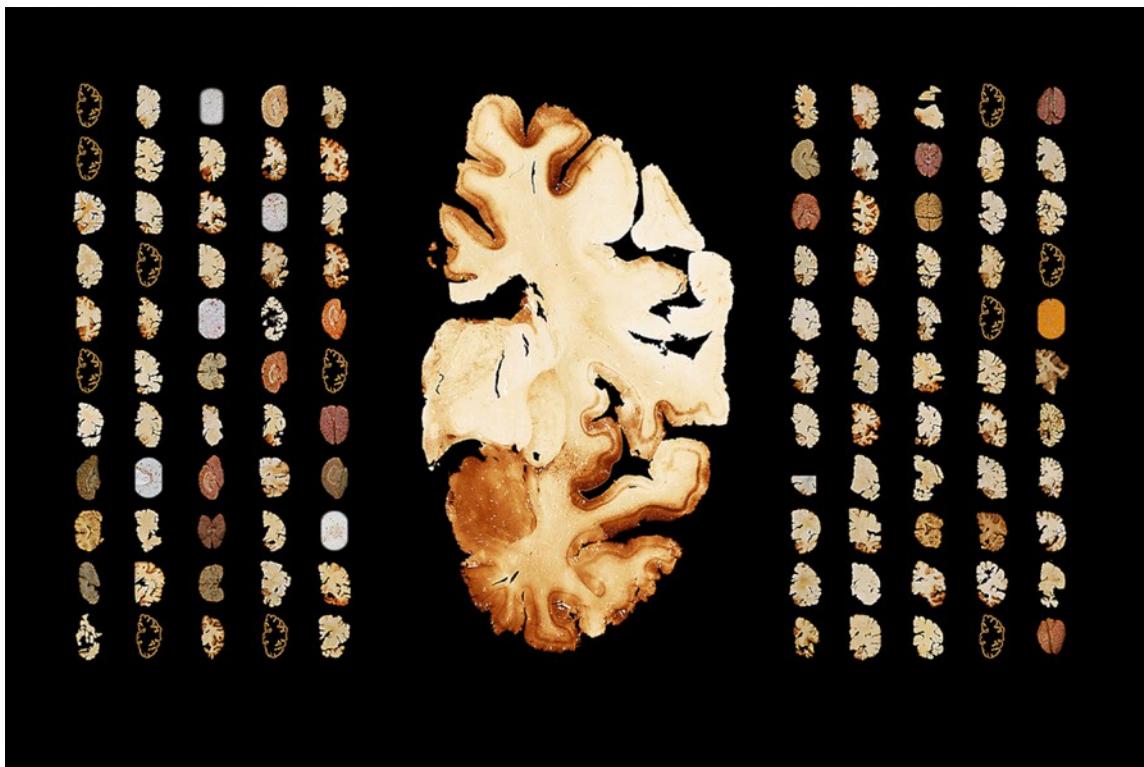


The Human Brain and Sports

DEC. 28, 2017

In 2017, we continued to hear about the long-term cognitive impact that many scientists and athletes believe is a result of brain trauma sustained in football and other sports.



110 N.F.L. Brains

A neuropathologist examined the brains of 111 N.F.L. player — **and 110 were found to have C.T.E.**, the degenerative disease linked to repeated blows to the head.

“It is no longer debatable whether or not there is a problem in football — there is a problem.” — Dr. Ann McKee

He has got violent a couple times, and at times I am afraid for my life. I love my son very much, and you have no idea how much this hurts to see him like this.

‘I Have No Idea How to Tell This Horror Story’

John Branch, a reporter at The New York Times, had been in contact via text messaging and email with Walter Peat since writing about his son Stephen, a former N.H.L. player who experienced debilitating headaches and violent mood swings. Walter Peat gave The Times permission to publish the messages, which illustrate **a father’s desperate attempt to save his son.**

*“Right now, I am at a loss of what to do, and who to turn to for help. Many night, I lose countless hours of sleep, thinking of what will happen, and am I doing the right thing.” — **Walter Peat***



A cross section of a healthy 27-year-old brain looks full and fleshy. But in this multiple-exposure photograph, a neurologist's presentation is merged with a brain that was hollowed in some areas. Credit Mark Abramson for The New York Times

On the Table, the Brain Appeared Normal

The story of a famous, 27-year-old brain, cut from its celebrity and placed on an examination table. Once there, the healthy-looking brain was cut into sheaths, exposing the telltale signs of a potent disease.

“He had a beautiful pathology, if you can call it beautiful.” — a neuropathologist who examined the brain.



Ed Cunningham, a former N.F.L. player, resigned as a college football analyst for ESPN and ABC in the prime of his broadcasting career. Credit Emily Berl for The New York Times

ESPN Football Analyst Walks Away, Disturbed by Brain Trauma on Field

After nearly 20 years of serving as a color analyst for college football games on ESPN and ABC, Ed Cunningham walked away because **he no longer felt comfortable profiting from a sport** he knows is killing its participants.

“I take full ownership of my alignment with the sport. I can just no longer be in that cheerleader’s spot.” — Ed Cunningham



What Happened Within This Player's Skull

When a college receiver sustained a concussion while wearing a high-tech mouthguard with motion sensors, it gave researchers a detailed window into **what happens to the brain in the milliseconds after a big hit**. This video illustrates the new findings about how the brain is affected by such blows.

Think Jell-O, not an egg. You know what happens when you take a plate of Jell-O and give it a hard shake? The stretches and contortions approximate what is happening to all the wiring throughout the brain.



Don Horton during a North Carolina State game in 2009. Credit Ethan Hyman/The News & Observer, via Associated Press

A Football Coach's Struggle With C.T.E. — and a Guilty Conscience

Don Horton coached hundreds of college linemen after his playing days were over. At the end of his life, as he realized what the sport had done to him and some of his players, he asked: **What was his responsibility to those he coached?**

“Don would ask, ‘Are we just carrying this cycle on?’ That was a question I couldn’t answer. But it’s definitely the right question to ask.” — Maura Horton, Don’s wife.



Tara Nesbit with her husband, Jamar, who had a long career in the N.F.L., at their home in Charlotte, N.C. Tara Nesbit started the Facebook group. Credit Logan R. Cyrus for The New York Times

Inside the Facebook Group Where N.F.L. Wives Share Anxieties and Advice

Part confessional, part help line, part bonding session, an invitation-only discussion group for the wives and partners of current and retired N.F.L. athletes has become **the go-to place to air the complexities, anxieties and consequences** of living with a professional football player. “When

someone says something, there are 10 women who jump on and say, ‘My husband is like that, too.’” — **Tara Nesbit, creator of the Facebook group.**



Winnipeg Blue Bombers quarterback Dan LeFevour ran past teammates during a no-pads practice in Winnipeg. Credit Jason Franson for The New York Times

Canadian Football’s Big Steps to Reduce Hits, a Contrast to the N.F.L.

The C.F.L. barred players from deliberately slamming into one another during regular-season practices, and **they no longer wear shoulder pads and other protective gear in practices**, aside from helmets. The rules seemed, early on, to make the players safer, but there are big doubts about whether a similar approach could ever work in the N.F.L.

“You basically get in a car accident every game with the amount of contact we have, so we don’t need to be doing that during the week as well. Being able to step on the field on game day and feel kind of fresh has been awesome.”

— **Patrick Neufeld, Winnipeg Blue Bombers offensive lineman.**