

Head First

Princeton Brain and Spine Care champions the cause of concussion prevention, education and treatment, particularly among young athletes

By Phil Gianficaro | Photography by Rob Hall

DAMARIS TORRES' HEART STOPPED COLD.

When her 15-year-old son, Mark, crumbled to the ground and remained motionless after colliding with an opposing player during a junior varsity football game in Montgomery County last November, he lost consciousness for a moment. When he opened his eyes he felt lightheaded. After being assisted to the sideline by teammates, his nose began to bleed, and he became nauseous and complained of an intense headache.

A visit to a hospital emergency room that evening shed no further light on the root of his distress, as results of an X-ray and CT scan were negative. "They told me it wasn't a concussion and sent us home," Damaris Torres recalls.

Two days later, the boy's nausea and lightheadedness returned, and he developed a sickly pallid complexion. Later that day, his pediatrician suspected a moderate concussion and advised him to see a neurologist.

It was then that Torres' mother sought out the expertise of Dr. Nirav Shah at Princeton Brain and Spine Care, the premier center for excellence in post-concussion evaluation and management.

"Very quickly, Dr. Shah was able to diagnose Mark's injury as a concussion, and he was able to give us a plan to help him get well again," she explains. "He said Mark needed to relax and allow his brain to recuperate. No TV, no cell phones, no reading, no school tests, just relax.

"A few days earlier, we left a hospital still not knowing what was causing my son's symptoms, and were told it wasn't a concussion. But only three weeks after meeting with Dr. Shah, Mark was fully recovered. I sensed immediately after speaking with Dr. Shah that Mark was in good hands."

For the past seven years, Dr. Shah and the medical team at Princeton Brain and Spine Care—Dr. Mark McLaughlin, Dr. Seth Joseffer and Dr. Dani Bidros—have been among the region's foremost experts in concussions, particularly among young athletes.

"What makes our practice special is we've taken the initiative to champion the cause of concussion education," says Dr. Shah, who also practices neurological surgery with an emphasis on complex spinal surgery and inter-cranial tumor/radio surgery. "We're board certified in neurosurgery and specialize in concussion care. We are uniquely qualified to handle concussion care. But what we also do well is communicate with teachers and guidance counselors to make the transition from the field after a concussion and back to the classroom a safe one."

The doctors at Princeton Brain and Spine Care

Concussions are increasingly common in youth sports. Symptoms include loss of consciousness or drowsiness, confusion, headache, nausea or vomiting, blurred vision, and loss of memory of events surrounding the injury. One study suggests that 47 percent of high school football players suffer a concussion each season, with 35 percent of those reporting multiple concussions in a season.



have provided presentations on traumatic brain injury and concussions for New Jersey and Pennsylvania school principals, athletic directors, coaches, parents and players. They have also presented concussion information at numerous scientific and medical conferences.

“Over the past year or two, we’ve ramped up our work with high schools in Bucks County,” Dr. Shah says. “We’re working on giving lectures to the New Jersey Athletic Directors’ Association for secondary schools, and we have a joint concussion care program with St. Mary’s Medical Center in Langhorne.”

Princeton Brain and Spine Care is also a credentialed consultant in the use of ImPACT, or Immediate Post-Concussion Assessment and Cognitive Testing, the first and most widely used, and most scientifically validated computerized concussion evaluation system. ImPACT objectively assesses the effects and severity of concussion and also recovery progress. It helps determine when it is safe for the athlete to return to contact sports following a concussion.

“When kids get a concussion, it’s vital that they fully recover before returning to the field,” Dr. Shah says. “Kids that return too quickly can be getting something called second-impact syndrome, which means they’re sustaining another brain injury while still recovering from a concussion. In rare cases, kids die on the field when this occurs.”

“People see professional athletes who are suspected of having a concussion. But they’re different than high school athletes or youth league athletes because they have the highest medical care available; youth leagues don’t have that at their disposal during a game. Because of that, our advice to parents and coaches when dealing with a head injury is this: When in doubt, keep them out.”

A concussion occurs when the brain is shaken so forcefully, either during a fall or collision, that it hits the inside of the skull, causing brain injury when tissue is bruised and blood vessels are sheared. Symptoms of a concussion can include loss of consciousness or drowsiness, confusion, headache, nausea or vomiting, blurred vision, and loss of memory of events surrounding the injury.

And when a young person sustains a concussion, the danger is especially high.

“The pediatric brain is different than an adult brain,” Dr. Shah says. “The pediatric brain is full of water and protein, so there’s not much space for the brain to expand when it’s concussed. And the brain swells not only on a visible level, but microscopically. When you’re older, there’s a higher threshold in terms of this type of injury.”

A study from the National Center for Injury Prevention found that 47 percent of high school football players say they suffer a concussion each season, with 35 percent of those reporting multiple concussions in a season.

But more sports-related concussions—about 85 percent—go undiagnosed, according to the American College of Sports Medicine.

“Recognition, management and education are the keys to dealing with concussions,” Dr. Shah says. “That helps not only minimize the effects of concussions, but also helps athletes return to play much more quickly. Concussions, more often than not, can be beaten. Even though they’re not preventable, they have good resolutions with appropriate care and management. That’s what we at Princeton Brain and Spine Care care about most. I would tell any parent that the most important thing they can do for their child if they suspect he or she has a concussion is to see a specialist who deals with concussions.”

Several years ago, a boy competing in the 800-meter run at North Penn High School in Montgomery County fell and hit his head on the ground. He immediately felt woozy, and the effects lasted long after the track meet ended. That kid was Nirav Shah.

“Unfortunately back then, concussions weren’t as much of a concern as they are now,” Dr. Shah says. “I only wish I knew then what I know now. I wish there was someone who specialized in concussions to help me.”

Now there is. ■

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