

## Summary

High Performance Medicine (HPM) is a novel paradigm that applies principles from Human Performance Optimization (HPO) to emotionally charged medical scenarios requiring a combination of complex cognitive processes coupled with psychomotor skills. The ultimate goal is to bring clarity of thought and physical skills precision to their pinnacle while allowing for a positively adaptive assimilation of the experience by the medical provider. Such an approach is well codified within human performance programs in sport and the military.[1,2] High stakes medicine, especially military operational medicine has many similarities with athletics and non-medical military performance. Leveraging the human performance principles learned in sport and the military has potential to improve resiliency, medical performance and ultimately patient outcomes.

## Methods-Results

The Consortium for Health and Military Performance defines HPO as a "capability-based approach that focuses on health and performance improvements key to optimizing Military Service Members' performance of their core tasks or primary duties." [3] Research in HPM should explore various factors as they relate to provider performance in medical scenarios and devise interventions to improve performance in high stakes medical scenarios. Advances in understanding tools like heart rate variability as a measure of cognitive load, autonomic nervous system control on technical medical skills, and physical fitness, nutrition, and sleep impacts on performance can be leveraged to make precision medicine a holistic paradigm for the clinician.

## Conclusions

Saving lives in high-stakes, high-consequence environments should be approached with the same enthusiasm for HPO as sports and non-medical military operations. Aligning medical HPO with military operational HPO allows clinicians to "walk the walk" and advance the science of human performance. High Performance Medicine is a paradigm for the future optimization of medical providers.

1. Lunasco T, Chamberlin RA, Deuster PA. Human Performance Optimization: An Operational and Operator-Centric Approach. J Spec Oper Med. 2019 Fall;19(3):101-106. PMID: 31539442.

2. Patricia A. Deuster, PhD, MPH, Francis G. O'Connor, MC USA, Kurt A. Henry, MC USN, Valerie E. Martindale, USAF BSC, Laura Talbot, USAFR, Wayne Jonas, MC USA (Ret), Karl Friedl, MS USA, Human Performance Optimization: An Evolving Charge to the Department of Defense, *Military Medicine*, Volume 172, Issue 11, November 2007, Pages 1133-1137, <https://doi.org/10.7205/MILMED.172.11.1133>
3. Human Performance Resources by CHAMP. <https://www.hprc-online.org/total-force-fitness/tff-strategies/human-performance-optimization-moving-left-bang>  
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