



PRO HOCKEY

# GETTING INSIDE THE HEAD OF SIDNEY CROSBY

With his recovery from a concussion seemingly stalled, the NHL superstar sought help in alternative medicine and believes he got immediate results

**BY DAVID EPSTEIN AND MICHAEL FARBER**

Photographs by **FRED VUICH**

**T**hey were the head shots heard round the world. The first was on New Year's Day, in the 2011 Winter Classic, when the right shoulder of Capitals center David Steckel caught Penguins center Sidney Crosby flush on the left side of his helmet, sending his head flopping like a speed bag off a boxer's knuckles. The NHL's most important player scraped himself off the ice, hunched over and coasted to the bench, staring at his skates.

The second came four days later, when 6' 6", 220-pound Lightning defenseman Victor Hedman smothered Crosby into the glass from behind. The check seemed innocuous, but coupled with the earlier hit from Steckel, it left Crosby concussed, light sensitive and plagued by headaches and dizziness. Pittsburgh finished its season without Crosby, who had been leading the league in scoring. The next eight months would be the toughest of his super



**PRIMARY CARE**

After working with Carrick (left) for a week in Marietta, Ga., Crosby met the media in Pittsburgh on Sept. 7 along with Collins (right), his neuropsychologist.

career, sending him from darkened rooms and doctors' offices to an unlikely salvation at a community ice rink in suburban Atlanta, where, the 24-year-old Crosby says, a man on the fringe of neuroscience brought him to the cusp of recovery.

**AT HOME** in Halifax, Nova Scotia, Crosby continued to work out with his longtime

trainer Andy O'Brien, still unable to focus sufficiently to read or watch television. Some days Crosby would feel well enough to skate, but as soon as he went hard, some of his symptoms returned.

Throughout his convalescence, Crosby has been treated by neuropsychologist Michael Collins at the University of Pittsburgh Medical Center, a leader in the study of sports-related brain trauma. But in August, Crosby was still suffering from balance problems, which indicated lingering issues with his vestibular system, the sensors in the inner ear that are instrumental to spatial orientation. Like Crosby on the ice, UPMC is considered the gold standard, having published a 2010 study on vestibular therapy techniques in postconcussion patients. But with the season just six weeks away and his recovery proceeding sluggishly, Crosby—like NFL stars Peyton Manning and Terrell Owens, both of whom reportedly flew overseas recently for experimental stem-cell treatments—turned to an alternative.

O'Brien had received a recommendation to send Crosby to a chiropractor named Ted Carrick. The referral came from Mark Lindsay, Toronto's chiropractor to the stars, who has worked with athletes from Manning to Alex Rodriguez. After four days of trying to reach Carrick, "we were getting a little discouraged," says Crosby's agent, Pat Brisson. Then Carrick's secretary called back, saying that even though the wait to see Carrick was a year, minimum, he would take the case. "We really specialize in these vestibular concussions," Carrick says.

And so Crosby, during the last week of August, found himself sharing the rink with the Atlanta Junior Knights at the Marietta Ice Center under the supervision of Carrick. He is regarded in his small and scientifically controversial corner of the health-care universe as the father of chiropractic neurology, a discipline that seeks to improve brain function with anything from eye exercises to music therapy, but without medication or surgery. It's a field that's unfamiliar to many traditional doctors, including Randall Benson, a neurologist at Wayne State in Detroit who has studied several ex-NFL players. Says Benson, "It's very difficult to evaluate what kind of training, expertise or knowledge a chiropractic neurologist has since I have never heard of [the discipline]."

For the next week Carrick put Crosby through on-ice exercises and then whisked him away for tests in either a side room at the rink or in his lab at nearby Life University, a

GENE J. PUSKARI/AP

chiropractic college. Carrick strapped Crosby into a gyroscope chair similar to one that might be found at space camp. "I thought I was [going to vomit]," Crosby says. Other days, tests focused on his balance or on his visual tracking. Carrick told him that his eyes were "choppy," Crosby says, as they panned along with a target. "My eyes felt like a muscle that hadn't been used for months," says Crosby. No matter the problem, Carrick, says Crosby, "was always able to tell me what part of my brain was causing me to be off-balance. So whatever it was . . . he'd have corrective methods to fix [it] by the next day."

On Sept. 7, Crosby reemerged at a press conference in Pittsburgh. Carrick sat to his right atop the dais and Collins to his left. In a staid manner Collins said, "We're making progress in Sid's case." But Carrick was more emphatic: "When we first saw Sid, different functions didn't work well at all. Now they do. . . . It's Christmas for Sid Crosby." Crosby practiced on Sept. 17, the first day of camp, without contact and without symptoms.

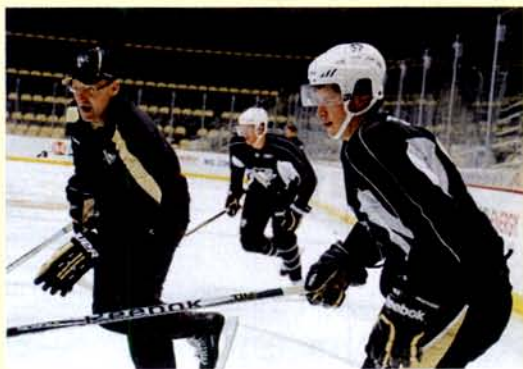
**C**rosby's press conference was not Carrick's first time on stage. He is an experienced lecturer. In 1998, at Parker University, a Dallas chiropractic college, Carrick worked on Lucinda Harman before 300 students. Two car accidents and a neurotoxic bite from a brown widow spider had left Harman, herself a Ph.D. in experimental psychology, wheelchair-bound and with headaches, during which she saw spots.

"[Carrick] asked if they were red and yellow," she says. "I said, 'No, they're green, blue and purple.'" Carrick informed the audience that this meant her brain was being drastically deprived of oxygen and that, without treatment, she had six months to live. Harman, now 59, says simply, "Miracle." But Randall Benson says that "there's nothing out in peer-reviewed literature supporting" an association between the color of spots a patient sees during a headache and the severity of the oxygen deprivation in the brain.

The world of chiropractic neurology is largely self-contained and exceedingly self-referential. But follow the threads of

its literature or the bona fides of its practitioners far enough, and one thing becomes clear: Everything connects to Ted Carrick. He graduated from Canadian Memorial Chiropractic College in Toronto in 1979. A year later he founded the Carrick Institute for Graduate Studies, which is now headquartered in Cape Canaveral, Fla. There are more than 300 active chiropractic neurologists in the U.S., many of whom have been trained by Carrick.

Through satellite locations, Carrick and



**COACH'S CLINIC**  
Crosby underwent eight months of treatment before rejoining the Penguins and coach Dan Bylsma (left) for the first practice, on Sept. 17.

the faculty at his institute lecture to more than 4,000 students in the U.S. and in 10 foreign countries. His is one of three institutes in North America with an accredited chiropractic neurology program; all three were designed by Carrick,

according to Harman. (She is now executive director of the American Chiropractic Neurology Board, the field's certifying body, which she runs from her duplex in Texas, the only state she knows of where a board of chiropractic examiners has formally approved chiropractic neurology as a specialty group.) The body that accredits educational programs in chiropractic neurology is the Commission for Accreditation of Graduate Education in Neurology, whose chairman, Pennsylvania chiropractor Michael Swank, studied under Carrick and says he was appointed by Carrick.

Carrick, who has had a handful of studies that have appeared in scientific journals, has never published data on vestibular concussions. "We don't have enough time to publish studies," he says, "but we're doing a large one at Life [University] right now." In a 1997 paper that drew significant attention from other chiropractors, Carrick reported that brain function could be altered through spinal manipulation, as evidenced by a change in a person's visual blind spot. But according

to several neurologists interviewed by SI, the blind spot that Carrick discussed is not a function of brain activity but rather the result of a hole in the eyeball through which the optic nerve exits and carries information to the brain. "The blind spot is a fixed anatomical feature," wrote Harriet Hall, a retired family physician and Air Force flight surgeon in a published rebuttal to Carrick's findings. Several letters to the journal praised Carrick's apparent breakthrough; others called his methodology wholly unscientific. One, signed by three chiropractors and an optometrist, criticized Carrick for using terminology not found "in any neurological text" and concluded, "Dr. Carrick has confused what he believes to occur with what he can actually demonstrate to occur."

**S**o did Carrick help? Crosby thinks he did, even though at week's end he hadn't engaged in full-contact drills or played in a preseason game. "Patients' testimonials should basically be discounted" as far as matters of medical efficacy, says Ruth Macklin, professor of bioethics at the Albert Einstein College of Medicine in New York City. "The placebo effect can be 30 percent."

Carrick says he often sees patients who are desperate for a cure, "patients who have not been helped by other doctors and who have lost hope." According to Benson, such patients tend to be "very suggestible." After seeing Carrick at Crosby's press conference, Henry Feuer, the consulting neurosurgeon for the Colts and a veteran of 40 years on NCAA and NFL sidelines, read some of his studies. "I just can't get a grasp of what he's doing," Feuer says. "If I had another guy like Crosby, would I send him to Carrick? The answer is no. I just see anecdotes, and that's not what we're looking for. The real evidence-based stuff is where medicine is today."

Crosby, meanwhile, continues to practice, untroubled by headaches and dizziness. Nor is he troubled by his experience with unorthodox neuroscience. "I don't think this is a case of trying to do something wacky," Crosby says. "When someone came along and invented the airplane, people must have thought they were out of their mind. *Who thinks he can fly?* I'm sure people thought that person might have been stretching it a bit. . . . At the end of the day, as long as the person getting the care is comfortable, I think that's what's important." □



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