

## Move Your Performance from the Industrial Age to the 21st Century using Wearable Tech



By Tyler Inman

On October 1st, 2020, the Army released the [Holistic Health and Fitness \(H2F\) Operating Concept](#). The document's foreword, signed by the Army's senior leadership team, describes H2F as an investment in Soldier readiness and lethality, optimal performance, and increased overall effectiveness. Instead of merely mandating readiness, the H2F Operating Concept represents the Army's investment in a strategy that provides the *means* and *ways* to produce better performance outcomes. For example, unit-level certified strength and conditioning professionals will develop periodized physical training programs; certified athletic trainers will help rehabilitate injuries; performance psychologists will contribute to a peak performance mindset. H2F is an exciting vision for the future of Soldier performance, but full implementation of the H2F concept may take several years. Fortunately, you don't have to wait to begin your quest for peak performance. Instead, take a cue from professional golfer Nick Watney.

## A surprising warning

When [Nick Watney](#) woke up on Friday, June 19th, he felt ready to play in the second round of the 2020 RBC Heritage PGA Tour event. No cough, no shortness of breath, no fever. At his request, PGA Tour officials tested Watney for COVID-19. He tested positive, forfeiting his opportunity to continue the tournament. Absent symptoms, and with a significant purse on the line, Watney's request may seem strange. But Watney did have one indicator that something was amiss: his WHOOP strap, a wrist-worn biometric device, gave him a warning.

## An objective measure of readiness

Are you physically prepared for the intense training session your boss has planned for tomorrow morning? Are you mentally ready for the stressful briefing you'll give today? You may already incorporate deliberate breathing techniques or meditation as tools for stress management, but what objective measures indicate their effectiveness? Nick Watney wasn't wearing his WHOOP strap to detect COVID-19. He was monitoring his [heart rate variability](#) (HRV) as part of his peak performance strategy. The WHOOP strap is an example of a wearable biometric technology that uses HRV to understand an individual's stress response. As a measure of the autonomic nervous system's responsiveness, HRV can indicate your body's preparedness for stress and provide an answer to each of the three questions listed above. Here's why I believe measuring and managing HRV is a 21st Century performance-enhancement technique all leaders should consider using:

## Prevent overtraining

Watney is not the lone [golfer on tour](#) wearing WHOOP. Rory McIlroy was an early adopter of the technology and influenced widespread adoption among other pro golfers. [McIlroy says](#), "I started wearing WHOOP because I just wanted to know more about my body and myself and how I recover. I just wanted to optimize what I do . . . I realized by wearing WHOOP that I was overtraining."

Overtrained individuals are not ready. [Overtrained individuals](#) are more prone to fall ill, suffer an injury, and have sub-optimal physical and cognitive performance. The Army [often cites](#) that most injuries Soldiers suffer are preventable “overuse” injuries. Accordingly, identifying early indicators of overuse is a logical first step toward prevention, and [monitoring HRV](#) can help. The app interfaces associated with the WHOOP strap and Oura ring, two of the most mature HRV technologies, will alert you to biometric indicators of overtraining.

### Individualize your training

HRV can help prevent overtraining because it provides [physiological insight](#) regarding your response to various stressors. When HRV is high, your body is more prepared to cope with various stressors. When HRV is low, rest or lower intensity may be appropriate. This insight removes the guesswork from a periodized approach to training. By definition, a periodized training program takes a systematic approach to modify training variables (training load, volume, and rest time) to promote optimal progression. An appropriate balance of stress (training load and volume) and recovery characterizes optimal progression. However, even the most finely-tuned training programs can’t account for the impact of other stressors like poor sleep and nutrition, high-pressure work environments, oncoming sickness, or financial hardship. Continual HRV monitoring can help you [understand the cumulative impact of stress](#) and appropriately alter your training program’s intensity – individualized training at its best.

### Improve performance via better sleep

The Army’s performance triad is composed of sleep, nutrition, and activity. But these are not pillars standing on equal footing; sleep is the foundation upon which nutrition and activity stand. The impact of sleep on [cognitive](#) and [physical](#) performance is well-documented, and the body of research related to wearable technology is increasing rapidly. [One study](#) determined improved nighttime sleep quality when using wearables versus logging sleep in

a journal. In a six month [study of Navy EOD operators](#), operators with full visibility of their WHOOP sleep data slept an extra 45 minutes per night, exhibited lower resting heart rates, and performed 17% better on physical testing.

### n = 1 is all that matters

In statistics and research, the letter “n” represents a sample size. In general, larger sample sizes increase statistical power. Greater statistical power makes the findings in a research study more likely to be true for the sample’s entire population (N). You are the only “n” that matters, though. In other words, if it helps you achieve your goals, you don’t have to wait around for more research to support your chosen methods. Conduct your own experiments; measure and manage what matters to you. My personal experience indicates tracking HRV has helped me maintain higher physical and cognitive readiness levels. Here are several reasons why:

- Tracking HRV helped me match my most demanding physical training bouts with the days my body was the most prepared



15, 16, 17 August: Green recovery means “go.” This is permission to stress.

18 August: The stress of 3 consecutive training days accumulated and resulted in a poor recovery. This is permission to rest.

19 August: A day off from training with low strain levels contributed to another green recovery. Green means go!

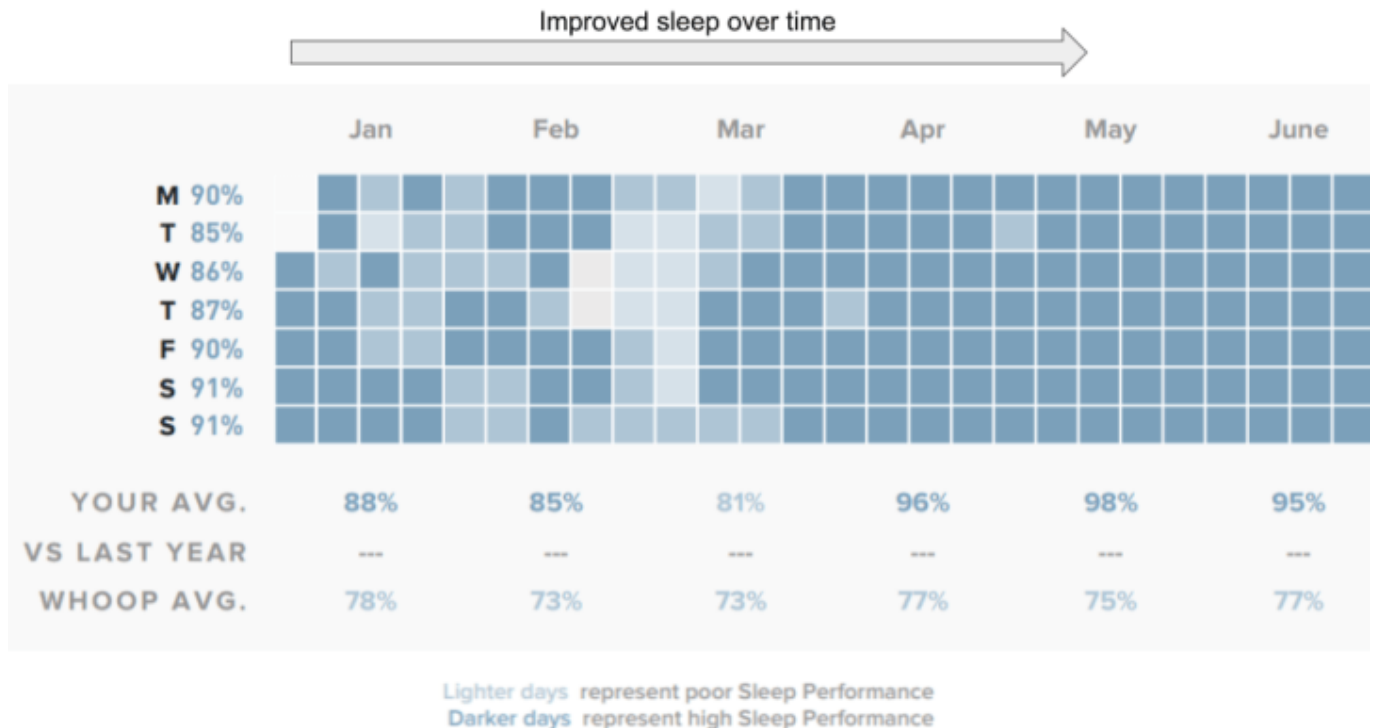
to cope with

the associated stress. This practice led to faster recoveries after intense training sessions.

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- Conversely, tracking HRV helped me avoid too much stress when my readiness was low, decreasing the likelihood of overtraining.
- Alcohol consumption decimates HRV – observing the physiological impact of just one or two drinks helped me choose more wisely concerning drinks with friends (notice lower recovery, higher resting heart rate, and lower sleep quality in the graphic below).
- Measuring my sleep quantity and quality helped me develop better sleep habits.

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### Three ways leaders of the future will use HRV to lead better

1. Leaders that measure and understand HRV will actively manage battle rhythms to align high readiness with known stressors. For example, scientific [research shows](#) that high stress leads to poor decision making. Well-informed leaders will make better decisions by optimizing recovery during deliberate decision making processes.
2. Leaders that measure and understand HRV will develop tactics, techniques, and procedures (TTPs) to enhance their team’s performance. For example, a chief of staff will have access to individual and collective readiness statistics for their staff. He or she can use this data to manage their team’s stress and rest cycles effectively.
3. Leaders that measure and understand HRV will use it to mitigate risk. For example, a leader may ask, “is this team well-rested or recovered enough to conduct this mission or activity?” Their ability to measure HRV within the team provides that answer.

## Stress + Rest = Growth

Recently, senior Army leaders released an [action plan](#) for prioritizing people, the Army's number one priority. In it, Army Chief of Staff General James C. McConville, Sergeant Major of the Army Michael Grinston, and Secretary of the Army Ryan D. McCarthy recognize that investments in *readiness* and *people* were not properly balanced: "our readiness focus resulted in an unsustainable operational tempo and placed significant . . . stress on the force." Such is the "Goldilocks" nature of stress. When properly balanced with rest, stress promotes growth. But too much stress and too little recovery produce unfavorable outcomes. If you're seeking balance in your own physical training or looking for an extra tool for your peak performance kit, consider measuring and managing your HRV.

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