



Soldiers participate in an event led by H2F trainers on Fort Liberty, North Carolina, July 6, 2023. Stretching exercises support the holistic approach by improving flexibility, which is crucial for overall physical performance and injury prevention in diverse combat scenarios. (U.S. Army photo by Sgt. Jacob Moir)

A Versatile, Resilient Force Through H2F

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Warfare is rapidly changing, with technological advancements, unconventional threats, population-dense urban centers, and the need for highly adaptable military forces. Readiness has never been more critical.

In 2020, the Army sought to improve Soldiers' preparedness by publishing the revised Field Manual (FM) 7-22, Holistic Health and Fitness (H2F). The update introduced five domains of fitness: physical, nutritional, mental, spiritual, and sleep readiness

(Department of the Army [DA], 2020). The domains presented a holistic approach to preparedness, readying Soldiers for today's demands and tomorrow's battlefields.

Published research revealed H2F has major implications for Soldiers' physiological well-being and capacity to engage in future wars. However, imagining obstacles impeding its implementation is as easy as recognizing its benefits in future conflicts. To ensure H2F's effectiveness, the Army must implement a plan guaranteeing its integration.

Potential Issues

Standardized training programs – notably the Army Combat Fitness Test (ACFT) and introducing H2F personnel embedded into units – have tried to enhance physical fitness. However, Army leaders face potential challenges in fully integrating fitness components of aerobic and anaerobic endurance, muscular strength, muscular endurance, and explosive power into their training programs (DA, 2020). Leaders may be tempted to prioritize conventional training methods focused on general physical preparedness – such as running and basic calisthenics – at the expense of a more diversified approach.

Imbalances in prioritizing muscular strength or endurance may hinder Soldiers' overall physical capabilities, which are crucial for the varied demands of military operations. Additionally, neglecting exercises targeting explosive power hampers Soldiers' agility and readiness for dynamic combat scenarios.

Some leaders may struggle to incorporate these components after becoming comfortable with the physical training practices from the past 20 years when preparing for and conducting counterinsurgency operations. Such a “this is the way we’ve always done it” mentality resists novel approaches and methodologies.

An article published before FM 7-22's release (discussing possible resistance to Army Combat Fitness Test revisions) noted another justification Army leaders could give for resisting change: citing time constraints and favoring more “important” tasks over physical fitness (Clark, 2020).

Furthermore, a lack of knowledge about the benefits and methodologies of H2F training exacerbates the issue, leaving many leaders unable to appreciate or leverage the program's potential.

This potential gap in understanding and acceptance undermines the transition to more effective training models. Recognizing and addressing these challenges is the first step to unlocking H2F's physiological benefits, which promise to enhance Soldiers' physical readiness and improve their overall health and resilience in the face of modern military demands.

Physiological Effects

By following FM 7-22, leaders can initiate physiological adaptations in their Soldiers and create a more ready and resilient Army force. To appreciate the H2F program's depth and importance, leaders must understand the effects of comprehensive physical training. Each H2F fitness component provides unique physiological changes that contribute to the comprehensive enhancement of a Soldier's physical capabilities.

Aerobic Endurance Training

Aerobic endurance training leads to significant physiological adaptations, including increased mitochondrial density and muscle capillary growth,



Muscular strength and endurance training induces a wide array of physiological adaptations that enhance muscular power, endurance, and overall musculoskeletal health. This type of power training enhances muscular strength and explosive power, essential for the varied demands of modern and future combat scenarios, as outlined in the H2F program. (U.S. Army photo by Sgt. Duke Edwards)

enhancing oxygen utilization and energy production (Farrell & Turgeon, 2023). The heart muscle strengthens, enlarging the left ventricle, which increases stroke volume and decreases resting heart rate, indicating improved cardiovascular efficiency.

Additionally, lung capacity and function often improve, creating better oxygen uptake. These adaptations collectively enhance the body's ability to perform prolonged aerobic activities with greater efficiency and less fatigue.

Anaerobic Endurance Training

Anaerobic endurance training, characterized by high-intensity, short-duration exercises, primarily enhances the adenosine triphosphate and phosphocreatine (ATP-PC) and glycolytic energy systems, improving energy generation without oxygen for activities requiring short bursts of power (Van Someren, 2006; Carroll, 2017). The training increases the size of Type II or fast-twitch muscle fibers, which are essential for explosive strength and power.

This training also boosts the body's capacity to store and use ATP and creatine phosphate, vital for immediate energy, and elevates tolerance to lactate and acidity in the muscles (delaying muscle fatigue during intense efforts). As a result, it significantly enhances performance in activities like sprinting, heavy lifting, and jumping.

Muscular Strength and Endurance Training

Muscular strength and endurance training induces physiological adaptations, enhancing muscular power, endurance, and musculoskeletal health. Such training leads to muscular hypertrophy, particularly in Type II fast-twitch fibers, resulting from increased contractile proteins and improved neural recruitment. This benefit

collectively boosts strength, power, and muscular coordination (Hughes et al., 2017).

With these muscular changes comes increased mitochondrial density and capillary networks within the muscles. These enhancements improve oxygen delivery and use for prolonged activities, which boosts metabolic efficiency and reduces fatigue during extended periods of exercise.

This training also benefits the stiffness of connective tissues by stimulating collagen synthesis, leading to optimal balance of rigidity and flexibility (West et al., 2015). This balance ensures efficient force transfer, protects joints, and maintains a full range of motion, reducing the risk of connective tissue injuries.

These adaptations collectively enhance physical performance, enable efficient energy use, and aid injury prevention and recovery, highlighting comprehensive strength and endurance training benefits.

Power Training

Power training, which focuses on performing movements at high velocity with a moderate to heavy load, includes exercises like plyometrics and explosive lifts. The training causes unique physiological adaptations that enhance athletic performance. It also optimizes the speed of neural recruitment and muscle contraction, significantly improving force development rates – which is crucial for rapid movement initiation (Balshaw et al., 2016; Carroll, 2017).

Power training also increases tendon stiffness, ensuring efficient force transfer from muscle to bone – critical for executing powerful movements (Hughes et al., 2017). These adaptations make power

training an essential component for the Soldier athlete preparing for the physically demanding and complex nature of the future battlefield.

The Future of Warfare

The evolving nature of warfare, driven by factors like large-scale combat operations (LSCO), rapid technological advancements, urbanization, and the prevalence of irregular warfare, presents profound implications for Soldier physical readiness requirements (DA, 2022b).

In LSCO, Soldiers often need to sustain high physical activity levels over extended periods. Endurance training, both aerobic and anaerobic, ensures Soldiers have the stamina and resilience to maintain operational effectiveness in prolonged engagements (Rueggsegger & Booth, 2017).

The future battlefield will also likely involve more urban and complex terrains, which present unique physical challenges (DA, 2019b). Urban warfare requires Soldiers to navigate confined spaces, climb, and maneuver in unpredictable environments. The strength, power, and agility developed through comprehensive physical training enable Soldiers to operate effectively in these settings – moving quickly, efficiently, and easily handling equipment or obstacles.

Irregular warfare, characterized by guerilla tactics and asymmetrical engagements, demands high physical adaptability. Soldiers must be prepared for quick transitions between intense combat and periods of watchfulness or rest (DA, 2022b). The diverse H2F physical conditioning (which balances strength, endurance, and flexibility) cultivates Soldiers capable of thriving in unpredictable and demanding scenarios.

Due to technology and protective gear enhancements, future warfare could involve lighter ammunition volume and weight (DA, 2022a). If overall loads grow heavier, however, Soldiers conditioned through holistic training regimens will bear these burdens without risk of greater injury (DA, 2020).

Understanding H2F's benefits leads to the question of how to best integrate it into the Army's culture.

Effective Integration of H2F

Army senior leaders and policymakers must implement a multifaceted plan to address possible gaps between current physical readiness training and the H2F program's comprehensive approach. They can outline steps for incorporating H2F into military training, focusing on leadership engagement, education, and continuous evaluation and feedback.

Leadership Engagement

Army leaders are pivotal in integrating H2F and fostering a comprehensive understanding of fitness and well-being. They must engage with the H2F initiatives and set an example for their subordinates.



Soldiers take advantage of a combat mobility yoga session at the 5th Battalion, 3rd Field Artillery Regiment headquarters on Joint Base Lewis-McChord, Washington. Mental readiness, a key domain of the H2F program, supports Soldiers' overall well-being and performance by incorporating practices that enhance focus and resilience. (U.S. Army photo by Sgt. Casey Hustin)



Sgt. First Class Brent Leverette, U.S. Army Communications Electronics Command, Aberdeen Proving Ground, Maryland, selects a healthy vegetable June 29, 2021. NCOs are vital in promoting proper nutrition, a fundamental aspect of the H2F program that supports overall health, enhances physical performance, and aids in recovery. (U.S. Army photo by Graham Snodgrass)

For current senior leaders, ongoing education is crucial. They must pursue opportunities to enhance their understanding of the program's framework through self-development and formal training sessions and committing to lifelong learning (DA, 2019a). By doing so, they communicate the value and importance of these concepts to their units, encouraging a culture that values and prioritizes holistic health.

Education and Training

Integrating H2F into Army education and culture requires training that builds upon itself at every level of the institutional training domain (DA, 2022c). Begin teaching recruits about the H2F domains from their initial entry training, embedding these principles early in their careers.

Further training can develop this foundation by introducing advanced H2F concepts tailored to the demands of each leadership level and step of formal military education. This progressive model ensures every Soldier, from entry to senior leadership, possesses an evolving understanding and application of H2F principles. This approach fosters a comprehensive health and readiness culture in the Army.

Continuous Evaluation and Feedback

To effectively integrate the H2F program and

meet its personnel's diverse needs, the Army must incorporate mechanisms for continuous evaluation and actively seek Soldier feedback.

For example, the organization initiated a wearables pilot program to track Soldiers' physical activities and health metrics, marking a positive step forward (South, 2023). This development demonstrates the Army's commitment to leveraging technology for health insights.

To unlock H2F's full potential, the Army should broaden this strategy to regularly assess the program's effects on Soldier wellness, performance, and readiness while establishing a direct feedback channel from the Soldiers themselves. By doing so, the Army can ensure the program is responsive and adaptive to its personnel's evolving challenges and needs.

Incorporating Soldier feedback also fosters a sense of ownership and engagement in the ranks. The approach also provides invaluable data to refine and tailor H2F strategies, ensuring they are practical and aligned with real-world demands.

Conclusion

The potential of the H2F program could remain untapped if organizations fail to commit to its methodologies, especially in physical readiness training. The situation underscores the need for a plan

ensuring complete H2F integration, fostering a more holistic approach to Soldier fitness and well-being. Army leaders must diligently read, study,

and apply the FM 7-22 principles. Doing so creates a versatile, resilient force ready to face the complexities of modern combat. ■

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