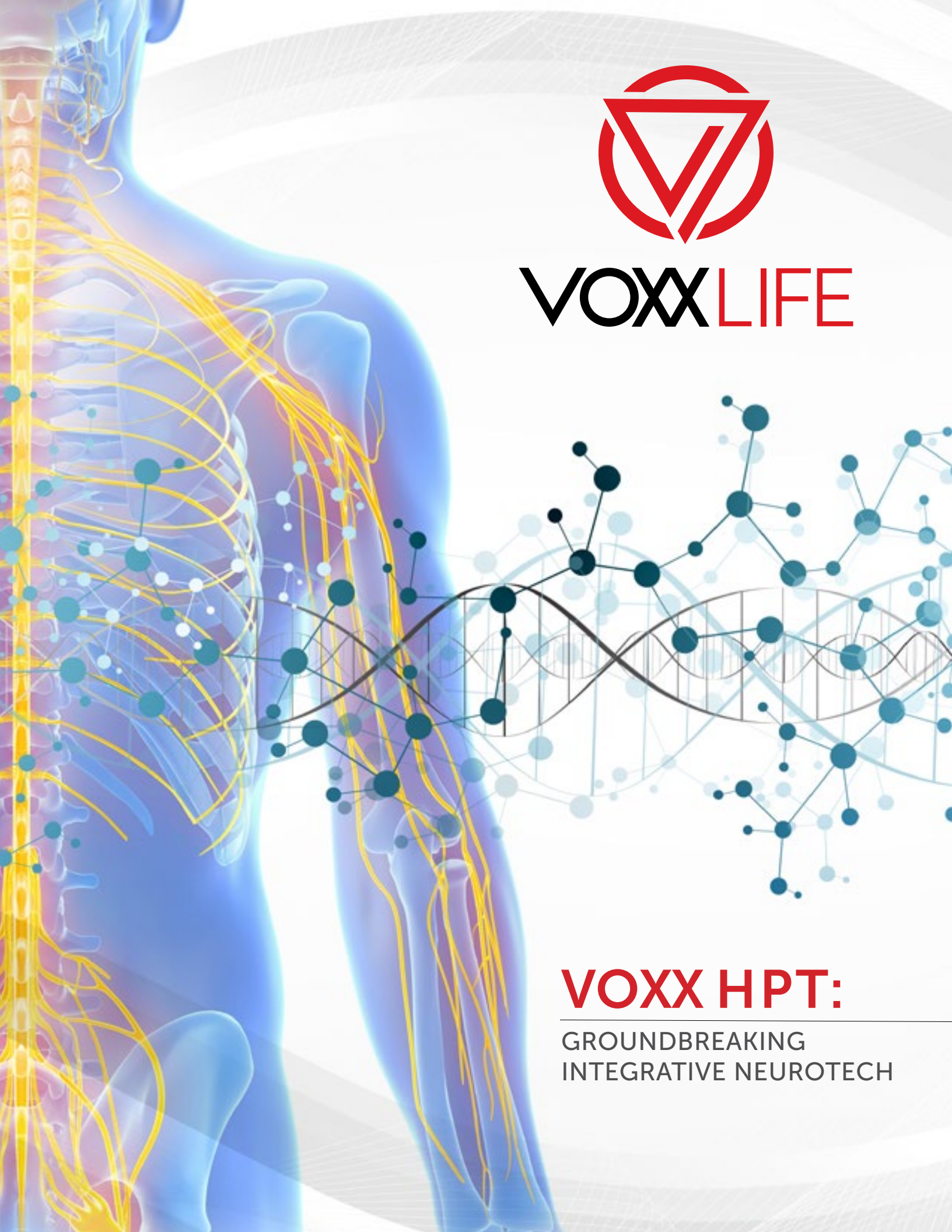




**VOXX**LIFE



**VOXX HPT:**

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GROUNDBREAKING  
INTEGRATIVE NEUROTECH



## About **VOXXLIFE**

VOXXLIFE is a privately held technology company devoted to drug-free wellness, optimal health and improved human performance.

The company develops innovative technologies to create wellness and performance products that allow people of all walks of life to enjoy an improved quality of life and achieve their true potential.

VOXXLIFE's HPT, Human Performance Technology, is proprietary, exclusive and scientifically proven in independent testing.

HPT reduces pain, increases strength and endurance, increases stability and balance as well enhances range of motion and provides for faster reaction times.

VOXXLIFE realizes that people of all ages and walks of life are focused on wellness and optimal performance.

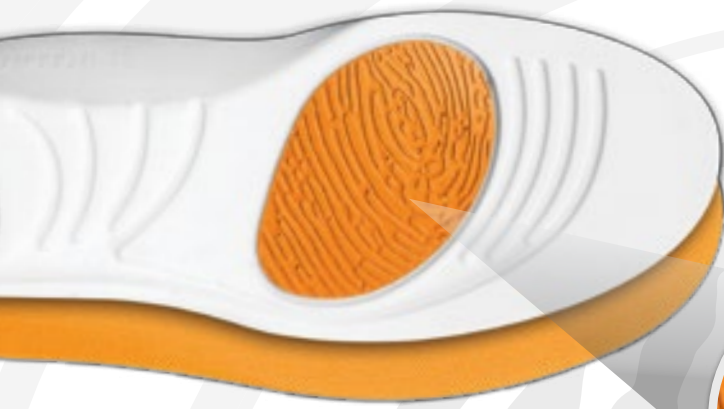
Wellness consumers are looking for products that will enhance their quality of life and are asking for natural, safe solutions for more energy, pain relief and enhanced mobility.

People have traditionally relied on products such as pain killers, vitamins, supplements, OTC insoles, custom orthotics and comfortable footwear and apparel to achieve these goals. Pain killers and supplements have potentially devastating side effects, vitamins are inconsistent and expensive while OTC insoles are ineffective and custom orthotics are often unaffordable. More so, none of these products offer safe, instant and consistent results at an affordable price point.

Additionally, in the case of professional and amateur athletes, the specter of Performance Enhancing Drugs has seemingly invaded every sport at every level. Athletes want and need safe, natural and legal alternatives to achieve maximum performance. Athletes are also consuming supplements, vitamins, protein powders, compression apparel, and high performance shoes all with the aim of improving their performance. People are investing in training and coaching to reach their peak.

VOXX HPT is the safe, natural, and instant wellness and performance solution.

# What is **VOXX HPT?**



VOXX  
HPT



VOXX  
HPT



## **VOXX HPT** QUICK FACTS



**VOXX HUMAN PERFORMANCE TECHNOLOGY (HPT)** is based on **45 YEARS** of research in Neuromuscular



**VOXX HPT** are proprietary patterns of neuro-receptor activation points.



**INSTANT AND DRUG FREE WELLNESS AND PERFORMANCE!!**

### **The development of VOXX HPT has been a 6 year journey.**

We reviewed and studied decades of research in brainstem functionality and the peripheral nervous system.

We also reviewed the latest research in sensory mechano-receptor mapping, brain activity correlated to acupuncture, as well as dermatome stimulation and the different somatic pathways. We also studied secondary and free receptors and related nervous and brain activity. Our intent was to investigate if there was an integrative correlation between the different sensory receptors, the peripheral nervous system and the functionality of the brainstem.

To understand the development and impact of VOXX HPT, one has to understand the relationship between the human peripheral nervous system and brainstem and the various nuclei therein.

The peripheral nervous system (PNS) connects the central nervous system to environmental stimuli to gather sensory input and create motor

output. The PNS coordinates action and responses by sending signals from one part of the body to another (From the various receptors such as mechano-receptors and dermatomes to the brainstem). The PNS includes all other sensory neurons, clusters of neurons called ganglia, and connector neurons that attach to the brainstem and other neurons.

The brainstem connects the rest of the brain with the spinal cord. It consists of the midbrain, medulla oblongata, and the pons. The primary input into the brainstem are through the Area Postrema (AP) and Nucleus Tractus Solitarius (NTS). Motor and sensory neurons extend through the brainstem, allowing for the relay of signals between the brain and spinal cord. Ascending neural pathways cross in this section of the brain, allowing the left hemisphere of the cerebrum to control the right side of the body and vice versa. The brainstem coordinates motor control signals sent from the brain to the body. It also controls several important functions of the body including pain management, alertness, arousal, breathing, blood pressure, digestion, heart rate, swallowing, walking, posture, stability and sensory and motor information integration.

Additionally, decades of research into dysfunction and disorders of the brainstem and associated impact on the nervous system and body, *also point to the direct and likely benefits of a brainstem not in dysfunction or disorder, or seemingly in homeostasis.*

Our research has led to a number of conclusions and developments. Firstly, we have concluded that these different receptors (parts of the PNS) do have an integrative relationship between themselves and do correlate to specific nervous stimulation and signals that can be sent through General Somatic Afferent (GSA) Pathways, Special Somatic Afferent (SSA) Pathways, General Visceral Afferent (GVA) Pathways, and Special Visceral Afferent (SVA) Pathways to the brainstem.

Furthermore, we see evidence that these signals can be very specific and can help the brainstem reach homeostasis (equilibrium) and seemingly enhance the functions of the brainstem and the reticular nuclei, the monoaminergic and cholinergic nuclei as well as the parabrachial nucleus and periaqueductal gray.

### **This is the key to VOXX HPT.**

**VOXX HPT is a very specific sequence and pattern of neuroreceptor activation on the bottom of the feet that triggers a signal that aids in the brainstem reaching homeostasis. The VOXX HPT pattern is woven or molded into different iterations of products including hosiery and footwear accessories.**

**The documented results and benefits arising from the products incorporating the VOXX HPT pattern include enhanced pain relief and management, especially PDN pain, enhanced postural stability and balance, and improved mobility and overall energy levels.**

**The concept is simple. The science is proven. The results are extraordinary.**

# The VOXX HPT Neuro-Path to Wellness and Performance



**1** VOXX HPT triggers a very precise neuro-response in receptors on the bottom of the feet and other areas of the body.

**2** Sensory Division of the PNS brings information from the receptors to the Brain Stem and CNS.

**3** Brain Stem and CNS process, integrate and distribute information and commands based on the information from receptors.

**4** The PNS carries commands from the CNS and Brain Stem to the SoNS and ANS triggering control and responses in various functions.

**5** Commands to the SoNS and ANS have direct impact on:

- Vestibular System
- Balance
- Spatial Orientation
- Proprioception
- Respiratory Control
- Motor Control, Posture
- Heart Rate Regulation
- Skeletal Muscles Control
- Flight or Fight
- Reaction Time
- Pain Regulation

**6** User sees Improvements in Balance, Stability, Power, Stamina, Reaction Time, Pain Relief, Energy, Recovery Time, Posture.



## CENTRAL NERVOUS SYSTEM

The central nervous system (CNS) consists of the brain and spinal cord and is responsible for integrating, processing, and coordinating sensory data and motor commands.

**3**

## BRAIN STEM

The Brain Stem is composed of the Mid-Brain, Pons, Medulla and Reticular Formation.

The brainstem plays a role in conduction. That is, all information relayed from the Peripheral Nervous System to the cerebrum and cerebellum (CNS) and vice versa must traverse the brainstem. The brainstem has integrative functions being involved in cardiovascular system control, respiratory control, pain sensitivity control, alertness, awareness, and consciousness.

These areas of the brain and the numerous associated nuclei within assist and control the many functions of the autonomic and somatic systems such as the vestibular system, balance, spatial orientation, proprioception, respiratory control, posture, heart rate regulation, skeletal muscles control, flight or fight, reaction time, and pain regulation.

Information processing includes the integration and distribution of information in the CNS and Brain Stem.



**2**

## PERIPHERAL NERVOUS SYSTEM

The peripheral nervous system (PNS) includes all the neural tissue outside the CNS.

The sensory division of the PNS brings information to the Brainstem/ CNS from receptors in peripheral tissues and organs.

**4**

The motor division of the PNS carries motor commands from the CNS/ Brain Stem to peripheral tissues and systems.



Somatic sensory receptors provide position, touch, pressure, pain, and temperature sensations.

Special sensory receptors provide sensations of smell, taste, vision, balance, and hearing.

Visceral sensory receptors monitor internal organs.

Receptors are sensory structures that detect changes in the internal or external environment.



The somatic nervous system (SoNS) controls skeletal muscle contractions.

The autonomic nervous system (ANS) provides automatic regulation of smooth muscle, cardiac muscle, glands, and adipose tissue.

**5**

- Vestibular System
- Balance
- Spatial Orientation
- Proprioception
- Respiratory Control
- Motor Control, Posture
- Heart Rate Regulation
- Skeletal Muscles Control
- Flight or Fight
- Reaction Time
- Pain Regulation

**1**

**VOXX HPT™**  
HUMAN PERFORMANCE TECHNOLOGY



**6**

## VOXX HPT BENEFITS

User sees Improvements in Balance, Stability, Power, Stamina, Reaction Time, Pain Relief, Energy, Recovery Time, Posture.



## PAIN RELIEF

VOXX HPT products are proven to be 94% effective in helping reduce relieving foot pain, especially PDN. VOXX HPT technology triggers a neuro response that helps the brain maximize its natural pain fighting mechanisms. With VOXX HPT, users have a safe, natural and drug free solution for everyday aches and pain. Shed the cloud of pain and discomfort and start your VOXXLIFE with HPT.



## PHYSICAL MOBILITY/QUALITY OF LIFE

VOXX HPT is proven to increase stability, balance and range of motion, thereby giving the user improved mobility and quality of life. Whether navigating the hiking trails, or just everyday tasks, users have the knowledge that they have optimal stability and mobility. This leads to numerous other benefits including more active lifestyles and reduced fall risk for seniors. The potential impact on overall health and wellness is almost immeasurable when the added benefits of pain management with VOXX HPT are taken into consideration.



## INCREASED ENERGY

Lack of energy is one of the most common issues that people deal with on a daily basis. Increased energy levels allow for a more balanced and productive day. Improved energy levels allow you to do what you love doing the most. Whether it is playing with the kids, taking a walk or playing your favorite sport, increased energy is the key! In independent studies, 100% of individuals using VOXX HPT products reported an increase in their energy levels. More energy means a better work life balance and the ability to follow your passions fully.



## EXERCISE PERFORMANCE

VOXX HPT is providing users with better exercise performance through increased energy, stability and power output. Working out requires an investment of time, energy and money and now with VOXX HPT you can maximize the return on that investment. Imagine adding 20% more efficiency to your workout? Users of VOXX HPT products notice improvements in reps and muscle endurance as well as stamina, leading to the best workout ever!



## ENDURANCE/RECOVERY

Endurance and recovery are the two faces of optimal wellness and fitness. Improved endurance will have a positive impact on every aspect of one's life and better recovery is the key to maintaining an active lifestyle. With VOXX HPT you can push yourself further than ever before and have the confidence that you will recover faster and more consistently.



## BUILD MUSCLE

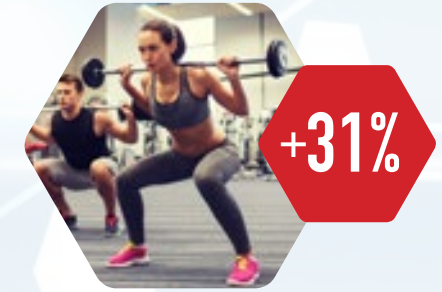
VOXX HPT products show significant improvements in power generation and endurance. This higher power output allows increased repetitions and workloads, two of the main requirements for muscle growth. Work harder, heavier and get bigger faster. VOXX HPT is the safe and natural answer for maximum muscles.



## FOOT PAIN RELIEF

1,000 PARTICIPANTS TESTED

**940** EXPERIENCED PAIN RELIEF with VOXX HPT



## IMPROVED BALANCE & STABILITY

WITH VOXX HPT **89.5** SWAY mBESS **+31%**  
WITHOUT VOXX HPT **69.5** SWAY mBESS



## MORE RANGE OF MOTION

WITH VOXX HPT **28°**  
WITHOUT VOXX HPT **13°**



## MORE ECCENTRIC FORCE

WITH VOXX HPT **1585 N** **+17%**  
WITHOUT VOXX HPT **1360 N**



## VELOCITY OF FORCE

WITH VOXX HPT **262.32 CM/S** **+17%**  
WITHOUT VOXX HPT **224.2 CM/S**



## MORE POWER

POWER OUTPUT ON WINGATE CYCLE  
WITH VOXX HPT **1185 WATTS** **+22%**  
WITHOUT VOXX HPT **986 WATTS**

**VOXX HPT** // SOCKS



**VOXXSTASIS**  
ATHLETIC

VOXXLIFE Athletic Stasis Socks will take your athletic performance to new levels. With the best finish and greatest feel of any socks you have ever worn, VOXXLIFE socks provide an incredible fit along with all performance benefits of VOXX HPT technology. Available in knee-high, mini-crew and no-shows you can have the right Stasis socks for any activity.

Also if you have to wear another sock as a part of your uniform you can still have the benefits of VOXX HPT with our Stasis Liner socks. They are thin enough to be worn under any other socks and still give you the performance edge in your game or activity.



**VOXXSTASIS**  
WELLNESS

It's time to get serious about your wellness. If you want and need the most comfortable, seamless, non-binding sock for everyday wear, this is the choice for you. Our Wellness Socks with VOXX HPT are the greatest Wellness socks ever made. Imagine what the best wellness socks in the world could possibly do for you?

- Deliver more energy? Yes!**
- Improve balance and stability? Yes!**
- Help with pain relief? Yes!**
- Be safe and recommended for diabetes sufferers? Yes!**
- Be non-binding socks that don't fall to your ankles? Yes!**
- Have extra padding on the bottom for ultra-comfort? Yes!**

The future of wellness is spelled **S-T-A-S-I-S**.  
Get yours now!



**VOXXSTASIS**  
LINER

Not feeling the Athletic or Wellness socks everyday? We get it. Sometimes you need a little 'stealth' living your VOXXLIFE. That's why we made the Stasis Liner socks. These breathable, super thin socks can be worn by themselves or under any other sock so you can always have the VOXX HPT benefits.

**VOXX HPT** // INSOLES



**VOXXCLASSIC**

VOXXClassic is the product that brought VOXX HPT to the masses. Designed to offer the utmost in comfort along with just the right amount of responsiveness, this is the best product for comfort and performance. Simply ask someone who has tried it. They work and they will improve your quality of life. There will be no questioning your decision to make VOXXClassic insoles a part of your life. This is the original product that helped people find relief from those aches and pains with drug free proven technology.



**VOXXBLISS**

VOXXBliss is the "feel good" footwear solution you've been waiting for! Designed to fit almost any sneakers, boots or work shoes, the VOXXBliss Insoles offer the perfect combination of improved stability, pain relief and all day energy. We designed this insole to offer just a little bit more comfort to make sure you make it through the day feeling great.



**VOXXRUSH**

You train so hard and put in so many hours to gain those incremental differences, shouldn't you allow yourself the opportunity to see your true potential and the chance to train and perform at your personal best? If you are looking to improve your performance at the biggest moments, maximize your workouts and find out your true limits, you need to put VOXXRush insoles to work for you.

# EFFECT OF A DERMATOME NEUROPOINT ACTIVATING SOCKS ON PAINFUL DIABETIC NEUROPATHY PAIN IN FEET

DR. STEPHEN TAYLOR, JASON DEVOS

## INTRODUCTION:

Painful diabetic neuropathy is a common complication of diabetes and can affect many aspects of life and severely limit patients' daily functions. This condition can be difficult to treat, which frustrates both providers and patients.

Neuropathy is a common complication of diabetes, affecting up to 50% of patients. A consensus statement produced by an international meeting on the diagnosis and management of diabetic neuropathy defined it as “the presence of symptoms and/or signs of peripheral nerve dysfunction in people with diabetes after the exclusion of other causes.” There are many types of neuropathy with a variety of clinical presentations. This study focuses on one phenotype of neuropathy: painful diabetic neuropathy (PDN), specifically in the feet of the subjects. Recently, hosiery developed by Voxx Sports Inc. with dermatome and superficial nervous stimulation technology claim to reduce PDN pain in the feet of subjects. This study tested the hypothesis that wearing these Dermatome Neuropoint Socks (DNS) reduces PDN in the feet of users.

## METHODS:

1000 people (Age 35-72) participated in this study after providing IRB- approved informed consent. A priori sample size estimation indicated a desired population of 36 for an effect size of 0.25. The time needed to complete 1000 assessments for

this study exceeded 6 months.

Inclusion criteria included: (a) a history of a PDN Pain Score of 4 or higher for longer a period of time exceeding 90 days (b) a confirmed diagnosis of diabetes exceeding 10 years (c) no foot condition that would limit the ability to wear the socks. (d) Regularly wore regular diabetes approved socks. Two Socks conditions were utilized for the study: DAS- Dermatome Neuropoint Socks and RDS- Regular Diabetes Socks.

Subjects were asked to complete their PDN Pain Assessment and Study Intake Form with the assistance of a Pain Management Expert. Subjects were asked to regularly wear the DAS socks for 1 week and share their findings with the Pain Management Expert upon a return visit to the clinic the following week.

The Universal Pain Assessment Tool was used for this study.



In order to determine average change in Pain Scores, the following statistical tests were performed:

- 2-Sample T-test to detect differences in sample means with the following parameter:
  - Ho = Null Hypothesis =  $\mu_1 - \mu_2 = 0$ ,
  - Ha = Alternate Hypothesis =  $\mu_1 - \mu_2 > 0$ .
  - Difference in means = 5.119.
  - Confidence Level = 95%.
  - Level of Significance =  $\alpha = 0.05$ .

of data points with the following parameters:

- Output for 2 Sample Paired T-test:
- Null Hypothesis = Ho =  $\mu(D) = \text{Mean of Differences} = 0$ .
- Alternate Hypothesis = Ha =  $\mu(D) = \text{Mean of Differences} > 0$ .
- Level of Confidence = 95%.
- $\alpha = 0.05$ .

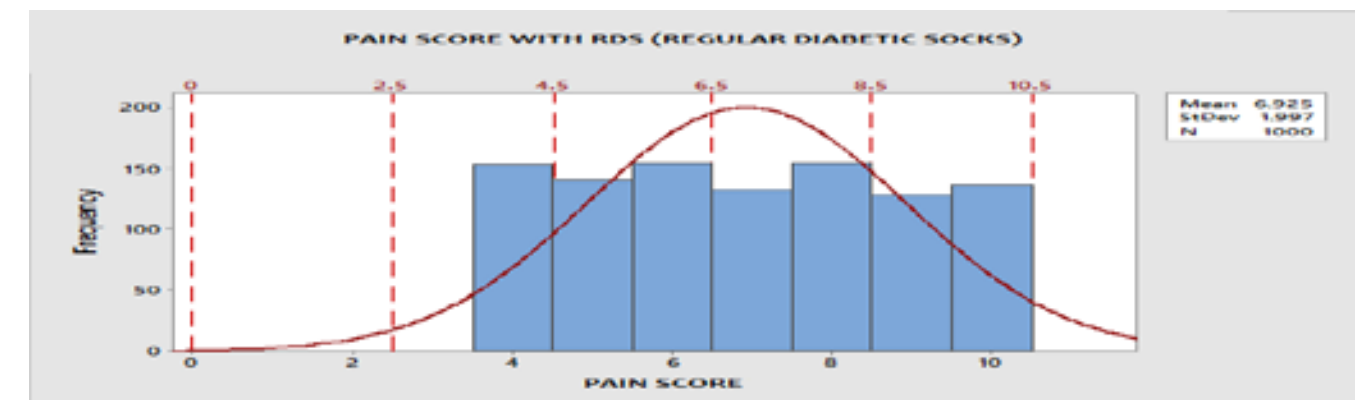
*(A Paired 2 sample T-test is a more efficient and offers greater statistical confidence than 2 Sample Independent T test because in the Paired T test, the deterministic ability of the test increases by accounting for more variability in conditions by considering a smaller environment of Paired data, as opposed to a Universal data set.)*

- Paired 2-T Test to detect any mean difference in samples of Equal number

## RESULTS AND DISCUSSION:

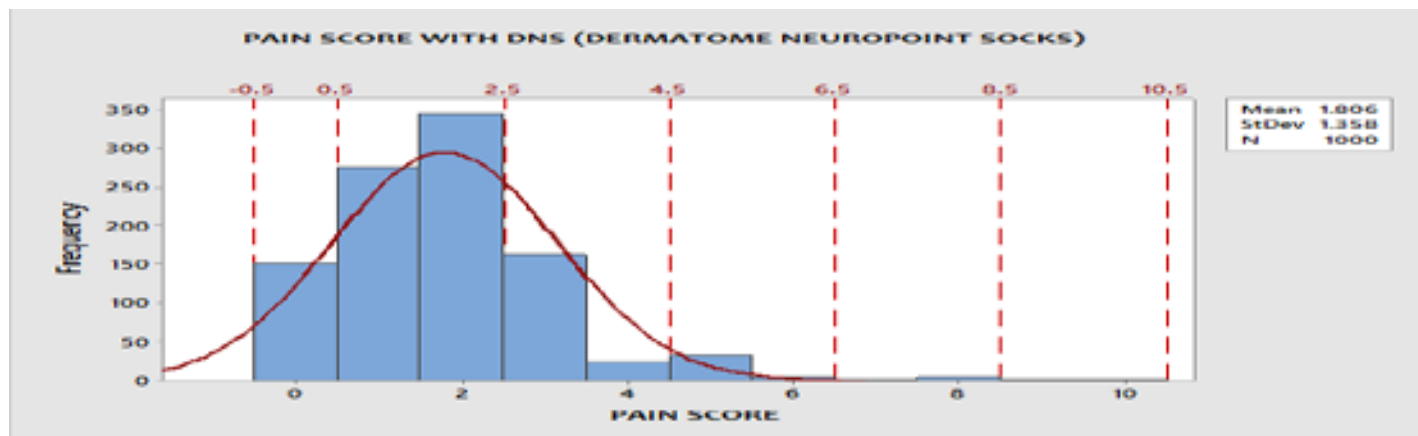
Socks condition was a significant main effect. Post-hoc analysis showed that the Pain Score was significantly lower for DNS Socks than RDS Socks.

FIGURE 1, CHART I



Pain Group	0	1-2	3-4	5-6	7-8	9-10
No of Subjects	0	0	153	295	287	265
Percentage of Subjects	0	0	15.3%	29.5%	28.7%	26.5%
Average Change/Drop in Pain Scores	0	0	2	5.12	5.13	5.12
Percentage Drop	0	0	20%	51.2%	51.3%	51.2%

FIGURE 2, CHART 2



Pain Group	0	1-2	3-4	5-6	7-8	9-10
No of Subjects	150	619	186	36	5	4
Percentage of Subjects	15%	61.9%	18.6%	3.6%	0.5%	0.4%
Average Change/Drop in Pain Scores	6.81	5.11	5.12	5.13	0	0
Percentage Drop	68.1%	51.1%	51.2%	51.3%	0%	0%

FIGURE 3, CHART 3



Overall Change Groups	Net Improvement	Net Deterioration	No Improvement( No Change)
Number of Subjects	941	13	46
Percent of subjects	94.1%	1.3%	4.6%

CHART 4

Amount of Drop/Change	Number of Subjects respective to the Drop	Percentage of subjects
1 or 10%	18	1.8%
2 or 20%	61	6.1%
3 or 30%	113	11.3%
4 or 40%	136	13.6%
5 or 50%	145	14.5%
6 or 60%	143	14.3%
7 or 70%	147	14.7%
8 or 80%	122	12.2%
9 or 90%	39	3.9%
10 or 100%	17	1.7%

**DISCUSSION:**

On Subjects using the RDS, the mean Pain Score was 6.925, with 100% of subjects greater than 4 on the Pain Scale.

FIGURE 1, CHART 1

The Mean Pain Score with the DNS is 1.806 with 95.5% of subjects with a Pain Score of less than 4. FIGURE 2 CHART 2

The results show that 1.3% of the subjects actually had an increase on the Pain Scale and 4.6% of subjects are no change in pain. FIGURE 3, CHART 3

A deeper look at the test group indicates that 76.9% of the subjects had a Pain Score of 2 or less with DNS. This suggests that 100% of the subjects were at a Pain Score that “Interfered with Tasks” using the RDS, and after 1 week of wearing the DNS 76.9% had a Pain Score that “Can Be Ignored”.

The result show and statistically significant decrease in the Pain Score with the DNS across all levels.

FIGURE 1, CHART 1, FIGURE 2 CHART 2, FIGURE 3, CHART 3, CHART 4

**CONCLUSION:**

Painful Diabetic Neuropathy is a type of nerve damage can afflict patients that have diabetes and can have a significant impact on day-to-day living. The most common damage of the nerves is experienced in the patients’ legs and feet.

Symptoms include tingling, burning, numbness and pain in the regions that are affected. Patients have reported the pain being similar to a burning, electrical or stabbing sensation. According to the American Diabetes Association, Diabetic Neuropathy is chronic and progressive and it greatly affects all aspects of a patients’ life including; mood, sleep, self-worth, independence, ability to work, and interpersonal relationships. This study looked at the efficacy of Dermatome Neuropoint Socks (DNS) developed by Voxx Sports Inc. and their ability to reduce PDN foot pain in a test group of 1000 patients.

The initial findings are promising as over 95% of the subjects saw a significant reduction in pain after 1 week of usage when compared to a Regular Diabetic Sock. (RDS)

The initial testing also shows that 76.9% of pain scores using the Universal Pain Scale were reduced to 2 or lower, correlating to pain that “Can be Ignored”. This was reduced from 100% of the pain scores being 4 or higher, or “Pain that Interferes with Tasks”.

The initial data and testing with the DNS supplied by Voxx Sports Inc. shows promise in offering PDN patients an alternative for pain management. This phenomenon needs to be further studied on a longer period of time to see if there are long term benefits of the DNS socks.



# EFFECT OF A DERMATOME NEUROPOINT ACTIVATING SOCKS ON OVERALL BALANCE AND STABILITY USING THE SWAY MEDICAL APPLICATION

M.S. DHALIWAL MScPT, DAYAN HENSON

## INTRODUCTION

Dynamic and static stability and balance along with postural sway have been identified as having an impact on athletic performance, fall risk, general mobility and overall quality of life.

Recently, socks developed using principles of dermatome and neuro-activation have been touted as being able to enhance balance and stability by promoting optimal proprioception and neural connectivity. If wearing such a sock were to improve both balance and stability it could lead to beneficial effects on gait, postural stability, lateral mobility and dynamic and static knee loading in sports and activities where socks use is common. Improvements in dynamic knee loading that reduce risk of ACL injury may be an important consideration. This study tested the hypothesis that wearing a dermatome and neuro-activating socks improves balance and stability.

## METHODS

69 subjects (44M, 25F) participated in this study after providing IRB- approved informed consent. A priori sample size estimation indicated a desired population of 36 for an effect size of 0.25.

Inclusion criteria included: (a) no current pain limiting movement, and (b) no foot or knee condition that would limit the ability to wear the socks. Two socks conditions were utilized for the study: DNS- Dermatome Neuropoint Socks (Voxx PFA Socks, Voxx Sports Inc.); RS - Regular Socks (No Name Athletic Socks) The process involved taking a Sway Medical Balance assessment with RS and then the subject replacing the RS socks with the DNS socks and completing the Sway Medical Balance assessment.

Sway Balance is an FDA-cleared mobile balance testing system that measures and scores an individual's balance and stability and can be used to monitor for signs of balance-related dysfunction.

Sway Medical measures stability using the built in motion sensors of any iOS mobile device to quantify postural sway. While the device is pressed against the chest, a proprietary motion analysis algorithm calculates stability and provides an easy to understand value on a 100 point scale with 100 being completely stable and 0 being unstable

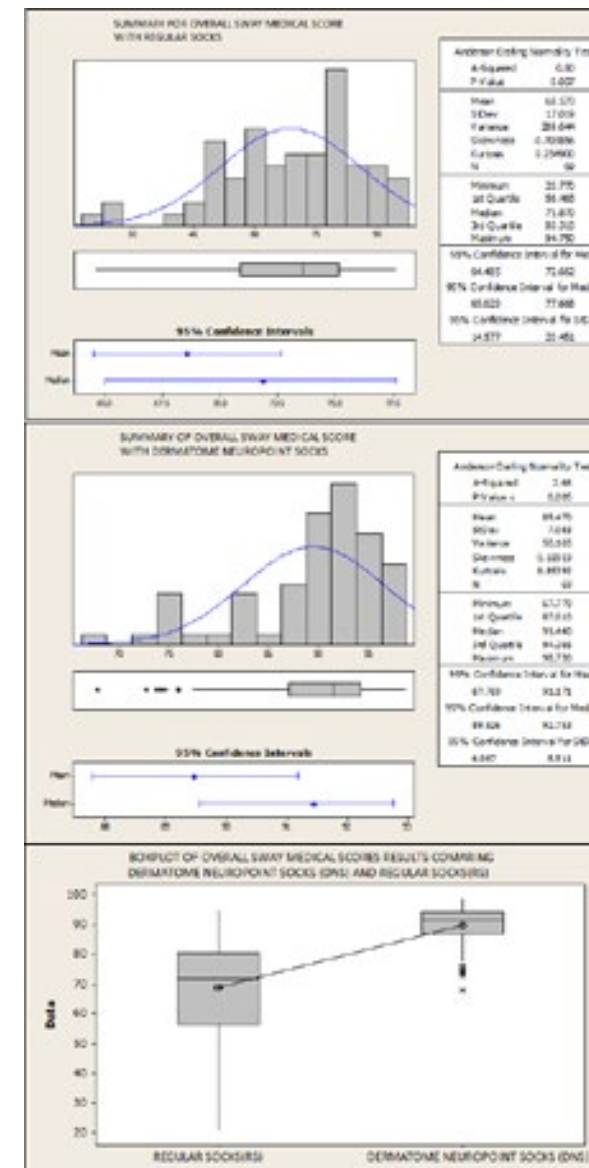
The Overall Score is comprised of the statistical mean of all previous test scores and serves as a baseline or control that can be compared against the latest score to detect change.

A Sway Medical Overall Score of between 80 and 85 is in the 50th percentile. Overall Scores between <80 the 25th percentile and Overall Scores between >85 and 95 are in the 75th percentile.

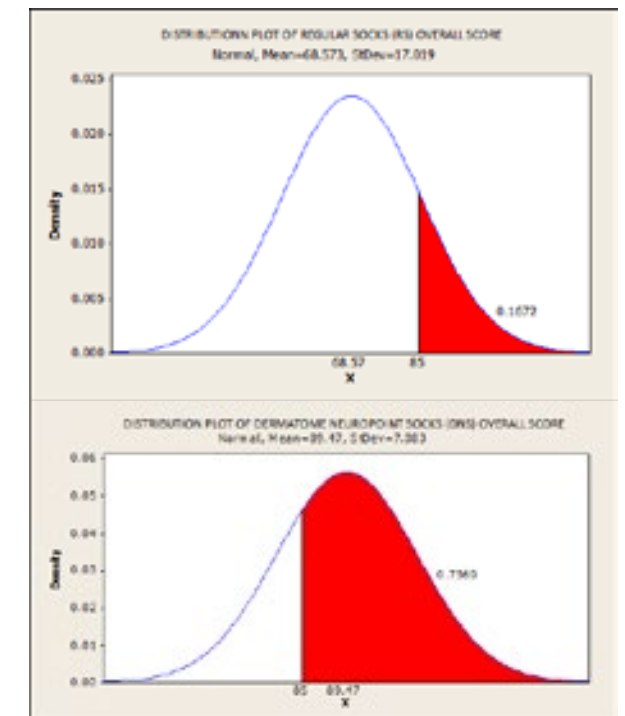
One-way ANOVA F test was performed to compare and identify change in means in DNS and RS Overall Scores: (ANOVAN, Matlab, MathWorks, Inc.), with post-hoc Tukey's HSD comparisons to identify differences between the 2 socks conditions and between sides (MULTCOMPARE, Matlab, MathWorks, Inc.). An a priori significance level of =0.05 was used for all tests.

## RESULTS AND DISCUSSION

Socks condition was a significant main effect. Post-hoc analysis showed that Overall Score was significantly higher for DNS Socks than RS Socks.



**Figure 1, 2, 3** Population marginal means for Overall Score with 95% confidence intervals Dermatome Neuropoint Socks (DNS), and Regular Socks (RS). The DNS Socks appeared to influence neuromuscular and balance and stability control during the Sway Medical testing by increasing the Overall Score relative to the Regular Socks (RS) The increase between socks conditions was 36.1%.



**Figure 4, 5** It is also noted that the Socks Condition was a significant effect Overall Score Population Distribution. Whereas the Regular Socks (RS) condition yielded a population of 16.72% with an Overall Score of greater than 85 the Dermatome Neuropoint Socks (DNS) yielded a population of 73.6% with an Overall score of greater than 85%.

Given the potential benefits from Dermatome Neuropoint Socks (DNS) such as a reduction in known biomechanical injury risk factors and improved balance and stability may require consideration by health, wellness and athletic organizations and authorities to consider general recommendation and use of the DNS socks.

## CONCLUSIONS

This study demonstrated an improvement Overall Balance and Stability Scores in subjects wearing a Dermatome Neuropoint Socks (DNS) compared to a Regular Socks (RS). Future prospective studies are needed to test the persistence of this phenomenon, whether the results carry over to socks that provide pain relief, and whether these observed differences in Overall Scores lead to reduced injury rates.

## ACKNOWLEDGEMENTS

Partial funding for this study was received from Voxx Sports Inc.



**TESTING CASE:** DETERMINING EFFICACY OF VOXX PERFORMANCE SOCKS USING RATE of FORCE DEVELOPMENT TESTING METHODOLOGY

**TESTING FACILITY:** The CALIFORNIA SPORT INSTITUTE FOOTBALL (16)

**SPORT:** BASKETBALL (14)

**ABSTRACT:** Voxx Performance Socks are theorized to positively affect sports performance by their proprietary technology that they embed in their products. The technology is purported to activate dermatomes that have a direct connect to the mid-brain and therefore 'green-light', or turn on portions of the mid-brain that would increase nervous system sensitivity thus affecting, strength, balance, and via a different pathway, respiratory efficiency.

**Methodology:** Subjects included thirty (30) experienced athletes, sixteen (16) American Football professional and collegiate players; and fourteen (14) professional and collegiate basketball players. All subjects were each asked to perform Counter Movement Jumps (CMJ) and Squat Jumps (SJ) and were tested using a force-plate calibrated Myotest unit.

Group A: 20 athletes, were each given the same brand and cut of athletic sock (Nike brand, short sock) and each given a pair of Voxx Performance Socks. Each athlete performed 5 CMJs with the Nike sock, removed the Nike socks, rested 10 minutes and then performed the same 5 CMJs wearing the Voxx Performance Socks. This methodology was repeated executing the SJs.

Group B (Control): 10 athletes, were each given the same brand and cut of athletic sock (Nike brand, short sock) and each given the New Balance version of the short sock also devoid of any performance affecting technology. Each athlete performed 5 CMJs with the Nike sock, removed the Nike socks, rested 10 minutes and then performed the same 5 CMJs wearing the New Balance socks. This methodology was repeated executing the SJs.

Each group repeated the above tests an additional two more times with three days between tests. The results appearing below were tabulated inclusively over the three testing days as testing between days was statistically insignificant.

**TEST: COUNTER MOVEMENT JUMP**

**Method:** Upon Myotest unit cue, the subject squats down quickly and immediately explosively jumps as high as possible. The subject then lands and re-sets and awaits the next cue to repeat the process. The subject executed 5 jumps

**GROUP A Results:**

Jump using neutral sock	Jump using Voxx sock	% Difference
<b>Average Power (W):</b> 3,536	<b>Average Power (W):</b> 4,172	+ 16
<b>Average Concentric Force (N):</b> 1,955	<b>Average Concentric Force (N):</b> 2,295	+15
<b>Average Eccentric Force (N):</b> 1,360	<b>Average Eccentric Force (N):</b> 1,585	+16
<b>Average Velocity (cm/s):</b> 224.2	<b>Average Velocity (cm/s):</b> 262.32	+16
<b>Average Time to Execute (ms):</b> 730	<b>Average Time to Execute (ms):</b> 672	-08

**GROUP B (Control) Results:**

Jump using neutral sock (Nike)	Jump using Neutral sock (NB)	% Difference
<b>Average Power (W):</b> 3,312	<b>Average Power (W):</b> 3,113	- 08
<b>Average Concentric Force (N):</b> 1,631	<b>Average Concentric Force (N):</b> 1,517	-07
<b>Average Eccentric Force (N):</b> 1,317	<b>Average Eccentric Force (N):</b> 1,186	-10
<b>Average Velocity (cm/s):</b> 238.8	<b>Average Velocity (cm/s):</b> 212.3	-13%
<b>Average Time to Execute (ms):</b> 830	<b>Average Time to Execute (ms):</b> 896	+08

**TEST: SQUAT JUMP**

**Method:** Upon Myotest unit cue, the subject squats down to a position of 90-degrees (as measured on the back of the knee joint) and holds that position statically until cued again by the unit to immediately explosively jumps as high as possible. The subject then lands and re-sets and awaits the next cue to repeat the process. The subject executed 5 jumps



**GROUP A Results:**

Jump using neutral sock	Jump using Voxx sock	% Difference
<b>Average Power (W): 3,110</b>	<b>Average Power (W): 3,545</b>	<b>+14</b>
<b>Average Concentric Force (N): 1,790</b>	<b>Average Concentric Force (N): 1,986</b>	<b>+11</b>
<b>Average Eccentric Force (N): 0</b>	<b>Average Eccentric Force (N): 0</b>	<b>-</b>
<b>Average Velocity (cm/s): 202.3</b>	<b>Average Velocity (cm/s): 218.16</b>	<b>+08</b>
<b>Average Time to Execute (ms): 735</b>	<b>Average Time to Execute (ms): 669</b>	<b>-09</b>

**GROUP B (Control) Results:**

Jump using neutral sock (Nike)	Jump using Neutral sock (NB)	% Difference
<b>Average Power (W): 2,912</b>	<b>Average Power (W): 2,796</b>	<b>- 04</b>
<b>Average Concentric Force (N): 1,570</b>	<b>Average Concentric Force (N): 1,491</b>	<b>-05</b>
<b>Average Eccentric Force (N): 0</b>	<b>Average Eccentric Force (N): 0</b>	<b>-</b>
<b>Average Velocity (cm/s): 231.9</b>	<b>Average Velocity (cm/s): 223.4</b>	<b>+04</b>
<b>Average Time to Execute (ms): 478.8</b>	<b>Average Time to Execute (ms): 486.1</b>	<b>+02</b>

**RFD Analysis:**

**Average Power:**

Group A: There was an average 16% increase in average wattage output in executing the CMJ and a 14% increase in average wattage in executing the SJ when performing the jumps wearing the VOXX socks as opposed to not wearing the Voxx socks.

Group B (Control): There was an average 8% decrease in average wattage output in executing the CMJ and a 7% decrease in average wattage in executing the SJ when performing the jumps wearing the Nike control socks as opposed to wearing the New Balance socks.

**Average Concentric Force:**

Group A: There was an average 15% increase in average force production in executing the CMJ and a 11% increase in average force production in executing the SJ when performing the jumps wearing the VOXX socks as opposed to not wearing the Voxx socks.

Group B (Control): There was an average 7% decrease in average force production in executing the CMJ and a 5% decrease in average force production in executing the SJ when performing the jumps wearing the Nike control socks as opposed to wearing the New Balance socks.

**Average Eccentric Force:**

Group A: There was an average 16% increase in average force production in executing the CMJ performing the jumps wearing the VOXX socks as opposed to not wearing the Voxx socks.

Group B (Control): There was an average 10% decrease in average force production in executing the CMJ when performing the jumps wearing the Nike control socks as opposed to wearing the New Balance socks.

**Average Velocity:**

Group A: There was an average of 16% increase in the velocity produced in executing the CMJ and an 8% increase performing the SJ wearing the VOXX socks as opposed to not wearing the Voxx socks.

Group B (Control): There was an average of 13% decrease in the velocity produced in executing the CMJ and a 4% decrease performing the SJ wearing the Nike control socks as opposed to wearing the New Balance socks.

**Average Time to Execute:**

Group A: There was an average 8% decrease in the length it took to generate force in executing the CMJ and a 9% decrease in performing the SJ wearing the VOXX socks as opposed to not wearing the Voxx socks.



Group B (Control): There was an average 8% increase in the length it took to generate force in executing the CMJ and a 2% increase in performing the SJ wearing the Nike control socks as opposed to wearing the New Balance socks.

#### Discussion:

That *velocity, average power and force - both eccentric and concentric* - productions all notably increased when all tested subjects donned the Voxx Performance Socks as compared to when wearing the neutral socks is very interesting. Notably as well, is the decrease in time it took to generate force while wearing the Voxx socks as opposed to not wearing that product.

The on-going off-season training of each athlete had been completely designed and monitored and in all previous Rate of Force Production jump training tests there had never been one single recorded jump test that showed an increase in any performance parameter within a single workout session. (As evidenced by the normal degradation in performance of the control group between jumps, a 10 minute rest period between bouts of activity - as tested by a plethora of researchers in multiple studies - is not enough time to regenerate the CNS and musculoskeletal processes to engender on average a statistically significant increase in power-based performances. As expected our control group had predictable decreases in performance).

It was entirely unexpected therefore, that the athletes who wore the Voxx socks product improved dramatically their performance across the board. The mechanisms of this remarkable transformative result is not completely understood by this researcher but that the change in performance was so profound there indeed does seem to be some process going on that is instigated by the proprietary technology imbedded into the Voxx socks.

The concept of a direct linkage between large (in concentration) dermatome sites and the mid-brain is not novel but that mechanism has never been fully studied and deconstructed to this researcher's knowledge. Having said that; that the Voxx socks does produce clinically measurable positive increases in standard performance parameters does indicate that the logic is sound behind the theory and further testing will likely ultimately lead to the complete understanding of the bio/neuro process involved. To our knowledge, we are not aware of the existence of a non-ergogenic (PED) aid that engenders so compelling a boost to performance as does the Voxx socks in a perfectly legal and ethical fashion.

## VOXX HPT // TESTIMONIALS

### HERE'S WHAT PRACTITIONERS AND CUSTOMERS ARE SAYING ABOUT VOXXLIFE.

The VOXX insoles are a revolution in athletic performance – I give them to all of my athletes and every one of them cannot believe the changes they experience in the gym and on the golf course. By stimulating the nervous system VOXX insoles are able to unlock the body's potential and instantly change the way my athletes feel and move. Now, I am able to spend less time with them warming up and preparing and more time developing strength, power and sports specific skills needed for them to play their best."

**Dr. Brendan McLaughlin**  
DC, RCCSS(c), BA, D.Ac, CSCS, ART

Since 2013 I had only been able to sleep an average of 4 to 6 hours a night. I usually awake with anxiety. It was dramatically affecting my work.

On Saturday September 3rd I bought a pair of VOXX insoles and wore them right away. That night I slept 11 hours!

Now I average 7 to 8 hours a night. I wake up feeling rested without the anxiety. I am able to stay focused and concentrate better throughout the day. Now I can provide better service to my customers.

**Eric**

One of my wasn't getting resolved with nutrients and adjustments. Once she started using the socks on a regular basis, her hip pain subsided most of the time and troubles her only on occasion now.

**JJ Klein,**  
MPH, RD, ACN

I am an adult with ADHD, processing differences, and sensory sensitivities. Within minutes of putting on the VOXX socks, I felt the socks "hugging my feet" providing a sense of comfort. Minutes after that, I felt warm energy heat coming from the bottoms of the balls of my feet from the socks. All that sensory information was received during the time it took between putting on the socks to walking to my seat at the conference. Once the presentation was completed, I realized I had been able to sit in the chair without fidgeting or rubbing my arms and my eyes didn't hurt from the fluorescent lights. I had forgotten to wear my brimmed hat that I usually wear at conferences.

I was able to attend to the day-long meeting! I was OK! I was not in pain. I was not anxious. I was calm and centered.

I realize now after wearing the VOXX socks for a week, that I am more easily able to organize and articulate my thoughts, and that ideas are flowing more smoothly.

These are great socks! Both my husband and I only take them off to wash. We are both sleeping more soundly, too.

Thank you!

**Deborah Greenspan,**  
RN

Numbness is something I always had issues with. I get my cleats taped up so I don't hurt my ankles and what's always been my complaint is that I feel after a while like my toes are numb. But now I've worn these socks and had my cleats taped up for games the last 2 weekends and nothing, no numbness.

**Manny Oseguera**

# INSTANT. PROVEN. TESTED.

"I have been wearing the VOXX insoles for approximately four weeks now and have thoroughly enjoyed having them in my workout shoes. I find that my feet are very comfortable in my shoes with the VOXX insoles and I noticed that I have very little pain when doing plyometric and any lower body exercises. Furthermore, I find that my energy levels are better and I seem to even be standing straighter."

**Dr. Allan Rosenfeld M.D.**

For years I have suffered terrible heel/bone spur pain. I tried pain meds, expensive orthotics and nothing worked. I would hobble out of bed every morning. I tried VOXX insoles and socks and within minutes I could feel relief in my heel. By the next day I couldn't even tell I had an issue. I only wear VOXX socks and every pair of shoes have VOXX insoles. If VOXX doesn't fit in the shoe, I don't buy the shoe!

**Suzanne Milner**

**President, The Conscious Consulting Group**

"Last Monday, my son Phil, his son Caleb and I did a 2 day "guy trip" to Kingston. Monday afternoon Phil started wearing the insoles. He's now 47 and has a typical "Davey" lower back problem that usually gets worse in the afternoon. Since wearing the insoles, he no longer has any pain. After driving for 2-3 hours his back would normally be stiff when he got out of the car...Not anymore!"

**Phil Davey**

"I wouldn't wear something new, especially not in a playoff series, without having a belief that it made me a better player. When Kevin did the test on me, I was blown away with what I felt. So I decided to try it in a game after I tried it on skates and I felt more balanced, more stable and I felt like I was thinking clearer. Even my range of motion felt better."

**Matt Lorito**

**Detroit Red Wings**

For the past two weeks I have had a lot of pain in my left hip. I go to the chiropractor on a regular basis for adjustments. For the past two weeks the pain was quite severe at times and I could not get an appointment so I just dealt with the pain. I was dealing with shooting pain from my hip to my upper back and neck area at the most inconvenient times and finding it difficult to sleep at night or even turn in bed.

I heard about VOXX socks from my old friend who outlined the product and the business potential knowing I have been in this industry for 50 years. I have a chiropractor appointment for this Monday, and put the socks on this past Thursday. I read the material regarding PAIN and thought, what do I have to lose.? I wore them all day Saturday and the reduction of pain was quite noticeable. I took them off for the night and the pain in moving around in the bed made it very difficult to sleep. I wore them again on Sunday and again the pain was dramatically reduced. I still knew I had a lower back problem but the pain in walking and moving was substantially less.

On Sunday night I decided to wear them all night. I had a great sleep and without PAIN! Amazing. I still knew I had to see a chiropractor for an adjustment but just to be able to walk and sleep without that aggravating pain discomfort was amazing. I am a VOXX believer and will promote this product to everyone!

**K. Smith**

**Grand Rapids, MI.**

