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Dr. Bennett Omalu on the Dangers of Concussions and CTE

Dr. Johnson:

This is a Clinician's Roundtable on ReachMD, and I am Dr. Shira Johnson. With me today is Dr. Bennet Omalu. Dr. Omalu is a forensic pathologist and neuropathologist, and he holds multiple other degrees and board certifications including a Master's of Public Health and Epidemiology - University of Pittsburgh, and an MBA from the Tepper School of Business at Carnegie Mellon University. He was the first to discover and publish findings of CTE, chronic traumatic encephalopathy, in American football players. The book Concussion, which was based on his work, was published in 2015 and later adapted into a film of the same name.

Today we're discussing CTE, which has been diagnosed on autopsies that were performed on NFL players as well as other professional athletes.

Dr. Omalu, welcome to the program.

Dr. Omalu:

Thank you so much for having me, Dr. Johnson. I'm glad to be here.

Dr. Johnson:

What was the initial reaction to your case study and later to your reported series of CTE in American athletes?

Dr. Omalu:

Well, you know, that's a very interesting question, and thank you for asking that. While we were producing the movie Concussion, I learned a lot from Hollywood, from Ridley Scott, Will Smith and Peter Landesman. I honestly learned a lot. And it was Peter Landesman, the director of the movie, who said to me, "Look, Bennet, don't you think you are different, that throughout the history of mankind, any individual who disrupts the status quo, who initiates a new way of thinking of behavior, usually becomes a victim of ostracization?" That though you did something good to change society but society would victimize you; that this is a very well-known sociological concept in human behavior.

So, what happened to me was I was treated very, very poorly. You know, people will always think the NFL treated me poorly. No, my fellow physicians, I was ridiculed. I was dismissed. I was labeled to be dangerous even by the leadership in the medical industry, including the National Institute of Health. Even some doctors began to deny that I did not do the Mike Webster autopsy, that I did not discover any disease, and they sold this message even to the media. So, before the movie I had a very terrible reputation. People who never met me, once my name comes up, it was a very negative connotation. Initially, I took it personal. Why me? What have I done wrong? I'm not American. But as time went by, I've been made to understand that this is what happens to outliers who come in and disrupt the doctors' world or disrupt the system, and I was a disrupter, and especially when I was a no-name doctor. I was young, I had just finished my fellowship, I had no track record, and I just came up with this new way of thinking that totally disrupted sports medicine, the sports industry, and neuroscience. And so, who do you think you are?

(Laughter)

You know, but one thing that consoles me now, CTE is now a generally accepted principle of medicine, and people, even the industries, are now beginning to work hard to discover ways to diagnosis this disease in living people and even come up with treatment modalities, so that gives me great consolation. And I think in terms of the public health aspect, my work has impacted the lives of so many in every aspect of life. I receive thousands of emails on a weekly basis from all over the world. So, I think no matter what I may have experienced, it's been a good thing. I think together we all have done well, and I give the American Medical Association the credit

because last year they recognized me with the highest award of the American Medical Association, the Distinguished Service Award—so, looking back, now that it's sufficient consolation for me in spite of whatever I may have suffered.

Dr. Johnson

So, Dr. Omalu, despite this onslaught of emotion and criticism that you took on, you persisted in your research, and when the movie came out, it was based on your work. But during that period, what was it like for you? It must have been very difficult.

Dr. Omalu:

It was. I'm not ashamed to say as a younger person, even in medical school, I struggled with depression for a long time. I had such a low self-esteem. And when I came to America at the age of 26, I was beginning to work through my depression. I was going through some psychological analysis. I was treating myself, really. I tried some antidepressants. I just couldn't deal with the side effects. So, while I was doing this work, the negative way I was treated brought back my depression. In fact, I developed high blood pressure.

But what helped me was my faith. I was born a Christian, a Roman Catholic by denomination, so in that darkness it was extremely difficult for me. In fact, at some point I was even at risk I may harm myself, so I decided to seek some type of strength, and my endeavors led me back to my faith, to the Bible. So, it was my faith that gave me the strength. I started discovering that what I was doing was for the good of all of us. I was not doing anything wrong as a physician and as a Christian. Whatever I did was to enhance the humanity of all of us, because I discovered that we all are one common family of mankind bound together by that bond of peace. We all seek the same things, the same joys, the same happiness, and whatever we do even for the least of us we do for all of us because we are all interconnected and interlinked. So, I discovered that the work I did on Mike Webster, I helped to restore Mike Webster's dignity, and in doing so, I vindicated his family and I vindicated him, and in doing so, I also vindicated my own humanity. So that encouraged me to seek other cases to help football players and their families—because I spent my own money traveling around the country meeting retired football players, and I discovered that all of them were suffering in silence, and there was no nobody to speak out for them. And I made myself the sacrificial lamb, if you will call it, and I was prepared to die on it to be honest with you. That was how strong I felt about it, that I had to use my knowledge and my education to make a difference in the life of another person, and in doing that process, I discovered great joy and happiness, and I found my depression went away.

And so, you see how you can turn something difficult into something productive, how you can turn around failure and hopelessness and fear into something of value that can shed great light and joy in the lives of all of us, and I think that is where we are today. In fact, I'm working on a book now on what a parent needs to know before he or she lets her child play. And in something that's so elementary as that, if you wear a helmet and you suffer a blow to your head, doesn't even make any difference. Your brain is bouncing around inside your skull. Many people don't know that. I've traveled across the country. So many parents, especially the lower socioeconomic, lower education level parents, they don't know that. They believe once your child wears a helmet, that is it; you don't have to worry about a risk of brain damage. As doctors, we need to change that.

If you are just joining this discussion, this is ReachMD, and I am Dr. Shira Johnson. I am speaking today with Dr. Bennet Omalu, forensic pathologist from UC Davis California. We're talking about CTE, chronic traumatic encephalopathy, as diagnosed in professional athletes.

Dr. Johnson:

You have said publicly that you don't attack the NFL, that they are a corporation. You said that the issue is the parents, and that's where the hope lies. Can you expand a little more on that comment?

Dr. Omalu:

Okay. You know, I have an MBA from one of the top business schools in the world. As a human being, I'm married; I have 2 children. In my family life, it's easier to blame my wife for something if something goes wrong at home. It's easier for me to blame my child. It's more difficult to introspect and blame myself, and I think that is what's happening to all of us. It's easier to point fingers at the NFL because it's a more convenient thing to do, and my response to that is, no, we need to stop that. We need to leave the NFL alone. The NFL is a corporation. It's a corporation as valid as Google, as Microsoft, as Amazon. It's a corporation. What do corporations do? Corporations sell a product or a service, and when they provide a product or a service to the consumer, they generate revenue and they turn out profits, and the objective is to turn out as much profit as you can. So, the product the NFL as a corporation provides is football. The service they provide is entertainment, period. The NFL is not in business to provide medical research. That is not what they do. They are not in business to provide health education to the consumer. That is not what they do. The NFL is not in business to protect your child. That is not what the NFL is in business for, so let's leave them alone. Let them sell football. This is a free society. This is not Russia or China or North Korea. Nobody should be banned from doing anything as long as it does not pose a threat to another human being. Actually, there are other dangerous sports like car racing, sky diving, deep sea diving. This boils down to the individual. We have the freedom, liberty and free will to think for ourselves. The NFL does not point a gun at your head and compel you to play football. No,

they don't do that. So, this is about an individual, and when it comes to children, like the American Academy of Pediatrics and the Canadian Society of Pediatrics has clearly stated that no child should engage in any sport whereby it is the intent to suffer blows to the head, any sport whereby blows to the head is intrinsic to the game. There was a paper published in 2011 in the Journal of Pediatrics where the American Academy of Pediatrics stated that doctors must discourage children from engaging in high-impact, high-contact sports where the intent is to suffer blows of the head. So, doctors are not exempt. No child under the age of 18, knowing what we know today, should play the high-impact, high-contact sports as we play them, because these games, just after one season, research has shown, if your child plays football just after one season, there's a reasonable risk of permanent brain damage—just after one season. A recent paper that came out of Stanford University shows that if you play just one game of football, an offensive lineman can suffer about 50 to 64 blows of his head, and some of those blows are equivalent to a car traveling at 30 miles an hour slamming into a brick wall. And so, that has been my focus as a public health expert to provide objective education to parents, to individuals. Look, these are the scientific facts, make up your own mind. Stop blaming the NFL. The NFL is not part of your family.

Now, the next question that may come is: What are the legal ramifications? These are topics of debate. But in society, whenever we identify a possible risk factor or a probable harmful factor, the first thing we do as a society is to protect children from that harmful factor. That is why children are not allowed to smoke. That is why children are not allowed to drink, because alcohol is a toxin. It damages the brain. Cigarette smoke damages your body. In California, a child cannot smoke until he or she is 21, cannot smoke or drink. A child cannot engage in skydiving or deep sea diving. So, why is a sport like boxing different? Why is a sport like football different? Why is a sport like ice hockey different, or rugby, why? Because of conformational thinking, because of conformational thinking. And so, what are the legal ramifications? Do we need some type of legislative instrument or legislative tool to protect children from harm? These are very difficult and inconvenient questions we as a society must begin to answer, because as a society we evolve. It is part of who we are as a species to evolve, and as we evolve, we give up the less intelligent ways of our past, because with evolution we've become more intelligent. That's a fact.

Dr. Johnson:

You know, today, your insight is very global in terms of the American family, American society, the way we view sports, and we're all very excited to hear that you have a new book out. Can you tell us something about your book and what your vision is for the future?

Dr. Omalu:

Yes, the book *Truth Doesn't Have a Side* was published in August 2017, and how the book came about was in my travels and in some of the interviews I had with Will Smith, people were reaching out to me to tell me, "Look, Bennet, from watching you speak, you seem to be a man of deep faith. That wasn't very well reflected in the movie or in the book *Concussion*. Can you please tell us more about yourself? Tell us the story people have not heard. What made you to keep on keeping on?" So, I wrote my book to tell the story of a man who believes in science and at the same time believes in faith, because society many times will want you to believe that faith and science are diametrically opposed, and my answer to that is that is not true. Science is a human endeavor that seeks the truth through scientific methods, research, and in science, the more you discover, the more you realize what you do not know, but you keep the faith and you keep on searching. Faith, again, is a human endeavor that seeks the truth through the tenets of faith. Religion is a tenet of faith. Religion is not faith itself. So, there is only one truth in our lives. Science seeks that truth. Faith also seeks that truth, so you see a convergence of faith and science at one point, one endpoint, the truth. So, in my life I discovered faith. I practice my faith in my science and my science in my faith. Going by science, there was no reason for me to perform Mike Webster's autopsy. It was faith that made me perform the autopsy on Mike Webster. So, when you seek faith in your life and seek science and combine the two, science and faith should be synergistic. That will make you a more powerful person. It will put, give you greater purpose in your life.

And talking about purpose, the book also talks about the challenges we have in life dealing with expectations of society. Like in football, society is telling you your child must play football. You need to step back. Why should my child play football? Because society says so? No, each and every one of us as individuals is greater than society. We need to discover that. And when you discover that, you empower yourself, and you become the man or woman you were created to be, the man or woman you came to earth to be, to be yourself.

(Laughter)

Dr. Johnson:

They can believe in science and they can believe in their faith and they can have the best of both.

Dr. Omalu:

Yes.

Dr. Johnson:

Because as you said, it's really all one.

My thanks to our guest today, Dr. Bennet Omalu. We've been discussing CTE, chronic traumatic encephalopathy. Dr. Omalu, it was a pleasure having you on the program today.

Dr. Omalu:

Thank you so much. Thank you for having me.

Dr. Johnson:

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