

Results of a Three-Consecutive-Night Study in a 48-Unit EE System

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EE System HRV Study – Visual Summary Simplified

This study evaluated the effects of spending three consecutive nights in a 48-unit EE System on Heart Rate Variability (HRV), a key measure of nervous system health and overall adaptability.

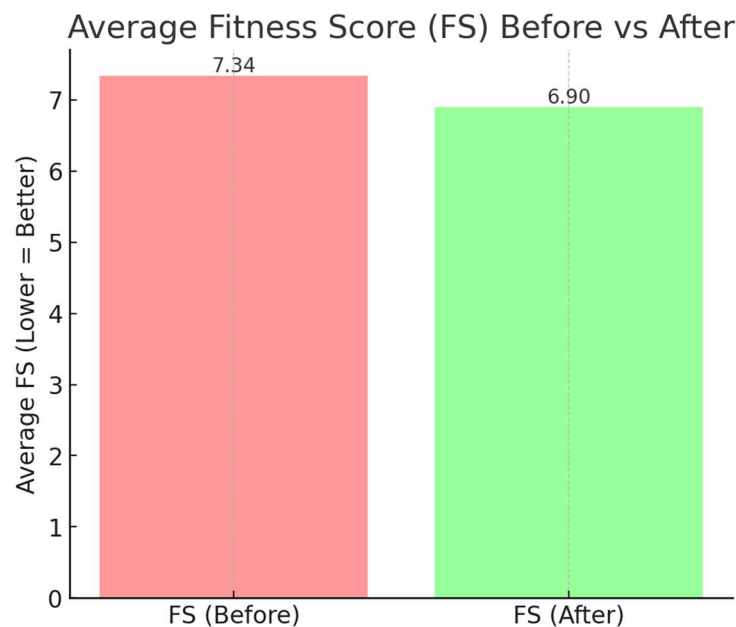
Two core metrics were measured:

- Fitness Score (FS): Reflects overall physiological energy and adaptability (lower = better).
- Autonomic Regulation Relationship (ARR): Reflects balance of the autonomic nervous system (higher = better).

✓ On average, participants improved their Fitness Score by approximately 15%.

Fitness Score (FS)

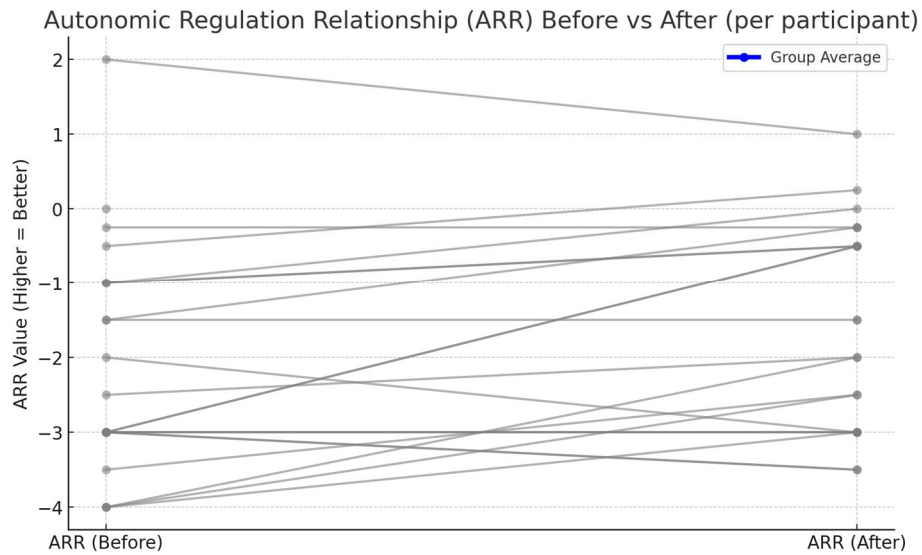
FS improved after three nights in the EE System. The chart below shows a clear reduction in average FS, meaning participants had better energy regulation and adaptability



✓ Most participants experienced an ARR improvement, with the group average trending upward.

Autonomic Regulation Relationship (ARR)

ARR showed positive trends toward better balance of the sympathetic and parasympathetic systems. Gray lines represent individual participants, while the bold blue line highlights the group average trend.



Complete study begins next page

EE System HRV Study – Complete Study

Executive Summary

A total of 27 participants were recruited to spend three consecutive nights in a 48-unit EE System in order to assess changes in Heart Rate Variability (HRV). Of the 27 participants, 2 withdrew, leaving 25 participants for analysis. Participants came from diverse backgrounds, and external lifestyle variables were not strictly controlled.

Overall, results showed positive outcomes, with a general trend toward increased HRV across key functional metrics. Specifically, improvements were observed in both Fitness Score (FS) and Autonomic Regulation Relationship (ARR). Clinically, these findings suggest that sleeping in an EE System for three consecutive nights may enhance nervous system regulation of cardiac function and therefore support improved overall physiological health.

Introduction

Heart Rate Variability (HRV) is a clinically validated measure of autonomic nervous system (ANS) activity. It reflects the variability in time intervals between successive heartbeats. Unlike a metronome, a healthy heart demonstrates variability between beats, indicating adaptive balance between the sympathetic and parasympathetic divisions of the ANS.

HRV can be measured over short periods (e.g., 5 minutes) or continuously over 24 hours or longer. This study focused on short-interval (5-minute) HRV recordings. The objective was to assess the effects of three consecutive nights of sleep in a 48-unit EE System on HRV, thereby examining how the intervention may influence autonomic regulation and overall physiological function.

Methods

Clinically valid HRV was obtained using chest-mounted heart rate monitors (Polar H10) paired with FDA-approved analysis software (Nerve Express). Unlike pulse-based HRV proxies that rely on algorithms, this method provides true frequency domain HRV data.

Each participant followed the Nerve Express software's standardized testing protocol, consisting of two phases:

1. Orthostatic Test (Ortho Test): Participants transitioned from lying to standing while the software tracked changes in cardiac rhythm.
2. Valsalva Maneuver: Participants performed a structured breath-hold, followed by recovery and deep rhythmic breathing.

Testing was conducted immediately before entering the EE System on the first night and immediately after leaving on the final morning. This design produced baseline (pre-intervention) and post-intervention HRV data.

Controlled parameters included location, duration (3 consecutive nights), and timing (pre-test in the evening, post-test in the morning). Lifestyle variables outside the intervention (diet, stress, activity, sleep quality, detox baths) were not restricted or fully monitored.

Results, Key Metrics:

1. Fitness Score (FS): A composite measure of nervous system function. The first value represents baseline physiologic function/energy; the second value represents adaptability/reserve capacity. Lower numbers indicate better function (1/1 is ideal).
2. Autonomic Regulation Relationship (ARR): Reflects nervous system performance during the Ortho Test. Reported as parasympathetic/sympathetic values (scale: -4 to +4). Healthy individuals show positive values in both divisions.

Participant outcomes are detailed in the table below:

Participant	FS1	FS2	ARR1	ARR2
1	12/7	11/6	-4/+2	-2.5/+1.5
2	10/6	10/6	-1.5/+1.5	-1.5/+0.5
3	12/6	10/4	-3/+3	-3/+1
4	5/5	4/4	+1/0	+1.5/+0.5
5	12/6	10/5	-4/+2.5	-2/+1.5
6	6/4	9/5	+1/+0.5	-1.5/+1.5
7	12/6	11/6	-3.5/+2.5	-2.5/+2.5
8	11/6	9/5	-3/+2	-3.5/+2.5
9	12/7	11/7	-4/+1.5	-3/+1.5
10	5/3	5/4	+1/+1	+2/+0.5
11	11/6	11/6	-3/+1.5	-3/+1.5
12	5/4	8/4	+2/+2	-0.5/0
13	9/5	8/5	-1.5/-0.5	-1/0
14	10/6	9/5	-3/+1.5	-0.5/+1.5
15	10/5	11/5	-2/+1.5	-3/+1
16	10/6	9/5	-3/+1.5	-0.5/+1.5
17	11/6	10/7	-2.5/+1.5	-2/+0.5
18	9/5	8/3	-1/0	-1.5/2
19	9/6	8/5	-1.5/+1.5	-0.5/0
20	4/4	4/3	+1.5/2	+2.5/1
21	9/4	7/4	-1/+1.5	0/0
22	11/4	11/6	-3/+1.5	-3/+2
23	12/7	12/7	-3/+1	-3.5/+1.5
24	8/4	7/4	-0.5/0	0/-0.5
25	9/5	8/3	-1/+0.5	-0.5/+0.5

Discussion

This pilot study suggests that sleeping in an EE System for three consecutive nights can positively influence HRV, indicating improved autonomic regulation and physiological resilience.

Limitations include uncontrolled external variables (diet, activity, sleep quality), the unfamiliar sleeping environment, and reliance on self-report for detox bath adherence. HRV is inherently individualized, and clinical relevance is best assessed by comparing participants to their own baseline values.

One participant developed a cold sore (herpes simplex virus reactivation) after the second night, possibly indicating immune system upregulation. This may have transiently reduced HRV while supporting long-term recovery.

Future research should use larger, more controlled samples, varied exposure durations, and comprehensive health intake to better understand the clinical implications of EE System exposure on HRV.

Conclusion

Three consecutive nights in a 48-unit EE System were associated with overall improvements in HRV metrics among participants, suggesting enhanced nervous system adaptability and general health function. While not all participants improved, the group-level trend was clinically significant and warrants further investigation.

References

1. Shaffer, F., & Ginsberg, J. P. (2017). An Overview of Heart Rate Variability Metrics and Norms. *Frontiers in Public Health*. <https://pmc.ncbi.nlm.nih.gov/articles/PMC5624990/>
2. Acharya, U. R., et al. (2006). Heart Rate Variability: A Review. In *StatPearls*. <https://www.ncbi.nlm.nih.gov/books/NBK537248/>