SCIENTIFICA CONSULTING

NanoVi Exo® - Case Report

Developed by Scientifica Consulting†

support@scientificaconsulting.com

+1 561 4055059

7637 Ripplepointe Way
Windermere, FL 34786

SCIENTIFICA
CONSULTING

CONTENTS

1. Case Report..... 02

Reduced Pain and Enhanced Physical Function After Daily NanoVi Exo® Use: A 30-Day Case Report in a 60-Year-Old Woman

ABSTRACT

Background: This case report describes the effects of a 30-day wellness intervention using the NanoVi Exo® device on psychological, physiological, and functional outcomes in an adult female participant. The intervention aimed to support recovery, stress regulation, and subjective well-being.

Case Description: M.T., a 60-year-old female, completed a 30-day intervention involving daily 20-minute sessions with the NanoVi Exo® device. After providing informed consent, she completed validated assessments at baseline, day 15, and day 30, including the MOS Sleep Scale, DASS-21, and PROMIS-29. Physiological assessments using photoplethysmography (PPG Stress Flow) and hemoencephalography (HEG), both from Biotekna (Italy), were conducted at baseline and at the end of the study. Changes from baseline were expressed as percentages to evaluate trends in each domain.

Results: Significant improvements were observed in sleep, mood, physical function, and pain perception. Sleep quality, measured by the MOS Sleep Scale, improved markedly with Index I decreasing by 58% at midpoint and reaching a 100% reduction by day 30. Index II declined by 54% at day 15 and 85% at final. DASS-21 scores indicated complete resolution of self-reported depression and stress by day 15, maintained through day 30. Anxiety scores on the DASS-21 remained unchanged.

PROMIS-29 outcomes revealed a 19% improvement in physical function sustained through both midpoint and final assessments. PROMIS anxiety scores decreased by 5% at midpoint and by 25% at final. No changes were observed in PROMIS depressive symptoms. PROMIS fatigue showed a transient increase at midpoint (+22%) followed by a 15% reduction by day 30. Sleep disturbance decreased by 24% at day 15 but showed a 19% increase from baseline by day 30. The participant also reported a 15% improvement in ability to participate in social roles, maintained across both time points. Pain interference decreased by 29% and pain score dropped by 43% at midpoint and 57% at final. Physiological assessments showed a modest 9% reduction in sympathetic activity (SNS LF%) and a 10% increase in parasympathetic activity (PNS HF%) based on PPG data. HEG results indicated a 110% increase in regional cerebral oxygenation (rCBO2), while cerebral blood flow (CBF) decreased slightly by 7%. At the end of the 30-day period, mitochondrial assessments revealed substantial changes in bioenergetic and redox parameters. Mitochondrial membrane potential increased by 305%, and mitochondrial efficiency improved by 12%, as estimated by mescreen™ indices. The Mitochondrial Index, a composite measure of mitochondrial function, increased by 53%. Functional indicators of the mitochondrial network also improved under both baseline (+195%) and stressed (+170%) conditions, suggesting enhanced network integrity and adaptability. Baseline respiration rose by 200%, indicating increased metabolic turnover. In contrast, both the Glycolytic Score and Aerobic Score declined (−62%

and −13%, respectively), which may reflect a metabolic shift or reorganization of energy production pathways during the adaptation process. These trends should be interpreted with caution, as the underlying mechanisms remain unclear and may vary depending on individual physiology. Reactive oxygen species (ROS) levels also increased, with a 290% rise under baseline conditions and a 213% increase under oxidative stress. While elevated ROS may reflect heightened oxidative metabolism and redox signaling, the balance with antioxidant defenses was not assessed in this case and should be interpreted with caution.

Conclusion: This case demonstrated meaningful improvements in sleep quality, stress, depression, physical function, pain perception, and autonomic balance following a 30-day intervention with the NanoVi Exo® device. While anxiety remained stable on the DASS-21 and sleep disturbance showed a late rebound, the overall trends in subjective well-being and physiological regulation were favorable. Mitochondrial assessments showed increased potential, efficiency, and network scores, which may reflect enhanced cellular energy metabolism and resilience to physiological stress.

Table 1. Questionnaire Results

Baseline	Midpoint	Final
MOS Sleep Scale – Index I		
40.0	16.7	0
MOS Sleep Scale – Index II		
29.4	13.4	4.4
DASS21 – Depression		
2	0	0
DASS21 – Anxiety		
1	1	1
DASS21 – Stress		
3	0	0
Chalder Fatigue Scale– Total		
1	1	10
Chalder Fatigue Scale– Physical		
0	0	4
Chalder Fatigue Scale – Mental		
1	1	6
PROMIS-29 Physical Function		
48	56.9	56.9
PROMIS-29 Anxiety		
53.7	51.2	40.3
PROMIS-29 Depressive Symptoms		
41	41	41
PROMIS-29 Fatigue		
39.7	48.6	33.7
PROMIS-29 Sleep Disturbances		
54.3	41.1	43.8
PROMIS-29 Ability to Participate in Social Roles and Activities		

55.8	64.2	64.2
PROMIS-29 Pain Interference		
58.5	41.6	41.6
PROMIS-29 Pain Score		
7	4	3

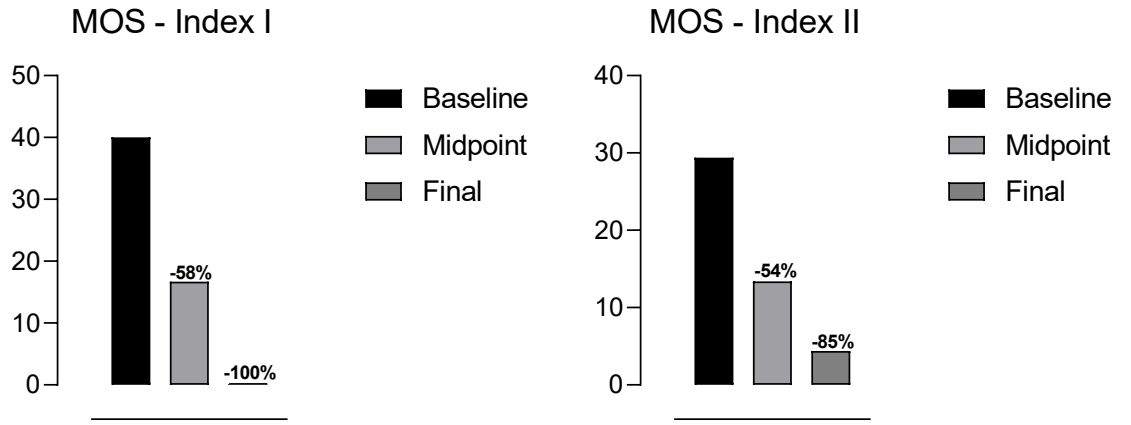

Figure 1. Changes in Sleep Quality Over 30 Days as Measured by the MOS Sleep Scale (Index I and II)

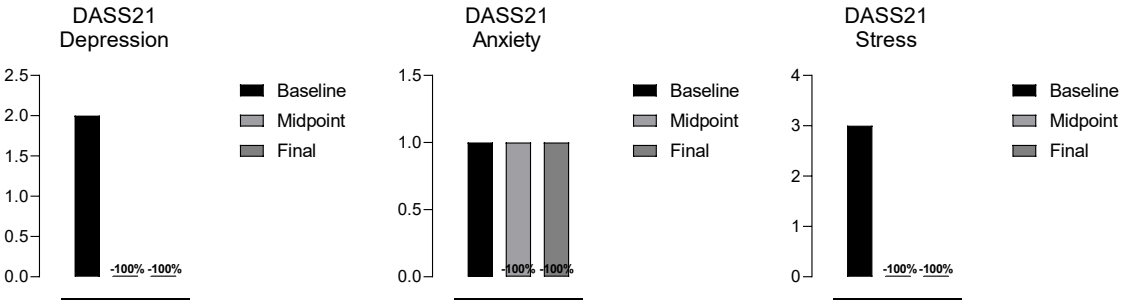

Figure 2. Reduction in Depression and Stress Symptoms Assessed by the DASS-21 Questionnaire

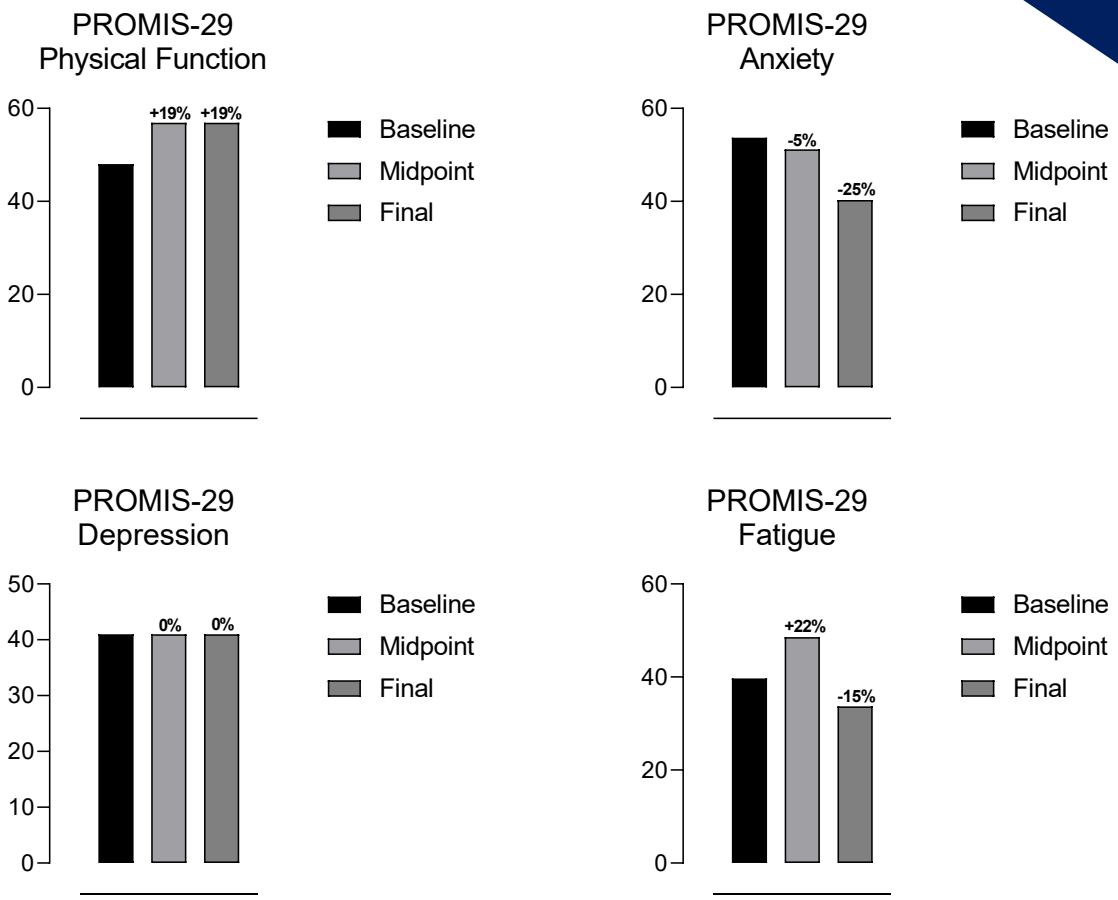

Figure 4. PROMIS-29 Outcomes: Physical Function, Anxiety, Depressive Symptoms, and Fatigue

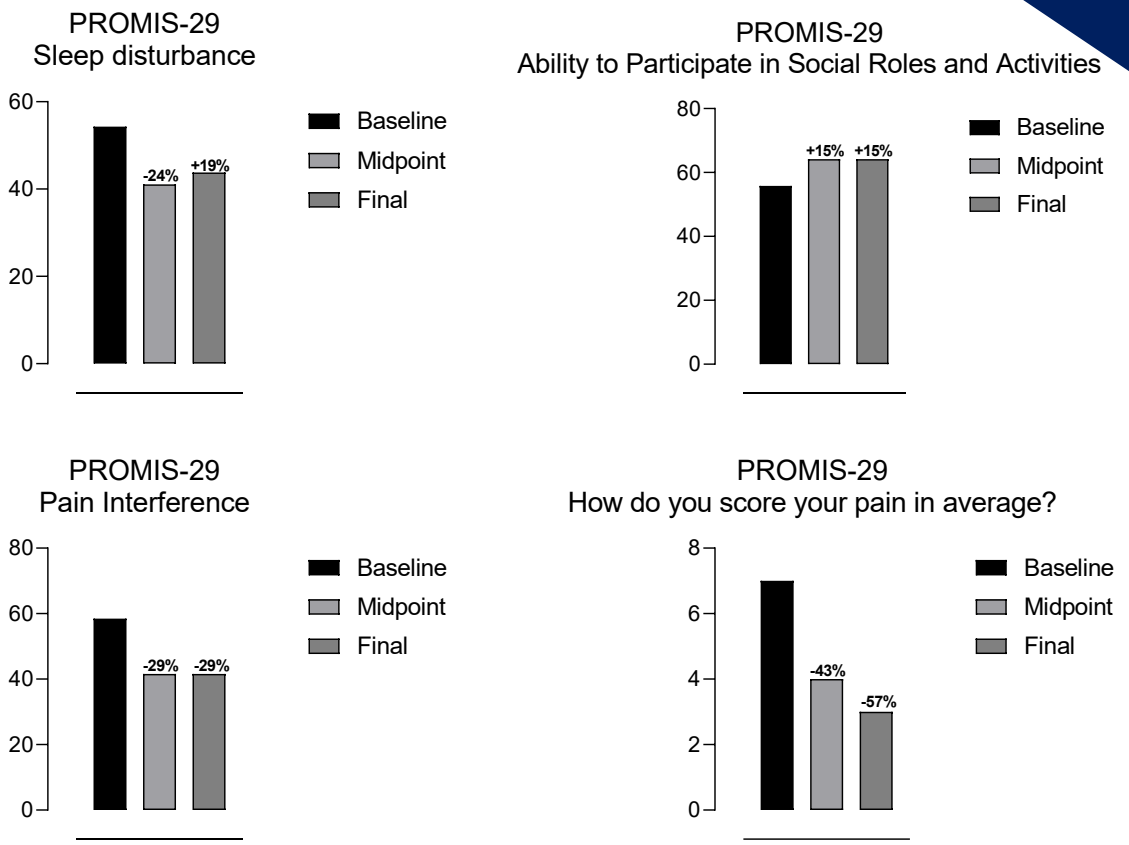

Figure 5. PROMIS-29 Outcomes: Sleep Disturbance, Social Participation, Pain Interference, and Pain Score

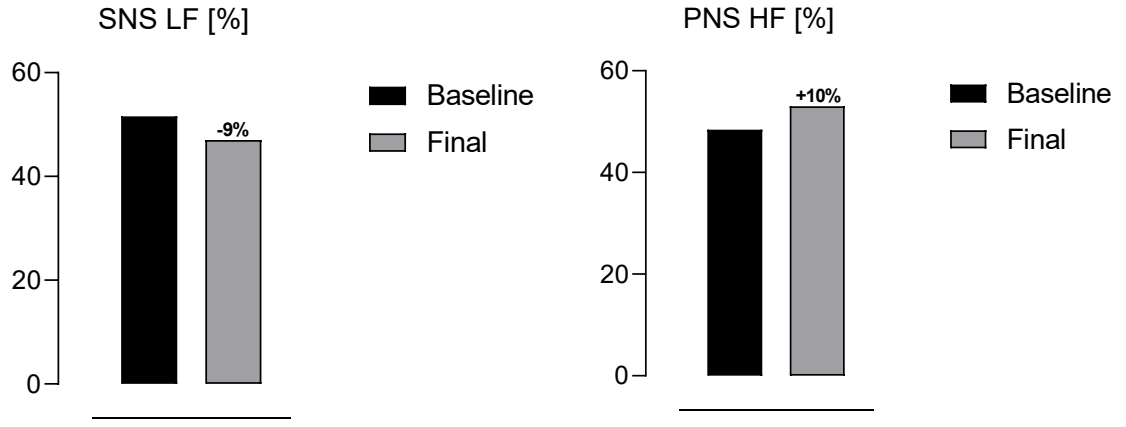

Figure 6. Autonomic Nervous System Balance: Changes in Sympathetic (SNS) and Parasympathetic (PNS) Activity

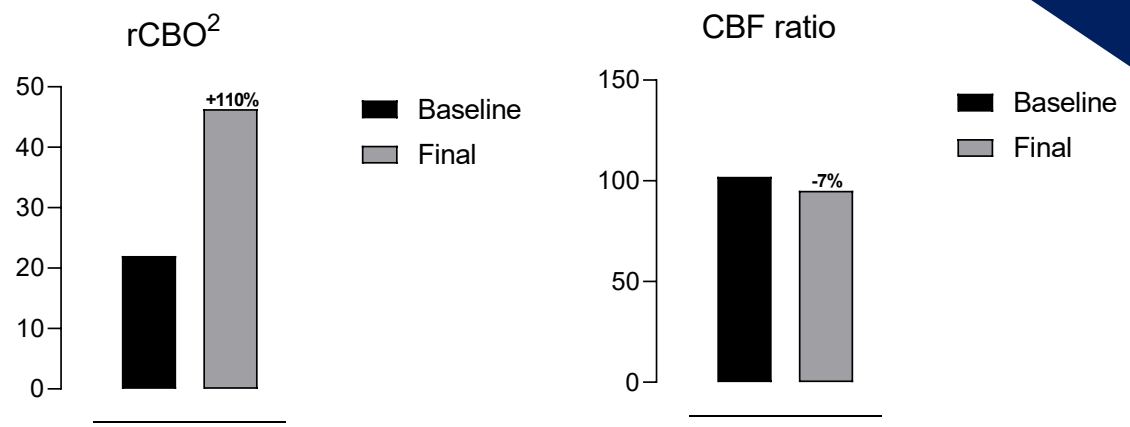

Figure 7. Cerebral Oxygenation and Blood Flow Changes Measured by HEG (rCBO2 and CBF)

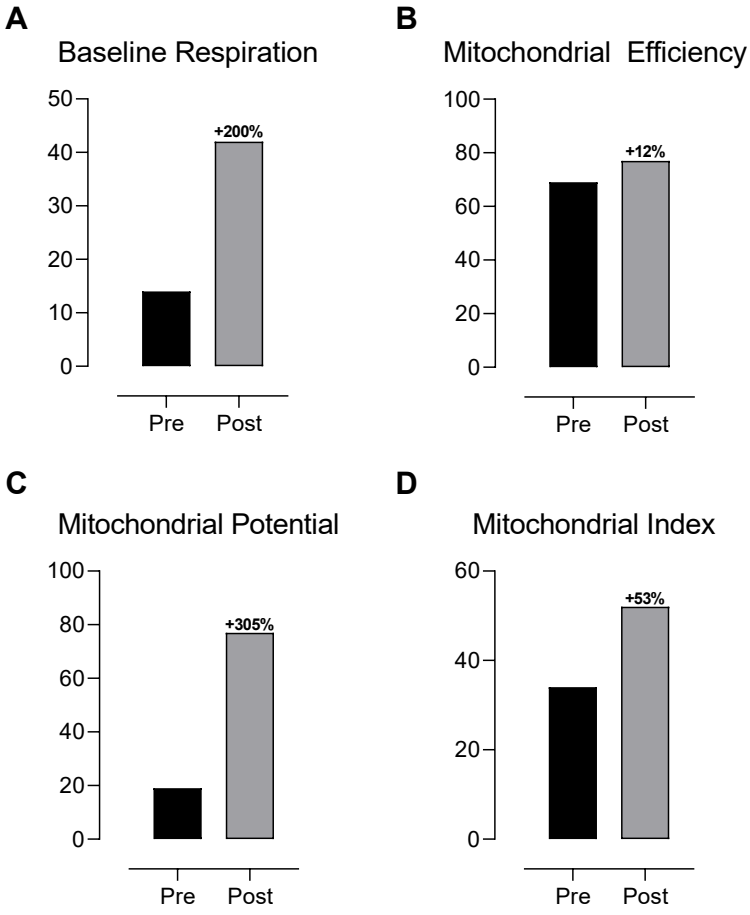

Figure 8. Improvements in Mitochondrial Performance After 30 Days of NanoVi Exo® Use

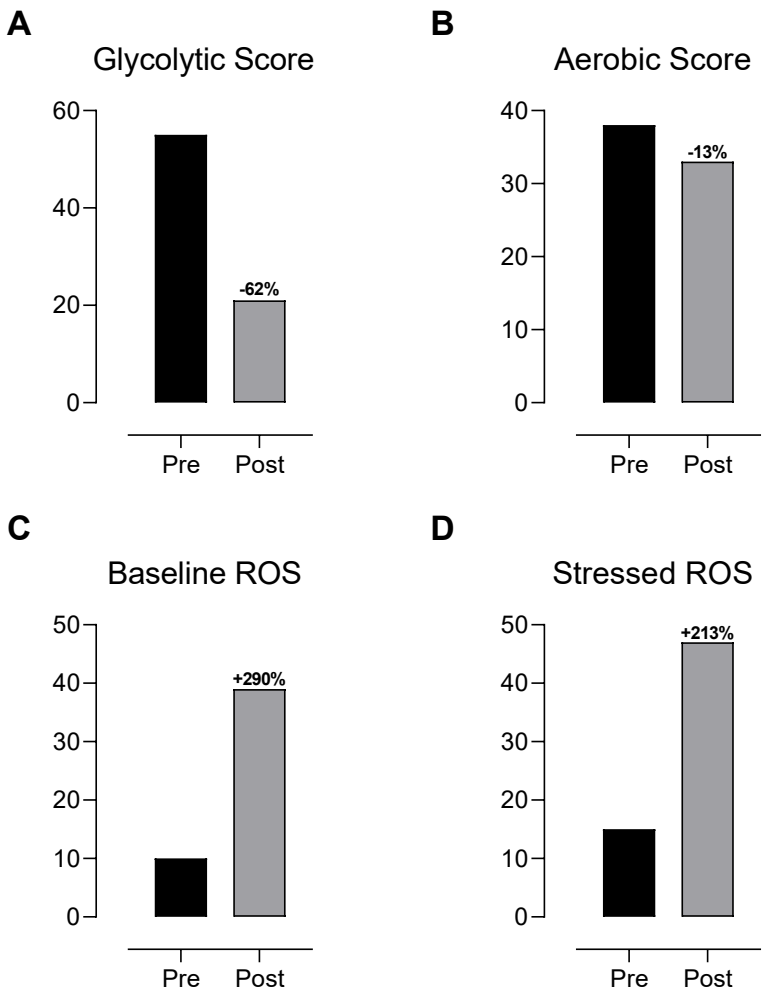

Figure 9. Shifts in Metabolic and Redox Markers Following the Intervention

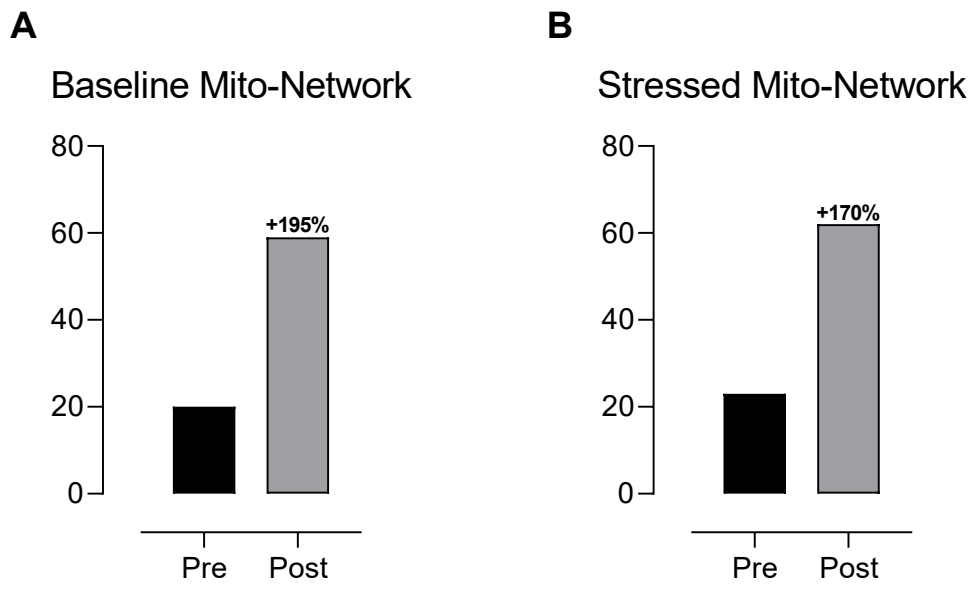

Figure 10. Enhanced Mitochondrial Network Integrity Under Rest and Stress Conditions

ABOUT US

At Scientifica Consulting, we ignite innovation and power success in health and wellness. With over a decade of experience, we blend science with strategy to help companies excel, ensuring FDA and FTC compliance every step of the way. Our team of experts— professors, scientists, and researchers—guides you from idea to market, turning possibilities into breakthrough products. Let's shape the future together!

†Disclaimer

The content shared in this marketing material is for informational purposes only and is based on preliminary, self-reported data from an observational study conducted independently by Scientifica Consulting. All reported outcomes reflect participants' subjective experiences and do not constitute medical advice or clinical evidence.
Scientifica Consulting is not affiliated with the sale, promotion, or distribution of the NanoVi Exo® device and assumes no responsibility for how this content is interpreted, used, or promoted by third parties. Any product claims, marketing messages, or user testimonials made by the brand or its representatives are the sole responsibility of the brand.

Contact Information

Scientifica Consulting
+1 561 40550597637
Ripplepointe Way Windermere, FL 34786
support@scientificaconsulting.com

Eng3 Corporation
+1.206.525.0227
2234 Eastlake Ave E
Seattle, WA 98102
info@eng3.com