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Podcast Transcript

Picking Your Brain: USSOCOM and TBI (Ep. 9)

EPISODE DETAILS		
PODCAST:	Picking Your Brain	Interviews:
FEATURES:	Host: Miriam Roth	<ul style="list-style-type: none">• CAPT Scott Cota• CCM Greg Smith• Sgt. Maj. Matt Parrish
RUN TIME:	1:16:55	

Narrator: Welcome to the Picking Your Brain podcast, a series 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 March, the Department of Defense takes part in Brain Injury Awareness Month to build awareness of TBI, educate medical providers on the latest clinical recommendations, and help service members understand the risks, signs, and impacts of TBI on and off the battlefield.

In this episode, TBICoE interviews SOFcast hosts Command Chief Master Sergeant (CCM) Greg Smith and Sergeant Major (Sgt. Maj.) Matt Parrish about the health impacts of TBI and blast-related concussion stemming from the demands of special operation combat and training. They also discuss embracing vulnerability as a sign of strength and advocating ownership of health and recovery.

CMM Smith, the U.S. Special Operations Command (or USSOCOM) senior enlisted leader, has an extensive background in joint Special Operations spanning over 30 years of service. His co-host Sgt. Maj. Parrish, the senior enlisted leader for the USSOCOM Preservation of the Force and Family (POTFF) program, has spent his entire career within the Special Operations community.

The conversation also includes TBICoE's Division Chief U.S. Navy Captain (CAPT) Scott Cota, a military medical provider who administered care both in forward combat theaters and at home, giving him a broad range of TBI expertise. Miriam Roth, a senior clinical educator at TBICoE, is the clinical moderator for the interview.

Miriam: I just want to say thank you to the both of you for coming. I know all three of you are super busy people and time is of the essence. So our listeners, for sure, really appreciate you guys coming in. I'm super excited myself to hear what you guys have to say. So my first question is for you, Chief Smith I just want to get how the SOF community looks at health as a whole. So, I know that being part of a team is super important. That's kind of like the glue that keeps the SOF community together. So can you tell us what that means to be part of a team and how that could potentially impact a SOF operator's health?

CCM Smith: Yeah, Miriam, thanks for that question. And it's a complex answer. I'll make it brief and simple. And just by saying that the last twenty years has taught us the value of team and some of the unique skill sets that each member brings, which is why our assessment and selection programs are so important to make sure that we bring in the absolute right people for the problem sets that we're hoping to solve on behalf of the nation. And over these last twenty years has really kind of narrowed into a direct action-focused team, if you will, to solve some really hard problems, you know, after 9/11, and our country was attacked, the manner in which we changed our focus, if you will, from our surveillance and reconnaissance kind of long

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range, special operations force to a close contact to the enemy force that has really evolved in our understanding of what makes up the force and some of the secondary issues that now affect the force.

Miriam: Just kind of a follow up on that is I was a clinician myself working at an MTF, and I happened to see a lot of SOF operators, particularly Navy SEALs. They seem to have neglected a lot of their health care, and then we're seeking out health care towards the end of their career, towards retirement. I know they, the SOF community, has tried to implement some policies to help educate SOF operators on the importance of seeking health care. Have you seen in your long career, have you seen a progression? Have you seen any advancements in that?

CCM Smith: So, yes. Short answer, yes. And I know Matt will elaborate on this quite a bit from, from our Preservation, of The Force and Families aspect of it. But, you know, the stigma of both cognitive and mental health is a misnomer. But the stigma of getting pulled off the team for any physical, spiritual or psychological challenge that you may be experiencing is very real. The one thing about, and it's I don't think it's unique, it's to any high performing team, the threat, even the notion that I may not be able to be part of that team, because of a body, mind, or spirit issue prevents me from just doing it. And because I'm operating at such a high level already, whatever physical, psychological or spiritual issue, I'm still operating at a normal level to what most normal people would see. So, it may not be readily apparent until the wheels come off. And we've seen this over the last decade where we've really spent, and CAPT Cota will have a lot on this I'm sure, where as we as we looked deeper into why the total breakdown of a member. And what you realize is there were seven, eight other factors already happening, and where that member was already, just living through it, because the loss of team prevented them from seeking the help that they desperately needed. And, we as leaders, are responsible for recognizing, and often times failed.

Sgt.Maj. Parrish: Yeah. And Miriam, if I could just toss out a couple things to add on to what CCM said there. I think one of the things that it's a victim of our own success in a way, right? So we assess and select for people that are incredibly adaptable, right? And so they're able to overcome a lot of minor challenges that may have sort of derailed others in the past, right? And so, a lot of times our folks, we also assess and select for an undying and unclenching passion for the mission, right? So folks are willing to put aside everything else in support of mission. That's really great after you land on the X and a helicopter and you have to make it to that mission site to do your mission. You roll your ankle, whatever else, "Hey, I will compartmentalize that and I will walk the rest of those ten miles on a broken, you know, ankle, or twisted ankle, on a heartbeat no issues." The problem is when we returned to sort of non-kinetic parts of that when we're not actually on a mission, but you have that same mindset, right? "Like, I will forsake everything else to ensure that I'm going to be ready for the next mission, or for the next deployment, to make the next rank, to get the next position, whatever it is." And so a lot of the skills that we assess the select for that are that make us special, are also can be a double-edged sword when overused or, you know, when not properly mitigated, right? And so, a lot of times, we do see that people have been able to sort of cobble together their own health and performance up to a certain point. And unfortunately, by the time they are willing to say, "Hey, I might need some help in this situation," it's passed the point of, you know, proactive resilience or health care, it's to a point where they haven't been able to fix it themselves. So now it's sort of at a mushroom cloud level. So we're trying to work to go left of bang on some of those things and say, "Hey, before it gets to that point, use some of these amazing professionals that we have, that are experts in their field to help you never get to that."

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CCM Smith: But there was such a resistance upfront to this, because the mere thought of being taken off the team, off the platoon, off the crew, right off the troop, any of those things that because we have, over the last twenty years, we have fixated our identity on the team, right? Your identity of both as an individual was as the individual on the team, whether you were the assaulter, the sniper, the engineer sergeant, whatever that was, if you fail, the team failed. So I am never going to be the one that causes the team to fail.

Sgt.Maj. Parrish: Right.

CAPT Cota: You know, there's additional lead in to that. So the importance of the team, and the value of time to the individual is the other thing. So you had to represent during my time in the organization from MARSOC, to there at the headquarters, you had to represent, to the operator that, if they were going to come in there had to be value added, they had to have something that enabled them to improve their performance at some point. So performance really became part of the discussion when you had an operator sitting in front of you, you know, meaning like, "Hey, you're going to take an hour out of your day, I'm going to try to make you this much better, so that when you do go down range, you are a full up round, and you're ready to go." So those discussions went from that clinical diagnosis base to performance based-discussions on how can we help improve you and maintain you. And I think, you know, we started coming up with kind of that whole human weapon system maintenance piece, you know, we maintain our weapons, we maintain our vehicles, we need to maintain the operators and enablers so that when you guys go downrange, you're full up round, whatever that means to you at that point. And it became better received and it was easier to get in those conversations, especially when the guys knew that they weren't going to come off, that we're trying to keep them on the team as much as possible and flip that discussion. What do you guys think about that?

CCM Smith: Yeah, I think it coincides with professional sports, going kind of through something very similar where the individual athlete, you know, and so in our case, the tactical athlete, which is a whole bunch of programs spawned off of that under human performance and some of the other things we've done. But when you started looking at a, an offensive lineman, or a wide receiver in the NFL, and the combine that they go through, and then the strength and conditioning, the mental resiliency, all the things that started to happen to lengthen the life cycle of that athlete. And we really started adopting a lot of those understandings of preventive maintenance. So if you can, if you can couch it in that way, body, mind and spirit, if you can couch it as preventive maintenance as part of this tactical athlete, you know, 360 that's constantly having to lengthen their lifecycle, it became much more acceptable.

Sgt.Maj. Parrish: Yeah, absolutely I think, sir, you're spot on, as far as, you know, focus on performance. That's where, you know, that's where POTFF lives, that's where we, you know, kind of hang our hat on is really trying to focus on value back to the, to the operator to the, you know, to the customer, so to speak, the folks in our force. And really, I'm glad chief, I'm glad you brought up the part about the pro, you know, kind of sports thing, because that's really where we started gathering a lot of our providers from, right? As we, as we got, you know, the best folks in the world from collegiate sports, Olympians, etc. We also tried to adopt that mindset where you know, if a kid coming out of high school gets, gets recruited to go play at Alabama or Georgia or wherever, all his or her support atmosphere round is not looking to get them off the field, right? They're looking to do everything they can to get them on the field to make sure that they perform as well as well as possible. And so our previous model was more of like a, "Hey, I'm looking for a crack in your armor to make, to pull you off a team so that we can get you help." Now we're looking for like, hey, if you'll trust us in

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this, we're gonna treat you in the same way that those athletes are treated. And that when you come to me early, I'm going to help you get on the field better and faster and return to duty better than you were before. And I think to your point earlier, your question earlier, Miriam, I think we've seen great strides in that in

physical over the last ten or so years, within POTFF. As a special forces guy, myself, I can tell you as a team sergeant later in my career, it was much more acceptable as a leader and as the new guy on the team that, hey, if I tweaked my ankle, or I've got something going on my shoulder, it was one hundred percent expected that I was going to go to physical therapy. And I was going to get that taken out the special operations, you know, profession of arms dictated that I didn't just cobble together that injury, like it was important that hey, go get that fixed. So because we're going to need you later on, right? The push that I've been trying to make, and we've been trying to make over the last couple of years, specifically POTFF and mental health, is to do the same thing in all the other domains, right? Like, don't wait until you're in a divorce situation to start working on your family relationships. Don't wait until you have these like, you know, completely unmitigated PTSD symptoms, to start looking at proactive resilience in psych, or in spiritual.

CCM Smith: Matt, you and CAPT Cota, just hit on something. And that is, you know, kind of to Miriam's, you know, the whole point of this traumatic brain injury is through this physical therapy, you start to notice that it's compound factors and through repeated concussive events, right, that would normally only manifest in a shoulder, or a hip, or a knee, or a foot, you know, or a back injury, you know, fast roping out of a helicopter, you know, into a hard landing, or, you know, some of the things that we've done, all of a sudden, you're starting to notice, hey, the anger issues or the other issues that the person's manifesting, because they're not healing as quick, you start to realize, okay, there's a lot more to it. And we did not have the psychological, or behavioral, or cognitive care in place, we had the physical care that we had put in place, but we didn't have the cognitive or behavioral care that we're really spending our time on right now, as a byproduct of this, of this mild to severe traumatic brain injury that we've started to really uncover, you know, that has led to PTS and a lot of other things. People think of PTS is just, you know, oh, man, I just it's there's some event that happened, and it's usually related to a TBI, or some sort of injury that the person is now struggling with, to get past that. You know, so it's all linked together. And we're really, we're in the second inning of a nine-inning baseball game of really scoping this out here at SOCOM.

Miriam: Exactly, exactly. So just to let our audience know, because I think all three of you have mentioned POTFF. So in case our audiences are not familiar with it, it's preservation of force and family, which was started in 2013. And in response to everything that we're discussing now, and there seems to have been great advancements since its inception, which is really, really nice to hear.

CCM Smith: Yeah, so real quick, in February of 2011, testifying before Congress, Admiral Olson, then our commander, our four-star commander, was testifying before Congress. And he had talked about SOF fraying around the edges, because we're starting to see these injuries manifest from the surge in Iraq and Afghanistan, and CAPT Cota and his team, and now Matt Parrish and the team that are all the guys who deal with all that, we lead a task force that led to this what was called Pressure on the Force at that time, which became preserving, or preservation, of the force, and then also our families. So Preservation of the Force and Families is what grew out of a congressionally mandated, or congressionally appropriated program that we can use.

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Miriam: Thank you so much for that. And so let's move into the TBI realm. And Chief Smith, you mentioned that concussion seems to be a definitely an issue within the SOF community. So let's talk about some of the unique high-risk trainings that the SOF operators see within training within the field. Can you discuss some of the high-risk trainings that they do encounter and that what's being done from an operational perspective to minimize, or mitigate, the exposure to a potentially concussive event?

CCM Smith: Yeah, thanks for that. I'll start off, and then Matt will jump in, having gone through most of this stuff as well. So air, land, and sea, right? So you have to think about things really in three domains, and really into cyber as well. Now if you think about things over time of just impact on the brain, but air, land and sea. So from the air, you know, starting off with airborne into high altitude, low open, or we call HALO, or freefall, with heavy packs and all weather, the opening shock and jarring into steep angle work, all the different stuff that happens kind of coming out of the air. Middle of the night freezing temperatures, high oxygen pre-breathing, jumping with containers connected to these things. So you're getting bounced around and toggled in the air as you go. Number one. So kind of land if you think about, you know, steep angle work over land, long 80-kilometer, over land Humvee, or you know, through rocky dirty mountain roads, that type of stuff full kit, engaging with a .50 cal or, or an AT4, or any type of heavy weapon firing into breaching. So think about placing high explosives on a door, having your head, three feet from it as the door blows, and then you're going through and engaging, battering rams and some of those other pieces. And then into the sea. Really just deep water, jarred around on a little mini sub, or shot out of a torpedo tube, and different things that we do right now that that increase incredible cranial pressure. And then also flying around in the air 105-millimeter cannon shoot right next to your head, you know, for repeated events, these by themselves, maybe knock ya a little bit, but over days weeks, Matt, how many times were you, you know, shooting a Carl Gustaf in 84-millimeter or dropping mortars where you're shooting 30 or 50 or 70, over two days in a row?

Sgt.Maj. Parrish: Yeah, I think for me, you know, career special forces guy, what we didn't know early on to this, right? As you know, we looked at things like the NFL with CTE and concussion and things like that. And we certainly have our share of concussions. You know, throughout a SOF career, most folks that come in and assess the select, they played some sort of sports as a kid, they obviously have their open to motor vehicle accidents, as I had a very bad one that caused a significant TBI in my past, and then we have all the things that like, you know, jumping all these different things that Chief Smith you know, kind of talked through and walk through. I think what we didn't know, in addition to that, was sort of this repetitive low-level blast, where instead of marking, as you know, specific concussion syndromes where you're seeing the brain hit the inside of the skull repeatedly, this is more of a shearing in between gray and white matter throughout the brain, we didn't have the tools to even really measure it. And I can tell you, my entire career has been as a breacher – riser explosive breacher - a master breacher within one of our crisis response forces. And it's really where I hung my hat, quite a bit. I did a lot of other things, but breaching was really foundational to my career. And what we didn't realize early on, because we were using formulas based on net explosive weight and minimum safe distance, based upon open air rooms, based upon fragmentation, right? So worried about any sort of debris hitting me was really more what that minimum safe distance is calculated for, right? And so what we weren't taking into account was overpressure, much less reflective and refractive over pressure, and how much that affects us and how little we can control those variables right? So as I go into clear a building, I can't control what those overpressure is going to reflect down a hallway and hit you. And sometimes it's, it's crazy, you'll be in a stack, and you're not even the first person, you're not the closest

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person to the charge. But you get zipped with an overpressure spike, because of the way it bounced off the ceiling, or the wall, or anything else. And so we lack the ability to control those variables, or even really calculate for a lot of them because there's air density in the room and air, you know, volume in the room. But there's also all these reflective, sort of, bounces. And the last thing I'll say about is that I've been going through a lot of this, I have a lot of TBI stuff going on right now. So I'm in some of these research studies and things like this. And I think where we're not quite at yet in the clinical side is we're still focused on deployment, right? And deployment is very important. And there are a lot of high level TBI and overpressure injuries in a deployed setting, right? As I went through combat, I would potentially, you know, obviously, if you get IEDed, or you have some significant firefight, you can get a lot overpressure from those things. But what we're not, you know, quite grasping yet on some of these academic studies is that my overpressure risk for myself, and most of my peers, was much more apparent in training in you know, back in the states, right? So, to give the example, as a master breacher, or as you know, assault force sergeant major, or breacher on a team, I would go through and I might on a combat mission, we might blow one, maybe two doors, maybe in a night, right? It might be up to ten or whatever, but that'd be a pretty robust one. On average, maybe one or two explosions a night. Whereas in training, if it's a breaching day, I'm setting at least ten to fifteen of them myself in between all the rest of the assault force. It's 40, 50, 100 explosions that I'm in the building for. I may not be in that stack closest to it. But as we said, we can't control some of those variables. And so the really, what we're seeing more often now, and this is important as we, as we sort of step away from those habitual combat tours, and we go more into just training, is that I think we're gonna, you know, we've got to get a handle on the fact that where the exposure risk is actually higher through repetitive, low level blast during training.

Miriam: Exactly, exactly. So CAPT Cota, I'm actually gonna ask you the next question, because clearly, we see that repeated low level blast, blast overexposure is a problem within the SOF community, whether as you said in the training, or whether in theater, so what is the DHA, or the clinical community, doing in terms of their brain health policy to ensure and optimize SOF operators' brain health?

CAPT Cota: Well, SOCOM writ large. In 2015, we started to bring on board subject matter expertise to include standing up a DVBIC site at SOCOM so we could start to evaluate the scope. We heard from the operators we heard from, you know, the ground up the issues that were taking place, and we paid attention to that. So we started to kind of compose subject matter expertise, bring them into the room, get recommendations on how to evaluate individuals, what should be included in that evaluation. And eventually, that led to the SOCOM Brain Health Policy, which General Thomas signed off right after I left the command, Colonel, Yao had that signed off. And it was, it was a couple years in the making type of thing. So and that would be a comment that we would want to get from the guys SOCOM about the impact, and how they're executing the brain health policy. From a current DHA standpoint now, and this will be with regard to all of DOD. So section 734, which is part of the 2018 NDAA. That Congress mandated that we look at longitudinally the effect of blasts on service members over a period of time. So really, throughout the lifecycle of their career, what that impact would look like. So that led to a very large effort that is continuing to take place now will be completed by the end of 2023. There are multiple research areas within that project, within that portfolio, that look at low-level blast and the impact of low-level blast. But there are also things that are taking place in the field. So what we found is that the evaluation of the weapon system, even if through its programmatic, when it's being developed for blast, overpressure needs to take place, and those things are taking place. Tools available for planning ranges that would give you some estimate of blast risk or overpressure risk to an

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individual PSI risk to an individual based on weapon systems that were solicited, by the 734 group and recommended by the services as high offending types of weapons. You know, to include shoulder mounted, breaching, artillery, mortars, .50 cals, you know, so big tier one weapon system group that was there that is being evaluated, and has health hazard assessments from inception, building the weapon, the rounds that go through the weapon, the number of shots that are taking place in certain conditions out in the training environment, specifically in garrison. Because I mean, and you guys know, all bets are off when you go downrange, and you're combat, right? So through the point where you're wearing gauges, the ability to give feedback reports. And you know, and I think you guys have some of that activity taking place with Joint Health Readiness Mitigation, or JHRM folks, that are doing some work with you guys as well. As the Conquer folks doing work across the spectrum of SOF. To do those types of evaluations give unit reports on the exposure risk, individual reports on the exposure risk, but the eventual flow would be get that information, common data elements, kind of background information plus the blast overpressure into the medical record. And so we are working through that process with an eventual goal of developing a program of record much like hearing conservation, or radiation protection, but for blast. And that will be for all of DOD. It has yet to be determined, you know, the periodicity, or who's considered high risk, and the services will determine those things. SOCOM has already done that with the brain health policy. So I'm going to ask you guys, maybe you can give us some insight on the brain health policy there at SOCOM, and kind of how you guys are starting to execute that.

CCM Smith: Yeah, thanks for that, sir. And kind of three areas and, then I'll give it to Matt to elaborate on. But, you know, the first one is early cognitive testing, you know, systems that we have like SABERS and ANAM and the NCAT, which are all just assessment tools to check cognitive function, and problem-solving skills beforehand. Then into the actual piece, like Matt, you know, as an AC-130 guy, I've probably fired, it's beyond counting, it's more than sixty thousand 105-rounds, less than a foot from my head. And when you think about the training, which is where you're fired the most of those, and blast pressure at surface, versus blast pressure at ten thousand feet are very different as well, plus the way your oxygen intakes are and the way you respond to those things as far as hypoxic, and reactions to overpressure, all factor in there. So these are things that we just never even thought about, you know, twenty-seven years ago, when I started flying these airplanes, you know, my thirty-two-year career, you know, kind of less twenty-seven all doing this. So, so re-looking at the science of each one of these higher risk jobs a master breacher you know, a, you know, a heavy mortar man, if you will, and ranger platoon, ranger mortar platoon, into a MARSOC element, into a seal platoon into an AC-130 crew just as examples, right? So each one of those now, the wearing of these blast gauges, while not perfect, are starting to give us some data insight into whose being exposed to what to determine those categories. I wish we'd had these before, to really truly understand because we'd have some data sets that would help us. And then finally, kind of the repetitive psychological maintenance, or cognitive maintenance, now that we do along the way this is that checkup that's just part of, just like your knee or your back, or anything else is 'How am I doing cognitively?' And then working across so the brain health policy kind of helps us implement preventative, lifecycle, and then ongoing maintenance, if you will. And then should there an issue arise, the proper documentation to make sure that we're taking care of that member. And more importantly, while not more importantly, but just as importantly, cycling the loop back in to prevent it from happening to those who come after him or her.

CAPT Cota: And there are some and there's some weapons safety guidelines that are in the brain health policy as well, correct?

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CCM Smith: Absolutely, Yes. And it's completely changing. You know how many mortars you can fire, or what distance is Matt's point, about down hallway over pressures as we get smarter on that, we have a system called SOFBIS or Special Operations Forces Basic Interoperability Standards. Think of them like OSHA standards of high-risk training that we do. So under the SOFBIS, there's about 19 subcategories, everything from medical to steep, angled, jumping out of airplanes, to shooting. So across Army, Navy, Air Force, Marines, we have the same standard. So we don't fall victim to some of this unique SOF training that we do to make sure that we meet those things. So the preventative look, identifying those higher-risk activities, making sure the safety mechanisms are in place. And then the consistent monitoring throughout are kind of the things that we're I think we're doing, Matt, any thoughts?

Sgt.Maj. Parrish: Yeah, absolutely. I think, you know, the brain health policy that you mentioned, sir, obviously, that you, you know, spearheaded prior to leaving, you know, signed in early 2019, really mandated a we're going to we're going to take a more frequent look at our folks, for ANAM, we're going to institute something called the cache, which really is a is an answer to guys like me and gals that, you know, we've had a ton of baselines I've been in SOF my entire career, and I've taken multiple, multiple cognitive baselines. And so if I have my baseline at 12 years in service with a ton of stuff, and there's no way to kind of go back and catalogue the prior exposure, you can see how that would be an issue, right? And so the cache obviously, is one of our sort of answers to that where we're going through, it's subjective, you know, obviously, because we're asking what do you remember and sort of having a guided interview of walking through our hay trying to catalog kind of what became what came before that NCAT. And then really looking at blast gauges, as chief said, but what we've done on top of that over the last couple of years is that we've grown from where POTFF used to be only four domains used to have a physical, psychological, social, and family and spiritual. We've grown a cognitive domain, right? So we've taken our cognitive performance folks out of the physical domain. We've married that with some of the brain health stuff that were in concert with the surgeon's office and created something that we could give it its own proper emphasis, right? Because it was sort of buried as a sub-LOE under another domain. Let's bring it together and put more light on this so that we can work with 734 working group, CAPT Cota, and other folks around DOD, so that we're taking this properly, seriously, right. And so right now, we're really in a lot of monitor phase, right? We're throwing a lot of stuff out there in different sensors, whether that's, you know, neurocognitive assessment tools, whether that's blast gauges, whether that's, you know, our subjective self-report, or some of the stuff that we're doing with QEEG to do sort of brain mapping. As CAPT Cota help stand up SABERS back in the day, we're still, we're still working through that rolling those things out to get best practices, of really, structurally, how is your brain talking to itself, you know, point-to-point, node-to-node, because I'll bring it back to what we talked about at the very beginning, right for me, and for all of our population that's on the ground, chief and everyone else, you know, when he was, you know, talking all those cannons and shooting everything at AC-130. What we care about is performance, right? And so you can monitor and I can be your test guinea pig, and you can have all my data all you want, how does that help me stay on a team and make sure that the mission is good, right? And so taking some of this and putting a performance lens on it to say, "Hey, we're gonna structurally and objectively look at how your brain is, is physically functioning. And then we're going to do neurofeedback training and cognitive performance training to try to help us to address any deficits, or really even things that you're strong in, to try to raise your performance." Because if we can, if we can put it in a performance narrative to say, "Hey, I'm going to try to help you make better decisions faster." That's applicable across every single one of our MOSSs, rates, jobs, AFSCs. And it's also applicable across every level of, you know, every level of competition up into combat.

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CCM Smith: And it's important, we're working with the Undersecretary of Defense for Personnel and Readiness, Mr. Cisneros, and his team on how do I then take this and Congress? And how do we apply it to veterans as well, right? So because there's a gap, we start talking about neuroplasticity, and elasticity of the brain. And over time, is this early onset Alzheimer's? Are there other things, medical conditions that start to come out of either brain lesions or, or pre-concussive impacts. While on service? So it's how do I gauge our retired and veteran communities to tie those together with the active-duty community to get a holistic picture over time, and this is a great challenge, but it's one that we're committed to here in special operations command.

CAPT Cota: And there, there was also with Dr. Dan Pearl out of CNRM yeah, the development of the SOF Brain Tissue Repository, unfortunately, you know, those are usually provided post-death, unfortunately, in that regard, but the volunteerism of the SOF community to understand the spectrum of the issue has been really beneficial. With the donation of brains to that organization to study what those impacts are, specifically when with regard to TBI, and brain health like that. So kudos to you guys for continuing that effort forward. I think it's critically important that we find *in vivo*, not postmortem types of capability. And I think that there are some studies happening at SOCOM with imaging. Right? Do you guys can you talk about that a little bit? Kind of some of the studies that are taking place in the brain health realm?

CCM Smith: Yeah. So a couple things. Dr. Pearl is, you know, the samples that he does have, in some of the lesions of repeated concussive events and things we're learning from that can't be replicated anywhere. So I mean, this is groundbreaking, scientific, a scientific journey, if you will. This is this is your advanced team on traumatic brain injury and its and its scientific, medical causes, if you will, or being able to see that part A. Part two, places like University of Virginia and their piece, you know, Dr. Pearls' piece on that. And then University of Massachusetts, University of South Florida and some of the things we're doing here with a thing called re-blast and some of the studies that we're looking at now on repeated concussive events, overall brain health and what those things mean are just a few, right? So we are working with I mean, everybody from Duke Medical Center all the way up and across any university, or any leading medical institute, that is studying the brain. We do a lot with the spinal cord injury and Poly Trauma Center at James A. Haley Center here in Tampa. The Moffitt Cancer Center right now here in Tampa as well. We're all kind of synchronizing connected together as well as spinal cord and, and poly trauma VA centers trying to tie this constellation of helping agencies together, using SOCOM, what we are able to do with our agility as a kind of test case in many of these cases.

Sgt.Maj. Parrish: Yeah, and I think, you know, as you know, sir, being up at the DOD level, you know, we're looking, as you said, trying to figure out how can we better map these things before we're all donating our brains to Dr. Pearl, right? And so, re-blast, UVA, two of the key ones specifically about imaging. I was one of the study participants, one of the affected study participants for the UVA one. So I can say going up there and doing kind of my two days up there, of, you know, getting scanned in there trying to figure out how do we best, you know, we've done a lot of great work on, we're not we, the general community, has done a lot of great work on being able to see, as I mentioned, kind of those multiple concussive events on the outsides of the brain and how that works, and how that looks and CTE and all these things. But trying to figure out how do we highlight this shearing force from repetitive low-level blast is a new challenge, right? And so, you know, up at re-blast at UMass are building these machines in-house to try to figure out UVA was looking at special contrast that, you know, that we got to see how this would highlight specifically on that. And as a CCM

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mentioned, Haley, it's funny, we have in this, this interview today, because I just had my re-interview from Haley, one of the studies, you know, there's the PREP program there. But that PREP program is also being used as a feeder into a study, a long-term study, that yeah, we're both, we're both patients. So yeah, so I had another 20 minutes, you know, sort of, "Hey, I need you to repeat back these numbers and remember these things, yesterday afternoon." And so, I do want to highlight, as we talked about this, though, that, you know, there's been some things written, you know, the different papers and all these things, talking about operator syndrome, and some of the some of the constellation of effects that we look at on this right. And SOCOM doesn't currently prescribe to that term, mainly because, you know, it sort of connotes that it's only us that are facing this. And that's not really the case. We know that, obviously combat arms and classes and different things in different communities also have the, you know, exposure to these things. But it is more prevalent if you look at the up-tempo in force utilization of SOF over the last ten or twenty years, we have a higher percentage of folks that have been exposed. And so that's what makes our community you know, fertile, unfortunately, fertile recruitment grounds for a lot of these studies. So we try to make sure that obviously, through IRBs and HRPOs, and everything that whatever we're telling our folks that they can do is safe, but we do want to, we do want to, you know, incentivize to our folks, "Hey, this is a good way to pay it forward for those that are going to come after you to try to be involved in these studies, and hope to learn as much as we can to prevent this stuff in the future."

Miriam: That's so great to hear. And this is all such great stuff. So it's apparent through this conversation that at a minimum, a SOF operator throughout his career is going to be exposed to repetitive, at minimum repetitive, sub-concussive events. And we know there's some data to indicate that it is associated with potential neurocognitive decline, particularly reaction time. So what is the SOF community doing to mitigate the effects of particularly neurocognitive decline for your active-duty SOF operators?

CCM Smith: Yeah, and Matt, I'll let you elaborate on this. And I'll just let me give you a couple pieces on this. The first one is through monitoring and assessment to really understand the scope of if you have a high functioning individual, that's probably borderline OCD to start with, right? Because that's the only way you're getting into this is through repetitive perfection of a task, right? To almost to the point of failure, right? And matter of fact, we teach to the point of failure and then push you beyond that. Right? I mean, that's what it is. So now you have somebody who has a decline in neurocognitive function where you cannot do, whether it's a rapid racking and shooting drill, as fast as they could or memory issues. Or this. I was at 10th Special Forces Group just a couple months ago and they have it's a pistol reaction drill where you get to shoot the yellow square to the pink triangle to the blue circle and it may be a red circle that comes up and it's how well can you your does your neurocognitive function process what you're seeing in order to, and it's just like the ANAM I can't tell how many 'O's I keep shooting or damn 'X' gets the squares again, right, because I did that wrong. Because you're trying to do it so fast, because I'm competing with the dude next to me, you know, inadvertently, because that's what we do. So, it's removing the stigma through repetitive monitoring. And then what happens? What through this operator's lifecycle in this scenario is causing? Is it his or her MOS? You know, occupational specialty, is it because they're a master breacher and the exposure? Is it just age? Is it this? So it's differentiating, and disqualifying the factors that just naturally happen to us in age. And then identifying those high-risk things along the way, so we can mitigate those two safety protocols, we will continue to learn more every day.

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Sgt.Maj. Parrish: Yeah, absolutely. And I think chief was spot on, as far as that's the majority of what our surgeon's office and our medical community, SOF specifically is looking at is how are we're monitoring and kind of getting our arms around this problem. One of the unique things with a SOF population is that we've assessed and selected people, as we mentioned earlier, that are highly adaptable. And so often times, they may not have a significant drop in performance early on, because they're able to use other skills, or experience, and be able to connect the dots fast enough to where even though their gross reaction time is not as fast, because they've experienced so many of those repetitions, they're able to sort of overcome that. And the margin of error that they then drop in performance is not as significant. And so one of the things that we've been working on quite a bit, or our surgeon's office and medical folks, is to create some SOF norms. And ultimately, with the goal of it being a self-to-self comparison, because each one of our people, you know, we can't rely on just sort of a gross comparison of a norm that has people from 18 to 80 years old in the general population, because a lot of our folks are going to score outside of what would consider to be normal, or their decrement. There, we're going to miss things. If we're not looking for, you know, ultimately, we're looking at SOF norms. But ultimately, the gold standard for us is a self-to-self comparison to ensure that we see from your baseline and then as these episodic re-attacks, how you've been affected and how you're overcoming that or not overcoming that. But I'll speak to your question as far as what are we doing about it after that, right? Because there's a lot of monitor and all that stuff. And I'll tell you, I get sort of frustrated by the fact that a lot of it is just give me your data, let me see how good or bad you're doing. And then there's no as we said, performance of "How do I, okay, you found this, but how do I do anything about it?" Right? For us in POTFF, that's where we're trying to live is in cognitive performance training, and, you know, really trying to do cognitive performance enhancement. So we're laying, we're just in the same way that we're hiring world leaders in physical therapy and mental health and other things, we're hiring world leading cognitive coaches and cognitive performance specialists and embedding them into our units, so that they're part of the fabric of the unit. And they're building trust, and they're able to be on that training floor. They're able to go out into the CQB, and other training situations, to understand the stress that the operators are going under. But to also immediately train them with eye-tracking and neurofeedback and other mechanisms, heart rate variability and things like that, to try to ensure that they can get better. We do know through studies that neuroplasticity is a thing and that it's possible to help create new neural pathways in the same way that when you work your muscles out, they can get stronger and become more resilient. We know through you know, a lot of these, you know, not research that we did, but in the general, you know, academic sense, that there's a possibility of being able to work that right. And so, we're layering in both physical, you know, person to person interactions in our units, but also working through things like Brain HQ, which is a commercially available platform that we have partnered with and bought licenses of, to create a scalable available training platform you know, on your tablet and phone or laptop, so that our as our folks are dispersed, and they're not able to do those one-on-one training sessions, that they still have the availability, right? As we liken cognitive to physical, physical is very easy because if my strength and conditioning coach writes me a physical training plan, I can do that anywhere. I can do it in a hotel gym, I can do it at Planet Fitness, I can do it my garage, gym, whatever. If my cognitive fitness coach gives me some mental exercises, I don't have that gym to be able to do that. I don't have eye-tracking goggles; I don't have a light board, or any of these things, when I'm out traveling. So that's one of the reasons that we partner with this company to say, okay, "Hey, what can we give our folks in their hands that they're going to have to be able to at least do some general cognitive training to try to counter those declines, but also just to increase performance overall?"

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CCM Smith: And the other part is living with TBI. You know, as we are both, you know, we're both, you know, guests of the Polytrauma centers, you know, several times over and part of it is, "Hey, you are not going to be who you were, Right?" You have to recognize and work through these things. You know, I was in an accident had a cerebellum shift if you will, after brain swelling, a couple other things. So, okay, after that happens, what does new normal look like? And how do you continue to perform at a level or perform? How do you re-baseline the level at which you can perform and recognize that just like any other injury? It's okay. You know, be thankful you are where you are, and then baseline your new normal and maximize that. So that's a hard thing to do for, for folks to re-baseline with their new normal is. So it's, it's working through that and keeping them on the team, wherever they're at. And then take people on executive levels, you know, some of our executive, our leaders across them, who have also been exposed to this. And now, you know, in a different type of sleep deprived, transactional relationship that you find yourself in, that it's affecting the entire enterprise, it affects decision making, as well. So it's understanding that you are making the best decisions for yourself that somebody is monitoring that, because you are also responsible for making decisions, you know, for an organization, if you will.

CAPT Cota: I think, just to make a couple comments. And then probably a question I'll throw in there, too. But with the change in warfighting, and the cognitive stress loads, because of all the information that's coming at you. I mean, specifically, I mean, the SOF operator world, that's, that's just decision making is key. And you guys talked about that, because it could be life or death decision making, right? So I think that just based on what I had seen over those years, that the real-life training scenarios, the stress loads that the SOF environment puts on the training and execution of missions within the training environment is really key, like what you said, for that repetition. So that individuals don't get caught up in trying to make a decision under healthy brain circumstances, right. But then also retraining through if they do have injury of some sort. So like what you said, Chief Smith, about being able to kind of have a reset and be good with that, you know, "This is where you're at, you're still able to execute, you're going to perform at a high level because you were just way, far and above, you know, a certain level for warfighting as far as that's concerned, and all the years of experience that you have been in you." And that that brings me to the SOF truths, right quality over quantity, you can't train individuals to be SOF operators in an emergency. But the impact of TBI in this regard, are there other ways that you're trying to stress load individuals because the competition for blood flow to the brain, or muscles, in an emergency environment outside of you know, separating those facts. Can you talk a little bit about how do you synchronize that either prior to going into a shoot house, or without getting into detail that you can't? But or even just in the gym itself?

CCM Smith: Yeah, so hopefully, right, some of this cognitive domain, testing and baselining will help us, just like we can see, "Hey, you're down 30 pounds on your lifts, you know, on the rig today, look what's going on your body temperature is up point three degrees? Okay, hopefully we get to that. I'll give you, you know, again, keep it unclassified and I'm not given away you know, the test, if you will, but you know, I flew helicopters my last couple years and one of the things we would do to check cognitive function under stress, to simulate that, would be while taking off and running checklist you had to describe a gun malfunction, or it's you're doing a cognitive function, while performing a significant physical lift, right? And you would check reaction times on those things over time as an instructor and an evaluator. My job would be to watch my teammates and see whether or not you know, I'm seeing an improving, sustaining, or a declination of their cognitive or physical function, while under load. Matt, I know that you guys do very similar.

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Sgt.Maj. Parrish: Yeah, sure. Yeah. So I think we've been trying to do is for years and years and years, right, sir? Like, you know, doing KIM games and things like that, while doing other hive, physical stress, you know, kind of training evolutions has been around forever, but it was more sort of like a blunt hammer, right? Like we didn't, we didn't have the ability to sort of isolate and distill out exactly what the stimuli we were putting in, and then what it was actually doing in the body to each person, right, it was more just like, hey, we're all gonna go run 12 miles. In the middle of this, you're gonna see a map, you're gonna have five minutes to look at a map, and when you get back the other six miles, you're gonna draw the map as best you can. And we're gonna make fun of you. If you're drawing sucks, and if it's good, then we'll say great. And then there was really nothing else out of it, right? So it's just sort of a blunt force, but it was if necessary, and I loved it, I think it's good for us. And I think it does help, you know, it's better than nothing right? As far as like, you know, hip pocket training wise, trying to connect the fact that it's not all just about your physical performance, right? It really isn't. It's much more about, obviously, physical performance is foundational, and we cannot, we'll never get away from it. But we have to also recognize that common sense wise, we would forsake the physical to our own detriment as special operators, who aren't, it's necessary for us to do some very physically demanding things to get to the point where the decision is necessary, right? So all that being said, foundationally, we're making sure that happens. And when we get there, it is much more important to have someone who is a thinking athlete, who has something that makes somebody makes the right decisions, under stress, right. And so continuing to put our folks into stressful situations in training is not something new. But it is something that we're trying to try to be more scientific about, right? As chief said, as we're looking at sort of these sensors and these other things, we want to make sure that we're monitoring it to an academic level, and not just sort of to a blunt force level of like, "Alright, you either did good on this run, or you didn't." Right? It's all the other things. And I'll say, it's all a web of interconnectedness, which is what really, I've had to learn over the last few years, like, getting all of a sudden, to having like neuroendocrine issues, and all of these other constellations of things that have jumped on my back, and a lot of my peers' backs, that we didn't expect, you know, PTSD, or TBI symptoms and things like that, or like a behavioral health thing, not a physical how I feel and structure wise. And so I'm trying to lean more towards talking about that, because I think we will get more people more willing to talk about it. That's what made me willing to talk about it is instead of like, you know, a lot of us want to talk about our performance and not our feelings, right? So instead of being, "Hey, how are you feeling?" It's like, no. For me, I felt like I was fighting my own body, right? Like, my body structurally was not doing what I wanted it to do. And it was, you know, hormones out of whack and all these other things. And so that, of course, was affecting my mind. But I wasn't connecting the dots that it started in the mind and went to the body and is now back in the mind. Right?

CCM Smith: And we're medicating in today's world, right? We either self-medicate, yeah, because we're with the team and that leads to all kinds of problems, whether it's alcohol, narcotics, or the docs are giving you either ibuprofen. Pick a muscle relaxer or a skeletal thing, or a sleeping pill, a go, no-go pill. And it's not their fault, either, because everybody's trying to, but it's pieces of the same thing. Yeah, I try to oversimplify this to you know, we were Matt and I arrived at the Tampa Bay Bucs game here recently, and Tom Brady's forty-four years old right out there throwing for the NFL. But when you think about practice, he always wears that, that yellow jersey where he doesn't get hit. So how is he able still to throw accurate passes? Under a stressful situation, knowing the playbook when all these disparate functions are all happening, right? Wide receivers got to do this. He's got to read the defense. Okay, if he's getting creamed every day in practice, he's not going to have that same cognitive function over twenty years later, because he's been getting sacked

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every day in practice. We sack each other every day in practice. It's through blasts, repetitive blast events. So that's, CAPT Cota, to your point, we've got to think smarter about how do I still run the play, without sacking the quarterback, every play in practice, because the repeated sacks i.e., concussive events are what then manifests to what we see today.

Miriam: Yeah, it's such a good point. And that's why one of our primary research partners is the sports medicine community because a lot of what they see in this in the sports community is very similar to some aspects of TBI.

CAPT Cota: And within the element of DHA, so TBICoE is developed products, right? We develop clinical recommendations and others. But one aspect is the Progressive Returned Activity. So it's a monitored, someone gets an acute concussion, they are then you know, monitored through the system until they're cleared clinically. So cleared clinically means you can medically return to your unit. And I think there there's a discussion about the definition of returned to full duty. I always say I don't return people to full duty as a medical officer. That's the unit's responsibility. What do you guys think about that concept that the medical community really clears clinically but you guys have to task them to make sure that they're ready and fit for full duty?

CCM Smith: Yeah, you're pulling me off injured reserve, right? You're saying come off injured reserve, me as the coach now, I have to determine when you're going in the game. Right? That's that I mean, again, I've sorry to keep using sports analogies, I'm just depending on who the audience is, just using different approaches where, you know, some common things, it's, it's the same thing, We do not have the ability right now with manning to put somebody on injured reserve, right?, for an extended period of time, both medically or, or policy wise, because you know, this at one year, okay, you're triggering a medical evaluation board and all these other things that start happening. Now, to Matt's point where the members body is fighting himself, he needs to go on the disabled list. We need to take him down, whether it's cognitive or physical, but he's not going to say anything because of that policy. So there has to be a piece here where the medical guys and the team, "Hey, we're going to pull them out of the game, we're going to put them on the disabled list, just everything freeze". And I know we had that for a while on your combat injuries. But under training injuries, we don't necessarily have that, which is what prevents, in my opinion, a lot of times, people from seeking help, because they're worried about getting pulled off the team, losing the financial pieces that come with it, losing the identity pieces, and potentially losing career. The same reason a first-year NFL linebacker is not going to tell you his knee is hurting until he snaps his Achilles, right or his ACL rather, right is I mean, we'd be weird if your knees hurt and you snap your Achilles. But that's a whole different discussion. So there's my TBI. There's my TBI. Exactly. So hopefully that makes sense.

Sgt.Maj. Parrish: Yeah. So I mean, this happened to me, this is my story, right? Like I was a team sergeant, I'd worked my way up about ten years on a team at the time, and got rear-ended while sitting at a red light, and a guy hit me doing 65 never touched his brakes, right? And so the greatest thing that happened to me was they allowed me to stay on a team, the worst thing that happened to me was that they allowed me to stay on the team. So having at that point, my second neck surgery, and my first lower back surgery, and a shoulder surgery and all the physical things that were going on, while remaining a team sergeant because I was not going to come off of a team willingly whatsoever, much less being the guy in charge of it. Because

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that's the pinnacle, in my career field, I had worked my entire career to become a team sergeant, finally was one and you would have had to drag me out of there, period.

CCM Smith: And in order to get the credit, you have to do X amount of time. The system has become so rigid, that there's an order to progress. There's no, especially in army special operations

Sgt.Maj. Parrish: I would not be a sergeant major if had come off the team, right? Period. So I was only about a year into my team sergeant time, I needed to do two years and really to be really competitive, you work to try to get a third year, right? And so I was able to get a third year. Why bring this up is that there was no talk really, at the time about the mental part of that concussion from that really bad injury, right? Because to your point, sir, the medics at the hospital had said, "Okay, you got a concussion, but you'll be fine in a week or two, or whatever." You know, and so I was sort of gone back in and because I was still able to operate at a high level and to, to, you know, again, duct tape and string or whatever to put it through, I look back now and I'm like, "Man, cognitively I was not, you know, I was kind of fuzzy." But at the time was still able to make decisions and be in meetings and whatever else, even in a neck brace. And so it's very tough, because had you pulled me out of that team right, then I would have been in a completely different part of my career right now. And I probably, you know, so it's a very double-edged sword on these things, right? Like I said, the best thing that happened to me was that they let me remain with my tribe and with my team and with my crew. But the worst thing probably physically for me was that because now I've had several more neck surgeries on top of that one, because I, you know, started jumping again 90 days later, and because of some of these TBI stuff that I probably, you know, there's probably other ways that could have been addressed.

CCM Smith: I made him stop jumping, he was jumping all the way up until last year. Which is insane to me, right? It's and I get it, because it's part of cultural identity. But the member is because it identifies with who he is. He's not going to do it himself. You know? It's the old crotchety people like me, gotta yell at him, right? So in order to that, so they'll get the help that they need. And this is the point about just leadership holistically. And the problem is, is that his guys are dependent on him in this case, so he's not going to come off.

Sgt.Maj. Parrish: Right.

CCM Smith: So it just compounds as you go along the way. That's the difference in the military in sports is while you're part of a team, it's inherently individual, because it's transactional. In the military, it's inherently your entire identity is tied to the team. There is no getting traded to another team. That's out. I mean, in this so what do you do? So it's this loss of identity compounded with mild TBI that is never treated properly. So noise sensitivity, light, rest, you know all the things that are supposed to go with that never get treated and you continue to do repetitive micro concussive events on top of it. We are our own worst enemies. We're idiots.

Sgt.Maj. Parrish: But we're really good.

CCM Smith: Yeah, but we're really good at being idiots.

CAPT Cota: That holistic approach and holistic leadership you talked about is critical, but also inclusion of family and understanding the scope of the problem. Because, you know, I saw a lot of guys where their

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leadership would tell them to come in, and they're like, you know, go pack sand, but if their spouse told them to come in, they were in.

CCM Smith: And that's what mine did. Mine got tired of it, right? "I'm not listening to you anymore. Go, either you go, or I'm calling someone." And it's a common tale. You're right, sir. Because you got three support systems, right? You've got the team, you got family, and you've have your spirituality, right? And all of those are like capacitors, they it's like a capacitor, it fills the capacity. Right? And usually, I don't want to stereotype it. But usually the family one is the one that suffers the most, because, stereotypically, most folks identify with their team because of the deployment schedule. That's the last twenty years did is it, came at a cost of family, which is why we saw divorce rates and alcoholism and some of these other things. It's because there's both moral, and physical, and spiritual injury happening. And I'm not making excuses for bad choices. But there are factors that go into that. And if you do not have a good strong spiritual and family base, then you're going to put it all on with the team. And you're going to kill yourself and ruin your relationship with your spouse and your children along the way. And that's we've seen that happen more often than not usually post some sort of physical, psychological trauma that the member has to refuse to seek help for.

CAPT Cota: That aspect of rest work cycle. So we haven't talked about sleep, the importance of sleep and how SOCOM views the importance of sleep, especially with the way missions are conducted in the SOF environment. Can you guys speak to that a little bit?

CCM Smith: We're still terrible. I'll be honest with you. I mean, it starts right here. I'm terrible, right? I mean, I know the Polytrauma guys are working on me, I get, you know, four to five and a half hours of sleep. And I know it's not enough. You know, we're working on it. But at that if you start working that way down, you have got to program that in there. It's the first thing that we sacrifice, we still do it we sacrifice sleep, and deployed we slacker sacrifice diet, right? Because you're grabbing something and going and you're not sleeping enough because, you know, so then it's Rip-Its or whatever coffee, you know, and Copenhagen for half the night, right to keep those stimulants because of the OCD nature, the obsessive-compulsive nature of success of whatever that mission is, that's what we've seen over time. And CAPT Cota. I know you know that better than anybody. So now as we unpack that, and we start to learn how important sleep really, really is in the lifecycle of health. Sleep, followed by nutrition, followed by exercise, and then it's really a really tight Venn diagram of that, where they're all important, but they're, they're their own separate things. So we are trying to program that in I don't think we're doing a good enough job as we should. And it's like mental health, if you will, the stigma of saying "Hey, man, I'm not sleeping enough. I need an extra hour or whatever." They're not they're still not doing it. Right? We're continuing to chip away at that, but I will tell you from my assessment, we're still failing at sleep.

Sgt.Maj. Parrish: Yeah, I think we all agree that it's foundationally important. We all the more we talk about it and the more, we learn about it, and we can do all the education, and people will learn how important it is and how it affects all of your hormones and everything else. And still every single person that's a high ranking, or whatever, is sacrificing sleep. And they're the ones like chief just said like we all do, like you really need to program that in. And none of us, like you wouldn't be where you're at right now, like it's sort of like work-life balance. Like a four-star will get up and talk about work-life balance. And yeah, maybe at that level when you have whatever, but would you have gotten to that spot if you had maintained a very strict work-life balance and gotten sleep? No. Right, and it will always still be the case? Like if you're sleeping and I'm not

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you're a dirtbag, right? Like that's, that's SOF culture. If I'm doing work, and you're sleeping, you're a dirtbag, right? And it's unfortunate it shouldn't be that way. But it is that way. Right? And so for us it's really programming in trying to figure out how can we get the best sleep possible? How can we educate our folks that they do need to program more of it in? I know that it will affect you cognitively. Like we train, that sleep is something that we want to train to not have to do. Like if you gave us the option of not having to sleep for a week, and there was a way I could train that we would all sign up immediately. Because the more hours in the day that I can do things means the more I can be laser focused on mission accomplishment and beating everybody else.

CCM Smith: Yeah, but then, but then take injury, whether it's psychological, you know, so I have, you know, with this brain swell, if I lay down, I start to start to get dizzy or something along those lines, and accidentally you're up your back hurts, your neck. You know, we're all on, you know, surgery number pick one, right. So now you're up, you're readjusting shoulder, back, neck, head, all the things, you know, that bumps and bruises along. And I don't want to. Look the audience is like, "Oh, my God, I'm never doing that. That's horrible." No, but this is when these things happen. Then it compounds and it manifests in a lack of sleep. You're up at three o'clock in the morning because your back hurts or your neck hurts or you're not your brains job. A little bit. Yeah. So now next, you know, you're sitting there, you know, checking your phone or doing something else. Now you got blue light on ya it's just, you're screwed.

Sgt.Maj. Parrish: Yeah. And I did this, I raised my hand, did it first when I was an operational and then when I came here and said, "Hey, I am like, chronically fatigued." I don't feel right. I'm not. I am not who I should be like, I'm I am now feeling it behaviorally. I'm feeling it as far as like, hormonally, all these things like I can barely pull myself out of bed. And I'm a very high functioning 18 series at that time first sergeant. I didn't get here by not being able to get up and go. And so I raised my I went to the medics and said, I first did it operationally, I got a sleep study at home garbage one that said, Yeah, I was just below the level. And they told me, "Hey, keep on going, you're doing fine." And I wasn't doing fine. And it continued to compound until finally I had to go back in you know, a couple years later and say, "Hey, listen, we either got to fix this, or I got to get out of the military. Like, I don't know what's going on. I cannot do it." And on the surface, every one of my NCOs said I was the greatest person that ever walked the planet. All of my performance was great. But I knew that it was not like I was cobbling it together. I was putting, I was putting electrical tape over check engine lights, right? And so finally going in and realizing like, hey, most of it is a lot of it is about sleep. And a lot of it is between TBI and same kind of things, and chronic pain and all these things. That's that sort of web of interconnected, you know, constellation of symptoms that TBI plays a huge part of, we don't know what the percentage of it is whether you know, all those things. But that's really, I think, to me, the most important thing is just having these conversations, and at least letting people know because at the time, I thought I was the only one feeling that way. And then I started talking to people and it's like, no, like half my force. Like we have an epidemic of sleep apnea with young healthy people. When you think sleep apnea, you think like, you know, obese elderly folks, and then you talk in like the face of sleep apnea is a bunch of operators.

CCM Smith: But I wonder how many of them had sleep apnea before, right? And then, so the thing about that Traumatic Brain Injury Center of Excellence, your organization, that I think is so special, right, that we hope to continue to latch on to and learn and exchange with is the ability to see ourselves and recognize that it's not an isolated incident, that there are, there are several into clusters, into specialties, if you will, based on based on careers that make you higher, medium or lower risk to have this. But no matter what, if you

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experience a traumatic brain injury, or something along these lines associated with some of these other musculoskeletal things, coupled with sleep, "Hey, we're all working hard to find that path that helps get you and make you the most resilient human, you know, mother, father, husband, sister, brother, whatever that is, that you can be." And I think that's the true magic of what stuff like this is.

Miriam: Exactly, exactly. And I don't know if you know about my background clinically, is actually sleep medicine. And I worked at Walter Reed Army Institute of Research in their sleep research center. So I just want our audience to know that the DOD is certainly taking military sleep research very seriously. And they're looking at all different aspects. So just sleep generally how to maximize sleep and potentially devices that can maximize a short sleep episode. And then also looking particularly of sleep consequences of TBI and medications or other devices that can mitigate some of those effects. So they're definitely taking sleep something really seriously, which is good to get to know. So one of the questions I wanted to ask is probably in a lot of our audience's minds, because we're hearing it a lot in the media is about Havana syndrome. So a lot of the symptoms of Havana Syndrome are similar to the symptom I have TBI. So that's kind of the newest and the TBI realm, even though we're not positive of what exactly is causing it, but one of the theories is by directed energy. So the official name for it, in case our audience doesn't know is AHI or Anomalous Health Incidents. So I just wanted to know is that is that something that is concerning to the SOF community? And is that something that you are surveilling?

CCM Smith: Miriam it's a great question, and I'll carefully answer this one is there's more unknowns than there are knowns about Anomalous Health Incidents or AHIs. I will tell you that special operations forces based on the inherent disparate nature of how we employ and deploy or deploy an employee, often times to embassies, where we're seeing a lot of this oftentimes, too, on the verges or on the fringes, or on the edges of these, areas of, of increased great power competition lead to increased risk of things like directed energy, or whatever other symptoms, whether it's foodborne, particle borne, energy borne, you know, atmospheric, whatever it is that we have unbelievable professionals, you know, trying to really, get to the root cause of these incidents. It's clearly and a concern for SOF and something that we pay very, very close attention, we work very closely with the agencies that investigate this very closely. And while we are not seeing it on a grand scale, if you will, we are seeing incidents occur that absolutely have implications for special operations forces. So it's something that we pay very, very close attention to, and I'm confident we'll get to the root cause of it sooner rather than later. And then we'll understand the best ways to combat it or prevent it.

Miriam: Yeah, I hope so. To CAPT Cota, do you have anything to add as the director of TBICoE, we have how we are interacting with the State Department and so forth in this AHI realm?

CAPT Cota: Sure, we're continuing to engage. So you guys know, in those meetings, so we can understand the impact on the individuals who are potentially exposed to this, there's a lot yet to be determined. But there, is information that's starting to come out about how to evaluate, where to evaluate, and systems that are going to be in place so that we can, just like with any other injury, get to those individuals as soon as possible, and have direct access into the right resources, so they can get the care they need.

Miriam: That's great. That's so great to hear. Well, I think that wraps up our conversation. This was so great. I know, me and myself, have gained so much from this conversation. So I hope our listeners have as well. And hopefully we can have you back for further conversations.

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Sgt.Maj. Parrish: Absolutely. We appreciate you appreciate you having us all an opportunity to come speak on it.

CCM Smith: I think like I said, I think that the work to CAPT Cota is doing and the team out there, the TBICoE, along with our veterans piece, along with Undersecretary of Defense for Personnel and Readiness, USD (P&R), that does this, as well as our members of Congress that are spending a lot of time having these discussions of how can we help and how do we put all these pieces together? While Matt and I are horrible examples of resiliency and, and working through it, you know, and both under slept and malnourished and all the other problem, you know, indicators that CAPT Cota, I'm sure is laughing about right now. Without the Preservation of the Force and Family without the team that we have here. We certainly would not be where we're at right now. So while we emphasize some of our personal challenges that we're overcoming, I will tell you that that there is an incredible team here at USSOCOM that are doing everything they can of unbelievable professionals to do everything they can for the warfighter. And that's that and our families. That's what I think were the most important pieces and venues like this, and organizations like yours are what help us make it work. So thank you for that.

CAPT Cota: Yeah, we greatly appreciate you guys being on and I just want to take this quick moment to say that it was truly an honor to serve with such elite warfighters like yourselves and throughout the organization. And just I am so proud to have been in that organization. And just to have known guys like you and I'm going to give a shout out to Sergeant Major Bowling as well during my time that I was there for all that he did for the organization. So thank you for taking this time out, I know you guys are busy and thank you for everything that you guys do and that SOCOM does for our country your mission is so critically important so thank you and we look forward to discussion in the future.

CCM Smith: Thanks.

Narrator: This has been a special Brain Injury Awareness Month episode of Picking Your Brain with hosts of SOFcast, the USSOCOM's official podcast. For more on SOFcast, and U.S. Special Operations Command, visit SOCOM.mil. To learn more about TBICoE's clinical resources and related educational material, visit www.health.mil/TBICoE.

Picking Your Brain is a podcast series 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. It's produced and edited by Vinnie White and hosted by me, Kate Perelman.