

# Q&A with Dr. Brandon Roberts, Major (US Army): The Path of Progress

By Brandon Roberts with Jillian Emma Hatcher and Jeremy Carter | <https://doi.org/10.65832/br75jceh>

*Disclaimer: The views in this article represent Brandon Roberts's perspectives and do not reflect those of the United States Army or military.*

## Introduction

Dr. Brandon Roberts (Major, United States Army) earned his PhD in Rehabilitation Science in 2016 from the University of Florida (UF), where he studied muscle biology, then completed his postdoctoral work in Exercise Medicine and Nutrition from the University of Alabama at Birmingham in 2020. In the same year, Dr. Roberts commissioned in the United States Army. As an active-duty Army officer, he has worked at the United States Army Research Institute of Environmental Medicine and the Walter Reed Army Institute of Research. Additionally, while an active-duty Service member, Dr. Roberts earned an MBA in 2022 from the Quantic School of Business and Technology.

Dr. Roberts has earned numerous awards and honors, such as the 2025 National Strength and Conditioning Association (NSCA) Tactical Strength and Conditioning Professional of the Year, the 2025 NSCA *Journal of Strength and Conditioning Research* (JSCR) Editorial Excellence Award, the 2024 Editor's Choice Award in the *Journal of Science and Medicine in Sport*, and the 2023 NSCA Terry J. Housh Young Investigator of the Year Award, to name only a few. Additionally, as an active-duty United States Service member, Major Roberts has earned several military honors including the German Armed Forces Badge, the Norwegian Foot March Badge, the Military Outstanding Volunteer Service Medal, the Army Achievement Medal, and a Meritorious Service Medal.

Aside from holding numerous certifications from various organizations, he is a senior editor for the JSCR and an associate editor for the *Translational Journal of American College of Sports Medicine*, the *Journal of International Society of Sports Nutrition*, and the *Strength and Conditioning Journal*. He is on the editorial board for numerous other journals. He is published in many journals, has presented at several conferences, to include the national and international levels, and has mentored others in their own journeys.



Shown above is Dr. Roberts receiving the 2023 National Strength and Conditioning Association's Terry J. Housh Outstanding Young Investigator Award.

**You are a first-generation college student. What made you want to pursue higher education and learning with such a high drive?**

From an early age I was drawn to science and curious about how everything worked, so learning felt more like exploration than obligation. In my family, college was also understood as an important step to having a better life, even if no one had a perfect roadmap for it. It was also made clear to me early on by my parents that doing well academically mattered. Plus, I had a stepbrother who was ten years older and served as a strong role model, and I eventually chose the same major that he did, microbiology.

I grew up in a small town, but I was fortunate to have a close group of friends where college was sort of assumed. The question was not whether we would go, but where we would end up. There was a bit of subconscious peer-pressure to do well. I also received scholarships to pay for college and later a work-study job that helped make ends meet, while my parents supported me when they could. Overall, I was able to focus on my education and gain the experience I needed to succeed even if it meant putting in a lot of work.

Even though UF was less than an hour from home, it still felt like a way to step into a

much larger world. I loved the environment at UF so much that I stayed for both my MS and PhD, which I was fortunate to complete on competitive fellowships. For a long time, I thought—or at least hoped—that I would become a physician, but I struggled to consistently earn the grades that path required, and I was never a particularly strong test taker. My GPA reflected that, finishing at 2.93, but I sought opportunities that helped me to grow into the lifelong student and scientist that I am today.

I played all kinds of sports as a kid and played soccer in high school hoping to earn a scholarship to play in college, but I was not quite good enough for that level. I did, however, end up playing on the club soccer team at UF, which kept that part of my identity alive. Around the same time, I became a full-on gym rat, spending much of my free time lifting and trying to understand how training changed my body. Even so, I did not always have the drive that I am known for now, which really emerged during my graduate studies, when I realized that I could connect my two passions, science and exercise, and fell in love with muscle biology and how training, nutrition, and physiology interact.

**What advice would you provide to those who are or would be a first-generation college student?**

I would start by saying this: it is completely normal to feel like you are figuring it out as you go. All first-generation students are. You may not have a roadmap for college, but you can build a support system that fills that gap. It is also normal to feel as if you do not fully belong in college at first. Many first-generation students experience imposter syndrome (and so do many academics even after earning a PhD). That feeling is not proof that you are unqualified, though; it is often just a sign that you are doing something new for yourself and your family.

The most important step is to find mentors. First-generation students may not have someone at home who has already navigated financial aid, standardized exams, and similar experiences. Reaching out to a trusted high school teacher, a coach, or a college advisor can make a tremendous difference. Look for people who are willing to answer basic questions without making you feel small. Once you get to college, go to your professors' office hours, introduce yourself to professors whose classes you enjoy, and attend extracurricular events in areas that interest you. Many opportunities are never formally advertised; they are offered to the students who show up and show interest.

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Second, do not be afraid of a nonlinear path. You might change majors, struggle in a class, or discover that your original plan is not the right fit. Use that information to help guide you instead of getting discouraged. My own path was far from perfect on paper. I started as a freshman at the University of Central Florida (which lasted a whole semester), became homesick, transferred back home, spent a year at a local community college, and only then transferred to the University of Florida. At the time, it felt messy, but in hindsight the series of events gave me time to mature and figure out what I wanted to do.

Third, ask for help with the practical side of college. No one is born knowing how to study for college exams, write a personal statement, or talk to a professor about research opportunities. The information is out there, but you often have to go looking for it. Tools like AI can be a useful starting point for learning about majors, careers, or how to structure an email, but they are not a substitute for real relationships. You still need people in your corner, because opportunities in college and beyond are often influenced by whom you know as much as by what you know. Ask mentors and older students how they approach these things. Learn how financial aid works, apply for scholarships, and look for work-study jobs or campus positions that are flexible with student schedules. Many first-

generation students believe that they should handle everything alone. In reality, using tutoring centers, writing labs, counseling services, and financial aid advisors is a smart strategy, not a weakness.

Finally, give yourself permission to grow into your ambitions. You do not need to have everything figured out at eighteen or twenty years old. Many first-generation students go on to become physicians, scientists, teachers, or leaders in their fields. You do not need a perfect start to get there, but you do need persistence, curiosity, and a willingness to keep asking for help and taking the next step forward even when it seems difficult.

*“... Give yourself permission to grow into your ambitions.”*



Shown above is Brandon Roberts receiving his PhD from the University of Florida in 2016 (also pictured is his mother, Michelle Roberts).

**Following completion of your post-doctoral work, you commissioned in the United States Army. What made you want to serve in the United States' military?**

I had thought about joining the US Army since high school, but without any family or close friends who had served, it felt distant and intimidating. I grew up in a rural area, spending a lot of time outside on four-wheelers, exploring the river and swamps around my house, playing sports, and enjoying the outdoors with friends. Even then, I was drawn to the idea of doing something physically demanding and science-based, but I did not yet have a clear picture of how the military could fit with my scientific career.

At the end of postdoctoral training, I went through the standard academic and research job search. I applied to several positions and had a few interviews, some of which looked excellent on paper. It was also spring of 2020, the start of the COVID pandemic, which did not facilitate the search process. In the end, nothing felt like the right fit, and I didn't get the offers from my top choices. At the same time, I was navigating the realities of a dual-academic family. My wife also has a PhD and was doing her postdoctorate, so every career decision had consequences for two trajectories, not just one. The so-called two-body problem in academia is very real, and it added a layer of complexity that made traditional paths feel more difficult.

During this period, I kept coming back to two ideas: I wanted to do science, and I

wanted to become a better leader. In academia, I saw many talented scientists whom had never been trained to lead people. They were excellent in the lab but often struggled with communication, mentoring, or decision making under pressure. I realized that if I wanted to lead teams and have real impact, then I needed deliberate leadership development, not just more technical training. The Army is intentional about building leaders at every level, complete with structured opportunities to learn how to make decisions and lead others.

Commissioning also allowed me to align my scientific work with a mission that felt larger than myself. My research in muscle physiology, human performance, and environmental stress directly supports Soldier health and readiness. The idea that my work could help Service members perform better and remain healthier in training environments or while doing difficult operations in austere conditions was a strong motivator.

Finally, the military offered something that is not often talked about in academia: financial stability and a network. The Army compensates better than academia, provides good benefits, and is explicit about taking care of families by providing leave and off-duty time. For a dual-academic household, that kind of stability mattered after our

postdoctorates—which were by nature transient—and we were still very poor from finishing our PhDs. The Army allowed us to support each other's careers and to build a life without feeling like we were constantly one grant cycle or one hiring decision away from starting over.

In the end, I chose to commission because it brought together service, leadership development, scientific impact, and family stability in a way that no other option did. It gave me a way to use my training to support those who serve, while also allowing me to grow into the kind of leader that I wanted to become.

**Many students in exercise science or kinesiology assume the degree has limited value, especially in a military context. Based on your experience, what options exist for people with a background similar to yours, both in and out of uniform, and what advice would you give to college students, young professionals, or new Service members who want to serve in the human performance domain?**

A lot of exercise science and kinesiology students assume their degree only leads to coaching, personal training, or maybe physical therapy or another professional health school. In reality, if you are interested in military

populations and willing to grow your skills, there are multiple pathways in and out of uniform where an exercise physiology background is a real asset.

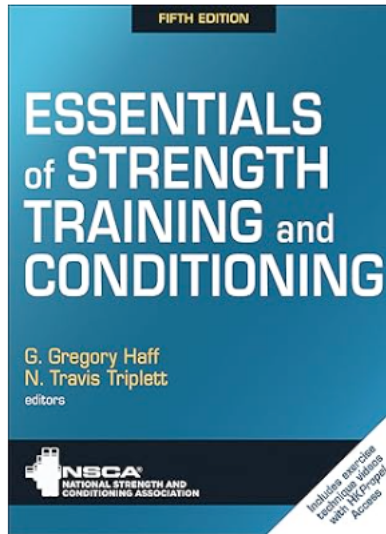
On the uniformed side, the Army Medical Service Corps has a 71-series science officer line that is a natural fit for people who enjoy human performance and physiology. The 71B Biochemist/Physiologist job is what I do now. Officers in this track design and conduct research on topics like environmental stress, load carriage, injury risk, and performance optimization. Other branches have parallel roles. The Air Force and Space Force use Biomedical Science Corps officers and human performance squadrons that employ physiologists, psychologists, and strength and conditioning professionals to support aircrew, Guardians, and special operations. The Navy has research and human performance billets focused on diving, aviation, load carriage, and injury prevention in operational units. A strong undergraduate foundation in exercise science followed by a MS or PhD in physiology, kinesiology, psychology, or a related field can position someone for these kinds of roles across multiple services. Biochemists and molecular biologists also have opportunities at research organizations such as the Walter Reed Army Institute of Research

(WRAIR) and the US Army Medical Research Institute of Infectious Diseases (USAMRIID), where they work on infectious diseases, vaccines, diagnostics, and medical countermeasures that directly support force health protection.

If a person's interests lean more toward cognition, behavior, and decision making, the Army's 71F Research Psychologist path and parallel psychology roles in the other branches align well with backgrounds that include sport psychology, behavioral science, or sleep science. Another role in the Army is the 71E Clinical Laboratory. These officers oversee hospital and field laboratories, manage blood banking and diagnostic testing, ensure quality control, and help generate the lab data that drive decisions about Soldier health, deployment readiness, and medical support in both garrison and operational settings.

Out of uniform, there are tons of civilian roles within the US Department of War and other government agencies. Installations hire strength and conditioning coaches, athletic trainers, physical therapists, and dietitians as government civilians or contractors. These professionals support holistic health and performance teams, rehabilitation clinics, and specialized units. A kinesiology degree plus certifications like the CSCS (Certified Strength

and Conditioning Specialist) or clinical exercise physiology credentials can be a strong foundation for those roles.



My advice to students and young professionals is to stop thinking of exercise physiology as a limited degree and start thinking in terms of skills and populations. Build a solid base in anatomy, physiology, biology, and statistics, and then be very intentional about whom you want to serve. Seek out research experience and internships with tactical or military groups when you can. For example, I did my first study as a postdoctoral student with Army ROTC cadets at the UAB while also serving as their strength and conditioning coach. That experience showed me that you can blend applied coaching, research, and tactical populations in the same setting and that those relationships can open doors later. Add informational interviews to your tool kit as well, which can be as

simple as emailing a military physiologist, strength coach, or human performance officer and asking for twenty to thirty minutes of their time to learn what their day looks like and what qualifications mattered most for them to get there.

If you are at an earlier point in your journey, programs like JROTC in high school or ROTC in college can provide early exposure to military culture, leadership, and service without committing immediately to a full career. For those who are interested in serving but unsure about active duty, the US Reserve or National Guard can be a way to gain military experience, apply your human performance background, and keep one foot in the civilian world while you decide what long-term path fits best. Ultimately, the degree opens the door, but your experiences, relationships, and willingness to work hard are what turn that into a meaningful career in human performance, whether you wear a uniform full time, serve in the Reserve or Guard, or work alongside the military as a civilian professional.

**How did your education and academic accomplishments prepare you for studying human performance at the US Army Research Institute of Environmental Medicine (USARIEM), and what aspects of active-duty service were not addressed by your academic training?**

My education and academic work prepared me for USARIEM by giving me both the technical tools and the track record to be trusted with complex studies from day one. As an undergraduate in microbiology, I learned how to think in terms of mechanisms, cellular pathways, and good laboratory practice. Moving into an MS in Human Performance and then a PhD in Rehabilitation Science shifted that focus from human strength and conditioning to animal research using different disease models, drugs, and genetics.

Over time, my work became increasingly translational because I thought that was the best path forward and it interested me the most. In postdoctoral training at UAB, I worked on projects that ranged from muscle biology to dose-response training studies and multi-omics analyses related to exercise and obesity. I kept my skills up by training people in the gym and supporting animal-based research. My postdoctoral experience taught me how to design longitudinal interventions, handle human muscle and blood samples, manage large datasets, and interpret findings in a way that links molecular and physiological changes to performance and health. Those topics are core to the questions that USARIEM asks every day about Soldiers in their environments.



Shown above is then Captain Brandon Roberts speaking at the 2024 International Society of Sports Nutrition Conference on Injuries and Interventions in Army Basic Combat Training.

Academically, I also learned how to operate at the “program” level rather than just one experiment at a time. Writing and winning fellowships and pilot grants forced me to think about multi-year projects, budgets, milestones, and how individual studies fit into a larger scientific narrative. Teaching and mentoring helped me learn how to explain complex physiology to students, clinicians, and non-scientists, which is very similar to explaining research findings to military leaders who care about readiness and policy. Service on editorial boards and in professional organizations like the NSCA and ACSM (American College of Sports Medicine) trained me to evaluate evidence critically, work across disciplines, and collaborate with people outside my immediate niche, all of which are essential in a place like USARIEM where almost nothing is done in isolation.

What my academic path did not fully prepare me for was the operational side of active-duty service. Graduate school does not teach you how research has to fit around training calendars, field exercises, or deployment cycles, or how different funding streams and acquisition rules shape what is even possible. It also does not cover how to brief senior leaders who are weighing risk and competing priorities, or how to translate a complex study into a clear recommendation that can make a difference. I also had to learn how rank, culture, and chain of command influence decision-making, and how to lead and support Soldiers and civilians whose lives extend far beyond the data collected. The science and academic accomplishments opened the door to USARIEM. Military service required me to learn how that science lives within a much larger system

focused on Warfighter health and readiness.

**For someone who wants to work with the tactical population as a researcher or practitioner, what can human performance professionals uniquely contribute, and what are some of the key problems they can help solve for tactical populations? How does collaboration across disciplines and organizations factor into making meaningful progress on those problems?**

When someone tells me that they want to work with the tactical population, my response usually starts with explaining that human performance professionals bring something very specific to the table: we understand stress, adaptation, and biological systems. Tactical environments are built on chronic stressors. Load, heat, cold, sleep loss, under-fueling, injury, and operational demands all stack on top of each other. Our job is to quantify that load, understand how the body responds, and design training and interventions that improve capability without breaking people in the process.

Practitioners and researchers can help solve several recurring problems. Musculoskeletal injury is a big one: stress fractures in basic training, overuse injuries from poorly progressed running or rucking, and shoulder and back

issues from overloaded rucks and armor that isn't ergonomically designed. We can design and test strength and conditioning programs specific to MOS (Military Occupational Specialty) demands, adjust progression to reduce overuse injuries, and develop return-to-duty pathways that are more individualized and performance based. Another set of problems revolves around readiness under environmental and operational stress. Heat illness during summer field exercises, frostbite during arctic operations, and poor sleep during patrols all erode performance long before someone "fails" on paper. Human performance professionals can measure these factors, model their impact on key tasks, and create practical guidance that leaders can use.

I think about impact at three levels. At the individual level, we can adjust training, nutrition, and recovery plans so a Soldier can meet the demands of their job and testing. At the unit level, we can influence physical training (PT) design, testing strategies, and progression so that training prepares people not only for the ACFT (Army Combat Fitness Test) or other Service tests, but also for ruck marches, casualty evacuation, long days in body armor, and sustained operations. At the system level, we can inform policies on load standards, heat mitigation, sleep, and return-to-duty criteria. A big

part of the job is solving the "last mile" problem: taking good science and turning it into something that fits inside a sixty-minute PT block or a field exercise, not just in a controlled lab setting. Building simple monitoring systems, from wearables to basic workload tracking, can create feedback loops so leaders are not relying only on intuition.

None of this happens in a vacuum. The best work that I have seen is collaborative: strength coaches, physiologists, psychologists, dietitians, physicians, medics, line leaders and everyone else should be all in the same room at some point (though probably not at the same time). In many ways, human performance professionals act as translators, turning physiology into language and actions that Commanders and NCOs (Non-Commissioned Officers) can use. The most effective people in this space respect unit culture, listen first, and then offer solutions that support the mission rather than compete with it. If you approach the tactical world with that mindset, then you can help solve problems that genuinely matter to the people who are doing the job.

*"The most effective people in this space respect unit culture, listen first, and then offer solutions that support the mission rather than compete with it."*

**How can involvement in organizations such as the NSCA support success for those serving the tactical population, and what other professional organizations or networks would you recommend for individuals who want to build a career in this space?**

Early in my career, organizations like the NSCA and ACSM were mainly sources of education and community. As a graduate student, I went to conferences to learn, sit in the back of the room, and listen to people who were already doing the kind of work that I thought I wanted to do. I also put in my reps by presenting posters and refining my public speaking.

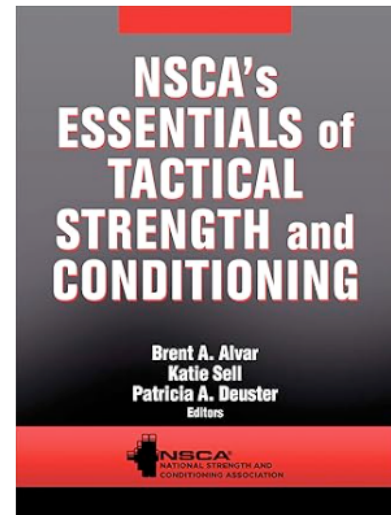
As I gained experience, I started earning credentials and stepping onto the field myself. The NSCA's CSCS and later the CSCS\*D and Tactical Strength and Conditioning-Facilitator (TSAC-F) were early markers that I took the science and practice of strength and conditioning seriously, especially for tactical populations. Around the same time, I began presenting at NSCA and ACSM meetings, sharing work on topics like resistance training, nutrition, and eventually tactical and Special Operation Forces-style training. Putting data in front of practitioners and researchers and hearing their questions forced me to sharpen how I designed studies and how

I translated findings into something a coach or commander could use.

Over time, my involvement shifted from "consumer" of information to "contributor" and then "leader." Writing for NSCA outlets and reviewing manuscripts came next, which led to editorial roles such as senior associate editor for the *Journal of Strength and Conditioning Research* and associate editor for *Strength and Conditioning Journal* and the *Journal of the International Society of Sports Nutrition*. Handling submissions across sports, clinical, and tactical contexts gave me a wide-angle view of what high-quality evidence looks like and common mistakes to avoid. Those insights directly feed back into how I structure projects and mentor younger scientists and practitioners.

From there, my responsibilities expanded into governance and strategy. Serving on the NSCA Foundation Grant Review Committee exposed me to dozens of proposals focused on human performance questions. Reading and scoring those grants sharpened my sense of what makes a study both scientifically sound and practically relevant. Joining the NSCA Board of Directors gave me a broader perspective of how the organization supports tactical professionals through TSAC-F, dedicated tactical content, and funding mechanisms, and it put me in

regular contact with coaches embedded at bases and academies who shared what was actually happening on the ground.



In parallel, continued involvement with ACSM, American Physiological Society (APS), and International Society of Sports Nutrition (ISSN) has kept me connected to the broader exercise science, physiology, and sports nutrition communities. Presenting nonsteroidal anti-inflammatory drugs (NSAID) and musculoskeletal work at ACSM, engaging with environmental and exercise physiologists at APS, and discussing supplement and nutrition data at ISSN helped ensure that the tactical work that I do does not drift away from the larger scientific conversation. Together, these organizations have scaffolded my development: first as a learner, then as a contributor, and now as someone who helps



Shown above on the front right is then Captain Roberts preparing to conduct Special Patrol Insertion/Extraction (SPIE) Rigging Training.

shape the direction of research and practice for the tactical population.

### **What has been your greatest achievement or sense of accomplishment in working with the United States' Service members?**

When I look back at my time working with US Service members, the accomplishment that means the most to me is being trusted and accepted by some of the Army's most demanding communities and seeing that trust turn into real changes in how they train and how they are cared for before, during, and after operational deployments.

A major inflection point was being hand selected to study training pipelines for elite Army units, including Special

Operations Forces like Green Berets and Rangers. These courses are physically and mentally punishing by design, and access is not handed out casually. I was brought in to help characterize what those pipelines actually do to candidates so that leaders could strengthen performance and reduce preventable injuries—all while preserving the standards that define those units. Practically, that meant collecting data during long days at night, in heat and cold or at altitude (e.g., Pikes Peak, a fourteener), in the water, and under severe sleep and nutritional stress, all without compromising the integrity of the course. The real achievement for me was not the presentations or manuscripts, it was when cadre and candidates started to treat me less like “the scientist visiting from the lab” and more like a trusted partner who could help them understand and refine their system. It probably helped that I could keep up with them physically and looked the part, too.

In parallel, some of my other work has influenced how the Army thinks about medical support for training. Our research on NSAIDs and musculoskeletal health has been used in discussions and guidance about NSAID use in Basic Combat Training and similar high-stress environments. Knowing that those data contributed to how



Shown above is Dr. Roberts receiving the 2025 National Strength and Conditioning Association's *Journal of Strength and Conditioning research* Editorial Excellence Honoree Award.

clinicians and leaders approach something as common as pain medication, with direct implications for injury risk and long-term joint health in new Soldiers, has been especially meaningful. It is one thing to publish a paper on NSAIDs; it is another thing to see that evidence feed into policy conversations that affect tens of thousands of trainees every year.

My volunteer work with Soldiers and their families is the other thread that stands out. Over time, I have tried to show up not only in the lab and in field studies, but also in the community around the units that I support through mentoring, events, and behind-the-scenes help. Being recognized with a Military Outstanding Volunteer Service Medal was humbling, because it did not come from a single project or publication. It reflected a sustained pattern of trying to support Service members as people, not just as research participants.

Being invited into these communities, trusted to study their most demanding courses, seeing our data inform training and medical guidance, and having my volunteer work recognized all feel like different expressions of the same goal: using science and service to make a tangible, positive difference for the people who wear the uniform.

**What advice would you give to new Service members whose military occupational specialties are focused on human performance (e.g., dietitians, exercise physiologists, strength and conditioning professionals), and how do you cultivate an environment of growth, challenge, and high standards among those who may not initially share your level of drive or expectations?**

For new Service members in human performance roles, my first piece of advice is simple: learn the Army before you try to “fix” the Army. Whether you are a dietitian, exercise physiologist, or strength coach, your technical skills matter, but they only have impact if you understand the mission, culture, and constraints of the unit you support. Spend time in the field, go to PT, watch how training happens, and listen to NCOs and junior Soldiers. They will show you what the real problems are long before you can figure it out.

I also tell new human performance professionals that part of their job is to be “anti-fad.” You need to know the literature well enough to distinguish between what is trendy and what is truly evidence based, and you have to be comfortable saying, “We do not have good data on that yet,” without losing credibility. Getting comfortable with basic data collection and simple dashboards is a force multiplier. If you can show a commander a clear trend in injury, ACFT performance, sleep, or training load over time, your recommendations carry much more weight than the phrase *I think*.

You are a translator. Your job is to take physiology, biomechanics, nutrition, and psychology and turn them into actions that fit inside a sixty-minute PT block for 100 people or a rehab session for a single Soldier. That goal may mean prioritizing simplicity and consistency over perfect programming. If your solution requires equipment no one has, time no one can spare, or language no one understands, it will not benefit the unit. Start by solving small, tangible problems well and build trust from there.

On the career side, treat your own development like a long-term training plan. Complete your professional military education on time (if uniformed), maintain and

upgrade key certifications (e.g., CSCS, TSAC-F, board credentials), and keep one foot in the broader scientific community through organizations like NSCA and ACSM. Recognize that you sit at an intersection between medicine and the Service members. Medics and clinicians think in terms of risk and safety, while commanders think in terms of readiness and mission. Your value is in showing how good human performance practice serves both.

Finally, pay attention to your own recovery. It is easy to burn out when you are the person who cares the most about training quality in a unit. Training yourself, protecting your sleep, and having a life outside of your job will make you more effective, not less committed. If you stay humble, learn the system, build real relationships, and hold yourself to the same standards that you expect from others, you can create an environment where growth and high performance feel less like pressure and more like a shared mission.

Pictured in article: *The Essentials of Strength Training and Conditioning* is the premier way to prepare for the NSCA’s CSCS; the NSCA’s *Essentials of Tactical Strength and Conditioning* is the foremost way to prepare for the NSCA’s TSAC-F.