

Boost Resilience through Physical Fitness

Transcript: U.S. Army Directorate of Prevention, Resilience and Readiness Outreach Webinar

August 27, 2024

Presenter:

Tiana Hertenstein, clinical research associate at the Henry M. Jackson Foundation

- Lytaria Walker: [00:03](#) Welcome to the Directorate of Prevention, Resilience, and Readiness Outreach Webinar for August. At this time, all participants are in listen-only mode. However, you may ask questions at any time by placing them in the Q&A box. There will be several opportunities for questions throughout the webinar, and we should have some time at the very end as well. CEUs are not available for today's webinar. Please note that the views of DPRR Outreach Webinar presenters are their very own and are not endorsed by the Department of the Army or the Department of Defense. This month our guest is Ms. Tiana Hertenstein. Tiana Hertenstein is a clinical research associate at the Henry M. Jackson Foundation and collaborates with the Consortium for Health and Military Performance within the Uniformed Services University of the Health Sciences, overseeing the physical fitness section of its website, and a certified strength and conditioning coach. Ms. Hertenstein has worked with Special Operation Soldiers as part of a holistic human performance team for the past decade. She has a Master of Science degree in Sports Medicine from the University of Colorado, and a Bachelor's in Exercise Science from Appalachian State University. Ms. Hertenstein, ma'am, thank you so much for joining us this morning. Please take it away.
- Tiana Hertenste...: [01:46](#) Thank you so much Ms. Walker. Really appreciate you guys having me. This morning we are going to talk about how to improve your resilience through physical fitness. When you look at this Service Member, can we say, "Oh, this person is resilient?" We don't really know, right? Is he wincing because he's in pain and has an injury? How do we assess this?
- Tiana Hertenste...: [03:28](#) We are going to talk about how physical activity is a key domain of holistic resilience. We're going to go through the physical stressors that Service Members experience, and then we will go through how to improve physical resilience based on those stressors. We'll define resilience, readiness, and physical activity. We'll go through the problem and what our goal is, and

then we are going to talk about a strategy to address that problem. Hopefully you'll walk away with some diagnostic planning tools to implement.

Tiana Hertenste...: [04:24](#)

"Appropriate physical activity," that's the key phrase here. Appropriate physical activity enhances individual resilience, and that individual resilience leads to greater personal and unit mission readiness. We define physical activity as any movement that causes energy expenditure. As far as resilience, I like to use the DPRR definition, which is "the ability to persevere, adapt, and grow in dynamic or stressful environments." Then readiness is, "the ability to, and willingness to perform an assigned task or mission." Total Force Fitness is the DOD's framework for identifying all the factors that can affect a Service Member's ability to be healthy and a high functioning Service Member. Total Force Fitness incorporates eight domains specifically. We have social, physical, financial, spiritual, medical and dental, preventative care, environmental, and nutritional. This offers a holistic look at what can positively or negatively affect a Service Member's health and performance. The physical is just a small piece of the pie that comes into play here, but it is an important piece.

Tiana Hertenste...: [06:28](#)

Resilience in the context of physical activity is the body's capacity to perform, recover, and sustain itself physically in all required circumstances over time. In the earlier example of the running Service Member, we don't really know what happens after: does he finish, or does he get injured? Is he able to recover from that event or is he going to be at physical therapist for the next few months because of an injury that he sustained? We can't say for certain from just this picture whether or not he is physically resilient because resilience occurs over time.

Tiana Hertenste...: [07:22](#)

Here's the problem. We can see here a lot of Military physical stressors. These are all job-related physical demands. For instance, that ruck there, how long was it? Was it an 18-mile ruck? How much was in his pack? Was it 45 pounds? That's not a typical job that most people do. It is a very physically demanding job. In what other field are you expected to have high performance when you've been awake for 24 hours? Or we can talk about the unprecedented chronic high stress austere environments, like living in a desert and having to take a shower while getting "sugar cookie-d" by a sandstorm.

Tiana Hertenste...: [08:28](#)

That's not a typical environment that most people are exposed to, so this is very specific to the Military. Chronic high stress, the constant deployment cycle, training, all these things will push someone below that performance threshold and cause fatigue,

physical underperformance, injury, burnout, loss of confidence, and finally separation, disability and degraded mission readiness. The Military environment is very unique with physical demands, and it inherently challenges an individual's ability to perform and sustain over time. This in turn impacts all the adjacent demands in that Total Force Fitness model and presents this huge obstacle to overall Force readiness.

Tiana Hertenste...: [09:28](#)

Fatigue can lead to increased injury risk, which just starts a whole train of further issues. It begins to fuel depression, then loss of motivation, potential family issues, pain, degraded performance, and addictive behaviors. On the other side of this diagram, we see that physical underperformance can lead to a promotion disadvantage: degraded confidence, anxiety for negative outcomes, and degraded team and individual survivability. All of these factors come together and can lead to a lower quality of life for the Service Member, which can lead to injury (both physical and mental), separation and retention issues, inability to perform Mission Essential Tasks (MET), and that really can lead to total unit and force readiness degradation. We have no control over the physical stress on this Military population. We know the problem, but there's not really much that we can do about it, so what do we do to address this? What do you think we can do if we cannot change the problem?

Tiana Hertenste...: [11:01](#)

How do we become physically resilient? How do we solve this problem if we can't change it? Let's see some responses in the chat box. "Coping Mechanisms, change the environment, learn to manage it, change the way we think about the problem, mindset." We can definitely incorporate some of that.

Tiana Hertenste...: [11:36](#)

Here's our strategy. We can equip Service Members physically to resist and overcome the Military's inherent physical stressors, and we can do that by promoting a healthy lifestyle and physical wellness; improving our strength, power, and endurance; improving our cardiorespiratory capacity; and by being PT Smart. If you have not worked out in a year, and all of a sudden you decide to run 10 miles, what do you think is going to happen? Do you think you're going to be more resilient after those initial 10 miles or less resilient?

Tiana Hertenste...: [12:42](#)

When you haven't been physically active for a year, and all of a sudden you run even just five miles your bones can take four to six weeks to adapt to that stressor. Being PT Smart is the most important aspect here, because if we just go all out and get hurt, we're going to actually move away from our goal of becoming more resilient.

- Tiana Hertenste...: [13:31](#) The benefits of wellness and a healthy lifestyle are that living this way is going to lower your risk of musculoskeletal injury, reduce fatigue, improve ease of daily tasks, and physical job performance. If you have someone who is extremely well-rounded, healthy, strong, with high cardio-respiratory endurance and you put a stressor on them, do you think they're going to adapt? Do you think they're going to be able to take that stressor and recover more so than someone who is at a much lower level? If you put them under that same stressor, they're not going to be as resilient to whatever the issue might be. The benefits of cardio-respiratory capacity are the same.
- Tiana Hertenste...: [15:24](#) There is an even longer list of the benefits of physical activity in general for your wellbeing. You'll see increased bone health, improved weight status, obviously, but also a reduced risk of cancer, cardiovascular disease, all-cause and disease-specific mortality, cognitive diseases, anxiety symptoms, and diabetes. Physical activity also improves your sleep and just your overall quality of life.
- Tiana Hertenste...: [16:08](#) I challenge you to a set of 20 squats, to see how your brain feels, how your mood changes. Getting up and moving for even just a minute can decrease feelings of anxiety and improve your sleep. This is an acute bout of physical activity, and it can have immediate benefits like decreased resting blood pressure and insulin sensitivity improvement. That's insane, right? Just one little bout of physical activity can have these effects. Our job-related physical demands, long hours, austere environment, chronic high stress, all that is going to push our performance threshold down. What we're going to do to counteract that problem is we're going to focus on a healthy lifestyle and wellness, cardio-respiratory capacity increase, and musculoskeletal strength. Our goal then is to flatten that curve and keep us above the Performance Threshold here. So this is our goal. Let's have some discussion in the chat now. Is there such a thing as "too much" or "too little" in this strategy? How do we make sure we are doing the right work in the right doses?
- Tiana Hertenste...: [17:47](#) Here are some responses from participants: "Do what your body can handle based on current performance. Gradually increase the stressors so as not to overdo it. Introduce just enough stress needed for growth. Listen to your body but push yourself. Pain is only weakness leaving the body. Work with a master trainer. Slow and steady." This is the tricky part, and this is where it comes to being PT smart. It can be difficult to do, especially if, for example, you used to be an athlete in high school and now your ego comes into play and is difficult to reign in. I would say that is our most important thing to increase our

resilience is to stay PT Smart. "Consider your age." Age does come into play. It actually is still important at a young age to implement, but you don't feel it until you get older.

Tiana Hertenste...: [19:49](#)

We have to start with SMART goals. This means setting goals for yourself that are specific, measurable, achievable, realistic, and time bound. If I could back squat 100 pounds right now, it would not be realistic for me to say that I want to be able to back squat 300 pounds in two months. Assess your current physical activity level and where you want to go. Then we're going to identify barriers that come in the way of us being able to implement our physical activity plan, and we'll develop a plan for implementation based on the current level of activity and goals. This is a very complicated way to say, what do you require? Are you sitting at a desk for eight hours a day, or are you in the field? It really depends on what your working environment and mission profile is.

Tiana Hertenste...: [21:36](#)

You need to start by assessing the physical activity level. It is a good way to get a gauge on what your baseline is. Then you start to raise your baseline, but the point is to make sure we don't do too much too fast. It's always better to err on the side of caution and to increase slowly than to go too hard and then to be injured.

Tiana Hertenste...: [22:26](#)

Let's identify some of the barriers to physical activity. These can be individual barriers, and they can also be widespread barriers. These barriers are things like equipment availability, having to do physical therapy for an injury at the same time, lack of energy, how much time you have available. Lack of motivation is a big one because if you're just so burnt out from everything in life, it gets trickier to implement your plan.

Tiana Hertenste...: [24:26](#)

Then we're going to develop the plan so it's relevant to what you need, it's scaled to where you're currently at, and it's realistic for you to execute. This goes hand in hand with the next goal, which is that it needs to be something that lets you improve and can be sustainable. When a lot of people start out, they do too much. They try to implement too many things too fast, and it doesn't stick. It's really difficult to make a habit. And so if we are trying to do too many habits at the same time it's not going to be sustainable.

Tiana Hertenste...: [26:21](#)

To make sure we're able to measure our progress right towards our goals, we need to be able to evaluate and refine based on how you are meeting your goals. Is your evaluation effective? Which barriers may have come up that are interfering with your physical activity plan and what is helping you meet your goal? If

having a fitness partner that you meet twice a week at 7:00 AM is helping you, and you're consistent with those two days a week, maybe in a couple months you could add in a third day to meet with your fitness partner.

Tiana Hertenste...: [27:32](#)

This is our Human Performance Optimization Spectrum. As you can see on the right side, we have Health Sustainment, and it ranges from Health Sustainment to Performance Sustainment, to Performance Enhancement. And on the right, we're in recovery. Maybe we're recovering from an injury or illness, and we're just meeting the bare minimum of what we need to survive. On the far left, we are highly resilient. Our capabilities exceed the demands of our job. Again, Health Sustainment is just physical activity to sustain physical and mental health. It's foundational. It doesn't necessarily lead to optimal physical capabilities.

Tiana Hertenste...: [28:56](#)

Here are some guidelines for Health Sustainment. This is what we want to shoot for as a basic foundation: 150 minutes at least of moderate intensity aerobic activity, or 75 minutes of vigorous intensity, or a combination of both. If you have a 1 to 10 scale where 10 is that you are going to have to choose to breathe or to talk, and one is just standing still, you would be on a four to six for moderate activity. Vigorous intensity is going to be seven or above. Besides the aerobic activity requirements, we shoot for muscle strengthening activities for the total body at least two days a week.

Tiana Hertenste...: [30:36](#)

This is the bare minimum that we should be shooting for, and it doesn't have to be structured to make an impact on your life. All those benefits of physical activity impact your life and your quality of life even if it is just something simple. Take the stairs instead of the elevator, park at the back of the parking lot, take a lap around the office every time you use the bathroom, get a treadmill desk.

Tiana Hertenste...: [31:47](#)

Performance Sustainment is the next level, the green tier, where we get into structured physical activity or exercise. This is going to be our target, to meet basic occupational physical demand. Here we're able to pass the Service physical fitness test. This is our middle level between injury and illness, and high-performance. It is moving beyond health and towards mission focus. Exercise is structured, repetitive, and progressive physical activity with a specific purpose. As an example, we might be following a structured PT plan in preparation for deployment. Our goal is to be physically prepared for the deployment and meet the minimum standards for the physical

fitness test. The weekly PT plan is incrementally increasing in training load volume and intensity.

Tiana Hertenste...: [33:07](#)

Finally, we have performance enhancement. This is PT structured to exceed demands, and it incorporates our other Total Force Fitness skills to optimize our performance. This is where we get into that highly resilient aspect. As an example, if you're in preparation for deployment in six months, you follow a structured PT plan specific to the job and mission tasks. The goal is to meet the maximum standard for the physical fitness test. It also always includes other Total Force Fitness domains in preparation for deployment. This could be having a nutrition plan that you are following that aligns with your PT plan and helps you recover. When you start implementing those other domains of the TFF wheel that's where we get into that highly resilient Service Member.

Tiana Hertenste...: [34:49](#)

Now for some final thoughts. The Military environment is extremely challenging, and sometimes good enough is perfect. Let's talk in the chat box about some ideas for how we can address the issue of time. How much time do you think you might be able to have on a daily basis? What would be your goal? Are you at an elite level and need to perform physically, or are you mostly sitting behind a desk for eight hours?

Tiana Hertenste...: [36:23](#)

If you do have one hour day, that is fantastic. That's a great amount of time. If you have less, maybe you have 15 minutes, do you sit behind a desk? Would you be able to implement those little strategies I talked about? Maybe you can get 10 minutes walking on the treadmill at your desk.

Tiana Hertenste...: [37:11](#)

Any of the strategies that we talked about for time availability, what kind of goal to shoot for? You know, every time you go to the bathroom you could do a set of squats, or get a pull bar in a door frame, just to do a set of exercises. You could get a whole workout in a couple minutes. It doesn't have to be a one-hour chunk of time.

Tiana Hertenste...: [38:16](#)

Dedicate time to create a routine. Let's say you make a physical fitness plan. Let's say you have your plan made, and let's say it involves squats, RDLs, lunges, glute bridges, planks. Do one exercise in a couple minutes, go right next to your desk, just to get up and move around. This actually helps. If you do two pull-ups every hour in an eight-hour workday with 16 pull-ups every day, you're going to hit your goal, and you don't have to spend an hour a day to hit that goal. It does not have to be a dedicated chunk of time; it can be broken up throughout the day in 2-minute increments

Tiana Hertenste...:	40:06	Physical activity is only one domain of this holistic resilience. Everything does demand a slice of your time. I think what it comes down to what you prioritize. If you need motivation a fitness partner can help you implement your goals, get someone on board to help you stay motivated.
Tiana Hertenste...:	41:00	Next, ask yourself why am I doing this? I'm doing this to feel better, I'm doing this to become more resilient, and I'm doing this because I know that it will improve my quality of life. Keep that in the back of your mind when you are struggling to get started. Keep going back to: "Why am I doing what I'm doing?" We talk about the service physical fitness test that is obviously a way to measure progress, but also how do you feel? If you go walking, how do you feel afterwards?
Tiana Hertenste...:	41:49	When you start taking note of how much better you feel, that is also an important outcome that we are looking for. It is improving your quality of life if it's making you feel better. You need to know where your goals are. If I had an Olympic athlete that needed to improve their clean and jerk by four pounds in four years, we are going to need a lot more than a couple minutes each day. If I have someone who their job requirement is sitting behind a desk for eight hours and they just want to feel better, then 10 minutes a day of aerobic improves your quality of life. Our final key take away is that physical activity supports holistic resilience. The Military physical stressors cause fatigue and can lead to physical underperformance, and we cannot control everything. Addressing physical resilience requires an individual holistic plan that is appropriate for you and your goals.
Lytaria Walker:	44:35	Thank you so much Ms. Hertenstein for today's presentation. We will now take a few questions from the audience. If you would like to ask a question, please type your question in the Q&A box, and we will read them aloud. There will be a short delay before the first question is announced. Our first question is from Ms. Michelle Morgan: "Do you have any resources you can recommend for how to build a workout for ourselves based on our own restrictions?"
Tiana Hertenste...:	45:47	A great place to start is on our website, where we have a lot of resources on how to get started and how to build a workout based on your current restrictions. We have a program with exercises that you can do based on very common injuries. There is also an "Ask the Expert" feature as well. If you can't find something that you're looking for specifically you can ask the expert, and one of us will get back to you within a week.

Tiana Hertenste...:	48:03	Another question: “What is a good way, aside from the Army Combat Fitness Test (ACFT), to assess overall fitness level to establish a starting point?” I do think that an ACFT is a really good way to assess overall physical fitness because it assesses strength, power, aerobic endurance, and anaerobic endurance.
Tiana Hertenste...:	48:34	But before that, just get started. Just start small. Use the resources that we have on our website for getting started based on your conditions. Don’t feel like you have to get an ACFT to get started because that is going to come in the way of achieving your goals.
Tiana Hertenste...:	49:23	I don’t think you need to have one, especially if you are starting at the foundational baseline level, you don’t need to have anything assessed. You need to just get started, and that could incorporate just walking 10 minutes a day, based on your goals. What are your goals? What do you like to do? Do that. Anything that keeps you going and doesn’t make you feel deterred. While the ACFT is a phenomenal way to assess overall fitness, don’t let that get in the way of you getting started.
Lytaria Walker:	52:52	“Will they have to do a supplement to the ACFT?”
Tiana Hertenste...:	53:18	The ACFT is a is a very intense physical fitness assessment. What are your goals? Are you not passing the ACFT? What are you not passing it in? Where are you starting? The ACFT is a very challenging physical fitness test to pass, depending on the individual. If I have someone that is really far off from passing, then I might need a little bit more time than only two minutes every hour. How we talk about it depends on what the individual needs and where they’re currently at and where they need to get to. If you’re passing the ACFT and you just want to improve your daily life, two minutes every hour can definitely do that.
Tiana Hertenste...:	56:10	Master Fitness Trainers (MFTs) are a great resources too. If you don’t know where to start, reach out to your MFT to help you get started if you just have no idea how.
Lytaria Walker:	57:05	If we don’t have any further questions, we will conclude this morning’s webinar. I do want to extend a very gracious thank you to Ms. Hertenstein for taking the time today to provide this great presentation for us. Thank you listeners for joining today’s webinar as well. Once the webinar concludes, you will be prompted to complete a survey. We appreciate your feedback as this helps us to improve upon future webinars. If you’d like to receive invitations for DPRR webinars and receive the latest news and information from the Directorate of Prevention,

Resilience, and Readiness, please go to DPRR's website at armyresilience.army.mil and sign up for notifications there. Thank you again for joining us this morning and have a wonderful rest of your day. Bye now. CEU credit is not available for today's webinar.