

How does Holotypehealth help you just by wearing it?

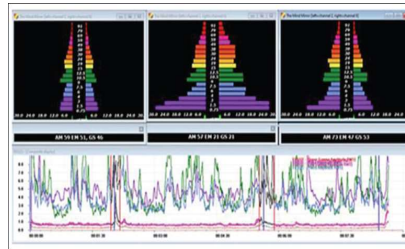


We all have natural vibrations going on in our bodies occurring in different areas and frequencies.

These vibrations degrade over time and we can tune them back to it's natural & optimal state.

Proper resonance frequency vibrations in your nervous system enable clearer signals for improved balance, movement, performance, sleep patterns and overall wellness.

Our cells exchange information and regulate body functions through the sending and receiving of specific frequencies. This cell signaling precedes and regulates all biochemical actions. When these natural frequency signals become scrambled, so does our body's ability to self-regulate and maintain healthy function.

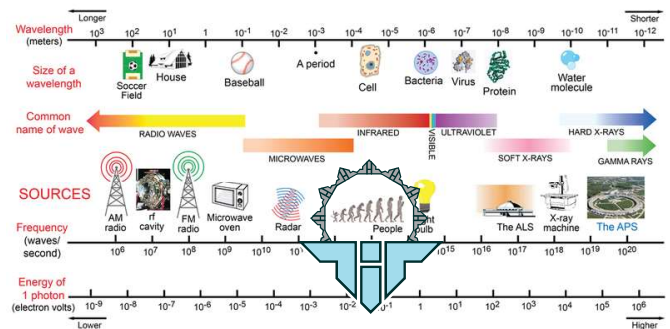


STIMULATING PROPRIOCEPTORS

An underlying mechanism behind the improved results in us with the HolotypeHealth technology relate to an increase in proprioception.

THE ELECTROMAGNETIC SPECTRUM

Resonance frequency binaural beats engender changes in cortical arousal, which can be monitored with the EEG. The results obtained with $f = 10$ Hz frequency and with an acoustic level at SPL = 73 dB on a human confirmed that binaural beats exposition cause statistically significant changes of EEG signal (morphology). It was also noted that during the binaural beats exposition, there occurs a statistically significant fall of average amplitudes of a spectral density function of EEG strength signal and an increase of a spectral density function of EEG strength signal.



Increased mobility and speed

14-17% increase in the hip to shoulder separation
17-21% increase in torso rotation velocity.

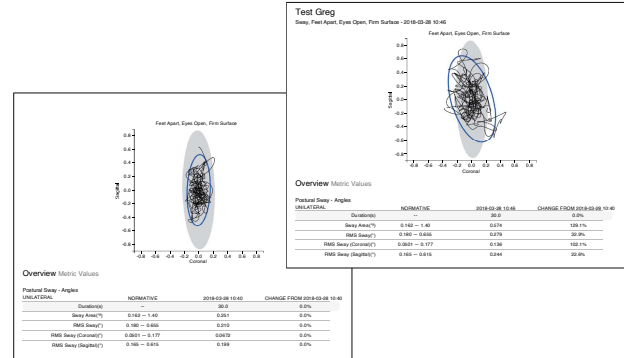
Increased strength

14-17% increase in the hip to shoulder separation
17-21% increase in torso rotation velocity.
12.4% increase in force output

Studies

APDM STUDY

The results saw substantial increases in; hip to shoulder separation, pelvic and torso velocity and more range of motion through the arm & external rotation. APDM is a device used to measure postural sway, or how much someone moves while staying in a standing position. Reducing postural sway shows an increase in balance and stability. This study shows Holotypehealth technology reduces postural sway, increases balance stability and was told it has given an overall feeling of safety.



<p>Jim H B1: -20.90 T1: -16.50 T2: -11.87</p> <p>Quote from Jim: "I feel more confident with it on" * He was in his down time</p> <p>Bruce L B1: -9.58 T1: -8.98 T2: -9.25</p> <p>Marilyn E B1: -8.93 T1: -6.91 T2: -7.91</p> <p>Diane B B1: -9.15 T1: -9.11 T2: -8.21</p> <p>Quote from Diane: "I felt different and my neck pain elevated"</p> <p>Sophie K B1: -27.8 T1: -24.57 T2: -25.45</p> <p>* She has a brain injury from war</p> <p>Denis B B1: -8.06 T1: -7.23 T2: -7.79</p>	<p>Bobby C B1: -10.50 T1: -13.83 T2: -14.92</p> <p>* Later stage subject with memory issues present: -12.36 after optic nerve stimulation with eye exercises and manual stimulation</p> <p>Peter T B1: -9.61 T1: -8.33 T2: -8.18</p> <p>Robert D B1: -6.90 T1: -6.84 T2: -5.95</p> <p>Diane B B1: -6.08 T1: -6.41 T2: -5.4</p> <p>Malcolm F B1: -6.80 T1: -5.61 T2: -6.50</p> <p>Quote from Malcolm: "I felt tight" * He was able to produce hip flexion on right side much easier.</p> <p>Mary E B1: -6.36 T1: -5.68 T2: -4.55</p> <p>-did not rotate much on fukuda marching test -less shift Quote from Mary: "I felt really great"</p>	<p>Lila B B1: -8.81 T1: -6.69 T2: -6.81</p> <p>Pat L B1: -8.81 T1: -7.50 T2: -7.3</p> <p>Quote from Pat: "I feel the best I have in a while"</p> <p>Maureen H B1: -5.81 T1: -5.7 T2: -4.88</p> <p>Jane B B1: -6.08 T1: -6.41 T2: -5.4</p> <p>Monica T B1: -7.03 T1: -6.68 T2: -5.65</p> <p>Quote from Monica: "I feel more centered and during gait there was noticeably less left foot slipping"</p> <p>Doug M B1: -10.20 T1: -7.88 T2: -7.48</p>
--	--	--

COMBO STUDY

Holotypehealth technology resulted in stimulated proprioceptors allowing for better special awareness, better motor unit and muscular recruitment. NC1 (T1) and Balance (T2) are two separate frequencies both included and infused in the holotypehealth clothing. Test subjects did three-test trials. First trial was to collect a Baseline (B1), second trial was testing the Balance frequency and the third trial was testing the NC1 frequencies. The purpose of testing holotypehealth technologies by it's individual frequency makeup was to capture the specific results of each intended frequency ingredient. For Tug, Polarity and Balance testing The effects when the frequencies were combined remained the same as when individualized.

DARI STUDY

DARI is the preeminent markerless motion capture company in the industry. (Currently DARI is the only motion capture company listed by the FDA.) In this research project the testing technology recorded film of 12 professional athletes to give us the difference pre and post application of Holotypehealth technology infused into clothing.

The results saw substantial increases in; hip to shoulder separation, pelvic and torso velocity and more range of motion through the arm & external rotation.

TESTING: 01-11-2020 10:00:00 AM | 45' | 20 POUNDS | JANUARY 31, 2020

TESTING	VALUE	UNITS	DELTA
Right Head Flex - 1	1.17	deg	0.10
Right Head Flex - 2	1.17	deg	0.10
Right Head Flex - 3	1.17	deg	0.10
Right Head Flex - 4	1.17	deg	0.10
Right Head Flex - 5	1.17	deg	0.10
Right Head Flex - 6	1.17	deg	0.10
Right Head Flex - 7	1.17	deg	0.10
Right Head Flex - 8	1.17	deg	0.10
Right Head Flex - 9	1.17	deg	0.10
Right Head Flex - 10	1.17	deg	0.10

TESTING: 01-11-2020 10:00:00 AM | 45' | 20 POUNDS | JANUARY 31, 2020

TESTING	VALUE	UNITS	DELTA
Right Head Flex - 1	1.17	deg	0.10
Right Head Flex - 2	1.17	deg	0.10
Right Head Flex - 3	1.17	deg	0.10
Right Head Flex - 4	1.17	deg	0.10
Right Head Flex - 5	1.17	deg	0.10
Right Head Flex - 6	1.17	deg	0.10
Right Head Flex - 7	1.17	deg	0.10
Right Head Flex - 8	1.17	deg	0.10
Right Head Flex - 9	1.17	deg	0.10
Right Head Flex - 10	1.17	deg	0.10

IT'S IN THE INK.



9.7% increase (P<.0005).
Increase in alpha brainwaves pre- & post the test with continuous increases over a 15-day period

Studies

MORE FACTS & STATS BELOW (not related to above)

Modulation of Cortical Activity by High-Frequency Whole-Body Vibration Exercise: An fNIRS Study

This study provides evidence that the motor network and prefrontal cortical areas of healthy adult males can be activated by 27-Hz WBVe. However, WBVe at lower frequencies did not induce significant changes in cortical activation.

Reference

Choi, D. S., Lee, H. J., Shin, Y. I., Lee, A., Kim, H. G., & Kim, Y. H. (2019). Modulation of Cortical Activity by High-Frequency Whole-Body Vibration Exercise: An fNIRS Study. *Journal of sport rehabilitation*, 28(7), 665–670. <https://doi.org/10.1123/jsr.2017-0012>

Optimal frequency/time combination of whole-body vibration training for developing physical performance of people with sarcopenia: a randomized controlled trial

With the total number of vibrations controlled, the combination of 40Hz and 360s of whole-body vibration has the best outcome on physical performance of people with sarcopenia.

Reference

Wei, N., Pang, M. Y., Ng, S. S., & Ng, G. Y. (2017). Optimal frequency/time combination of whole body vibration training for developing physical performance of people with sarcopenia: a randomized controlled trial. *Clinical rehabilitation*, 31(10), 1313–1321. <https://doi.org/10.1177/0269215517698835>
Full text Link -<https://sci-hub.se/10.1177/0269215517698835>

Effects of different vibration frequencies on muscle strength, bone turnover and walking endurance in chronic stroke

The study involved eighty-four individuals with chronic stroke (mean age = 59.7 years, SD = 6.5) with mild to moderate motor impairment (Fugl-Meyer Assessment lower limb motor score: mean = 24.0, SD = 3.5) randomly assigned to either a 20 Hz or 30 Hz WBV intervention program. Both programs involved 3 training sessions per week for 8 weeks. Both WBV protocols were effective in improving leg muscle strength and reducing bone resorption. Comparatively greater improvement in paretic eccentric leg strength was observed for the 30 Hz protocol.

Reference

Yang, Z., Miller, T., Xiang, Z., & Pang, M. Y. (2021). Effects of different vibration frequencies on muscle strength, bone turnover and walking endurance in chronic stroke. *Scientific Reports*, 11(1), 1-10. <https://www.nature.com/articles/s41598-020-80526-4>

The acute effects of two different whole body vibration frequencies on vertical jump performance

Vibration exercise is a novel exercise intervention, which is applied in athletes and general populations with the aim of improving strength and power performance. The present study was aimed to analyse the adaptive responses to different whole body vibration frequencies. Methods. Fifteen untrained subjects were randomly assigned to a 5 min whole body vibration (WBV) training session on a vibrating plate producing sinusoidal oscillations at 20 Hz (low frequency) and 40 Hz (high frequency) with constant amplitude. Squat jump, counter movement jump and sit and reach test were administered before and after the WBV treatment. Results: Low frequency WBV stimulation was shown to significantly increase hamstrings' flexibility by 10.1% ($p < 0.001$) and squat jump by 4% ($p < 0.05$). High frequency (40 Hz) of WBV stimulation determined a significant decrease in squat jump (-3.8%; $p < 0.05$) and in counter movement jump (-3.6%; $p < 0.001$). Conclusion. The results showed the influence of WBV frequency on acute adaptive responses. In particular, the untrained subjects in the presented study, showed acute enhancement in neuro-muscular performance with low-frequency WBV stimulation.

Reference

Cardinale, M., & Lim, J. (2003). The acute effects of two different whole body vibration frequencies on vertical jump performance. *Medicina Dello Sport*, 56(4), 287-292.
Full text link
https://www.researchgate.net/publication/237694489_The_acute_effects_of_two_different_whole_body_vibration_frequencies_on_vertical_jump_performance

Cerebral oxygenation and blood volume responses to seated whole-body vibration.

During WBV, subjects performed right-hand maximal voluntary intermittent rhythmic hand grip contractions for 1 min. Subjects demonstrated highest oxygenation and blood volume values at 4.5 Hz, however, these responses were similar with and without backrest support ($P > 0.01$). Compared to WBV alone, addition of hand grip exercise during WBV further increased oxygenation (0.07±/0.11 vs. 0.004±/0.11 od, $P = 0.003$) and blood volume (0.156±/0.20 vs. 0.066±/0.17 od, $P = 0.000$) in the right forehead. Peak oxygen uptake did not correlate to changes in oxygenation and blood volume ($P > 0.01$). Based on the increase in ventilation volume and no change in the ratio of ventilation volume and expired carbon dioxide ($P > 0.01$), it is concluded that WBV induces hyperventilation that might activate the pre-frontal cortical region, thus influencing cerebral responses through neuronal activation.

Reference

Maikala, R. V., King, S., & Bhamhani, Y. N. (2005). Cerebral oxygenation and blood volume responses to seated whole-body vibration. *European journal of applied physiology*, 95(5-6), 447–453. <https://doi.org/10.1007/s00421-005-0013-8>

Relevance of Whole-Body Vibration Exercises on Muscle Strength/Power and Bone of Elderly Individuals

WBVE is effective for counteracting the loss of muscle strength associated with sarcopenia in elderly individuals. Balance and leg and plantar flexor strength improvements due to WBV indicate benefit to reduce risk and incidence of falls, frailty, and fracture risks. However, long-term feasibility of WBVE for musculoskeletal and bone health in elderly individuals needs further investigation.

Reference

Bemben, D., Stark, C., Taiar, R., & Bernardo-Filho, M. (2018). Relevance of Whole-Body Vibration Exercises on Muscle Strength/Power and Bone of Elderly Individuals. Dose-response : a publication of International Hormesis Society, 16(4), 1559325818813066. <https://doi.org/10.1177/1559325818813066>
Full Text link- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6291875/>

Long-Term Effects of Whole-Body Vibration on Human Gait: A Systematic Review and Meta-Analysis

WBV training can be effective for improving balance and gait speed in the elderly. The intervention is also effective in improving walking performance following stroke and in patients with knee osteoarthritis. However, no effect was found on gait quality in the elderly or on balance in stroke and multiple sclerosis patients. The results are too heterogeneous in COPD to conclude on the effect of the treatment. The results must be taken with caution due to the lack of data in some studies and the methodological heterogeneity in the interventions. Further research is needed to explore the possibility of establishing a standardized protocol targeting gait ability in a wide range of populations.

Reference

Fischer, M., Vialleron, T., Laffaye, G., Fourcade, P., Hussein, T., Chèze, L., Deleu, P. A., Honeine, J. L., Yiou, E., & Delafontaine, A. (2019). Long-Term Effects of Whole-Body Vibration on Human Gait: A Systematic Review and Meta-Analysis. *Frontiers in neurology*, 10, 627. <https://doi.org/10.3389/fneur.2019.00627>

Vibration detection: its function and recent advances in medical applications

Strong vibrations can be harmful, but milder vibrations can be beneficial, although to what extent and how large the clinical relevance is are still controversial. Whole body vibration can be applied via a vibrating platform, used in both animal and human research. Recent findings make clear that the mode of action is twofold: next to the rather well-known exercise (muscle) component, it also has a sensory (skin) component. Notably, the sensory (skin) component stimulating the brain has potential for several purposes including improvements in brain-related disorders. Combining these two components by selecting the optimal settings in whole body vibration has clear potential for medical applications.

Reference

Oroszi, T., van Heuvelen, M., Nyakas, C., & van der Zee, E. A. (2020). Vibration detection: its function and recent advances in medical applications. *F1000Research*, 9, F1000 Faculty Rev-619. <https://doi.org/10.12688/f1000research.22649.1>



Studies

Low resonance frequency vibration affects strength of paretic and non-paretic leg differently in stroke patients

The patients in the vibration group received WBV with 20 Hz frequency three times per week standing on a vibration platform in half squat position meanwhile flexing and extending the joints and placing the weight from one leg to the other. Knee extensor strength was determined under isometric and eccentric contraction before and after WBV intervention. Myoelectrical activity (EMG) of the vastus lateralis muscle was also measured. Significant improvement was revealed in the vibration group only. The maximum isometric torque and EMG activity increased significantly for both paretic and non-paretic leg, but the improvement was threefold greater in the vibration group. No significant alteration was found in rate of torque development. Maximum eccentric torque and EMG increased significantly for the paretic leg only. Mechanical work enhanced significantly in the paretic side only. The results of this study indicate that the selection of the effective vibration frequency depends upon the physical condition of neuromuscular system. Low vibration frequency intervention can increase the strength in weak muscles due to neuromuscular impairment and restricted physical activity.

Reference

Tihanyi, J., Di Gimniani, R., Tihanyi, T., Gyulai, G., Trzaskoma, L., & Horváth, M. (2010). Low resonance frequency vibration affects strength of paretic and non-paretic leg differently in patients with stroke. *Acta Physiologica Hungarica*, 97(2), 172-182.
Full text link- <https://sci-hub.se/https://doi.org/10.1556/aphysiol.97.2010.2.3>

Effect of whole-body vibration on neuromuscular performance: A literature review

Whole-body vibration can bring about improvement in muscles strength, power, and flexibility. The main factors associated with the improvement in muscles performance are range of amplitude and frequency, type of vibration and its method of application, training intensity, exercise protocol, and the characteristics of the participants.

Reference

Alam, M. M., Khan, A. A., & Farooq, M. (2018). Effect of whole-body vibration on neuromuscular performance: A literature review. *Work (Reading, Mass.)*, 59(4), 571-583. <https://doi.org/10.3233/WOR-182699>
Full text link- <https://sci-hub.se/10.3233/WOR-182699>

Effects on balance and mobility in institutionalized older adults: a randomized controlled trial

The exercise with whole-body vibration group had a significantly better outcome in balance confidence (pretest: 39.2 ± 29.0; post-test: 48.4 ± 30.6) than the exercise-only group (pretest: 35.9 ± 24.8; post-test: 38.2 ± 26.5; P = 0.033).

Whole-body vibration may improve balance confidence without enhancing actual balance performance.

Reference

Effects of whole-body vibration on balance and mobility in institutionalized older adults: a randomized controlled trial. *Clinical rehabilitation*, 32(4), 462-472. <https://doi.org/10.1177/0269215517733525>
Full text link- <https://sci-hub.mkxa.top/10.1177/0269215517733525>

WBV can be encountered in different wellness, fitness and rehabilitation centres as well as medical centres. Various professional sports clubs, such as AC Milan (soccer), Anaheim Mighty Ducks (ice hockey) and Chicago White Sox (baseball), are using WBV for their recovery and strengthening regimens in addition to their warm-up sessions. WBV employs low-amplitude (< 10 mm) and low-frequency (< 65 Hz) mechanical stimulation of the human body for short durations (< 30 min) to attain an effective and safe way to exercise musculoskeletal structures.

Reference

Albasini, A., Krause, M., & Rembitzki, I. V. (2010). Using whole body vibration in physical therapy and sport E-Book: Clinical practice and treatment exercises. Elsevier Health Sciences.
https://www.researchgate.net/profile/Martin-Krause-5/publication/296185042_Using_whole_body_vibration_in_physical_therapy_and_sport/links/5f5eefc1299bf104cf7a2d5d/Using-whole-body-vibration-in-physical-therapy-and-sport.pdf

ENERGY

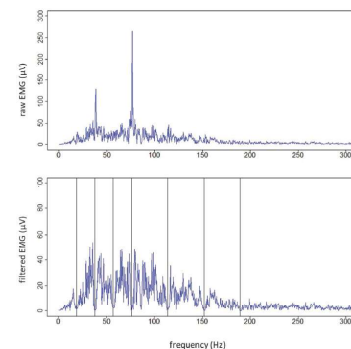
Body vibration effects through resistant exercise method

Conclusion:

elevated metabolic energy turnover

Source:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6587087/>



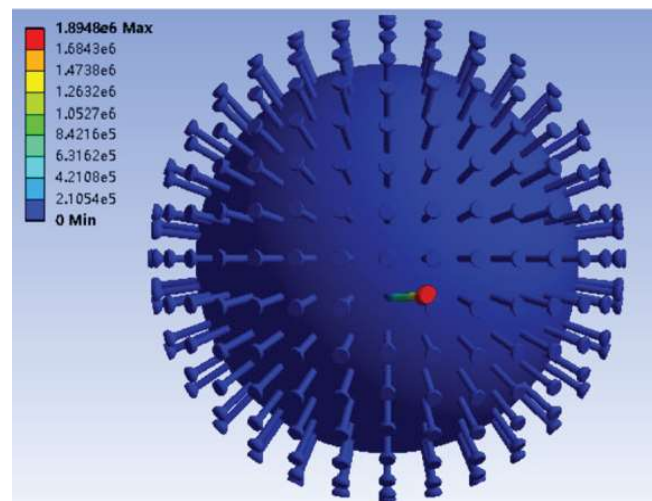
CELLS

Can changing resonance frequency help with slowing down COVID-19

Conclusion:

It is efficient and safe to disable the 2019-nCoV from infecting human cells

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7577368/>



Technology is built upon a foundation of layers to present the functional end result. Our bodies and HolotypeHealth work under the same principles. Each included infusion has it's own purpose & strategically combined is the appliance that resonates with the human body structure to create these desired outcomes.

Additional References

<https://link.springer.com/article/10.1007%2F978-3-319-26841-67>
<https://www.sciencedirect.com/science/article/abs/pii/S156772490400145X>
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4378297/>
<https://www.sciencedirect.com/science/article/abs/pii/S1360859210000100>