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From preparation to readiness: physical performance of the tactical athlete

Da preparação à prontidão: desempenho físico do atleta tático

De la preparación a la disponibilidad operativa: desempeño físico del atleta táctico

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Abstract:
Tactical professionals face physical, physiological, cognitive, and psychological demands that seldom occur in isolation. Military personnel, law enforcement officers, firefighters, and emergency professionals may be required to run, jump, negotiate obstacles, carry equipment or casualties, push, pull, crawl, and sustain prolonged efforts, often while wearing protective equipment and dealing with sleep restriction and environmental stress. This narrative review, supported by a structured literature search, examines the role of physical preparation in operational readiness, with emphasis on strength, power, cardiorespiratory fitness, muscular endurance, load carriage, injury prevention, and readiness monitoring. Recent systematic reviews and meta-analyses suggest that well-designed training programs improve physical fitness and occupational performance, whereas prolonged operational training may temporarily reduce power and muscular endurance. Physical preparation should therefore reflect occupational demands, individual characteristics, and workload, combining general fitness development with task-specific preparation.

Keywords: tactical athlete; physical training; military personnel; law enforcement; firefighters; operational readiness.

Resumo:
Profissionais que atuam em contextos táticos lidam com exigências físicas, fisiológicas, cognitivas e psicológicas que raramente aparecem de forma isolada. Militares, policiais, bombeiros e integrantes de serviços de emergência podem ser chamados a correr, saltar, transpor obstáculos, transportar equipamentos ou vítimas, empurrar, puxar, rastejar e sustentar esforços por períodos prolongados, muitas vezes sob restrição de sono, estresse ambiental e uso de equipamentos de proteção. Este estudo analisa o papel da preparação física na prontidão operacional, considerando força, potência, capacidade cardiorrespiratória, resistência muscular, transporte de cargas, prevenção de lesões e monitoramento da prontidão. Foi realizada uma revisão narrativa, apoiada em busca estruturada e com prioridade para estudos recentes, revisões sistemáticas e meta-análises sobre populações táticas. Em conjunto, os trabalhos examinados mostram que programas de treinamento bem estruturados favorecem a aptidão física e o desempenho ocupacional, ao passo que períodos operacionais prolongados podem comprometer temporariamente a potência e a resistência muscular. A preparação física, portanto, precisa ser planejada de acordo com a função exercida, o perfil do profissional e a carga ocupacional, articulando capacidades gerais e demandas específicas.

Palavras-chave: atleta tático; preparação física; militares; policiais; bombeiros; prontidão operacional.

Resumen:
Profesionales que actúan en contextos tácticos lidian con exigencias físicas, fisiológicas, cognitivas y psicológicas que raramente aparecen de forma aislada. Militares, policías, bomberos y integrantes de servicios de emergencia pueden ser llamados a correr, saltar, transponer obstáculos, transportar equipamientos o víctimas, empujar, atraer, rastejar y sustentar esfuerzos por períodos prolongados, muchas veces bajo restricción de sueño, estrés

ambiental y uso de equipamientos de protección. Este estudio analiza el papel de la preparación física en la preparación operativa, considerando fuerza, potencia, capacidad cardiorrespiratoria, resistencia muscular, transporte de cargas, prevención de lesiones y monitoreo de la preparación. Fue realizada una revisión narrativa, apoyada en búsqueda estructurada y con prioridad para estudios recientes, revisiones sistemáticas y metaanálisis sobre poblaciones tácticas. En conjunto, los trabajos examinados muestran que programas de entrenamiento bien estructurados favorecen la aptitud física y el desempeño ocupacional, al paso que períodos operacionales prolongados pueden comprometer temporalmente la potencia y la resistencia muscular. La preparación física, por lo tanto, necesita ser planificada de acuerdo con la función ejercida, el perfil del profesional y la carga ocupacional, articulando capacidades generales y demandas específicas.

Palabras clave: atleta táctico; preparación física; militares; policías; bomberos; preparación operativa.

Introduction

Military, police, firefighters and emergency professionals work in situations in which physical fitness can interfere directly in the execution of the task. It is in this context that the expression tactical athlete has been disseminated. The term does not intend to equate, in a simple way, the professional of security or defense to the competitive athlete; it draws attention to the need for physical performance and readiness in face of complex situations, unpredictable and sometimes life-threatening. Petek *et al.* (2024) include in this group military, public safety agents, firefighters and other professionals exposed simultaneously to relevant physical effort, environmental stressors and occupational risk.

There is an important difference in relation to competitive sport. In many modalities, preparation is organized for competitions known in advance. In tactical activity, operational occurrence does not respect a schedule of performance peaks. The professional needs to retain, for extended periods, a physical condition that allows him to respond when necessary. Therefore, readiness assumes a continuous and functional character, and not just punctual.

In practice, this readiness involves very different tasks: running, accelerating, changing direction, overcoming obstacles, lifting and transporting materials, dragging or carrying victims, pushing and pulling objects and moving with protective equipment. Depending on the function, these actions can still occur under heat, cold or other unfavorable environmental conditions. By reviewing interventions in tactical populations, Rasteiro, Santos and Massuça (2023) observed that structured programs with more than four weeks improved physical fitness components and performance in simulated occupational tasks.

The problem, however, is not limited to muscle effort. Insufficient sleep, dehydration, accumulated fatigue and environmental stress alter the ability to respond to the demands of the function. Tramel *et al.* (2023) found different subjective and objective measures employed in

monitoring stress in tactical populations. Lindsey, Shaul and Martin (2025), in turn, recorded the growing interest for biomarkers related to fatigue, dehydration and sleep restriction. These findings help to situate physical preparation within a broader frame of readiness.

Based on this perspective, this study discusses the importance of physical preparation for the tactical athlete and its relationship with operational readiness, strength, power, cardiorespiratory capacity, muscle endurance, load transport, injuries, physical evaluation and training periodization.

Methodology

This study consists of a narrative review of the literature, conducted from a structured search.The selection prioritized publications from 2022 to 2025; previous studies were maintained when they contributed to relevant biomechanical or occupational aspects.The search focused on works indexed in PubMed/MEDLINE and journals in the areas of Sports Sciences, Occupational Health, Military Medicine, Ergonomics and Public Safety.

The searches combined, in English, the terms tactical athlete, tactical population, military personnel, law enforcement, firefighters, physical fitness, physical training, operational reaction, occupational performance, strength training, load carriage, musculoskeletal injury, stress and readiness. In the composition of the body of evidence, systematic reviews, meta-analyses, scope reviews and studies with direct relation to occupational performance were given greater attention.

To organize the reading, the studies were grouped by themes: concept and demands of the tactical athlete, operational readiness, strength, power, cardiorespiratory capacity, muscle resistance, load transport, stress and recovery, musculoskeletal injuries, physical evaluation, specificity and periodization. As this is a narrative review, procedures proper to systematic reviews, such as double independent screening and meta-analysis of the results, were not performed.

The tatic attem and occupational requirements

More than a sports category, the tactical athlete is defined by the demands of his occupation. Military, police and firemen may not participate in competitions, but they need to perform complex physical tasks in situations in which a failure can bring serious consequences. Petek *et al.* (2024) describe a scenario that brings together intense muscle work, quick actions,

equipment transportation, extreme environments and unexpected times. It is this combination that makes physical preparation particularly relevant.

In security services, the variety of these requirements also appears in the forms of evaluation. Massuça, Santos and Monteiro (2022) identified muscle strength and resistance, power, aerobic and anaerobic capabilities, flexibility and agility among the components used to characterize the fitness of police officers. In later work, Massuça, Santos and Monteiro (2023) gathered reference values and methods of evaluation of these components in security agents.

Among firefighters, the situation is similar, although the specific tasks are other. Ras *et al.* (2024) found better occupational performance among individuals with more favorable levels of fitness, strength and cardiovascular and musculoskeletal health.In a previous study, Ras *et al.* (2023) also identified associations between physical fitness, cardiovascular health, musculoskeletal health and occupational performance in firefighters, reinforcing the multifactorial nature of the work ability.

Therefore, there is no single ability to explain the readiness. A professional with good aerobic fitness, but little strength, can find difficulty in transporting loads or victims. In the opposite direction, high levels of strength, unaccompanied with cardiorespiratory conditioning, can limit the support of effort and recovery between intense actions. The usefulness of tactical fitness is precisely in combining these capabilities.

In the Brazilian context, this understanding also appears in a normative document of the Brazilian Navy. The Manual of Functional Training in the Brazilian Navy (CGCFN-109) establishes that functional training applied to military activity should improve physical valence necessary for combat and routine service, in addition to contributing to health, quality of life and injury prevention. The document also highlights that Functional Combat Training should evaluate and develop capabilities such as strength, muscle power, aerobic power, localized muscle resistance, anaerobic resistance, balance, agility and reaction speed, approaching the physical preparation of functional requirements of military employment (BRASIL, 2020).

Physical preparation and operational prontidation

In physical terms, operational readiness means being able to respond to the demands of the function at the time they arise. This idea shifts the focus of training: getting a good result in an institutional test is important, but not enough. The preparation becomes more meaningful when the adaptations produced in the training help the professional to perform the tasks he will find at work.

This transfer appears in the review by Rasteiro, Santos and Massuça (2023). By analyzing 23 studies, the authors found moderate to high magnitude effects on physical fitness measures after programs with more than four weeks, as well as improvement in occupational simulations. Subsequently, a correction adjusted standard deviations and effect sizes of a race test, without modifying the central conclusions of the study (RASTEIRO; SANTOS; MASSUÇA, 2023b).

In the military environment, Smith *et al.* (2022) came to a similar conclusion by another way.The systematic review with meta-analysis showed advantages of programs classified as non-traditional compared to traditional military training for muscle resistance, power, strength evaluated by maximum repetitions and occupational performance.The result favors a program that does not depend exclusively on race and calistenia and that incorporates, in a planned way, strength, power and tasks related to function.

However, readiness is not a fixed condition. Murray *et al.* (2025), gathering 17 studies and 1,592 participants, observed a temporary reduction in lower limb power, upper limb resistance and core resistance after several days of operational military training. The data is relevant because it shows that preparing does not just mean applying stimuli: fatigue produced by the training itself and by professional activity must be administered.

Muscular force and potence

The force occupies a central position in tactical preparation because many tasks depend on the ability to overcome or sustain external resistances. Lifting material, carrying a companion, pulling or pushing structures, overcoming obstacles and moving with additional equipment are examples in which the force ceases to be an abstract quality and becomes a direct occupational application.

It is also important to consider how much of the maximum capacity is required in each task. If two professionals need to move the same load, the one with the highest maximum force tends to perform it using a smaller fraction of its capacity. In this sense, the development of maximum strength and relative force increases the functional margin available for recurrent submaximal efforts.

The results of Smith *et al.* (2022) reinforce this interpretation by pointing to gains in strength and power with non-traditional programs. In the review by Magraner, Botta and Borin (2024), focused on combat tasks and military physical readiness, methods of strength training and strategies aimed at readiness were also associated with better performance in combat tasks.

Power adds another dimension to the problem: in several situations it is not enough to produce force; it is necessary to produce it quickly. Jump, accelerate, change position, overcome an obstacle or perform certain combat actions depend on this characteristic. The power drop recorded by Murray *et al.* (2025) after prolonged operational periods highlights both the need to train it and to preserve its expression in moments of fatigue.

Cardiorrespiratorial capacity and muscle resistance

Even in occupations marked by brief and intermittent efforts, cardiorespiratory capacity remains relevant. Aerobic metabolism sustains prolonged activities and participates in the recovery between actions of greater intensity. In the police evaluation batteries analyzed by Massuça, Santos and Monteiro (2022, 2023), cardiorespiratory fitness appears recurrently, which confirms its importance for this type of population.

In firefighters, Farinha *et al.* (2024) found a consistent association between performance in specific tests and higher levels of aerobic fitness, strength and resistance of the upper limbs. Ras *et al.* (2024) also related better physical condition to better execution of tasks such as climbing, drag and rescue. These results show that complex occupational tasks rarely depend on a single energy system or muscle group.

Muscle resistance deserves attention for the same reason. Repeating actions, maintaining positions and carrying equipment for a long time requires local tolerance to fatigue. Your training does not need to be restricted to very long calisten series; resistance circuits, multiarticular exercises and occupational tasks introduced progressively can also fulfill this function.

Carriage transport and protection equipment

Carrying additional weight is part of the routine of many tactical functions. Backpacks, vests, armaments, helmets, radios and tools increase the displaced mass and thus change both the physiological and mechanical costs of the movement. In military work this demand is particularly evident, but it also appears in police and fire activities.

Graham *et al.* (2025) point out physical fitness and body composition as relevant factors for the carrying capacity of loads. At the same time, high loads increase concern with the musculoskeletal system. For the authors, transportation tolerance can be trained, provided that the exposure is planned and reconciled with the other requirements of the program.

When reviewing 25 years of research on military transportation, Vine and Schofield (2025) draw attention to body mass, load distribution, muscle function and thermal conditions. Walsh and Low (2021) add that cargo transport changes gait, with changes observed in the trunk, hip and knee. In military women, Wendland, Bossi and Oliver (2022) identified their own biomechanical and physiological responses, which reinforces the inadequacy of uniform prescriptions.

The issue is also relevant in policing. Hudson *et al.* (2024) observed that the increase in mass of personal protective equipment is associated with higher heart rate, energy expenditure and effort perception, as well as possible losses in jumping, running and agility tasks. Therefore, specificity should be progressively constructed, including, where relevant, the equipment effectively used in the service.

Stress, fadiga, recovery and monitoring

Strength and conditioning do not explain tactical performance alone. The readiness varies with sleep, hydration, muscle fatigue, stress and environmental conditions. In the review by Tramel *et al.* (2023), heart rate, cortisol, body temperature, subjective perception of effort and anxiety measures appear among the indicators used to monitor stress in tactical populations.

Lindsey, Shaul and Martin (2025) reviewed 49 studies on salivary biomarkers and verified responses to different stressors, including muscle fatigue, sleep deprivation, dehydration and extreme environments.The routine application of these markers still lacks greater standardization, but the results make it clear that readiness cannot be reduced to performance in a single physical test.

In daily training, simpler tools can offer useful information: subjective perception of effort, sleep quality, feeling of recovery, muscle pain and performance changes in standardized tests.In isolation, none of them describes the entire state of the professional. Together and monitored over time, however, they can help adjust the training load.

Physical preparation and muscle-skeletic lesions

Musculoskeletal injuries directly affect the availability to train and work.In the systematic review with meta-analysis by Garcia *et al.* (2025), military with a history of injury showed lower isokinetic muscle strength, especially in the knee and shoulder.The finding suggests that a history of injury should be part of the reading of the physical state of the professional.

This does not mean that increasing the volume of training indiscriminately is a preventive strategy. The physical preparation session is only a portion of the total load. Marches, technical training, shifts of service, courses, use of equipment, insufficient sleep and environmental exposure also produce stress. Ignoring this sum can transform a well-intended program into another source of overload.

Progression, therefore, needs to respect the ability to adapt and recover. Volume, intensity, frequency and specificity should be adjusted not only to the objective of the cycle, but also to the operational calendar and individual characteristics.The purpose is to increase tolerance to demands without maintaining the professional, recurrently, above his/her ability to recover.

Physical assessment and individualization

Individualizing training requires evaluation. For this, the battery of tests needs to be related to the demands of the function, rather than simply repeating procedures by tradition. In the police literature reviewed by Massuça, Santos and Monteiro (2023), strength, resistance, power, aerobic and anaerobic capabilities, flexibility and agility appear as frequent components.

The first is how much the professional has of each physical capacity; the second is how to combine them in a task similar to that found in the service. General tests help to monitor specific adaptations, while occupational tests integrate capabilities in situations closer to the function. Zhang *et al.* (2025), when examining police tests from different countries, describe precisely these two paradigms: general physical fitness and specific competence for work.

A comprehensive assessment can bring together cardiorespiratory measures, maximum and relative strength, power, muscle resistance, speed, direction change, load transport, body composition and occupational tasks.The choice, however, should be guided by the analysis of the function.The value of the results is to support prescription decisions and to show which capacities need to be developed, maintained or temporarily spared.In firefighters in training, Lockie *et al.* (2023) observed relationships between the speed of direction change and components such as strength, power and metabolic capacity, which reinforces the usefulness of evaluating this quality together with other physical capacities.

Periodiation and specificity

Periodizing the training of a tactical athlete requires dealing with a particular difficulty: the unpredictability of professional activity. In the sport, it is often possible to direct the

preparation to competition dates. In the tactical context, the professional may need to perform high performance without prior notice. Instead of pursuing sporadic peaks, the planning tends to seek a sustainable readiness range throughout the year.

This does not prevent the existence of emphasis. Cycles of development, maintenance and recovery can be organized according to the institutional routine. In a certain period, aerobic strength and capacity can receive greater attention; in another, power, speed or specific tasks can occupy greater space. The review by Magraner, Botta and Borin (2024) supports the importance of this organization of methods for readiness in combat tasks.

Specificity, in this case, should not be confused with simulating a mission every day. A more rational progression part of the general capabilities, goes through the integration between them and only then increases the similarity with the occupational tasks. In short: general physical capacity → capacity integration → occupational specificity → operational readiness.

This sequence allows building the physical base without early resorting to large volume of tasks of high musculoskeletal cost. External loads, equipment, terrain and combinations of efforts can be introduced as the professional demonstrates conditions to tolerate them.

Discussion

The joint reading of the studies shows that the preparation of the tactical athlete is by nature multidimensional. Strength, muscle resistance, power and cardiorespiratory capacity appear repeatedly associated with occupational performance.The participation of each one, however, changes according to the profession, specialty and task analyzed.This variation is important because it prevents a single training model from being treated as a response to all tactical populations.

In the military, Smith *et al.* (2022) observed that non-traditional programs produced advantages in certain adaptations.The result questions models based almost exclusively on race and calistenia when the objective includes strength, power and specific performance.In a police context, Melton *et al.* (2023) compared different training models in training academies, showing that the choice of the method influences the physical adaptations obtained.Resteiro, Santos and Massuça (2023), when bringing together different tactical populations, found positive effects of structured programs and expanded this discussion beyond the strictly military context.

A decisive aspect is transference. Gaining strength, power or aerobic capacity in a test does not ensure, in the same proportion, improvement in a complex task. Training needs to

create capacity and, later, teach the body to use it in combinations close to professional requirements. Freight transport illustrates this relationship well, as it depends simultaneously on strength, aerobic fitness, body composition, technique and experience.

Another recurrent point is the oscillation of readiness. Murray *et al.* (2025) documented temporary losses of power and resistance after prolonged operational training. Tramel *et al.* (2023) and Lindsey, Shaul and Martin (2025) show, through different paths, that physiological and psychological stressors can also be followed. Thus, recovery and monitoring are not accessory elements: they are part of the preparation itself.

It would also be inappropriate to treat military, police and firefighters as a homogeneous group. There are shared demands, but tasks, equipment, environments and routines differ considerably. Sergi *et al.* (2023), for example, observed that higher values of body mass index were often associated with worse occupational performance and higher risk of different health outcomes and injury in tactical populations. The analysis of specific demand should therefore precede the choice of tests and training methods.

In this scenario, the Physical Education professional does not only act as an applicator of sessions. It is up to him to interpret the demand, evaluate, prescribe, periodize and monitor, and to reconcile physical training with technical and operational activities. The result sought is a physical capacity that can be used when necessary, without compromising the availability of the professional in the medium and long term.

Practical implications

The evidence examined allows the extraction of some principles for practice. The program must begin with the analysis of occupational tasks and combine strength, power, cardiorespiratory capacity and muscle resistance. The transport of loads and the use of equipment must be introduced progressively, while fatigue, recovery and history of injuries must influence the adjustment of loads. General assessments and specific tests fulfill complementary functions, and the periodization must dialogue with the operational calendar. For firefighters, Kohler, Moore and Holland-Winkler (2024) highlight, in particular, the contribution of resistance and pliometric training to strength, power, safety and performance.

When institutional time is short, multi-articular exercises, well-organized competing sessions and integrated stimuli can make training more efficient. This search for efficiency, however, does not justify concentrating all sessions on strenuous circuits. High intensity without criterion can increase fatigue without offering the desired specific adaptation.

The reference for decision-making must remain readiness. In practical terms, this means developing sufficient capacity for professional tasks to represent lower relative cost, while preserving the possibility of training and acting consistently over time.

This orientation finds correspondence in CGCFN-109, which presents the Combat Functional Training as a modality intended to reproduce movements and physical demands present in military activities. Among the tasks described are running for contact, lifting ammunition wedges and handling under fire, with displacements, crawl, conduction of injuries and cargo transport. The logic reinforces that the physical preparation of the military must combine general skills with tasks of greater occupational specificity, without reducing training to the punctual preparation for physical tests (BRASIL, 2020).

Limits

Although the search has been structured and the selection has prioritized recent literature, systematic reviews and meta-analyses, not all procedures required in a systematic review were used, such as independent screening by two reviewers and own quantitative synthesis.

The heterogeneity of populations and evaluation protocols is another limitation.Different institutions adopt different tasks, equipment, criteria and fitness standards, which makes it difficult to propose a single model.Future investigations may deepen the periodization, monitoring readiness, interaction between physical load and occupational load and responses related to gender, age and specialty.

Final considerations

Physical preparation is an essential part of operational readiness because tactical tasks require a combination of various capabilities. Strength, power, muscle resistance, cardiorespiratory capacity, speed and load transportation tolerance do not act independently; they complement each other according to the professional situation.

The literature analyzed indicates that structured programs improve physical fitness and may favor performance in occupational tasks. The same studies also remember that prolonged training and operations produce fatigue and can temporarily reduce performance. Therefore, preparing involves both developing skills and managing the wear generated by work and training.

There is no single prescription for all tactical populations. Planning should consider function, individual and operational moment, with load progression and periodicization compatible with these conditions. A consistent physical base should precede higher levels of integration and specificity; continuously reproducing the maximum conditions of a mission is not synonymous with well-planned specific training.

Treating security, defense and emergency professionals as tactical athletes means recognizing that the performance in service depends on systematic preparation.When evaluation, training and recovery are articulated to the actual demands of the function, physical preparation ceases to be just an aptitude requirement and starts to contribute to readiness, safety, performance, occupational health and functional longevity.

Table 1 - Physical capabilities and operational application

CAPACITY	EXAMPLES OF DEMAND	APPLICATION IN THE TRAINING
Força	Levantar, puxar, empurrar, transportar vítima/equipamento	Multiarticular resistance training and relative strength
Potência	Acelerar, saltar, transpor obstáculos, ações rápidas	Jumps, launches and resisted movements with an intention of speed
Capacidade cardiorrespiratória	Deslocamentos prolongados e recuperação entre esforços	Continuous and interval training
Resistência muscular	Repetição de tarefas e manutenção de posições	Circuitos, exercícios resistidos e tarefas específicas
Transporte de cargas	Marcha, equipamento de proteção, mochila, ferramentas	Progressive exposure to mass, distance, terrain and equipment
Agilidade/velocidade	Perseguição, mudança de direção, resposta rápida	Accelerations, change of direction and reactive tasks

Source: own elaboration, based on the literature analyzed.

References

BRASIL. Marinha do Brasil. Comando-Geral do Corpo de Fuzileiros Navais. CGCFN-109: Manual de Treinamento Funcional na Marinha do Brasil. 1. ed. Rio de Janeiro: Comando-Geral do Corpo de Fuzileiros Navais, 2020.

FARINHA, Vinícius Montaguti *et al.* Association of physical and emotional parameters with performance of firefighters: a systematic review. International Journal of Environmental Research and Public Health, v. 21, n. 8, art. 1097, 2024. DOI: 10.3390/ijerph21081097.

GARCIA, Rafael Chieza Fortes *et al.* Prior musculoskeletal injury and components of physical fitness in military personnel: a systematic review with meta-analysis. Military Medicine, v. 190, n. 5-6, p. e978-e986, 2025. DOI: 10.1093/milmed/usae499.

GRAHAM, Ryan B. *et al.* Novel approaches to evaluate characteristics that affect military load carriage. BMJ Military Health, 2025. DOI: 10.1136/military-2024-002899.

HUDSON, Sean *et al.* The comfort and functional performance of personal protective equipment for police officers: a systematic scoping review. Ergonomics, v. 67, n. 10, p. 1317-1337, 2024. DOI: 10.1080/00140139.2024.2302957.

KOHLER, Austin A.; MOORE, Andrew R.; HOLLAND-WINKLER, Angelia M. The role of resistance and plyometric training in firefighter safety and performance: a narrative review. Physiologia, v. 4, n. 4, p. 327-340, 2024. DOI: 10.3390/physiologia4040020.

LINDSEY, Bryndan; SHAUL, Yosef; MARTIN, Joel. Salivary biomarkers of tactical athlete readiness: a systematic review. PLOS ONE, v. 20, n. 4, e0321223, 2025. DOI: 10.1371/journal.pone.0321223.

LOCKIE, Robert G.; ORR, Robin M.; MONTES, Fernando; DAWES, J. Jay. Change-of-direction speed in firefighter trainees: fitness relationships and implications for occupational performance. Journal of Human Kinetics, v. 87, p. 225-233, 2023. DOI: 10.5114/jhk/161545.

MAGRANER, J. M. P. S.; BOTTA, W. C.; BORIN, J. P. Combat tasks and physical readiness of military personnel: a systematic review. Motriz: Revista de Educação Física, v. 30, e10240157, 2024. DOI: 10.5016/S1980-6574e10240157.

MASSUÇA, Luís M.; SANTOS, Vanessa; MONTEIRO, Luís F. Identifying the physical fitness and health evaluations for police officers: brief systematic review with an emphasis on the Portuguese research. Biology, v. 11, n. 7, art. 1061, 2022. DOI: 10.3390/biology11071061.

MASSUÇA, Luís Miguel; SANTOS, Vanessa; MONTEIRO, Luís F. Establishing reference data for fitness assessment of law enforcement officers using a qualitative systematic review. Healthcare, v. 11, n. 9, art. 1253, 2023. DOI: 10.3390/healthcare11091253.

MELTON, Bridget *et al.* Evolution of physical training in police academies: comparing fitness variables. Healthcare, v. 11, n. 2, art. 261, 2023. DOI: 10.3390/healthcare11020261.

MURRAY, Andy *et al.* Changes in physical performance following operational military training: a meta-analysis. Sports Medicine - Open, v. 11, art. 16, 2025. DOI: 10.1186/s40798-025-00815-y.

PETEK, Bradley J. *et al.* Cardiovascular care of tactical athletes: have we landed yet? JACC: Advances, v. 3, n. 10, art. 101236, 2024. DOI: 10.1016/j.jacadv.2024.101236.

RAS, Jaron *et al.* Evaluation of the relationship between occupational-specific task performance and measures of physical fitness, cardiovascular and musculoskeletal health in firefighters. BMC Public Health, v. 24, art. 20, 2024. DOI: 10.1186/s12889-023-17487-6.

RAS, Jaron; SMITH, Denise L.; KENGNE, Andre P.; SOTERIADES, Elpidoforos S. *et al.* Physical fitness, cardiovascular and musculoskeletal health, and occupational performance in firefighters. Frontiers in Public Health, v. 11, art. 1241250, 2023. DOI: 10.3389/fpubh.2023.1241250.

RASTEIRO, André; SANTOS, Vanessa; MASSUÇA, Luís Miguel. Correction: Rasteiro *et al.* Physical Training Programs for Tactical Populations: Brief Systematic Review. Healthcare 2023, 11, 967. Healthcare, v. 11, n. 18, art. 2470, 2023b. DOI: 10.3390/healthcare11182470.

RASTEIRO, André; SANTOS, Vanessa; MASSUÇA, Luís Miguel. Physical training programs for tactical populations: brief systematic review. Healthcare, v. 11, n. 7, art. 967, 2023a. DOI: 10.3390/healthcare11070967.

SERGI, Tina E.; BODE, Katherine B.; HILDEBRAND, Deana A.; DAWES, J. Jay; JOYCE, Jillian M. Relationship between body mass index and health and occupational performance among law enforcement officers, firefighters, and military personnel: a systematic review. Current Developments in Nutrition, v. 7, n. 1, art. 100020, 2023. DOI: 10.1016/j.cdnut.2022.100020.

SMITH, Chelsea; DOMA, Kenji; HEILBRONN, Brian; LEICHT, Anthony. Effect of exercise training programs on physical fitness domains in military personnel: a systematic review and meta-analysis. Military Medicine, v. 187, n. 9-10, p. 1065-1073, 2022. DOI: 10.1093/milmed/usac040.

TRAMEL, Whitney; SCHRAM, Ben; CANETTI, Elisa; ORR, Robin. An examination of subjective and objective measures of stress in tactical populations: a scoping review. Healthcare, v. 11, n. 18, art. 2515, 2023. DOI: 10.3390/healthcare11182515.

VINE, Christopher A. J.; SCHOFIELD, Nicholas. 25 years of military load carriage. Experimental Physiology, v. 110, n. 12, p. 1777-1782, 2025. DOI: 10.1113/EP092409.

WALSH, Gregory S.; LOW, Daniel C. Military load carriage effects on the gait of military personnel: a systematic review. Applied Ergonomics, v. 93, art. 103376, 2021. DOI: 10.1016/j.apergo.2021.103376.

WENDLAND, Rebecca; BOSSI, Linda; OLIVER, Michele. Biomechanical and physiological effects of female soldier load carriage: a scoping review. Applied Ergonomics, v. 105, art. 103837, 2022. DOI: 10.1016/j.apergo.2022.103837.

ZHANG, Zhaohua; HE, Jian; ZHANG, Xiaohui; ZHAO, Liru; DENG, Yujian. Analysis of physical fitness tests for police officers in various countries: a scoping review. Frontiers in Physiology, v. 16, art. 1703389, 2025. DOI: 10.3389/fphys.2025.1703389.