



PONENTE: Arizona Shreck

Helping Other Through Understanding HRV

Penn State Berks

The constant variation in milliseconds between the heartbeats is known as heart rate variability (HRV). Some situations result in an increase in variation (high HRV), while others cause the intervals between beats to stay more constant (low HRV). These subtle variations reflect the heart's ability to respond to different situations. HRV can react to stress and/or illness —providing useful insights into an individual's stress levels, recovery status, and general well-being. A higher HRV is an indicator of general physical fitness and sufficient recovery, whereas a lower HRV is an indicator of stress, illness, and overtraining. The novel Oura ring, a wearable device, integrates daily physical activity and nocturnal cardiovascular measurements. An individual's nightly average HRV compared to their baseline, and whether it trends up or down, can help an individual know how to approach their day. For example, comparing the daytime check-ins to their general baseline can give them insights into how certain activities, like meditation or exercise, affect their system.

I wore the Oura ring for approximately two months to gather my physical activity and nocturnal cardiovascular measurements. Every morning I would check the Oura ring's digital application on my smartphone to gain insight on my quality of sleep. The information provided would help me determine if I should be more physically active or restful throughout my day. On the days that the Oura ring measured a low HRV throughout my sleep, I would need to incorporate more rest to help my body recover from stressful stimuli. On the days that the Oura ring measured a high HRV, I was able to incorporate more physical activity into my day to optimize my body's health. As a student athlete, I learned to incorporate a twenty-to-thirty-minute nap into my daily routine to optimize both my academic and athletic performance. I would like to share my findings with others to support the advocacy for practicing general wellness.