Molecular Bio Stimulation therapy for Cell Regeneration

Osteoarthritis
Osteoporosis
Injuries-Sports & other
Spine Ailments

A German Technology Innovation
Since 1998
INTRODUCTION

IEM Health Sciences via its Orthorevive division is propagating and imparting a unique, new patented technology for treatment of Musculoskeletal disorder & ailments painlessly. This technology MOLECULAR BIOPHYSICAL STIMULATION THERAPY (MBST) is developed by Medtec, Germany. Medtec is well known for its research and development of medical equipment and has many patents in this field. Medtec has placed its MBST machines in over 40 countries and treated more than 350,000 patients.

IEM Health Sciences plans to make available this technology throughout India.

HOW DOES IT WORK?

It works on the principal of energising the tissue cells & causing them to regenerate progressively. It is well known that the human body has the capacity to regenerate its cells. Electromagnetic waves are emitted on to the affected parts. Energy is transferred directly to the damaged cells, and this starts the regenerative process. This capacity to regenerate diminishes as we grow older, due to many factors. In case of sports, the capacity of regenerating helps recover faster and better, It also improves the overall cellular strength to prevent chronic ailments from recurring, and speeds up the acute ailments recovery.

WHAT CAN IT TREAT?

- Bones - Joints
- Cartilage
- Tendons
- Muscle
- Ligaments
- Osteoarthritis
- Osteoporosis
- Spine
- Injuries
- Post operation

HIGHLIGHTS OF THE TECHNOLOGY

- Pain Relief
- Non Invasive
- No Surgery
- No medication
- No side effects
- Simple, Scientific and Safe

The TOP-INNOVATORS 2014 - 2016 - 2018

The equipment is designed, developed & produced in Germany by MedTec Medizintechnik GmbH confirming to International quality standards and is CE certified by the German certification association TUV.

Among the 3 million German SME’s, MedTec Medizintechnik GmbH is one of the 5 most innovative companies and was awarded the “TOP 100” seal for this.

For 20+ years, the seal has been awarded to companies which stand out from their competitors and have a prominent market position due to their innovation management and successful innovations.

The award is presented annually by the seal’s mentor, the well known journalist and TV presenter Ranga Yogeshwar.
MBST® - Open System 350

*The arm/leg combination device incl. chair, trolley and table*

**Application area:**
Elbow, hand, knee, foot, double-hand and double-foot

**Technical details**
- Treatment volume approx. 23 litres
- Field strength range approx. 0.4 millitesla
- Magnetic resonance frequency approx. 16 kilohertz
- Unique C-arch design construction
- High-grade, complex C-arch design
- Optimized rolling treatment cart for coil positioning
- Net weight 75 kg
- Combination of static and electromagnetic alternating fields
- Tissue-specific treatment chip cards with optimized treatment times
  - Osteoarthritis with 9 hours
  - Bone metabolic diseases and post-treatment of fractures with 9 hours
- Optical LED marking of the treatment zone field

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MBST® - Open System 700

*The treatment cot for the whole-body*

**Application area:**
Double-knee, lumbar-spine/hip, thoracic spine and cervical spine/shoulder

**Technical details**
- Treatment volume approx. 150 litres
- Field strength range approx. 0.4 millitesla
- Magnetic resonance frequency approx. 16 kilohertz
- Unique C-arch design construction
- Length of installation location 3 meters
- Flexible special treatment cot, 200cm long
- Net weight 145 kg
- Combination of static and electromagnetic alternating fields
- Tissue-specific treatment chip cards with optimized treatment times
  - Osteoarthritis with 9 hours
  - Bone metabolic diseases, intervertebral discs and chronic ligament condition with 9 hours
- Optical LED marking of the treatment zone field

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MBST® - OsteoSystem

*The Osteoporosis whole-body treatment-cot*

**Application area:**
Osteoporosis for the musculoskeletal system

**Technical details**
- Field volume approx. 5 litres per applicator
- Field strength range approx. 0.4 millitesla
- Magnetic resonance frequency approx. 16 kilohertz
- Length of installation location 2,50 meters
- Net weight 82 kg
- Combination of static and electromagnetic alternating fields
- Tissue-specific treatment chip cards with 10 hours
- Unique whole-body treatment with 3 applicators

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**All the Device complies with specifications of Medical Devices Act (MPG) 93/42/EEC**
OSTEOARTHRITIS

Treatment available for cartilage regeneration affected in any part of the body

Symptoms of Osteoarthritis

- Locking in knee
- Reduced Movement
- Pain
- Stiffness

MBST Therapy for Osteoarthritis

The MBST therapy targets the degeneration of the cartilage, i.e. the cause of osteoarthritis. It’s aim is the preservation & regenerate the cartilage in the natural joint.

Magnetic Resonance Therapy is the transfer of energy directly into the cells of tissues, we are treating to stimulate regenerative processes through an external electro magnetic field. This results in improved function of the joint often eliminating the need of surgery & significant pain reduction.

Patients can be treated with MBST comfortably. More than 3,50,000 patients have been treated globally with MBST, more than 400 centers worldwide experiencing over 95% success in the treatment.

Duration of Cartilage Regeneration Treatment:

9 Days, 1 Hour per day

Cartilage

Before

After

Knee Cartilage

Affected

Normal
Different stages from Normal to Osteopenia to Osteoporosis

Symptoms of Osteoporosis
- Loss of height
- Back or Neck pain
- Easy Fracture
- A stooped posture

Types
- Post menopausal osteoporosis
- Osteoporosis due to ageing
- Regional osteoporosis due to trauma, Surgery, CRPS
- Drug induced osteoporosis
- Compression fracture of spine

Osteoporosis Treatment also available for Individually affected body region

MBST Therapy for Osteoporosis

The MBST therapy has a different approach and is targeted directly at the bone metabolism i.e., where the cause of the osteoporosis lies. When the bone cells lack the necessary energy or if their metabolism is disturbed, endogenous repair mechanisms can no longer be performed, Magnetic Resonance Therapy helps in the transfer of energy directly into the cells of the bone tissues to stimulate regenerative processes through an external electro magnetic field with special energizing frequencies. This results in regeneration of bone tissue & regeneration of bone mass density.

Patients can be treated with MBST comfortably. More than 3,50,000 patients have been treated globally with MBST, experiencing over 95 % success in the treatment.

Duration of Cartilage Regeneration Treatment:
10 Days, 1 Hour per day
**SPINE AILMENTS**

**Symptoms of Spine**

- Mobility problems
- Chronic Back Pain

**Ailments of Spine**

- Cervical Spondylosis
- Lumbar Spondylosis
- Disc Bulge
- Spinal Stenosis
- Disc Degeneration
- Slip Disc (Herniation & Protrusion)
- Bone Bruise
- Micro Fracture
- Osteoarthritis

**Treatment**

- MBST Therapy for Spine Ailments
  - The MBST therapy has a different approach and it offers anti inflammatory and analgesic effect leading to pain relief. The tissues in spinal column undergo degenerative changes with ageing process. The MBST treatment stimulates cell metabolism to cause faster regeneration and healing. Spinal conditions like spondylosis, facet joint arthropathy, osteoarthritis of spine, degenerative disc disease, minor disc prolapse osteoporosis compression fractures of spine. MBST, where it targets the affected tissue of spine or bone depending on diagnosis to regenerate the tissue by application of energized frequency using the Magnetic Resonance field.

Patients can be treated with MBST comfortably. More than 3,50,000 patients have been treated globally with MBST, experiencing over 95% success in the treatment.

**Cartilage**

- Normal
- Affected

**Bone**

- Normal
- Affected

**Duration of Spine Regeneration Treatment:**

- 9 Days, 1 Hour per day
INJURIES - Sports & other

ligament Sprain?  Muscle Injury?
Bone Bruising?  Early Healing?  Premier athletes?
Pre conditioning for competition?

Sports injury?

Tennis elbow?  Golfer’s elbow?
Torn muscle fibre?  ACL injury?
Shoulder pain?

Primary indications for Injuries

• Ankle (pathological ligament changes, ligament lesions, chronic damage from overstress)
• Femurs (muscle injuries)
• Knee joints (knee sprains, cartilage injuries)
• Post arthroscopy as a conservative supplement in the event of wear/degeneration in specific cases
• Coccydynia
• Cartilage injuries
• Post surgery for faster recovery
• Bone bruises/bone oedemas, osteochondritis dissecans or bone necrosis, fractures and fatigue fractures
• Achilles tendon disorders
• Tendon and ligament injuries such as partially torn medial collateral
• Acute injuries: Ligaments ankle knee Bone bruise, bone oedema Cartilage
• Chronic injuries: Chronic ligament sprain
• Muscle tear quadriceps, hamstring
• Premier athletes: Preventive treatment Faster rehabilitation
• Post arthroscopy and post surgery

MBST Therapy for Injuries

Healthy cells are constantly being rebuild to compensate for any damages. These endogenous repair mechanisms, however, require a lot of energy and often take a long time. Magnetic Resonance Therapy helps to activate regenerative processes when the body’s self-regeneration ability is impaired as a result of injuries.

Patients can be treated with MBST comfortably. More than 3,50,000 patients have been treated globally with MBST, experiencing over 95% success in the treatment.

Duration of Spine Regeneration Treatment:

9 Days, 1 Hour per day
Treatment for Musculoskeletal System

SHOULDER
- Rotator Cuff tendinitis
- General Shoulder Pain
- Frozen Shoulder
- Osteoarthritis

HIP
- Arthritis
- Joint Sprain
- Tendinitis
- Early Avascular Necrosis
- Fracture healing
- Osteoporosis

SPINE
- Chronic back pain
- Spinal Osteoarthritis
- Slip or Herniated Disc
- Osteoporosis
- Osteoarthritis
- Sprained Back Muscle
- Muscle Spasms
- Coccydynia

ANKLE
- Achilles tendinitis
- Ankle Sprains
- Plantar Fasciitis
- Calcaneal spur

KNEE
- Osteoarthritis
- Chondromalacia Patella
- Patellar Tendonitis
- Lateral & Medial ligament sprain
- Meniscal Injuries
- Bursitis in the Knee

WRIST
- DeQuervain’s Tenosynovitis
- Wrist Sprains
- Arthritis of finger joint

ELBOW
- Golfer’s elbow
- Epicondylitis
- Tennis Elbow

IMMEDIATE PAIN RELIEF | NON-INVASIVE
NO-SURGERY | NO-MEDICATION
CONTRA INDICATION

- Patients with electric implanted devices such as pacemakers, defibrillator; insulin pumps, cochlear implants (hearing aids), pain medication pumps, etc.
- Pregnancy
- Bacterial infections in the treatment area
- The areas of treatment where tumors are known and not been removed
- Leukaemia
- HIV
- Active rheumatoid arthritis

FREQUENTLY ASKED QUESTIONS?

What side effects does the MBST therapy have?

MBST has been applied internationally since 1998. To date, no side effects have become known to us.

Do I need to take medication?

Injections, intravenous infusions, drugs or pain killers are not integral part of the MBST magnetic resonance therapy.

Will I immediately feel better after the treatment?

The treatment shows good early pain relief in most of patients also many patient report improvement in mobility and pain reduction on walking. However, many patients report that their mobility improved rapidly and that the associated pain was reduced or even disappeared.

How long does the effect last?

Patient data shows that significant pain reduction could even be verified years after the therapy.

Is the efficiency of the MBST therapy proven by studies?

Efficiency and tolerability of MBST therapy in treating many diseases and injuries of the musculoskeletal system and associated discomfort and impairments is confirmed by meaningful data from numerous studies and specialist publications.

What should you pay attention to?

Drink 1-2 liters of fluid during the treatment: water or fruit juice are ideal.

Low-fat diet: vegetables, herbs and spices provide antiinflammatory antioxidants.

Frequent moderate exercise with controlled physical stress strengthens muscles and joints.

Remove all big objects that contain metal or are attracted to magnetic fields as far as possible before the treatment begins. Chip or magnetic cards may become unusable if taken into the treatment area.
First scientific study of the therapeutic applicability of MR-signals to cartilage structures in vivo (cartilage quantification) Carried out 1999

By:
- German University for Sports and Rehabilitation in Cologne
- Head: University Professor Ingo Froböse
- University Munich: “Clinic Grosshadern” department for diagnostic radiology
- University Munich: Anatomic Institute
- Proof: MRI before and 9 weeks after treatment

Comment: This study was carried out in cooperation between 2 big independent German Universities which are government owned (regulated by public law); proof with MRI: Image is Image, no matter which Research Institute or University stands behind

Conclusion: Very high level of independence

NMR In Vitro Effects on Proliferation, Apoptosis and Viability of Human Chondrocytes and Osteoblasts. Carried out 2005

By:
Laboratory for Medical and Molecular Biology, Aachen - University of Applied Sciences Gold Standard (controlled, randomized and double blind)
Proof: cell count

Comment: This study was carried by a big independent German University which is government owned (regulated by public law).

Conclusion: Very high level of independence

Functional improvement in finger joint osteoarthritis with therapeutic use of NMR. Carried out 2008

By:
Ludwig Boltzmann Cluster for Rheumatology, Balneology and Rehabilitation (non profit research institute, Austria, only purpose: scientific research) Gold Standard (placebo-controlled, randomized and double blind)
Proof: Internationally recognized questionnaires

Comment: This study was carried out by a big independent non-profit scientific research institute.

Conclusion: Very high level of independence

The effect of MBST-NuclearResonanceTherapy on patients with low back pain. Carried out 2006

By:
Ludwig Boltzmann Cluster for Rheumatology, Balneology and Rehabilitation (non profit research institute, Austria, only purpose: scientific research) Gold Standard (placebo-controlled, randomized and double blind)
Proof: Internationally recognized questionnaires
Comment: This study was carried out by a big independent non-profit scientific research institute.

Conclusion: Very high level of independence

Analysis of the Long-Term Effect of the MBST Nuclear Magnetic Resonance Therapy on Gonarthrosis. Carried out 2011

By: Institute of Bio-Engineering, Laboratory for Biomechanics, University of Applied Sciences, Aachen, Prof. Dr. med. Walter van Laack
Proof: Internationally recognized questionnaires

Comment: This study was carried by a big independent German University which is government owned (regulated by public law).

Conclusion: Very high level of independence

Non-pharmacological treatment of osteoporosis with Nuclear Magnetic Resonance Therapy (NMR-Therapy). Carried out 2013

By: Prof. Dalibor Krpan, Dr. Barbara Stritzinger, Ivan Lukenda Dr. Joachim Overbeck, Univ. Doz. Dr. W. Kullich
Proof: DEXA measurement of bone density and measurement of osteocalcin and beta crosslaps in the blood before and 1 year after MBST-Treatment

Comment: Prof. Dr. Daribor Krpan is very sophisticated and also experienced in scientific research. Prof. Dr. W. Kullich works at Ludwig Boltzmann Cluster for Rheumatology, Balneology and Rehabilitation (non profit research institute, Austria, only purpose: scientific research) and therefore is also very experienced in scientific research.

Conclusion: Very high level of independence as DEXA measurement of bone density and serum levels in the blood are absolute objective and bone density cannot be increased by a placebo effect

Nuclear magnetic resonance therapy in osteoporosis reduces the risk of fractures in accidents/downfalls – case report study. Carried out 2018

By :- D. Krpan1, W. Kullich2; 1Poli klinika K-CENTAR, Zagreb, Croatia; 2Ludwig Boltzmann Cluster for Rheumatology, Balneology and Rehabilitation, Department for Rehabilitation, Saalfelden, Austria

Innovative medicine technology – Made in Germany, The solution of the problems for today and for the future. Carried out 2017

By :- A. Muntermann, Lecture, Medical Symposium, MBST-Centre, Bangalore, India