Traumatic Brain Injury Center of Excellence
Podcast Transcript

EPISODE DETAILS	
PODCAST:	Picking Your Brain
FEATURES:	**Host:** Amanda Gano **Interviews:** • Capt. Scott Cota • Sgt. Maj. Troy Black - Sergeant Major of the Marine Corps
OVERVIEW:	Brain Injury Awareness Month podcast featuring TBICoE Branch Chief Capt. Scott Cota and the 19th Sgt. Maj. of the Marine Corps, Sergeant Major Troy Black. The interview covers topics such as the DOD's Warfighter Brain Health Initiative, the commandant of the Marine Corps' Force Design 2030 efforts, and how warfighter brain health is a key factor in the human performance of Marines.
RUN TIME:	57:00

Narrator: The views, opinions, and findings contained in this podcast are those of the hosts and subject matter experts. They should not be construed as official Department of Defense positions, policies, or decisions unless designated by other official documentation.

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Narrator: Welcome to Picking Your Brain, a podcast from the Traumatic Brain Injury Center of Excellence, or TBICoE, that focuses on the care and recovery of service members and veterans who have sustained a TBI. In June of 2022, the Department of Defense released the War Fighter Brain Health Initiative Strategy and Action Plan outlining the department's direction to better address the brain health needs of its service members, their families, line leaders, commanders, and their communities at large. The strategy and action plan addresses blast exposures, potentially concussive events and short-term and long-term effects of TBI, aiming to optimize brain health and mitigate the injury. That's why this Brain Injury Awareness month, TBICoE is promoting the theme, Be a Brain Warrior: Protect, Treat, Optimize. A brain warrior is someone who protects their head and maintains operational readiness. Being a brain warrior means improving the ability of healthcare providers to identify, care for, and treat service members and veterans affected by TBI.

A brain warrior actively understands the importance of seeking care for a concussion and knows when they've been exposed to a potentially concussive event. Brain Warriors ensure our nation's war fighters perform at their optimized capacity by using the latest clinical tools to treat patients, improve outcomes, and maintain a ready medical force. The Sergeant Major of the Marine Corps Sergeant Major, Troy Black, understands what's necessary to be a brain warrior. As the senior enlisted advisor to the Commandant of the Marine Corps, General David Berger, Sergeant Major Black has encountered numerous potentially concussive events and has led by example by seeking care for his injuries. In this interview with TBICoE, Branch Chief Captain Scott Cota, Sergeant Major Black explains how discipline and leadership begin with individual Marines.

Amanda: Thanks again for joining us, Sergeant Major Black. Hi, and welcome to this very special episode of Picking Your Brain. I'm your host today, Amanda Gano. I'm joined today by Captain Scott Cota, Branch Chief at Traumatic Brain Injury Center of Excellence, and we're both very excited to speak today with Sergeant Major of the Marine Corps, Sergeant Major Troy Black. Thanks for joining us today, Sergeant Major.

SgtMaj Black: Thanks ma'am, appreciate it, Thank you.

Amanda: Any questions before we really get started?

SgtMaj Black: No. No questions. I'll just make a comment upfront. One, thanks for continuing to discussion on TBI. I think it's quick to get past something, and put it in a rear view mirror, right? And kind of forget about like it was a thing, right? You might discuss PTS a little bit, like nothing new there either, right? But, you know history has a little bit of dips and valleys. We'll find out in the next conflict. It won't be IEDs. It won't be concussions, it'll be something else. However, there will still be concussions. There will still be sucking chest wounds, amputations, bullet wounds. There will still be all those things, right? But as you guys have realized in our last conflict, the understanding of how the brain works, the effects of concussions, we took to a new level. So we don't want to forget these lessons. Thank you to the Intrepid clinic. I mean, we have invested in the Intrepid clinic for a reason. Hopefully, knock on wood, that's wood right there, we maintain that investment because those are terminal injuries. So I'll leave it there as an opening and comment.

Capt. Cota: Yeah, no, I think that's very good because the wounds of war, you know, and this was of course a major impact over the last 20 years because of the weapons that our adversaries, and enemies were using against us, you know, in, that conflict. But as we get into urban and or other types of potential future wars, whether it be near-peer or something like we saw previously, the weapon systems will change potentially. But I think that the impact on decision making and the brain will always be an effort of our enemies in some way, because the speed of decisions is critical for our success as a nation and as a DOD. So, you know, again—

SgtMaj Black: Can I make a comment, sir?

Capt. Cota: Yeah, absolutely.

SgtMaj Black: I think the last 20 years, and we keep using 20 years, we've been using the word 20 years, like 15 years. I'm not sure how long we been involved in the Global War on Terrorism at this point. But I don't disagree, but maybe a different counterpoint to that. We now have the technology and the understanding different now, but if anybody's ever seen the series Band of Brothers, anybody seen that?

Amanda: Mm-hmm.

Capt. Cota: Yes.

SgtMaj Black: There's a scene in there where they're outside the town of Foy, right? And the reality of that battle and that artillery barrage they were under, I can't imagine that didn't cause concussions. So the idea that now that we've had IEDs and we're inside vehicles and loud things occur, I don't think there's anything new since we've had the ability to understand concussions.

Let's go back to like knights and armor. Getting banged on the head with a frigging mallet, probably caused a concussion. So I don't think, I think the technology and understanding might be different, but I don't see that changing. If we want to kind of think about the future of warfare, we don't want to rely too much on what's going on in Europe right now. But let's assume larger artillery barrages are no different than any time in history since we've had artillery. And the concussive effects of that, that's timeless since we've had that experience and it's probably timeless going forward. So the knowledge, the capabilities, the community's ability to understand the brain differently, that's changed, but not, not concussions. They have not changed.

Capt. Cota: Yeah, shell shock was that symptomology back in the past, right? So it wasn't identified as TBI, it wasn't identified as PTS, but it was shell shock. Now there's some clarity as to the influence of one on the other, both together, in isolation as well. You know, and the resourcing that is becoming more available to assist with that process as individual service members go through and recover from those events. But you're right, I mean we're seeing the same thing at this point. Yeah. We can learn from Ukraine for sure because of what you stated.

Amanda: Yeah, and we're learning more and more about these TBI injuries every day. I mean, research is still emerging. I think a lot of TBI work is really still in its infancy. We're still learning a lot about the effects of concussion and long-term impacts and things like that. So research is imperative to that.

SgtMaj Black: Agree. Agree. I think it can be terminal too. I mean, look at sports.

Capt. Cota: Impact and other things, right?

SgtMaj Black: There's no surprise here, but you know, being a high school football player many, many years ago, I'm sure it, my head hurt because of that as much as it did today.

Amanda: All right, so sergeant major, for some of our listeners who may not be aware, could you please tell us a little bit about your role as Sergeant Major of the Marine Corps and what you do on a day-to-day basis?

SgtMaj Black: Yeah, I'll try to be as concise as possible. Because if I tried to explain what any of the service senior enlisted do on a daily basis, that'd be a whole series in and of itself. So quite frankly the Marine Corps was the first service to really have a service senior enlisted for the service chiefs. So the commandant of the Marine Corps, back in the ’50s, he decided, you know what, we need representation of the enlisted here at the headquarters level. So, the billet of the Sergeant Major of the Marine Corps was created. And like most things in the Marine Corps, we got to say that because we were first. And then the rest of the services followed a bit over time.

But why I mention that is it's imperative that all of the services we recognize all of the services have a service senior enlisted that sits with their service chief and represents, not just the enlisted, but the entirety of the people, both the Marines in this case, sailors that serve within our Marine Corps and their families. So, the people side of the house. Specific responsibilities, you know, using the phrase “principle enlisted advisor to the commandant of the Marine Corps” sounds like kind of fancy, but for the listeners that are commanders and definitely the listeners that understand what their senior enlisted do, that is a mouthful. But basically, I advise the commandant of Marine Corps on all matters that relate to the morale, welfare, discipline, mission success, readiness, the entire Marine Corps. Now that portfolio is as wide as you would imagine it could be. That's future operations, current operations, that's training, education, its manpower, it's the budget of the Corps. It's all of those things at the headquarters that really impacts the entire institution. The Sergeant Major of the Marine Corps has a voice in all of that. Uniquely, the Sergeant Major of the Marine Corps is also responsible for a couple of, service-level of documents. Leading Marines, Sustaining the Transformation—those are pivotal documents in our Marine Corps. What is it that makes a Marine a Marine? They might seem like those are kind of timely things given the current events, but absolutely not. The fact of the matter is the ethos and the culture of the Marine Corps is terminal. So, we're developing a publication in and around that as well. And a whole host of other things we go on for days and talk about, you know, what me and my peers doing on a daily basis.

Amanda: Sounds like you're very busy, sergeant major.

SgtMaj Black: It can be, yes.

Amanda: Yeah, absolutely. So my background a little bit, I was active duty, Navy physician assistant, and I was not in the Navy for very long, only about six years, but I had the honor of being stationed with the Marines my whole six years in the Navy. So, um, one of my most proudest accomplishments was actually earning my Fleet Marine Force pin. For those listeners who may not be aware, basically the Marine Corps doesn't have their own medical assets. So, Navy corpsman, Navy docs, Navy physician assistants, nurses, things like that. And then if you've been stationed with the Marine Corps for a period of time, you can take a written exam, you can sit for an oral board, you learn all the ins and outs of the Marine Corps, and pass a Marine Corps PFT, and then you can earn this nice shiny Fleet Marine Force badge that you get to proudly wear on your uniform. And Captain Cota, I see that you've got that FMF badge on your uniform right now?

Capt. Cota: I do and I'm very proud that I have it as well.

Amanda: Captain Cota, could you talk a little bit about your service with the Marine Corps and how that may have shaped your leadership here at TBICoE?

Capt. Cota: Absolutely. So, I've been in the Navy for a little over 28 years and we will retire at 30 coming up. So, it started a long time ago, back in the day after I finished my first GMO tour, because I was with the Seabees, and then went to Marine Corps Recruit Depot and ran recruit health in San Diego. So that was my first experience with the Marine Corps. I went on to residency training, Camp Pendleton and did family medicine residency there at Camp Pendleton and then went overseas, did a few other tours, and then ultimately at one point was 2009. Came back to then, First Raider Battalion. I was the surgeon there. I was the surgeon at the Raider Regiment, so I came out to Camp Lejeune from Pendleton. My family and I moved out there, spent time as the MARSOC regimental surgeon, the MARSOC command surgeon, and then ultimately went to SOCOM. So, I've been exposed to the Marine Corps in many different ways, and I'll say that every experience has been very gratifying. The Marine enlisted, the marine officers, I've learned from them tremendously. Not only from my patients, but also from the officers that I've served with and the Marine enlisted that I've served with, so.

Amanda: Yeah, I think there's like a special relationship between the Marine Corps units and their medical counterparts. Sergeant major, do you agree with that?

SgtMaj Black: So only a Marine would understand this. Some of the best Marines in the Marine Corps are corpsman and I, and I'll just leave it at that. I've seen corpsman do things—some of my best friends in the Marine Corps growing up have been corpsman. I had the opportunity to be an MLG sergeant major and have the medical and dental battalions inside of that organization. Yeah, corpsmen are special to Marines.

Amanda: Yeah. Absolutely. I always felt like the Marines had my back and, and I always had the Marines' back too, so I, I just loved my time with the Marine Corps. Absolutely.

Capt. Cota: Yeah, that, that relationship is very tight. Were you ever injured or had TBI that you had corpsmen assist you with or the medical department at any point?

SgtMaj Black: And, you know, some of the prepared questions are going to get into this later, but I can go ahead and cover most of that now. So, most of my time with spent with corpsmen was not worrying about myself so much. I've been, knock on wood, relatively healthy, throughout my career. But in particular, I was in 3rd Battalion, 7th Marines from 2009 to 2011. And probably as a career infantryman, and I would say I more or less was up to that point. That was a good deployment. But

anyway, the point is my personal experience, other than, you know, doing silly things like falling off buildings and twisting ankles, which is really where we went our corpsmen to be spending their time. But in combat, being able to witness and observe what our corpsmen are doing. I spent a lot of time with a couple of corpsmen in particular at the headquarters of the battalion, but it really came in this discussion about concussions, my own personal experience. I think in that deployment, it was not unique to any other, any organization, but myself and the battalion commander had five or six vehicles just blown up underneath us, like hit IEDs. Not unusual for the environment, right? But the point is inside that MATV or that 4xMRAP, concussion, right? You get the concussive effects of that. We always had a corpsman that was in our jump section with us, and as soon as the vehicle would hit there comes doc following some, some Marine with a Vallon, make sure there was no more IEDs going up to the vehicle. And sir, you may remember, and ma'am, when you were a PA you probably could recall this. We used to have the MACE exam, right? Then we started figuring out different grades of concussions or what their effects were. It was like watching a World War II movie. The first time I got a MACE exam, it was like, “Hey, what year is this?” 2010. “Okay. Is it day or night?” I'm not making fun of the questions, but you know, the questions were like, “if you could like give a response back really quick, you're good. Let's go freaking push,” right?

Amanda: Yep.

SSMC: Then we got into, “wait a minute, an hour or two later, let me check you again and make sure.” And then all of a sudden you couldn't tell if it was day or night. We learned a lot there. I've had many MACE exams. I know exactly what day and time it is. I knew who won the Super Bowl in 2010. But the point is I've seen corpsmen do these exams with TBI. I mean, I've been around corpsmen my entire career.

Amanda: Yeah. You mentioned that MACE exam, the Military Acute Concussion Evaluation and that's, now it's the MACE 2. So, we do have a more updated version of that and that is a product put out by the Traumatic Brain Injury Center of Excellence. That was actually one of my first experiences while I was deployed as well, is performing these MACE 2, MACE exams then, on Marines who were involved in a rollover. And I had a whole bunch of guys coming in and I just was knocking out concussion evaluation. So, you know, that's really what sparked my interest in getting into this field of traumatic brain injury and health.

Capt. Cota: And that screening tool has been an excellent product. And in development, what's been good is the feedback by those in the field, that have assisted in trying to expedite or change some of the questions and parts of the tools that are now inherent in the MACE 2. So it's a very good screening tool as far as that's concerned. So, I'm going to switch gears just a little bit because your history as a infantryman and you talk about exposures, you talked about some exposures when you were down range, but what's your take on longitudinal exposures, kind of those low-level blast effect and the impact on the Marine Corps specifically those high-risk MOSs like infantry, artillery, special operations, the training cadres.

SgtMaj Black: That's tough because what we learn over time, right, is every time you are around an event, they just accumulate, right? It's like compounding interest. And I think it's really interesting. We often talk about service in the military as a sacrifice and you know, you do these things. I think sometimes we think that means I missed a birthday party or Christmas or something like that. There is really a sacrifice when you serve. And it depends upon where you serve at. I think that's moot. Let me talk about my experience because I can't talk about anybody else's, right? So I'll just talk about mine. I am an infantryman. I grew up as a machine gunner. Well, that sounds like fun, but when you shoot thousands of rounds of ammunition, about six to eight inches away from, you know, where the rounds are going inside the machine gun, that's just concussion, concussion at the cyclic rate or sustaining rate of fire, right?

They're small, but you're getting that blast. I don't know, I'm not a doctor, but it's probably not severe enough to have like, you know, an effect immediately. But it's the combination of those things. Okay, well, you also go through demolition training. Okay, well, whether it's about that much C4 or a quarter stick of C4 is irrelevant, it's still a blast. I then close quarter battle training, well, that's inside of a building, which holds the effects of the blast inside of it, right? And then you still have these charges and you're doing things inside buildings that all impacts your brain. So, if you think about all of that, plus playing football on a regimental football team, plus, you know you're getting into a vehicle even with your helmet on one time, it's the price of doing business. Those things all make you into a better Marine, better capable of fighting. But all those small events, as we well know, they build. We got minimum safe distance when you're doing bomb runs out at Twentynine palms. The bombs laying way out there. The 500 pounders, well that's, see, you can see the target, but when you're doing it in combat, effective casual radius are the safe area there, depends where the enemy is at. Safety is paramount in combat or garrison, but doing it the middle of the training area, Twentynine Palms and doing it a tree line 150 meters away, two different effects from that, right?

Amanda: Yeah.

SgtMaj Black: But these things, they start to add up. And then what? I think what we've learned over several, probably the last four or five years, at least as far as I've done research, is really come to the conclusion that, okay, all these things compound. But now what? And so you mentioned you were at MARSOC, and that's kind of where, I'll close it off at about two years ago, after being in this job for about a year, I went down to MARSOC and got the brain test. And found out actually there's ways you can mitigate, maybe reduce some of these blast effects or concussive events, right? You can train your brain, you can think differently, Brain HQ, all that kind of stuff. You can actually train your brain to kind of get past some of that and get back to some sort of normalcy and, and manage it. And I think that's really what we're trying to go to.

Amanda: Yeah, absolutely. You know, sergeant major, you mentioned several times about the impact of these low-level blast exposures, particularly in training and in garrison. So, it's important to note here that we're not just talking about a deployed combat environment. A lot of these TBI injuries and this low-level blast exposure occurs in garrison and during training exercises. And so, there is a lot of research because right now in, in terms of brain health and performance, low-level blast exposure, you know, doesn't really meet that threshold of being a diagnosable concussion or TBI. But we're really looking at what type of effect is there on the brain. And Captain Cota, I know you lead that line of effort with war fighter brain health and the effects of low-level blast exposure. Can you talk a little bit about that effort and research?

Capt. Cota: Sure, absolutely. So, section 734 is part of the 2018 NDAA [National Defense Authorization Act], and the Marine Corps bases have been paramount in conducting some of that research on low-level blast. At Lejeune RLLBE [Repetitive Low Level Blast Exposure], which is low-level blast research, took place, it's finishing up at, SOI [School of Infantry] East, which looks at those exposures from the training cadre. So, like, your history too, sergeant major. Those guys that are around the weapons all the time. The machine guns, the Carl Gustav, some of those other weapons, what that impact looks like, not only at the point of initial exposure, but moving out toward months out and running a series of testing as far as biomarkers, imaging, neurocognitive assessment, balance tests, hearing tests, the whole gamut of testing to see what that impact looks like.

It's early, but the analysis has enabled us to put out a safety recommendation, which is a four PSI safety recommendation that is circulating for final signature at this point, will go up through the safety community. As kind of a line in the sand, and a start point to get at, those low-level blast exposures and evaluation so there can be a time for recovery. And doing that with the operational

community to ensure that those recommendations don't impact training. You know, so, there is a large gamut of what's happening within War Fighter Brain Health and that section 734 work, which will finish up in the end of 2023, but has been feeding the War Fighter Brain Health initiative, which will be a program for longitudinal surveillance of blast and the impact of not just blast, but also impact types of activities and other types of directed energy on the brain. And so it'll be an opportunity to get baseline and then periodic reevaluation instead of just pre-deployment, post-deployment and maybe even sooner reevaluation than the recommended every five years with an ANAM neurocognitive assessment testing, and other self-reporting requirements in there. But depending on your MOS, so if you're a higher risk, you can do it sooner. We're waiting at some point when the services kind of get their teeth into this initiative. It's kind of at the start point now to see what that feedback will be. And we think it'll be variable depending on your risk profile.

SgtMaj Black: Yeah, sir, you mentioned something real quick. What I don't want to do is miss your point. You mentioned, you know, pre- and post-deployment. In my opinion, that was phenomenal when we started doing the PHA [Periodic Health Assessment], getting the baseline, doing the cognitive assessment, chase the little ball around the screen, and then coming back and doing it at the end of deployment, right? And doing part of the PDHRA [Post-Deployment Health Reassessment]. We shouldn't blow past that because, just talking about recent history, what, four deployments to Iraq or Afghanistan. My last deployment to Afghanistan, we were doing that. So, the previous ones. I mean that's just, that's a whole evolution of understanding, right? How your brain works, how we can see how well you can react and do these things that your mind must do, baseline yourself and then come back to the deployment, re-evaluate. Again, I don't want to miss the point. You're talking about doing it more often, with more regularity. But then you can learn on those quick turn deployments like we were in, in the mid-2000s. You can hit one pretty soon after that, during a pre-deployment again, like, you know, six months later, bam. And you come back again. So, I have never seen the data on those things as far as accumulative. But the fact of the matter is, that's an advance. We've learned and we're doing more things. You know, to get out and understand how the brain works and the effects of these concussions, or TBIs in particular, has on it.

Capt. Cota: And what you brought, the post-deployment is almost like you're hitting a reset, if there has been a change from pre- to post-deployment, right? Yeah. It's almost like you're hearing tests where you, you hit a reset. Our big thing on the MHS side is looking for resources to help with recovery to get you at your optimum level. So it's a performance-based strategy rather than an injury strategy at that point, which I think is critically important because most of those low-level or mild TBI recover. They'll recover to some point and there won't be degradation. And what you talked about, some of those pre-injury or pre-exposure capability, can we get your performance to an even higher level if you practice these things and train in some way?

SgtMaj Black: I think it's important to put that in there, sir. Because we, we talk about evaluating as though it's like after our event. Training doesn't prepare you for what you didn't do well, it makes you better at what you're going to do, right? It's more forward thinking. Sir, you know, you're very well aware of the POTFF [Preservation of the Force and Family] program, right? You're time at MARSOC, they're treating but they're also training. Some of this discussion has been pivotal, in where we've come the last three years in the Marine Corps on holistic human performance. Now we're putting it all together. Mind, body, spirit, social, physical, mental and behavioral fitness. But it's more than just the bone and the muscle. It's everything else that makes that war fighter capable. That's holistic, and this is part of it, obviously in two aspects, but we're excited about human performance.

Amanda: Yeah. I mean, these are all, they're both great points. So I mean, I think the biggest thing is in order to get that information and to train our brains, these marines have to come in and they have to be seen, right? They have to be evaluated. And so when we spoke with the SEAC, he said

that preventative measures to keep our war fighters ready to perform their combat mission, it should be looked at as a preventative measure instead of a method of force shaping or trying to get somebody out. So I think that historically there has been sort of like a stigma associated with going and getting a medical evaluation. So, sergeant major, how is the Marine Corps hoping to change that stigma? And like you said, we want to look at this more like maintenance. This is preventative maintenance.

Capt. Cota: It's performance, right? It's optimizing performance.

Amanda: Absolutely.

SgtMaj Black: The commandant has asked me to find a way to bring new ideas from the Marine Corps into the headquarters. And one of the first ones we did, sir when were you at MARSOC last, sir?

Capt. Cota: I was there 2015, but I went to the Sergeant Major Symposium. That was held at MARSOC I think I met you at that point—

SgtMaj Black That's right, I knew I saw the name, but I see thousands of people. But at the end of the day, sir. So that warfighter summit, I thought that would be the easiest thing to sort of bring together. Come to find out, the human is a very complex machine. So guess what? It's harder than you think. But ma'am, to your point, I cringe when I hear the term stigma.

Amanda: Me too.

SgtMaj Black: Stigma in itself has a stigma to it. Let's think about it for a moment. The definition of discipline in the Marine Corps is the following, the instant and willing obedience to all orders, respect for authority, and self-reliance. In order to be disciplined, you must understand yourself first. To the SEACs point, our job is to ensure someone can be in the fight, not find reasons to remove them from the fight. Because at the end of the day, let's, let's get down to the really brass tacks of it. When you are in a fight, only one side wins. Very loose analogy with sports, because nobody's really going to not come home after on a Sunday afternoon, right? We hope. But, but in the business that we're in, there's a reality. So part of the responsibility on the individual is to say, Yeah, my bell's rung, I got to pull out here for a minute until I can recover. We can talk about how the MACE kind of developed in that 2010 timeframe, because I think that's important to the conversation. It removed part of the stigma. But stigma first starts with the individual. If I think I'm going to be shunned, I am not going to say anything. That does not mean the institution in and of itself is creating an atmosphere of stigma.

Individuals, however may say, okay, you're a quitter. That might create stigma. But those are individual. Here's what I offer to anybody. One, ask for help. Be open about it. Because if you're the guy who knows they got their bell rung and everybody's looking at you going, well, you didn't do the right thing, so therefore I'm not going to do the right thing, that's, that's setting the example a little bit. We can talk hours about stigma. But you have a question. We were going to talk about mental health. Let me give you my idea of stigma and mental health. In no time in our history as a nation, has the mental health system been overwhelmed like it is right now. That's way far away from stigma to me. In you all's experience with traumatic brain injuries, you can tell that there's many more people that will come forward now than it would in the past. It is not 100 percent like, “okay, we understand it. We have a machine that can zap you like Star Trek and figure out, ooh, concussion and off battlefield go.” We might get there one day.

Amanda: Hopefully

SgtMaj Black: But until that happens, there's always going to be this, I didn't get help because it was going to ruin my career. Okay. Well, if you're someone like me who did say, “hey, you know what, I don't feel right” on like day five after getting all the wheels blown off of a vehicle, and I might need to talk about that for a minute. Get your evaluation. Thank you ma'am. Thank you sir. And off you go within certain protocols, right? So, stigma to me starts with the individual. But the system in of itself, I don't think there's systematic stigma on health care, frankly.

Amanda: Yeah, I agree with you and thanks so much for bringing those points up. I think that's particularly important, the onus being on the individual and the willingness to come forward with these two injuries that we are talking about today, traumatic brain injury and mental health conditions. Because I can't look at you, and know whether or not you're experiencing a mental health condition. I can't look at you and know whether or not you've experienced a concussion or a TBI. It is an invisible injury. And so it is the responsibility of the service member to seek help and to understand some of those signs. And that's the type of thing that we try and educate both service members and leadership on, here at TBICoE. What should I be looking for so that I know when I have, I have a problem and when I need to come forward. So Captain Cota, can you talk a little bit about some of the communication tools that we have between our service members, leadership, Marine Corps leadership, and, medical providers? How do we at TBICoE bridge that gap?

Capt. Cota: Yeah, let me make one comment too about the stigma subject. And I think through the years, you know, having been in for so long, the culture shift, of support, the experience with having served with the Marine Corps through the years, the Marine Corps is very supportive of individuals going in to get assistance no matter what it's for. You know, the leadership is probably sitting right there with that individual in most instances. They look after each other and they build each other up. And it's been an amazing thing to witness in that regard and employ into my own leadership style, SgtMaj. So when it comes to TBI, I think the transition to a performance culture, you know, if you go to the gym, train everything. Throughout your entire life, train everything, try to be better in everything that you do, including social, spiritual, whatever it is, so that when you're ready to go down range in support of our nation's mission, you're a full up round. And you don't have to worry about anything in that regard. And I think that's critically important. The resources throughout MHS and that we offer here at TBICoE, we have our regional education coordinators that are able to assist not only the medical community, but also the operational community and be able to brief on TBI, give background to the commanders and the senior enlisted along with the individual service member and their family.

So, it's just a matter of requesting that support, and they can easily do that across the spectrum. The other piece is they're able to provide specific training on the MACE 2 the clinical recommendations that we have, and then one really excellent algorithm, which is the Progressive Return to Activity, which is a monitoring and a phased-in approach so that you don't inadvertently get someone out there too soon who then may bounce back because they didn't recover fully or have long-term symptomology as far as that's concerned either. So it's a good phased-in approach and I think that allows me to bring something up and it's with the advent of adding athletic trainers throughout the force SgtMaj, how do you see them working into support for TBI and other, of course, musculoskeletal and other types of exposures that individuals will have long term? What will be the impact of adding athletic trainers to the force?

SgtMaj Black: So again, back on human performance. I think I use this following analogy. So let's say I use the Marine Corps, we buy an aircraft, okay? When you buy that aircraft goes through program a record, and then that aircraft's life, once you buy it, there are non-negotiables. It will get data upgrades. Not a question. It will get air pressure in the tires. There's checklist right before that thinking take off. There's a list of things that must happen. They are non-negotiable. Every time a plane has a mishap, you go through a list of things that were non-negotiables and usually find one of

them didn't get full attention. We're not making this about aircraft readiness, but the point is, when we buy an aircraft for 30 years, it comes with everything. When we buy a human into the military, and if you're enlisted 30 years, it's not a package deal. Sometimes all of the resources are available. Here's kind of where I bring it down. Every resource in the world is available. The problem is it's not required. I ask the question all the time, is fitness in the Marine Corps, and you can put it whatever service you want to a requirement or a hobby? I get the same response every time. It's a requirement and people tell me why; well, you got the PFT or CFT. I'm like, really? That's it? Because the fact of the matter is some people run three miles once a year. And I don't care what service you're in, if the leadership are runners, you all are runners. That's a hobby. If you're leadership, no matter what service it is, like to lift weights, they're all weight lifters.

Those are all hobbies, but in holistic performance, right? It's the mind, the body, the spirit, the esprit, the teamwork, the morale, that social fitness that we keep making movies about and ignoring. But the more you do this, the less what you are, the less social you are. Therefore, you can't adjust to change. Tell you what, talk about spiritual fitness for a minute sir. Let's put it all together, right? I got a TBI, my head hurts. I'm doing things in my life that aren't making sense to me. I have PTS because I've seen or experienced not just in combat, but my life comes back to me. Cause I'm old enough and mature for my brain to start to rationalize my life experience so far. And I've got no calling. There's no higher calling of purpose. There's no life purpose. What do I do? Then I get into suicidal behaviors. Or I get into self-treatment through alcohol and drug abuse. Or we get into all of those things, those would not be negotiable if we purchased an aircraft for 30 years.

They would all be part of what keeps it together. It does not fly unless these things happen. For the human, we don't put those resources as part of a requirement. I continue to pontificate, and you heard this maybe sir, when we were working together at MARSOC and part of this program for human performance, fitness is a hobby. It's not necessarily a requirement. Total fitness. So with all of those things, your question about athletic trainers and I'll bring it back around. Okay, so I'm an infantryman and again, my personal experience is my personal experience. I used to also be a weightlifter. Probably shouldn't do military presses because your shoulders are going to be shot, right? No matter how many weights you can do back in the day, you can't do them anymore because someone did not tell you how to get the same physical outcome by doing a different form of training to get there, not to mention nutrition, sleep health. What's a good supplement, what's not a good supplement?

You know, all of those things that the athletic trainer brings to it. To TBI. I think just understanding how to train the body differently allows you some sort of preventive measures and you can go on a whole list of things maybe you shouldn't do, but at the end of the day, an athletic trainer's ability to train you how to get the same end state, physically can put you a situation where you may prevent other injuries by doing something right to get the same outcome differently, if that helps your question.

Capt. Cota: Yeah. So maintaining the human weapon system like you would an aircraft, like you would a vehicle that was a mantra that we brought up within the POTFF community, throughout SOF. So it's critically important to be able to achieve that. And I think those athletic trainers will assist in that process and also allow for proper training techniques, employ new innovations with regard to the potential for brain training and other activities like that. And then be able to monitor if there are events, like if you guys are at combatives or you're at a range or something like that. You know along with the core staff, uh, because again, those are the docs, you know, and the medical community working in collaboration. I think that supporting structure in a performance system like the Marines have always alluded to throughout their history of maintaining themselves completely. I think it will be critically important. And we're looking at within DHA and the athletic trainer community on how to expand that scope of services to ensure, because some of the other services

are also bringing athletic trainers on board, specifically the Army. You know, I think they took the Marine Corps model, you know, saw the success there. I see the smile, some smirking

Capt. Cota: You know how it goes sergeant major.

Amanda: The Army took it.

SgtMaj Black: Marine Corps!

Capt. Cota: So those are great innovations. You know, that again, the Marines are leading from the front, as usual.

Amanda: Yeah, absolutely. You know, you talked about Total Force Fitness and you talked a little bit about aircraft maintenance, and I want to talk about this word readiness. So it's sort of along those same lines, right? I think sometimes, that word just gets thrown around as, am I in the green? Have I checked all the boxes? Have I clicked through my JKO training? Like, historically, I think hasn't been given as much weight as maybe it is hopefully going to in the future or hopefully we're going to change the definition of what readiness means to be this total body, mind, spirit-type definition of readiness. But I think that is partly with the medical side of the house, but then also we have to change how unit commanders view readiness rather than those checks in the box. So, sergeant major, how is the Marine Corps changing what readiness means to unit commanders, and other Marine Corps leadership?

SgtMaj Black: Let me talk on both sides of this. Because like, somewhere in the middle is usually the right answer here. We have to first and foremost understand that there's 24 hours in a day and seven days in a week. I've never been a commander but I've worked for, been in around, and served lots of commands. The amount of things that a commander must do to ensure that a unit is prepared and trained to deploy is more than 24 hours in a day. So, time, time is the one thing we can ever find enough of at the end of the year. We can always find more money. It's amazing. You can always find more orders. There's plenty of things in our world to do at the end of the year, but we can never come up at the end of the year closing out the fourth quarter and say, “hey, here's like two more months.” You just can't do that.

So the list of things that have to be done is too many. Now let's put that in perspective. Let's say you're in a training support battalion, TSB, and there's, I'm making up a number, 50 trucks out there. You have to have humans available to work on 50 trucks. How much time does the truck get? How much time does the human get to be ready? I'm making up numbers. It takes. 16-man hours for every hour the vehicle has to operate. I'm going into this time thing for a reason, because here’s the thing, put four Marines on it. It takes four Marines, four hours for every hour the vehicle operates. Well, if you're at Camp Pendleton, it's an hour drive to San Mateo and back to Mainside, right? So a one-day trip up there and back requires 32 hours. The time starts to shrink. So how does the commander build into that requirement of readiness? How to ensure the Marines, sailors are ready? Time. What I would offer, and sir you've mentioned it, thinking about human performance holistically is much different then thing about taking your PFT. Okay, medical and dental recalls going now. Get everybody the dental, get everybody. Because of the dental hit list.

By the way, dental historically, number one reason, there's casualties on the battlefield, right? Ooh-rah, get some, yuck mouth. But at the end of the day, all those things have to be done. Well what if you're dental appointment made six months ago because, time, right to get dental surgery happens to also be day five of an ITX [Integrated Training Exercise]? Does the marine leave there and go back to Camp Lejeune? Does the medical or dental battalion send out a mobile team to do that? Does the commander have time in an ITX to work full six function logistics? It's about time. Readiness in

particular, material readiness costs actually less than human readiness, but material readiness, its flags on a map, right? You have to have the material readiness, you have to have the human readiness. For a commander, it's always a challenge in time. Oh, by way, don't forget the training readiness, right?

S-rating, T-ratings. You know, you're in the DRRS [Defense Readiness Reporting System]. I love DRRS. Anybody read the book on DRRS? It's amazing, it's very simple. It either is or it is not. Not, "well if we had this, we could do that." It's very interesting. I think the challenge for readiness across the board has nothing to do with desired drive as much as it does with time and resources. No, commander wants a jacked-up unit that can't deploy and be ready to go. None, zero. How much time do I have to do all the things I have to do?

Capt. Cota: And whatever the priorities are as well, as far as that's concerned, you know?

SgtMaj Black: Sir, you're been a commander. You know, it's not a question of what the priority is, is the priority of what you're not going to do over what you're going to have time to do

Capt. Cota: Unfortunately.

SgtMaj Black: Time is a factor. I think we're probably at the point, and again, I'll just, let me cut it off here because we're getting to our time, I think. But at some point in time we've got to determine what are we not going to do anymore in order to do more other things. Time is the factor. Is the mission precedent? Is the material readiness precedent? Is the individual personnel readiness precedent? What's priority?

Amanda: Yeah. And I'm hearing that human readiness is extremely important and should be a higher priority in terms of, you know, we talk about a Marine's most effective weapon you've said before is their brain. They've got to be able to think, they've got to be able to react, make decisions in order to be ready to deploy. So, sergeant major, let me switch gears just a little bit. Can you talk a little bit about Force Design 2030 and how the change in Marine Corps structure might impact TBI care or even just how that structure looks in general?

SgtMaj Black: Well, I think I'd offer maybe just a perspective. If anybody thinks there isn't a lot of innovation going on in Marine Corps, read some of the press. There's a lot of change has occurred, not just with our current Commandant General Burger. General Neller, put us on a path of Future Force 2025 that really set the stage for what does the future of conflict look like? Let's make a couple of assumptions. Violent extremists have always been around literally, almost throughout history and probably there's always going to be violent extremism. But a force they can do counterinsurgency as a special refined task. And I know it's difficult for some people to hear that. It's much different than peer-to-peer nation state conflict. We can debate whether there's not terrorist events going on, whether there's not an insurgency going on. We can put these words that we're very familiar with doctrinally right now into the mix, but the fact of the matter is a nation state is in conflict with a nation state.

That looks much different than anything we've experienced in the last 20 years, save the proverbial OIF push to Baghdad. That sort of number of days there where there was like huge conflict going on. Boy, this is a different place to operate. So Force Design takes us to a place where we can now compete with, I'll call it enemy. I'm done using the term adversary. I might get in trouble for saying that, but we have an enemy on this planet, not just an adversary or a peer threat. It's an enemy. Let's get back to readiness and I'll make a quick point ma'am. Our previous nation state adversary, enemy, the Soviet Union, had more of everything than we had.

We know that. More missiles, more bombs, more planes, more tanks, more everything, right? Problem is they didn't have as good of people. And my point about the individual Marine is the fact that in any other military, on the face of the planet, and I'll bring in all of our, rest of our military services in this conversation, is the acting, thinking, ready, capable, supplied, trained individual in the United States military, that is the difference between success and failure in combat or even up to warfare against any enemy. But even few of our peers that we are partners and allies with, we are the standard. I would argue because I'm a Marine and even there the Marines are the standard, but our enemies are not there. They don't trust in their subordinates. They don't train them. They don't fully invest in their ability to win, to win. And we begin this conversation about a bit of that sacrifice. Here's the punchline. We train, we fight, we win. If you serve in a uniform, that's what we do in defense of our constitution. So Force Design takes us to where the Marine Corps can fight and win against this new enemy that we have. That's where Force Design is taking us. And a lot of that has to do with talent management. That's human resource development. Training and education command. How you develop the mind, the skills and part of training and education command has inside of it this thing called human performance branch because it's the human that does all of that. That branch has gotten a lot of publicity. I won't steal their thunder, but we assisted them with this working group we did a couple of years ago that's resulted in, sir, what you were part of. That's really been a lot of emphasis on human performance branch to think now, okay, when we do X training over a course number of days, what's the best way to get the training, get the outcome, and what's the impact of the human in the process?

That's some of that education piece. How do we think about the brain in that case? There's a piece in there about that. So Force Design has opened up all this innovation to think about warfare differently. What we know about the human, the material capabilities, the weapon systems, the IT, the AI, all those things that put them together. I think about a force that's going to be able to not just compete, but win, win future conflicts. Because that's what we do. The rest it looks good on paper, but that's what we do. You wear a uniform, that's what you do.

Amanda: Yeah. I love what you said about innovation and the adaptability of the Marine Corps. We always have to be changing as our enemy is changing, as technology is changing to meet those things. And so the, I'm sure on the Navy side or on the, on the medical side too, there'll be some adaptations as Force Design comes into play.

Capt. Cota: Yeah.

SgtMaj Black: Have you all seen any of the work being done on trying to take the proverbial golden hour and move that into high-end conflict?

Capt. Cota: That's a very interesting because those folks at the Joint Trauma System and my experience, they're at SOCOM was, and there was actually something that came out of the Joint Special Operation University that Dr. Rocky Farr, who was the former, SOCOM surgeon, a few cycles prior to my tenure there wrote a manuscript on death of the golden hour, right? And the conflicts that take place and whether or not you would need such things as prolonged field care because of, the inability to CASEVAC or MEDEVAC people out of the field in that regard, especially with high level conflict. And so the, goal is always to try and, get into that now platinum 15, even as early as possible, identifying those injuries that you can, resuscitate, recover all of the above. With the intent to get folks out of theater when platforms are available. But if there's air denial in any format, that's going to become even more difficult. So the ability to maintain an individual for a longer period of time in the battlefield has really placed an emphasis on increasing training for those corpsmen, those medics, you know, across the board because they're the ones, and you know this sergeant major, the corpsmen and the medics are the lifesavers.

They're the ones that have to make the difference because they're the ones that are going to be with you in the fight, and helping take care of those Marines that are injured. So, we've learned a lot from past history, but I think we still have a ways to go. And those folks in the, TC3, or the Tactical Combat Casualty Care Committees, the Surgical Combat Casualty Care Committees and the Joint Trauma System are really leaning into innovation and increasing the capability at point of injury, but also, that time window of survivability and improving that aspect as well.

Amanda: Yeah. And there's a lot of research and development efforts going into triage tools, like objective measures that, whoever's on the front lines can use to make, good decisions on whether or not to medivac someone. So, in the world of TBI, things like TBI biomarkers and blood tests and, some other devices and things like that are certainly in the works to help be able to triage people better and know when to medivac people and make good decisions.

Capt. Cota: Well, and that's of critical importance too. The TBICoE, along with really the entire TBI community within DOD and in some instances academia is looking for exactly that. Not only more rapid decision-making tools and technology that can be pushed forward to the point of injury, but also decision-making tools so that if you do CASEVAC someone, the appropriate resources are waiting for you.

Amanda: Yes.

Capt. Cota: When you get to wherever it is that you're going to, be further evaluated at high-level care. In garrison, and you talked about this early on, the Intrepid Spirit Centers. The Defense Intrepid Network, trying to stand up and standardized care across the board. And of course, the pearl is NICoE which is the Intrepid Spirit Center of Excellence here at Walter Reed. So, and then I'll say too that the VA Tampa PREP and some of the other PREP programs are helping with those that are injured, and have definitive injuries go through those, programs to recovery and or get the resources that they need. So that's a critical element as well.

Amanda: Yeah, absolutely. Well, sergeant major, I think we're rapidly approaching our time limit here. Do you have any final words of wisdom for our listeners?

SgtMaj Black: Words are wisdom. That's, that's funny.

Capt. Cota: Anything that comes out of your mouth is wisdom sergeant major.

SgtMaj Black: We'll go with that. Let me talk about, just really quickly, when we all have experience, I'll just offer one. After a deployment, I was asked to speak at the Combat Operational Stress Conference (COSC) held in San Diego back in 2010, and why I think that's relevant here. We had this big conference, right? Had all these doctors, and Ph.D.s and military leaders and civilians. They were all, thinking about combat operational stress. And a couple of comments were made, and it was really interesting. We had a couple of individuals who were really leading this COSC conversation for the Marine Corps. Now, I'll never forget what they said. And I was up on this panel, and they're asking me what I thought about combat operational stress and I said, well, number one, when you go to combat their stress. Epiphany, right? There's no way to remove stress from combat. There's no way to remove concussions or TBI from combat. So the idea that there's going to be this magical place one day where we can go, okay, here's a helmet, it prevents concussions we're probably not there. By the time we get that helmet, we have laser beams that don't melt through the helmet. So I won't be using bombs anymore. Just, being honest, right? But what was said as part of this panel, I got a great response. Well what do you all think? And there was two individuals that were representing the Marine Corps and they offered this pamphlet. And the pamphlet had like stuff in it. And it was five paragraph order. It was the troop leading steps, BAMCIS. It was

J.J.D.I.D.T.I.E.B.U.C.K.L.E., the leadership traits, and it was a Marine Corps leadership principle. Out of all that leadership, they highlighted two in particular. One was set the example. And the other one was, know your Marines and look out for their welfare. So how I relate that to this. Set the example means, as an individual, do the right thing. Knowing your Marines and looking out for their welfare doesn't mean like just the commandant or the commander. If I'm the fire team leader, that means those three Marines, Oh, by the way, and myself, I'm responsible for four people there, not just three. Me, myself and I are part of leadership.

That's setting the example piece, and the rest of leadership kind of follows that pattern, right? This conversation on TBI or brain health, or combat operational stress, or PTS it's incumbent upon all of us to be open. We live in a world that's more accepting of how open we are when we communicate with each other. That's a good place to be. What we're not comfortable with is the response we get when we're open like that. And what we're also not comfortable with is when someone needs help, there's a fine line between they need help now, they need help in a little while, tomorrow, or next week. Most of the time when people tell you that they need help they think you think they need help now. But as leaders we're like, solve a problem, move on. Because winning is the goal. And when you want to win if someone is off the field, you replace them with a new player, to the SEAC's point. Yeah but when that player comes off the field, you got to do what with them? Rehab 'em, teach 'em, train 'em, fix 'em, get 'em back in the game because they're part of the team. That's all got to do with leadership. And that was, that's kind of the moral of the story. Injuries will occur. Casualty evacuations, medical evaluations are part of the business of winning in our sport. It's not a sport, by the way. It's the most serious thing humans do, right? Is locate each other close with each other and to try to destroy each other. That's just the facts of what we do. So how do you train the humans to better operate in that environment within the capabilities that they have, the training that they've been given, and with the intent of protecting our nation's freedoms and our constitution? I think we're doing an excellent job. I think Marines today is prepared to win today as they ever have been. I think, we're going to get better over time. That's what we do. We try to get better. We're never satisfied with where we're at. I think Force Design is taking us there and I think everything that the medical community is doing, lessons learned, about how we put scope and scale on that, and be able to take care forward, understand that the visible injuries are as important as the invisible injuries, and put that into the war fighter's capability to understand that and how to have leaders understand that and manage that, and conflict and combat because casualties also incur less warfighting capabilities.

So how do you have that balance, and manage that? I think some of that is TBIs and concussive events. But it's the whole piece that we're trying to focus on now. And I think with all the resources that we have, we're finally in a position to put it all together and talk holistically about, how we take care of people because we're going to go to combat. History tells us a there's a hundred percent chance we're going to go back. But, thanks for what you guys are doing, mostly. Thanks for what you all are doing and everybody that's invested in the same conversation that you are because if we forget what we've learned, we'll have to learn it again. I don't want to learn some lessons over again. Over to you guys and I just want to say thank you.

Amanda: Absolutely, Sergeant Major Black. Thank you so much for being with us today.

Capt. Cota: Absolutely .sergeant major, it's been truly an honor speaking with you today and just reinvigorating, what I've known throughout my career and that's the Marine's willingness to listen and improve each individual Marine's capability. And that's been done again throughout my career in collaboration and discussions with the leadership and the enlisted, that I've been exposed to. And so today was truly an honor for us. So if there's ever anything that TBICoE can do for the Marine Corps, please let us know. We're here, just, know that we're doing as much as we possibly can to ensure that all service members, but in this case, the Marines are being optimized, as far as their,

cognitive ability and monitoring. And that will continue to work toward putting a system in play that will assist the operational community for the long haul.

Amanda: Thanks so much, sergeant major.

Capt. Cota: Thank you, sergeant major.

SgtMaj Black: Thank you, ma'am. Thank you, sir. Look forward to talking to you again.

Capt. Cota: Absolutely. Take care, sergeant major.

[music]

Narrator: To learn more about TBICoE clinical resources and related educational materials, visit health.mill/TBICoE.

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