

CHUCK NOLL FOUNDATION

# Chuck Noll Foundation

FOR BRAIN INJURY RESEARCH



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**C**huck Noll's passion for knowledge of all things, not just those related to football, was as legendary as the man himself.

Noll was well-versed in a number of subjects, so much so that he likely would have struck someone who didn't know he was a Hall of Fame football coach as a college professor or other member of academia.

That's why, when he found out Bubby Brister was being held out because of a concussion in 1990, Noll wondered about the availability of his starting quarterback. Noll wanted to know why doctors felt Brister wasn't ready to return. After all, he seemed fine.

It was a monumental moment in the science of brain trauma and concussions in particular.

Steelers team neurosurgeon Dr. Joseph Maroon didn't have a good answer for Noll at that time other than the fact that Brister hadn't passed the protocols that were in place.

Noll wanted to know more than that, not because he was concerned about the prospect of playing without his starting quarterback, but because his world-class curiosity had been piqued.

"There was a small group of physicians drawing up criteria for a return to play following a concussion. How soon, what criteria. Concussions were then graded one through three," Maroon said. "These were the guidelines, and a fellow by the name of Bob Cantu in Massachusetts and Julian Bailes with us here drew up these guidelines. So, when Bubby had the concussion, the guidelines said he had to stay out a minimum of two weeks at that time."

"[Noll] came to me and said, 'He knows his plays, he looks perfect, I don't see any memory problems. If you want me to keep an athlete out of playing, I want objective data, not just guidelines that are not evidenced based.'"

Maroon, then the chair of neurosurgery at Allegheny General Hospital in addition to his work with the Steelers since 1984, contacted colleague Dr. Mark Lovell regarding Noll's question. Lovell did some research and found there was no real format or subjective test for people to take that showed they had recovered from a concussion.



It was all one big mystery. After all, the prevailing thought in regard to concussions in those days was that a player had simply gotten his "bell rung." Often, players returned to the game or didn't miss any time in the ensuing weeks.

Maroon admits to initially being upset with having a football coach question him in his area of expertise. But after thinking about it, he realized Noll had a legitimate point.

"I went to Mark Lovell, a neuropsychologist I was working with then at Allegheny General, and I said, 'Mark, you know he's right. We need an instrument to measure brain speed, memory, the ability to process information,'" Maroon recalled. "We came up with a pencil-and-paper test and went back to Chuck and said, 'OK, if you want objective data, we need to have a baseline of every individual.' He talked to Dan [Rooney] and said, 'Okay, you can do that.'"

## Noll's initial questions led to years of research and data.

Maroon and Lovell set about coming up with the ImPACT test (Immediate Post-concussion Assessment and Cognitive Testing) that is now widely used across the country at high schools, colleges and professional leagues.

It's also the reason why the Chuck Noll Foundation for Brain Injury Research was formed in 2016 with a \$1 million donation from the Steelers serving as startup money.

The Foundation, which is based in Pittsburgh, was born not only from Noll's quest for knowledge when it came to the subject of concussions, but from a conversation Steelers President Art Rooney II had with University of Pittsburgh Chancellor Patrick Gallagher.

**I want objective data, not just guidelines that are not evidenced based."**

- NOLL, ON THE SUBJECT OF CONCUSSIONS

"Number one, it was a desire to honor Chuck and do something in his memory. He actually was one of the first people to ask for objective data in terms of diagnosing a concussion," Rooney said of the late coach. "The other part was that I had a conversation with Chancellor Gallagher at Pitt, and he was talking about how strong of a research community we have in Pittsburgh on brain injuries. We started talking and said it would be great if we could fund more of the research. The Steelers contributed the first million dollars as kind of a seed fund."

## CHUCK NOLL FOUNDATION

**T**hat was five years ago. Now, the Chuck Noll Foundation is one of the leaders in funding research regarding the critical area of brain trauma.

The Foundation's goal is to diminish the impact of sports-related head injuries. It does so by awarding grants to advance research related to the diagnosis and treatment of injuries to the brain occurring primarily from sports activities.

Through additional donations, the Foundation's funding has continued to grow. In fact, the Foundation was the beneficiary of last night's Steelers Hall of Honor charity dinner. As those donations add up, its reach and impact have followed suit.

"We've now funded 14 research projects," Rooney said. "It's been a good first few years and there's a lot more to do."

As long as there are contact sports – and even non-contact sports – there will be concussions resulting from them. But learning how to better diagnose, treat and prevent them is something that has been a hot topic for the better part of a decade.

It's come a long way since Noll once questioned Maroon regarding his release of Brister from concussion protocols.

"Our formation of the National Science Advisory Committee with five of the top neurosurgeons in the country is really the gold standard," said John Denny, executive director of the Chuck Noll Foundation.

"They recommend what things get funded and where we direct our resources. We wouldn't be able to do our work without them."

According to Denny, the Foundation has taken that seed money from the Steelers and other grants and turned \$1.7 million into an additional \$10 million.

That committee now includes Maroon, now also a professor, vice chair and Heindl Scholar in the Neuroscience Department of Neurological Surgery at the University of Pittsburgh Medical Center. It also includes Dr. Julian E. Bailes, Dr. Regis W. Haid Jr. and Dr. Shelley D. Timmons, while Dr. Donald Whiting was recently added.



## The Foundation's goal is to diminish the impact of sports-related head injuries.

Bailes is chairman of the Department of Neurosurgery and co-director of the Northshore Neurological Institute. Haid is a founding partner of Atlanta Brain and Spine Care and Medical Director of the Piedmont Spine Center and Neuroscience Service line at Piedmont Hospital in Atlanta. Timmons is a professor and chair of Neurological Surgery at Indiana University Health and Indiana University School of Medicine, where she holds the Betsey Barton Chair in Neurological Surgery and is also co-director of the Neuroscience Institute. Whiting is chair of the Department of Neurological Surgery at Allegheny Health Network (AHN).

### PROSPERING

**As the Chuck Noll Foundation grows, it continues to improve.**

The board of directors includes Rooney, former Steelers running back Merrill Hoge, Dusty Kirk, a partner at Reed Smith, former Steelers executive Tony Quartrini and John Siebart, a local entrepreneur and owner of Coordinated Care Network.



**It's been a good first few years and there's a lot more to do."**

**- ROONEY, ON THE CHUCK NOLL FOUNDATION**



## It's an impressive group.

And recently, the Chuck Noll Foundation funded a research project penned by Drs. Michael Collins and Anthony Kontos of the UPMC Sports Concussion Program that was published in *The Journal of Pediatrics* on vestibular rehabilitation in adolescents following a concussion.

The Chuck Noll Foundation isn't just about dealing with concussions and treatments among NFL athletes. It's working to deal with concussions at all levels of play.

"When you talk to the folks at the concussion clinic, the majority of their patients are not football players. They're coming from all kinds of spots and all kinds of activities, and so there really is a need to know more," Rooney said. "The more we've dug into this, the more we've learned that there's more need for research. Some people think we know everything we need to know about it, but we've got a long way to go."

"On the diagnosis side, I think there's progress. We're close to having possibly a blood test, possibly a saliva test to detect concussions. The return-to-play question is always the biggest question. Having the tools to know when the symptoms have subsided, those are things that I think there's been progress on. On the treatment side, the paper that was published by Dr. Kontos and Dr. Collins goes into some of the treatments they have. There's progress on a lot of different fronts, but there's still a long way to go."

### TEAM EFFORT

Members of the Steelers organization, including Art Rooney II, selflessly involve themselves in the Chuck Noll Foundation.

**S**o much more is now known about concussions since Noll first asked Maroon his question regarding Brister. But the more learned about concussions, the more it's realized that there's so much more that's unknown.

"I think the most important decision doctors will tell you is the return-to-play decision," Rooney said. "It's very dangerous for somebody to go back into a game, whatever the game is, when they're still having symptoms. That's where being able to diagnose that, and understanding that and when the symptoms have subsided, is pretty important stuff."

It goes beyond that, as well. There's just so much that isn't understood about the brain. And it's not like other injuries that can be diagnosed with a CAT scan, X-rays or even with a minor surgical procedure.

But it's come a long way from the days when doctors held up two fingers and asked the player how many they saw.

"It was considered a concussion if you had your bell rung," Maroon said. "But if you had your bell rung, you'd be OK. It was thought in those days that to really have a concussion, you had to have a loss of consciousness.

"We later found that 90 percent of concussions occur without a loss of consciousness."

Those things were determined by studying the issue.

And the Chuck Noll Foundation is at the forefront of funding many of those studies.

As to Rooney's initial conversation with Gallagher, much of the funding can be used locally.

Pittsburgh and the surrounding region are home to some of the best and most progressive hospitals, universities and neurological centers in the world.

Among the local institutions who have received funding are Pitt, Carnegie Mellon, Penn State, and West Virginia universities, as well as UPMC and AHN. But it's also partnered in funding research projects at Children's Hospital in Philadelphia and Northwestern University.

"Pittsburgh is ground zero for concussion diagnosis, management and study," Maroon said.

The foundation has also helped fund the Pitt Brain Bank, a division of the university's Neuropathology Department. The Pitt Brain Bank is one of eight worldwide that are part of the International Shared Brain Bank Research Initiative.

The Foundation will begin its fourth funding cycle in 2022 and a lot of important work remains to be done. Each year, the Foundation seeks to raise an additional \$1 million through donations to be able to fund additional research projects. And Rooney doesn't want to stop at just funding local projects.

"Just continue to be able to support research not only in Pittsburgh, but in some of the other research facilities around the country," he said of the Foundation's long-term goals. "We've been able to recruit some of the top people in our national science research advisory committee. Dr. Bails is in Chicago. Dr. Haid is in Atlanta. Dr. Timmons is in Indiana. So we have people now in different parts of the country who will be able to feed different research projects from centers around the country.

"The goal is to be able to continue to expand the number of projects we can fund."

## And it all started from that one question from a football coach.

"That's exactly right," said Maroon. "We went from, 'If you want me to keep somebody out, I need objective data,' to the Chuck Noll Foundation. We've already raised over \$4 million. We've funded some really good projects. Now, we're expanding to military hospitals.

"This all came from that one challenge: 'Give me objective data,'" Maroon said. "It just blows my mind when I look back."



## CLASS OF 2020

SAFETY

**TROY POLAMALU**

DEFENSIVE LINEMAN

**DWIGHT WHITE**

LINEBACKER

**JAMES FARRIOR**

LINEBACKER

**GREG LLOYD**

SAFETY

**MIKE WAGNER**

## CLASS OF 2021

OFFENSIVE TACKLE/BROADCASTER

**TUNCH ILKIN**

OFFENSIVE TACKLE

**JON KOLB**

WIDE RECEIVER

**LOUIS LIPPS**

DEFENSIVE BACK

**CARNELL LAKE**

The Chuck Noll Foundation for Brain Injury Research served as the beneficiary of the Steelers' Hall of Honor charity dinner.