

***What if a comfortable stretch  
bodysuit could help your body build  
muscle, reduce fat, and repair and  
regenerate itself at the same time it  
increases longevity?***

*Introducing . . .*

# BODSTIM

Bioelectric BodySuit

by

**BioLeonhardt Whole Body**



# BODSTIM

## Bioelectric Medicine

A rapidly growing field focusing on the nervous system rather than the bloodstream to deliver therapy. TENS units, cardiac pacemakers, and cochlear implants are examples of bioelectric therapies that medicine has proven to be safe, drug-free, treatment options.

## Bioelectric Bodysuit

Bodstim provides gentle electronic pulses through electrodes integrated into the bodysuit's comfortable stretch fabric. Patented signals evoke protein expressions to regenerate muscle and nerves, increase circulation, reduce inflammation, increase collagen, reduce fat, and deliver our proprietary signals for Klotho, a powerful anti-aging protein.



# MULTIPLE APPLICATIONS

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## PERFORMANCE

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BodStim increases, muscle contractions, resistance, and circulation to accelerate exercise benefits. A 1-hour BodStim workout provides the same muscle building and anti-aging benefits as 2 - 3 hours of regular exercise.



## AESTHETICS

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Accelerates metabolism to promote fat loss for 48-72 hours. Enhances muscle definition, improves blood flow, increases collagen production, and tightens skin. Promotes a feeling of well-being and relaxation and reduces stress.



## HEALING

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Sends bioelectric signals for regeneration and healing. Reduces inflammation and promotes the repair of injuries. Bioelectric stimulation of Klotho and Sirtuins –anti-aging proteins that promote overall wellness and longevity.





# PROTEIN EXPRESSIONS

## **Proprietary core technology**

Multi-patented protein expressions enhance well-being and longevity

## **Muscle building/recovery and nerve regeneration**

Protein expressions: Klotho, S100a, Follistatin, IGF1, and Muscle Lim Protein (MLP)

## **Stem cell homing, improved circulation and exercise recovery**

Protein expressions: SDF1, PDGF, COL17A1, VEGF, eNOS, and HIF1a

## **Improved elasticity of skin and tendons**

Protein expressions: Tropoelastin and COL17A1

## **Anti-aging and muscle regeneration**

Patented signals for increasing Klotho and Sirtuin (1-6) – powerful anti-aging and muscle regeneration proteins

**BOD****STIM**



# BODSTIM TEAM



**Howard Leonhardt**  
Founder and CEO



**Leslie Miller, MD**  
Chief Medical Officer



**Henk Abbink**  
VP International  
Market



**Jorge Genovese, MD, PhD**  
VP Bioelectric  
Regeneration Research



**Sejal Chaudhari, MS**  
R & D Lab Director



**Cristiane Carboni, MS, PT**  
Chief Research Coordinator,  
Brazil



**Kelsie Leonhardt, MA**  
Chief Neuroscientist



**Brian Hardy**  
Director of Marketing



**Lynn Hammerschmidt, MA**  
Chief Marketing Advisor

# MULTIPLE OPTIONS

Antibacterial stretch fabric maintains optimal resistance, control, and comfort



## REVOLUTION PRO

Pro model vest and trousers connect at the waist. Used in training environments; sanitized before each use



## ULTRA LITHE

A slim profile, two-piece stimulation suit – similar to a cycling suit – for personal use



## TROUSERS

Designed for specific core and leg training



## SLIM LITHE

Leggings and tops (not shown) that accelerate metabolism, tone muscles, promote fat loss, increase and improve skin elasticity



# ELECTRODES, CABLES, AND STIMULATOR



## ELECTRODES

10 pairs of flexible and interchangeable electrodes are strategically located throughout the comfortable stretch suit

## CABLES

Electrodes are connected by wires wrapped in thin protective cables integrated into the fabric of the bodysuit – to keep them in place and avoid direct contact with the wearer

## STIMULATOR

A small bioelectric stimulator plugs into a fitted connector pocket to hold it firmly in place

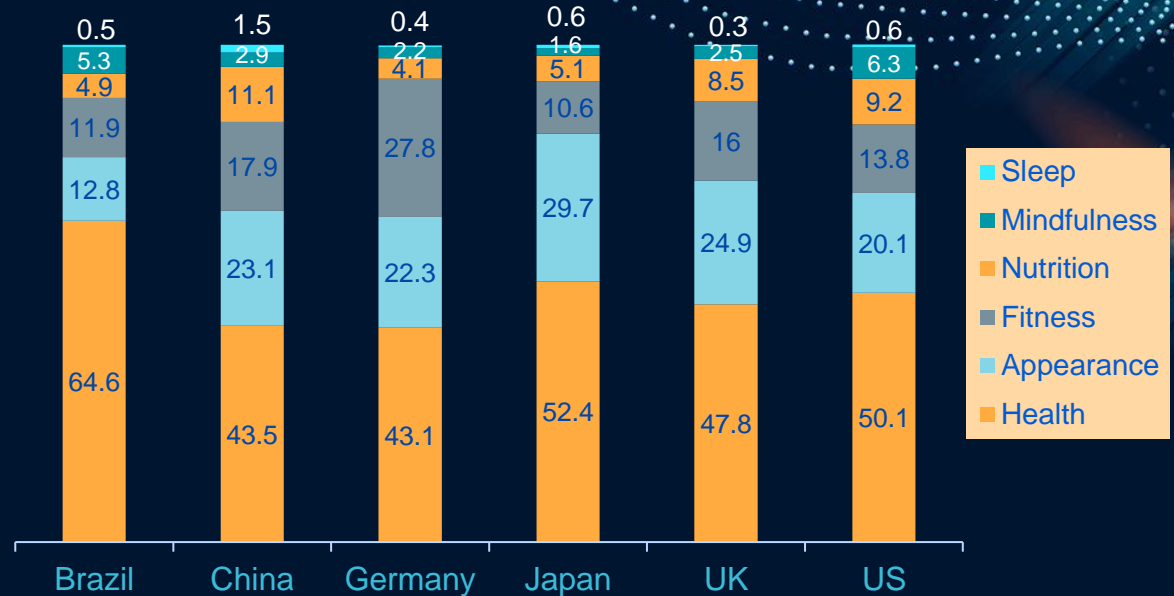


# BODSTIM



# WELLNESS SPENDING BY CATEGORY

- People spend about \$1.5 trillion a year on consumer health and wellness products and services
- CAGR of 5 - 10%
- Consumers care deeply about wellness and interest is growing – in a survey of 7,500 consumers in six countries:
- Reported a substantial increase in prioritizing wellness over the past 2 – 3 years
- 79% believe wellness is important
- 42% consider it top priority



# GO TO MARKET PLAN

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## Lionheart Health Consumer Sales

Online Store  
promoted through  
digital advertising  
and social media

## Lionheart Health MedSpa/ Sports Medicine Clinic Sales

Sales Representatives  
in the US, Canada,  
Mexico, South America,  
Europe, and Australia

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# PRE-CLINICAL DATA

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## ELASTIN STIMULATION

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17% increase in elastin in tests at our UC Irvine lab. Increases elasticity of tissues, skin, arteries, heart, and heart valves – has multiple benefits.

## KLOTHO STIMULATION

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A study in our lab for KidneyCell demonstrated up to 150% increase in circulating Klotho with stimulation 2X a week for 45 - 60 minutes. BodStim has electrodes in the same positions. Study underway to confirm parity.



# FUTURE BENEFITS

BodStim is investigating additional signals to:

- Improve gut microbiota function
- Increase serotonin production to improve mood and reduce the risk of dementia, memory-loss, depression, and addiction
- Improve damaged nerve connections



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# PUBLICATIONS

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## PROCEEDING OF THE NATIONAL ACADEMY OF SCIENCE

The Rise of Bioelectric Medicine Sparks Interest Among Researchers, Patients, and Industry. Hundreds of clinical trials are now underway to investigate how harnessing the body's peripheral wiring might help in the treatment of acute and chronic disease – the results so far appear promising.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6900593/>

## SKELETAL MUSCLE JOURNAL

Klotho expression is a prerequisite for proper muscle stem cell function and regeneration of skeletal muscle.

<https://skeletalmusclejournal.biomedcentral.com/articles/10.1186/s13395-018-0166-x>

## INTERNATIONAL JOURNAL OF SPORTS AND EXERCISE MEDICINE

EMS activation significantly increased the metabolic and cardiorespiratory responses in men and women at rest and walking at steady-state (50%  $\text{VO}_2$  max).

<https://pdfs.semanticscholar.org/ec7c/281707a2136458c471f6d1ee96adad0431a8.pdf>

## INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH

Neuromuscular electrical stimulation (NMES) combined with low-intensity exercise can be more efficient than low-intensity exercise only in terms of delaying the loss of muscle mass in the elderly.

<https://pubmed.ncbi.nlm.nih.gov/33802260/>

## JOURNAL OF CIRCULATION

Bioelectric stimulation offers a simple and practical method of therapeutic angiogenesis.

<https://www.ahajournals.org/doi/10.1161/01.CIR.99.20.2614>

## CANADIAN JOURNAL OF PHYSIOLOGY AND PHARMACOLOGY

Neuromuscular electrical stimulation but not photo-biomodulation therapy improves cardiovascular parameters of rats with heart failure

<https://tspace.library.utoronto.ca/handle/1807/106055>





# SUMMARY

- Increases muscle contractions to build muscle mass
- Helps regenerate damaged muscle and accelerates exercise recovery
- Accelerates metabolism to promote fat loss for 48-72 hours
- Reduces cellulite and tones buttocks
- Improves circulation – eliminates toxins, stimulates collagen
- Improves skin elasticity and flexibility
- Reduces inflammation
- Can be used on muscles that are weak or atrophied due to injury or prolonged periods of immobility and

*The only wearable that increases Klotho and Sirtuin(1-6) - powerful anti-aging proteins to improve overall wellness and longevity*

**BODSTIM**



# LEONHARDT'S LAUNCHPADS

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BodStim™ by BioLeonhardt Whole Body is a Leonhardt Ventures, LLC, currently incubating in the Leonhardt's Launchpads incubator. The company's research and development laboratories are located at University Lab Partners at the UC Irvine Beall Applied Innovation Center in Irvine, CA. BodStim is also a member of the Cal-X Stars Business Accelerator, Inc. and CalXelerator innovation and start-up launch accelerator mentorship programs. BodStim is scheduled to graduate and spin out of BioLeonhardt Whole Body as a stand-alone start-up in 1Q 2023.

For more information visit:

[www.bodstim.com](http://www.bodstim.com)

[www.leonhardtventures.com](http://www.leonhardtventures.com)

[www.calxstars.com](http://www.calxstars.com)

[www.calxelerator.com](http://www.calxelerator.com)

