

# miha bodytec – Impulses for a Healthy Future!



We specialise in the development of medical products for prevention and therapy using Electromyostimulation. Our expertise lies in transforming traditional electric muscle stimulation into a comprehensive whole-body application. This results is an innovative concept which we have pioneered - Whole-Body EMS.

It seamlessly integrates the established passive component of electrotherapy with an active exercise approach with personal care. Our medical products are manufactured in Germany and distributed worldwide for applications in healthcare, personal training and health-oriented fitness.

# The World's Leading Premium Manufacturer

for Whole-Body EMS-Equipment.

**15** 

Over **15 years** of experience - Proven globally in practical application.

2012

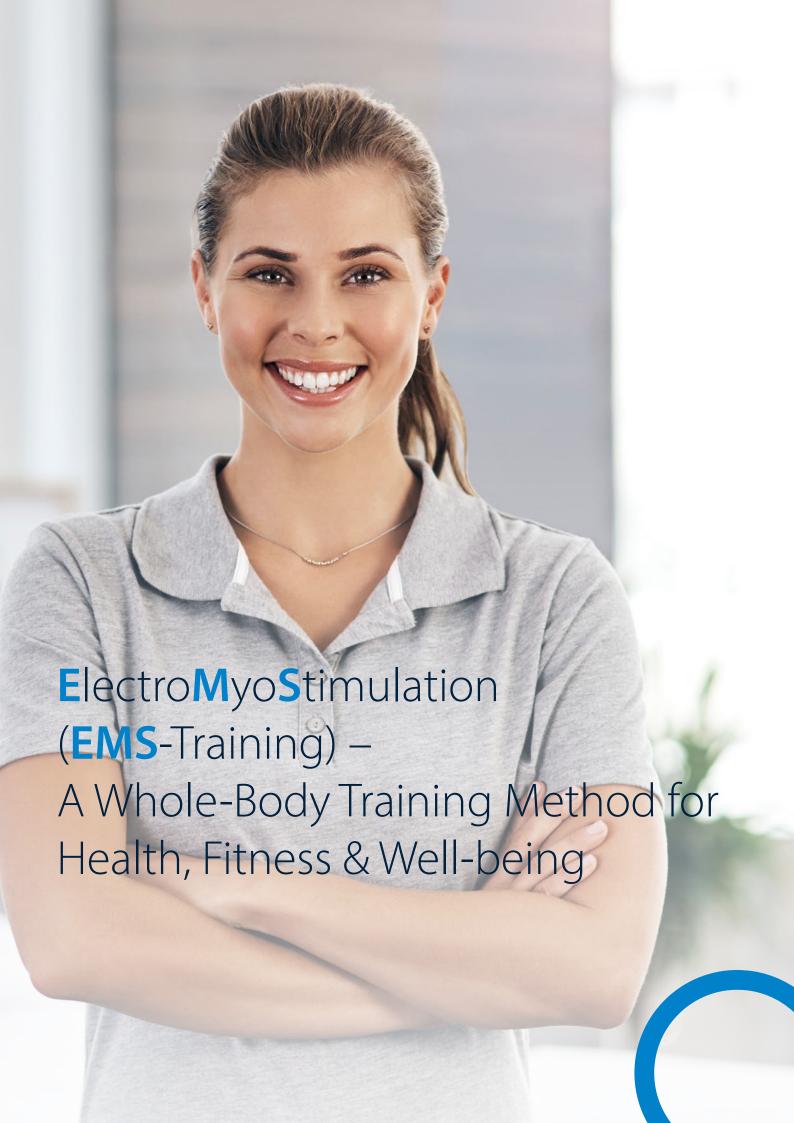
Certified for medical use since 2012

40

Global partnerships in over 40 countries

Together with our partners,

we want to set new impulses and rethink health.

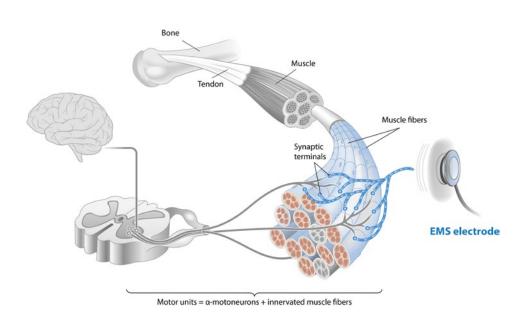


# **Whole-Body Electromyostimulation**

# (EMS-Training)

EMS-Training is a whole-body training method that combines the electric activation of muscle fibres with simple and targeted body weight exercises. Using medically certified equipment, it is carried out under the guidance and instruction of a trained supervisor with a clearly defined focus on prevention and therapy. This targeted approach can be easily tailored to meet individual goals, creating a compelling and highly effective training program.

Whole-Body electromyostimulation is based on the body's own principle of muscle contraction with the difference that the muscle contraction is set by an external electrical impulse. The impulses are delivered via electrodes.



The electrodes are woven into a fabric vest-belt-system. These are worn over a special functional garment. The emitted electrical pulses are low-frequency, triggering a brief muscle contraction. EMS-Training combines passive muscle stimulation through electric impulses with an active element of straightforward bodyweight exercises. With repeated delivery of these electrical impulses, they cause extensive activation in the corresponding muscle fibres. In this way, the deep back muscles and large muscle groups are also intensively trained at the same time.

The gentle impact on the joints coupled with the significant assistance from the impulses makes electromyostimulation an optimal choice for individuals who are grappling with motivation, find themselves less active due to advanced age, or facing health barriers that render conventional exercise and treatment methods overly challenging.

Doing Whole-Body EMS consistently once a week actually shows positive effects on muscular parameters, but much more importantly on quality of life and overall health.

All Major

Muscle Groups,

Minimal

Time Needed

Our One-Stop

Solution



Dual Approach: Active & Passive



Joint-friendly Training



Time Efficient: Only 20 Minutes per Week



Individual Care & Safety (1:1, max. 1:2)

Discover the active principle of Whole-Body EMS.

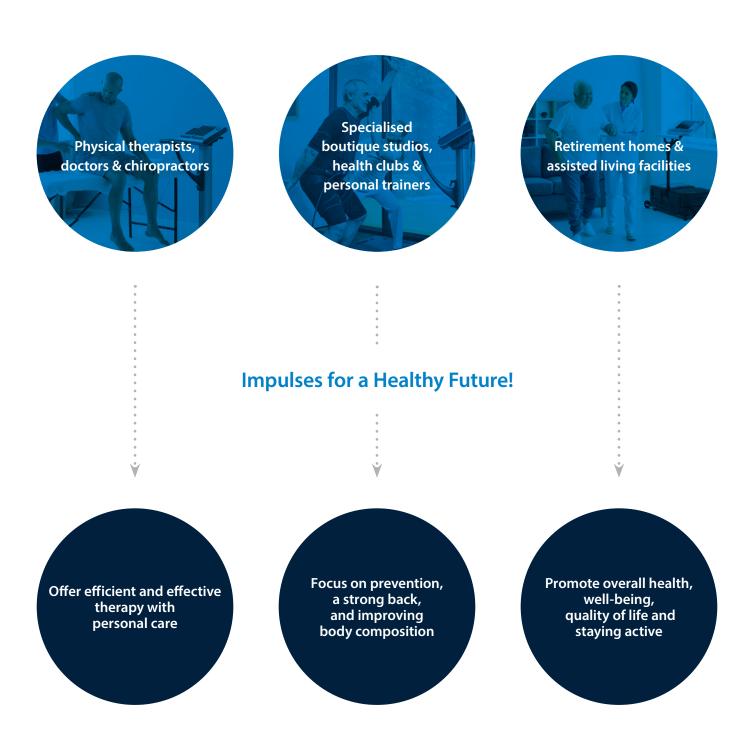




# **WB-Electromyostimulation** in Prevention and Therapy

# Numerous different operators already offer

# Whole-Body EMS-Training to their clients:



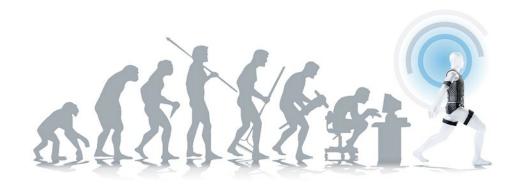
**Whole-Body EMS** is utilised for the prevention and relief of various health conditions.

# A Therapeutic and Preventive Approach to

# **Non-Specific Back Pain**



Non-specific back pain, often also referred to as unspecific back pain, can be caused by dysfunctions in the back's muscle structures such as tension, stiffness, or muscular imbalances [1]. The issues often arise from improper strain, typically due to prolonged sitting in the same position, one-sided or heavy physical labor, or even psychological stress [2].



# A Stronger Back with EMS-Training



Simultaneous Activation of Agonist and Antagonist [5,6]



Joint-Friendly Strengthening of Deep Muscle Tissues [7,8]

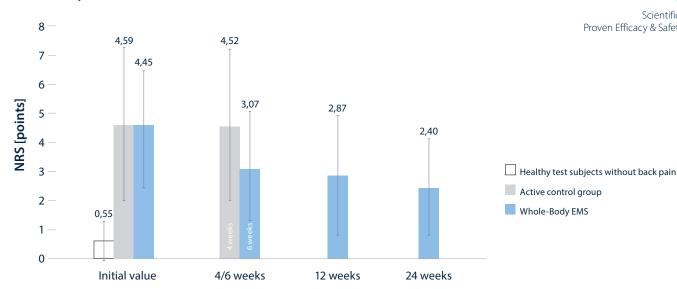


Scientifically Proven Efficacy & Safety [9]

# WB-Electromyostimulation offers a

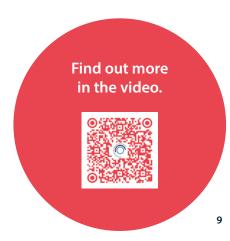
# dual approach solution.

EMS-Training offers an effective and evidence-based option for the prevention and treatment of non-specific back pain. Performed under individual supervision, it strengthens all major muscle groups in the upper and lower back. It requires little time and reduces the subjective perception of intensity [3,4].



Patients with non-specific back pain reported less pain after Whole-Body EMS. Modified after Konrad KL et al. 2020. PLoS ONE 2020,15:e0236780 Points from 0 (no pain) to 10 (worst possible pain) NRS: Numerical Rating Scale

EMS is equally effective as conventional therapy strategies - in a significantly shorter time.



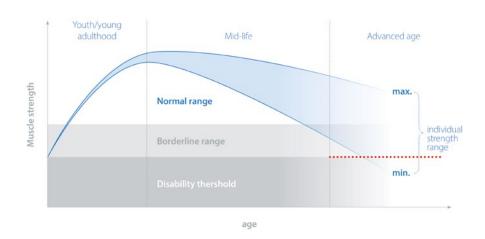
# Prevent

**Age-Related Muscle Loss &** 

Sarcopenia



The ageing process often brings about a general and progressive loss of muscle mass and strength <sup>[10]</sup>. The severe and widespread loss resulting from the physiological process of muscle degradation is known as sarcopenia. Its consequences can be grave. Muscle wasting in old age and sarcopenia can make daily life challenging for those affected <sup>[11-24]</sup>.



# **Stay Active Into Old Age** with Whole-Body EMS



Efficacy and Safety Into Higher Age [25-29]



High Intensities – Low Sense of Stress



Positive Effects on Strength, Muscle Mass and Function [25-29]

# Prevent muscle atrophy and sarcopenia.

EMS-Training offers efficient and personalised stimulation. It serves as an effective tool for both prevention and therapy across a wide age range. This technology has the power to counteract muscle loss in its early stages. Moreover, for older individuals already experiencing muscle degradation, it can significantly slow the process. In this way, electromyostimulation promotes sustained vitality and well-being.

Sarcopenia	EMS	
		Muscle strength
		Muscle quantity and quality
		Muscle function
		Functional performance
		Type 2 muscle fibres
		Anabolic factors (e.g. insulin-like growth factor IGF-1, growth hormone G-)
		Catabolic factors (e.g. myostatin)
		Inter/intramuscular fat/connective tissue

▼ Decrease/Loss; Increase/profit

The positive effects of EMS on age-related muscle loss/sarcopenia (Fig. modified after Blöckl J. Kemmler W. Schöne D. 2021 [221)

Build and maintain muscle mass.

Slow down age-related muscle loss.

EMS is a one-stop, long-term solution!



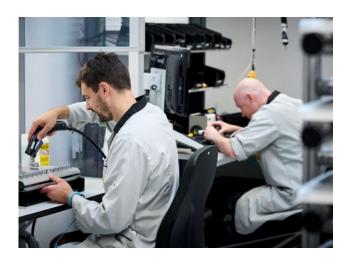


# The World's Leading Premium Manufacturer for Whole-Body EMS Equipment

# **Strong** in Science and Research

As a market-leading manufacturer of medical EMS devices, safe application and positive reception of the technology is particularly close to our hearts! Therefore, we work in tight cooperation with numerous participants in the health sector. We maintain close ties with science and research, as well as numerous practitioners and experts from the field.





### Scientific Evidence

### is the Foundation

Based on this experience, we are able to make EMS technology available for safe, effective use in practice and develop it further every single day. With an innovative approach that stands for efficiency, safety and effectiveness, our commitment serves to help maintain the health of a future-oriented society.

# For **Mobility and Health**

# into High Age

We do our part to meet the health challenges of an ageing society and increasingly sedentary lifestyles. We continue to pursue a strong preventive approach that is available to all age groups and provides a significant benefit across many different health-oriented use cases. In addition to non-specific back pain, sarcopenia and age-related muscle loss, we seek to broaden the range of application for other indications every day.



# **Certified Equipment** for Professional EMS-Applications - Discover Our Innovative Products

We develop our medical EMS devices in Germany - according to strict specifications to ensure high and sustainable quality. Our product range is specially designed to provide reliable, long-term and low-maintenance operation in the professional healthcare sector.

Thanks to intensive testing and a certified quality management system, we ensure continuous and conscientious compliance with the highest quality standards for our medical products "Made in Germany". All processes for development, production, sales and service are subject to strict controls, enabling us to ensure a consistently high standard of safety and quality in all these areas.

We are certified in accordance with DIN EN ISO 13485, MDSAP and Directive 93/42/EEC Annex II and thus fulfil the requirements for the manufacture of medical devices in accordance with European law, the US Food and Drug Administration (FDA) and numerous other international markets.

# **Highest Quality**

for Medical Applications



With authorisation since 2012 for use in the medical sector

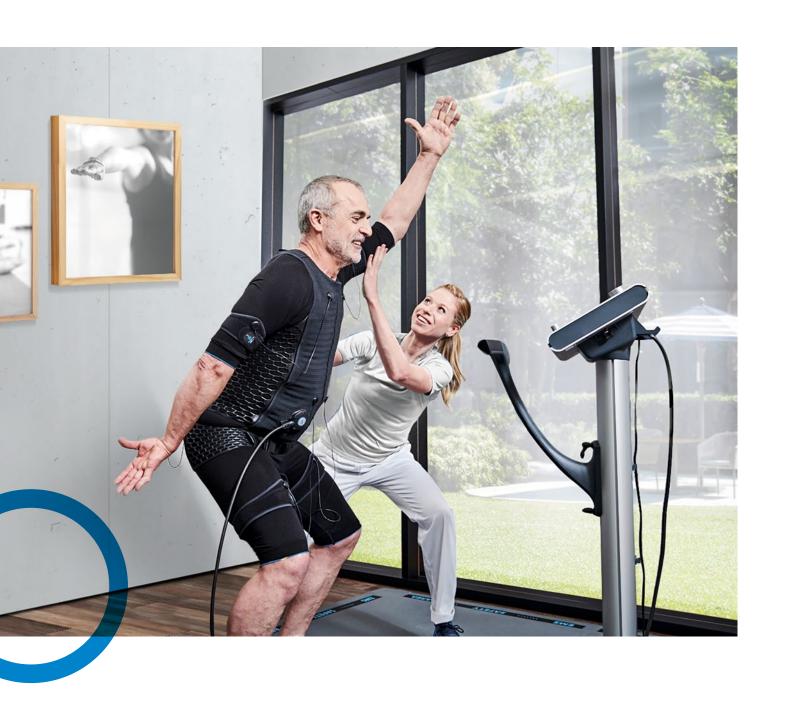






From Germany, we now supply many European countries as well as the rest of the world. Through our own subsidiaries in the UK and the USA and a tightly knit network of distributors in over 40 countries, we aim to establish and maintain a close, respectful eye-to-eye relationship with our customers.

miha bodytec - Made in Germany for global use.



# miha bodytec II medical -

The Benchmark for Stationary Applications

Our certified medical product, miha bodytec II medical, blends innovative technology, safe operation, and modern design. Its robust aluminium casing provides optimal protection for high-quality electronic components, all manufactured to the highest standards in Germany.

Proven reliable through thousands of uses in daily continuous operation, the miha bodytec II EMS device is the standard for commercial EMS-Training and therapeutic Whole-Body EMS applications worldwide.





Impulse transmission via i-body connect or i-body connect wireless



Customisable and freely configurable



Maximum connectivity (Wi-Fi, Bluetooth, RFID, Mesh)

## miha bodytec II medical

Efficient Performance in Stationary Continuous Operation





# miha bodytec workstation

Smart Storage and Preparation





# miha bodytec m.ove -

More Flexibility in Professional Use



The miha bodytec m.ove system stands out with its supreme adaptability and portability. Whether it's shifting between treatment rooms or different floors within your facility, or even taking the system off-site, miha bodytec m.ove seamlessly fits into your operational needs, offering innovative solutions.

miha bodytec m.ove is a medically certified EMS device - Made in Germany.









Magnetically self-aligning charger



Impulse transmission via i-body connect wireless



Customisable and freely configurable



Maximum connectivity (Wi-Fi, Bluetooth, RFID, Mesh)

### workstation m.ove

Application, Transport and Storage Combination



# travelstation m.ove Floor Stand and **Transport Combination**



room to room

- ✓ Certified medical product
- ✓ Rotary knobs with haptic feedback for safe operation
- ✓ Integrated handle for stability and support
- ✓ Single user interface for maximum safety and control

door to door



The patented i-body electrode system impresses with its optimum fit, quick handling and easy cleaning. It was developed for a long service life with high-frequency use and sets standards in professional use worldwide.

### i-body and i-body V

The i-body vests form the basis of the i-body electrode system. Thanks to permanently elastic stretch areas made of latex-free silicone, simple and quick handling without adjustment can be combined with great freedom of movement and optimum adjustment of the five fully integrated electrode pairs.

i-body V vests are the ideal complement to this. Equipped with 10 adjustment straps, the i-body V vests can be adapted to a wide variety of body shapes.

i-body, i-body V

- ✓ Permanently elastic stretch areas and hard-wearing yarns
- ✓ High durability and flexibility
- ✓ Optimum adaptation to individual body structures
- ✓ Magnetic contacting
- ✓ Completely antibacterial finish
- √ Fully washable

i-body strap flex





### i-body strap flex

The body strap flex electrodes for arms and legs are fully conductive and at the same time highly elastic. This means they adapt perfectly to every movement. An innovative fastening system without Velcro ensures a long service life in continuous professional use.

i-body belt





The i-body belt consists of an elastic waist belt with a pair of electrodes to stimulate the gluteal muscles. The belt is connected to magnetic contacts on the back of the i-body vest.

Patented and proven in practice. miha bodytec i-body electrode system





# i-body<sup>®</sup> connect wireless

# Wired precision.

# miha bodytec i-body connect

### i-body connect

Cable connection with magnetic contact for easy handling and a secure connection.

i-body connect

- magnet system
- ✓ Innovative magnet system
- ✓ High functional reliability
- ✓ Easy and quick handling thanks to self-finding contacting
- ✓ Low contact wear thanks to spring contacts

i-body connect wireless

The i-body connect wireless stimulation unit enables the miha bodytec devices to be connected wireless to the i-body electrode system, thus increasing flexibility in 1:1 use.

i-body connect wireless

The stimulation unit is paired to the control unit before use and can be attached to either the leg or back.

i-body connect wireless is a tested medical device and complies with all regulatory requirements that must be met for a radio-operated device (RED, FCC, IC).

Innovation in motion.

miha bodytec i-body connect wireless



# i-body® Functional Underwear

# **High-tech functional clothing** that fits.

# miha bodytec i-body Functional Underwear

Optimal fit, high elasticity and special moisture management - these are the challenges that make a functional garment for EMS application a high-tech product.

Through our many years of experience and cooperation with leading manufacturers of textile fibres and finishing processes, our current generation sets standards in sustainability and optimised product performance.

Production according to BSCI/WRAP standards. This ensures compliance with internationally recognised standards for occupational safety and environmental protection.





The main component of Functional Underwear is TENCEL™ fibres. TENCEL™ fibres are cellulose fibres obtained from the renewable raw material wood.

The biodegradable fibre is characterised by properties such as perfect moisture management, natural wearing comfort and optimal temperature regulation.



The unique stretch and recovery performance in this garment is achieved by using LYCRA® fibre, a high quality elastane which stands for the long lasting fit and dimensional stability you can expect in sportsgear.

The fabric has been tested to the proprietary PCE standard (P = power, C = comfort, E = energy) of The LYCRA Company and was approved as LYCRA® SPORT fabric to meet the needs of active people and athletes.



Proven to be harmless to health: Certified according to the OEKO-TEX® STANDARD 100.



The Sanitized® Actifresh finish prevents unwanted bacteria from multiplying and thus prevents unpleasant odours.

# HOHENSTEIN

Proven antibacterial: The antibacterial effectiveness has been tested and certified according to the DIN EN ISO 20743 standard by Hohenstein.



# miha bodytec LogX -

Intelligent Networking of Training Data and Processes!



The

miha bodytec LogX is the ideal extension for miha bodytec EMS devices that can communicate wireless with the cloud software.

# **Cloud Solution**

With the intuitive online tools, the devices can be managed, the EMS application documented and work processes digitally organised. Simply via the browser of a computer, smart phone or tablet - no matter where and when.

for Digital
Organisation

The miha bodytec LogX Cloud solution increases productivity in all areas of application and improves the quality of service through optimised workflows and precise documentation.

miha bodytec LogX Enterpr				
miha bodytec LogX Basic				
<b>Cloud-based software solution</b> that can be used via smart phone, tablet and desktop without installation	Х	Х		
Multi-user system	×	Х		
<b>Customer data management</b> with medical history, training goals, measured values, electrode and clothing sizes as well as all additional necessary personal data	Х	×		
Clear and easy-to-use <b>dashboard - for digital work preparation</b> and an overview of all work processes and deadlines	×	Х		
Resubmission system with document management, task lists and contact management	X	×		
Wireless connection to the miha bodytec EMS devices	X	х		
Extended device support incl. online firmware updates	×	X		
<b>Automated documentation</b> of function tests and all relevant parameters for each application (settings, frequency, duration, intensity)	×	×		
Data synchronisation of device settings and application data between the EMS devices and the LogX Cloud - this also enables offline operation and mobile use without interruption or data loss	X	х		
Customisable messaging system with interaction options for the miha bodytec EMS devices	X	×		
Recording of customer feedback after each session - on the display of the EMS devices	Х	Х		
Customer card setup and backup directly in the software - for easy card handling and fast replacement card creation	×	Х		
Comprehensive device statistics	×	×		
<b>Centralised appointment calendar</b> with different appointment types and display of all relevant information including serial appointments, automatic performance counter, monitoring of performance restrictions, catch-up appointments, rest periods and frequency of use		х		
Online access for users to manage their own appointments via desktop or web app		X		
Management tools for membership contracts, one-off payments, prepaid sessions and other goods and services		X		
Payment transactions by SEPA direct debit		Х		
Administration tools for open payments and dunning processes		Х		
Comprehensive analytic tools for key figures and <b>business analyses</b>		X		
Email and SMS service for automated appointment reminders, confirmations and extensive text templates for recurring administrative workflows		Add-On "Message Server"		
Cash register system with cash book (financially compliant in Germany - TSE)		Add-On "Cash Register"		

### References

- [1] Chibuzor-Hüls J et al. Pain Medicine. 2020;36(4):40-48
- [2] Back and low back pain. Institute for Quality and Efficiency in Health Care (IQWiG); available at https://www.informedhealth.org/low-back-pain.html
- [3] Konrad KL et al. PLoS ONE 15,8:e0236780
- [4] Weissenfels A et al. Biomed. Res. Int. 2019:5745409
- [5] Filipovic A et al. J Strength Cond Res. 2012;26(9):2600-2614.
- [6] Chibuzor-Hüls J et al. Pain Medicine. 2020;36(4):40-48
- [7] Baek SO et al. Ann Rehabil Med. 2014;38 (4):506-513.
- [8] Sutor V und Müller S. EMS-Training quo vadis? bodyLIFE by bodyLIFE Medien GmbH 2020;10
- [9] Kemmler W et al. Dtsch Z Sportmed. 2016; 67: 218-221.
- [10] Keller K, Engelhardt M. Muscles Ligaments Tendons J. 2013;3(4):346-350.
- [11] Cruz-Jenthof AJ et al. Age and Ageing. 2019;48:16-31.
- [12] Beaudart C et al. PLoS One. 2017;12:e0169548.
- [13] Schaap LA et al. J Gerontol A Biol Sci Med Sci. 2018;73:1199-1204.
- [14] Morley JE et al. J Am Med Dir Assoc. 2011;12:403-409.
- [15] Dos Santos L et al. J Cachexia Sarcopenia Muscle. 2017;8:245-250.
- [16] Beaudart C et al. J Cachexia Sarcopenia Muscle. 2017;8:238-244.
- [17] Won Go L et al. Korean J Fam Med. 2013;34:281-288.
- [18] Morley JE. Rev Invest Clin. 2016;68:59-67.
- [19] Sayer AA et al. Diabetes Care. 2005;28:2541-2542.
- [20] Bahat G, Ilhan B. Eur Geriatr Med. 2016;6:220-223.
- [21] Bone AE et al. Chron Respir Dis. 2017;14:85-99.
- [22] Chang KV et al. J Am Med Dir Assoc. 2016;17:1164.e7-64.e15.
- [23] Cawthon PM et al. J Gerontol A Biol Sci Med Sci. 2017;72:1383-1389.
- $\begin{tabular}{ll} [24] Akune Tet al. Geriatr Gerontol Int. 2014;14:695-701. \end{tabular}$
- [25] Kemmler W, von Stengel S. Clin Interv Aging. 2013;8:1353-1364.
- [26] Teschler M et al. J Cachexia Sarcopenia Muscle. 2021;12:843-854.
- [27] Kemmler W et al. Osteoporos Int. 2016;27:3261-3270.
- [28] Kemmler W et al. Front Physiol. 2018;9:573.
- [29] Kemmler W, Schliffka R, von Stengel S. J Strength Cond Res. 2010;24:1880-1887.
- [30] Blöckl J, Kemmler W, Schöne D, Zeitschrift für Physiotherapeuten, Juli 2021

Together with our partners we want to set new impulses and rethink health.

In our consultation, we provide you with an insight into the active principle and the wide range of uses in different areas of application. Studies on safety and efficacy provide a sound basis and practical examples illustrate successful implementation.

Would you like to experience Whole-Body EMS live and try it out for yourself? We would be happy to arrange a trial session to introduce you to this innovative method.

Let's shape the future together - we look forward to seeing you!

www.miha-bodytec.com