor of kinesiology at the University of Waterloo. "The helmet's job is to prevent seri-

ous, catastrophic brain injuries, not prevent concussions. The notion that you can keep beating people around the head and stop concussions is silly. Until the NHL gets that through their head, everything else is band-aid."

Former NHL great Mark Messier has thrown his celebrity support behind the MI — a helmet promising to absorb high-impact hits using a liner system the company claims will perform up to 140 per cent better than traditional helmet foam by the third impact.

"We know we can do something more than what we've done in the last 40 years," says Messier, whose 26-year career in the league included what he now believes to be between five and 10 concussions.

"The certification standards are archaic and not meeting the demands of what the game is now."

Consider the dramatic changes in the rest of the hockey ensemble over the years: wooden sticks have been replaced by high-tech composite, flimsy pads by armour-like body wear and heavy, boot-like

skates re-formed with light, space-aged materials. By comparison, the helmet is an antiquated relic.

"The only thing that hasn't evolved in our sport is the helmet," says Messier. "Because our sport is so performance driven, the money has gone into areas like harder shots and faster skating."

Evidence has been piling up on the ice and in the results of brain studies on former players suggesting current helmet designs aren't doing nearly enough to protect vulnerable brains.

Currently, 13 NHL players are listed as having concussion injuries, six more with "head injuries" and another with "dizziness."

In the NFL, where concussions are also a major concern, the league is testing helmets, targeting helmet-on-helmet hits and recently announced a plan to place devices in players' helmets to measure the impact of head hits.

"I have great respect for the NFL's new attitude toward the head," says Dr. Charles Tator, a neurosurgeon at Toronto Western Hospital and founder of Think First, a national brain injury prevention agency. "I think they're ahead of the NHL in dealing with the concussion problem."

Eventually, ForceCap wants to apply its "air bag" technology to football, motorcycle and other protective sporting helmets, says Chris Cory, the company's head of business development and father to a 17-year-old high school football player who suffered a concussion.

"Everything you read about it is absolutely true. His schoolwork suffered, he had headaches, loss of balance. It's horrible, devastating."

IMPACT MACHINE workabledesign

Impact Machine founder, Morgan Matthews, discusses the VAULT helmet and the recent advances in helmet design and research.

IMPACT MACHINE DESIGN INC
76 Richmond St. E, Suite 450
Toronto, ON M5C 1P1

e: info@impactmachine.com
p: 416-451-6885
f: 888-315-7472
w: www.impactmachine.com