


[Playbook](#)

The Wired World of Sports

[Previous post](#)

Real-Time Physics Engine Gives New Life to *NHL '11*

By [Kyle Stack](#)  September 9, 2010 | 1:17 pm | Categories: [Data](#), [Information Technology](#)



Any hockey videogame player pines for the moment when he can zero in on an opponent to check into the boards. Still, that visceral thrill quickly leads to boredom once gamers figure out that the resulting carnage unfolds only in a limited number of ways. EA Sports' *NHL '11* promises to change that.

That's because *NHL '11*, released this week, sports a real-time physics engine, the first time such a feature has been implemented into a hockey game. (This also marks [the 20th year](#) of the *NHL* franchise.) The tech upgrade gives way to an open-ended result whenever two elements of the game occur, such as player-on-player contact.

"In past years, if a big guy hit a small guy, we'd look at the player's size, strength, and angle of pursuit," Sean Ramjagsingh, a producer for *NHL '11*, told *Wired.com*. "Then we'd check that the animation gives an appropriate result and play off that. What physics does is help us play off those same variables, but we don't know what the end result will be."

Inspiration for the new feature came from *Fight Night Round 4*, the company's boxing title released in June of last year. That title unveiled a physics engine in which every punch that made contact affected a boxer's physical reaction in a different manner. Ramjagsingh says he and his fellow *NHL* producers were hooked: "We knew we needed to get that into hockey."

They hired the lead programmer from *Fight Night* to create a modified physics system for an *NHL* franchise that has won 22 Sports Game of the Year awards over the last three years. Despite a prolonged effort to get the underlying infrastructure for the game running — game producers couldn't test the engine in an on-ice environment until this past February — the end result is gameplay that evolves much less predictably than before.

Whereas *NHL '10* had approximately 500 animated reactions to body checks, Ramjagsingh said an infinite number exists for *NHL '11*: "We never know what's going to happen now."

During game development, for example, producers noticed one on-screen player who was hit over the boards and had his arm dangling over the side of his team's bench. "As his arm was hanging over the board, his stick got stuck under the bench and he was just wedged there," Ramjagsingh said. "That was a situation we didn't know could happen. We thought it was *possible*, but we never knew it until we saw it."

Another advantage of incorporating the physics engine meant the arduous task of motion-capture animation was eliminated. *NHL '11* cover boy Jonathan Toews of the Stanley Cup-winning Chicago Blackhawks didn't have to be set up in a standard black suit with mo-cap bulbs because no predetermined animations were needed.

That was fine with him. "It's pretty cool," Toews told *Wired.com*. "The hitting is still realistic as to how players recover and get the puck back."

Emphasis was placed on player-on-player contact in this year's rev, but next year's game will smooth the rough edges over contact among players, their sticks, and the puck. By the 2013 edition — in other words, two years from now — Ramjagsingh hopes the entire gameplay will be driven by physics.

When that happens, even the most seasoned hockey gamer won't be able to know what's coming when the puck goes bouncing into the corner.

See more Game Videos at EA.com.

Follow us on Twitter at [@kylestack](https://twitter.com/kylestack) and [@wiredplaybook](https://twitter.com/wiredplaybook) and on [Facebook](https://www.facebook.com/wiredplaybook).

See Also:

- [World's Lightest Hockey Helmet Explains Hockey Hair](#)
- [Hockey Madness Begins](#)
- [A Failed Attempt at Hockey Overdose](#)
- [NHL Franchise Lets Fans Name Their Own Price](#)
- [Wayne Gretzky-Style 'Field Sense' May Be Teachable](#)