INDISPENSABLE IMPACT

By **Stephanie Kuzydym**

Dr. **Joseph Maroon**'s work to treat and prevent brain injuries has made the landscape of football — from youth to the NFL — safer.

PAUL STANICK

His is the name of the smallest running back who rushed the fields of the Big Ten in the early 1960s.

His is the name of one of the top neurosurgeons in the country.

His is the name that has changed the game of football — but his name isn't important to him.

He learned long ago: there is no indispensable man.

Joseph Maroon, BA'62, MD'65, is a gentle, poetic man with a soft voice and an impactful presence. His hands of 75 years don't shift or shake. They've been through countless operations, starting with mice and moving to men — men of the tumor and men of the herniated disc, men of the poor and men of the rich.

Maroon has operated on boxing champion George Foreman. He's put Greg Norman under six weeks before a British Open and had him back into playing shape for the tournament, to which Norman responded with a note: "Doc, Thank you for improving the quality of my life."

Maroon has operated on high school cheerleaders and all-star pitchers, and Bears and Ravens and Steelers, because in the name of operation, the knife knows no team.

Most often he is successful, but he has lost on occasion. He examined former Steelers players like Andre Waters, who committed suicide at age 44, and "Iron" Mike Webster, who died of a heart attack at age 50.

These were men who were later found to have chronic traumatic encephalopathy, a degenerative brain disease that has been found in athletes, including boxers, hockey enforcers, and football players. CTE has spurred discussion of concussions, the National Football League, and the negligence regarding head injuries nationwide.

To these losses, Maroon responds with part of a John Donne poem: "Any man's death diminishes me, because I am involved in mankind; And therefore never send to know for whom the bell tolls; it tolls for thee."

Maroon has also saved — saved mothers and news anchors and champions from their tumors and spine injuries. But his biggest impact is sheltered in the lives of 8 million children — one may even be your own — who have taken a test before hitting the field. That test is called ImPACT or Immediate Post-Concussion Assessment and Cognitive Testing.

SETTING THE STANDARD

In 1990, Pittsburgh became the epicenter of concussion issues when Steelers quarterback Bubby Brister was knocked out during a game. Maroon, the team's brain specialist, told coach Chuck Noll his quarterback wouldn't be able to start the following week. He'd have to sit due to concussion guidelines. Noll told Maroon if he wanted his starting QB to sit, he'd need something more than "guidelines." He wanted objective data.

That was the day the kid who grew up in Bridgeport, Ohio — whose own father wanted him to be a lawyer — sparked change in the game of football, from youth leagues to the big leagues. It all revolved around one word: concussions.

With ImPACT, Maroon and other neurologists came up with a series of questions that tested reaction time and the brain's ability to process information. The combination of information created a concussion-management standard to help trainers, team doctors, and athletes. Then they tested the entire Steelers' roster.

Nearly 25 years after Maroon and fellow neurologists Mark Lovell, BS'80, and Ken Podell created ImPACT, it is the standard baseline concussion testing in the NFL, NHL, MLB, MLS, NASCAR, U.S. Olympic teams, the Cirque de Soleil, the Pittsburgh Ballet, the Lingerie Football League, and more than 12,000 high schools, testing more than 8 million high school athletes.

Maroon is not for the elimination of football, but not because he has a job as a team neurosurgeon and spends Sundays flying cross-country with the Steelers.

"Football has already been changed dramatically from the way it's been played 10 years ago," Maroon says. "The rule changes, at all levels. They've reduced contact in practice and in the NFL. They've done it at the youth football league. They've markedly reduced the head hitting in kids.

"The most significant factor that's been missing is the management of the concussion. In the past, it's not been recognized or they've denied it, and they've returned and got hit again before their brain was able to recover."

A concussion is an inflammation of the brain. It's like when a splinter gets in your finger and it's painful and it reddens and then swells. Anti-inflammatory agents are sent in to heal the wound.

"If you get hit before the body's healing process is complete, it stays in the inflammatory zone," he says.

Maroon believes kids are safer playing football now than they have ever been, especially at the youth level. He laid out his position in a recent debate with Chris Nowinski, a former professional wrestler with a Harvard degree and author of *Head Games: Football's Concussion Crisis*. He co-founded Sports Legacy Institute in reaction to medical research indicating brain trauma in sports was a health crisis in America.

As for presidents and neighbors saying they wouldn't let their children play football because of concussion, Maroon disagrees.

"It's a risk-reward ratio," Maroon says. "There are risks. Some kids do get hurt, but if you look at deaths in particular — cheerleading, ATVs, bicycles, playing in the playground — all have a much higher fatality rate."

Maroon backs his support of football by looking toward what he feels are the qualities missing in the leaders of our country today.

Number one, he says: They're unable to work as a team. Number two: There's poor leadership. Number three: There's very little self-discipline.

"And what do you learn on the fields of friendly strife?" Maroon asks rhetorically. "Teamwork. Leadership. Self-discipline. Playing through pain."

ATHLETE SAFETY TIPS

Get Baseline Tested

Joseph Maroon, BA'62, MD'65, helped developed the ImPACT test, the standard in baseline concussion testing. This test involves questions that test memory and cognitive function, giving an athletic trainer a standard for when the athlete is not concussed. When a player takes a hard hit, he or she can be tested and compared to the baseline to determine if the athlete has suffered a concussion.

TRY THE IMPACT TEST: Try a demo of the ImPACT test online at **impacttestonline.com/impacttestdemo**

Don't Rush to Retirement

Concussion is a hot button issue right now. When talking about the retirement of former San Francisco 49ers linebacker Chris Borland, 24, Maroon drew questions among some peers for saying the following: "There are more injuries to kids from falling off of bikes, scooters, falling in playgrounds than there are in youth football," Maroon stated. "I think it's never been safer. Can we improve? Yes. We have to do better all the time to make it safer. I think if a kid is physically able to do it, and wants to do it, I think our job is to continue to make it safer. But it's much more dangerous riding a bike or a skateboard than playing youth football."

However, many other neuropsychologists will tell you Borland's decision was right for him based on his own career. Some neuropsychologists say athletes should be more worried about the damage that will happen to their knees if they've had several tears rather than expecting to be one day diagnosed with CTE from one or two concussions. Concussions and their impact, they say, are individual to the athlete. Evaluate these injuries carefully.

Maroon does believe the NFL had a concussion problem, but he doesn't think it was anything "they tried to hide or sweep under the rug."

"It was lack of understanding of the significant long-term effects of blows to the head that were not properly managed," he says. "They let people go back too soon. Just as significant, the players themselves frequently lie in order to play."

Why lie? Because as much as football has become America's game, it is really America's business. It's hard enough work to earn the starting position, but then to lose it to a concussion? That injury has ended careers.

NO MUSIC IN THE O.R.

Maroon has operated on many high-profile players; the walls of his office are full of signed photos and thank-you cards. They want to thank the man who made them feel better, who helped them through one of the lowest points of their life, but they probably know little about the man who sees these athletes how few others see them: vulnerable.

Maroon is inspired by people, by those who have done good. He is also a man who is deeper than just a neurosurgeon. There is no music in his operating room. Only absolute silence.

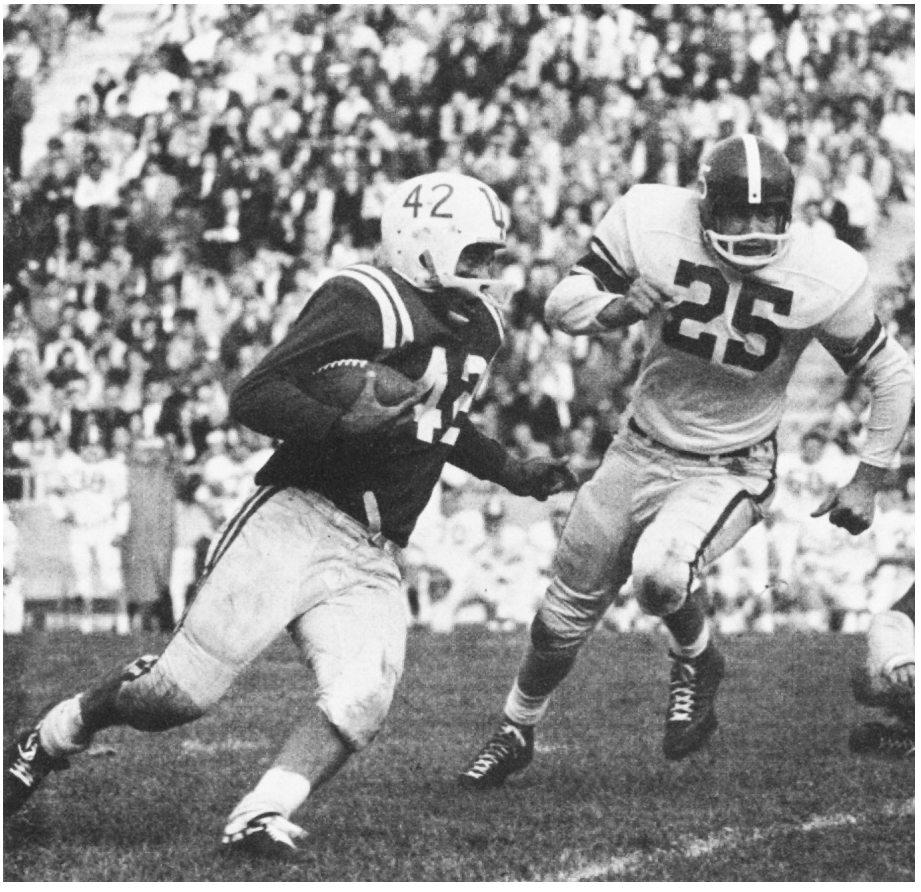
"It's like a church," Maroon says. "It's like a holy place. No banter. No talking. Quiet.

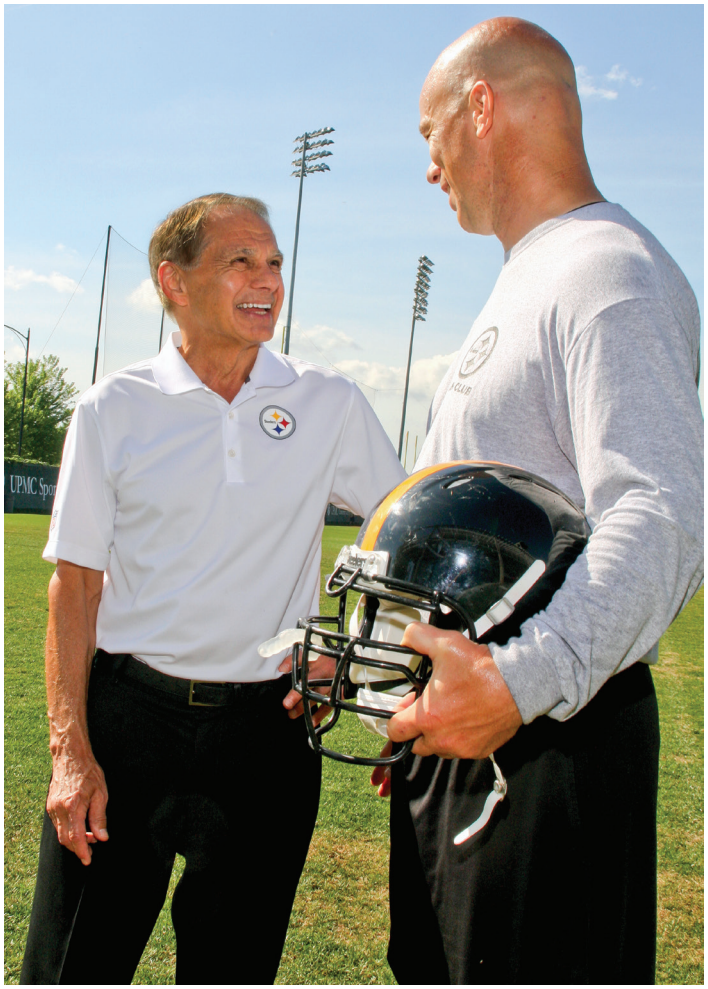
"You're invading another person's body, manipulating things. There's nothing easy. You have to respect everybody and everything."

Once a year, Maroon goes to a monastery in New York to shear sheep, like the monks. He ties his money in a rubber band. He refuses to wear any watch but a Timex. Although Maroon is exceedingly humble, he will be chronicled on film.

There's a sports movie called

Joe Maroon, during his playing days at IU in 1960, carries the ball against Oregon State.





Maroon, left, speaks with Pittsburgh Steelers inside linebackers coach Jerry Olsavsky at the Steelers practice facility.

Concussion that will release this year about forensic pathologist Bennet Omalu's findings of CTE. It stars Will Smith. Arliss Howard will portray Maroon.

He's thought of what he'd like his epitaph to be: "He did the best that he could, the best that he knew how. He kept doing so until the end." — Abraham Lincoln. The other one is Timothy 2: "I ran the good race. I fought the good fight. I kept the faith."

They are humble phrases for a man who was once the opposite. In high school, he had a scrapbook that contained every article that mentioned his athletic accomplishments, a bounty of glory. Maroon was proud of that scrapbook, and he used to look at it all the time. But one day his dad placed a paper on it with a poem.

The poem, by Saxon White Kessinger, is titled *The Indispensable Man*:

Sometime when you're feeling important;
Sometime when your ego's in bloom
Sometime when you take it for granted
You're the best qualified in the room,
Sometime when you feel that your going
Would leave an unfillable hole,
Just follow these simple instructions
And see how they humble your soul;
Take a bucket and fill it with water,
Put your hand in it up to the wrist,
Pull it out and the hole that's remaining
Is a measure of how you'll be missed.
You can splash all you wish when you enter,
You may stir up the water galore,
But stop and you'll find that in no time
It looks quite the same as before.
The moral of this quaint example
Is do just the best that you can,
Be proud of yourself but remember,
There's no indispensable man.

Tucked back on a low shelf in Maroon's office sits a copper bucket his father gave him years ago. As he drinks hot tea, Maroon brushes dust from that copper bucket. He's never filled it with water. He doesn't have to. ∎

Stephanie Kuzydym, BA'12, is a sports enterprise reporter for the Houston Chronicle. *She was named a Livingston Finalist for her 2014 series of stories about concussion for cleveland.com*

ATHLETE SAFETY TIPS

Don't Return Too Soon

Many athletes want to rush back to not lose their starting spots or their good graces with the coach, but researchers are finding what causes things like chronic traumatic encephalopathy (CTE) is "second impact syndrome," which is when an athlete receives a second concussion before the first one has fully healed. This can lead to prolonged symptoms, which could be a few extra weeks of migraines and irritability or could leave an athlete learning to walk again.

Follow the Guidelines

Most schools or state high school associations have individual guidelines for returning to play, which include that a concussed athlete should not take part in anything that causes rapid eye movement. Return-to-play guidelines also normally stipulate that an athlete should rest for at least a week, not spending time around bright lights or loud music. Both are known for increasing the side effects of a concussion. Return-to-learn guidelines are newer, so a school may not have them in place yet. Usually, an athlete can return to play before he or she can return to learn, going through small workouts that don't include things in a classroom like reading long passages or paying attention for an extended period of time under bright overhead lights.

PAUL STANICK

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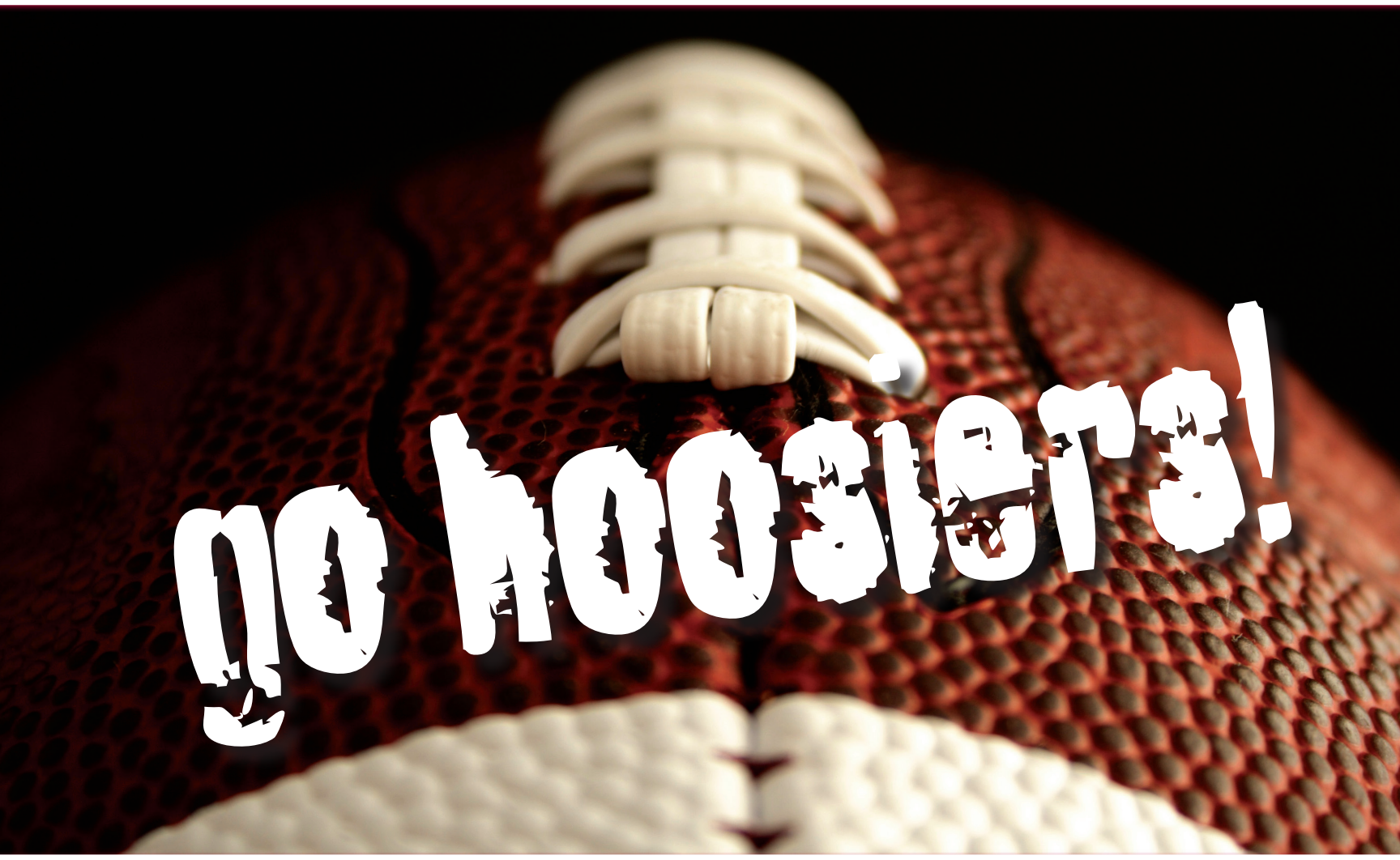

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