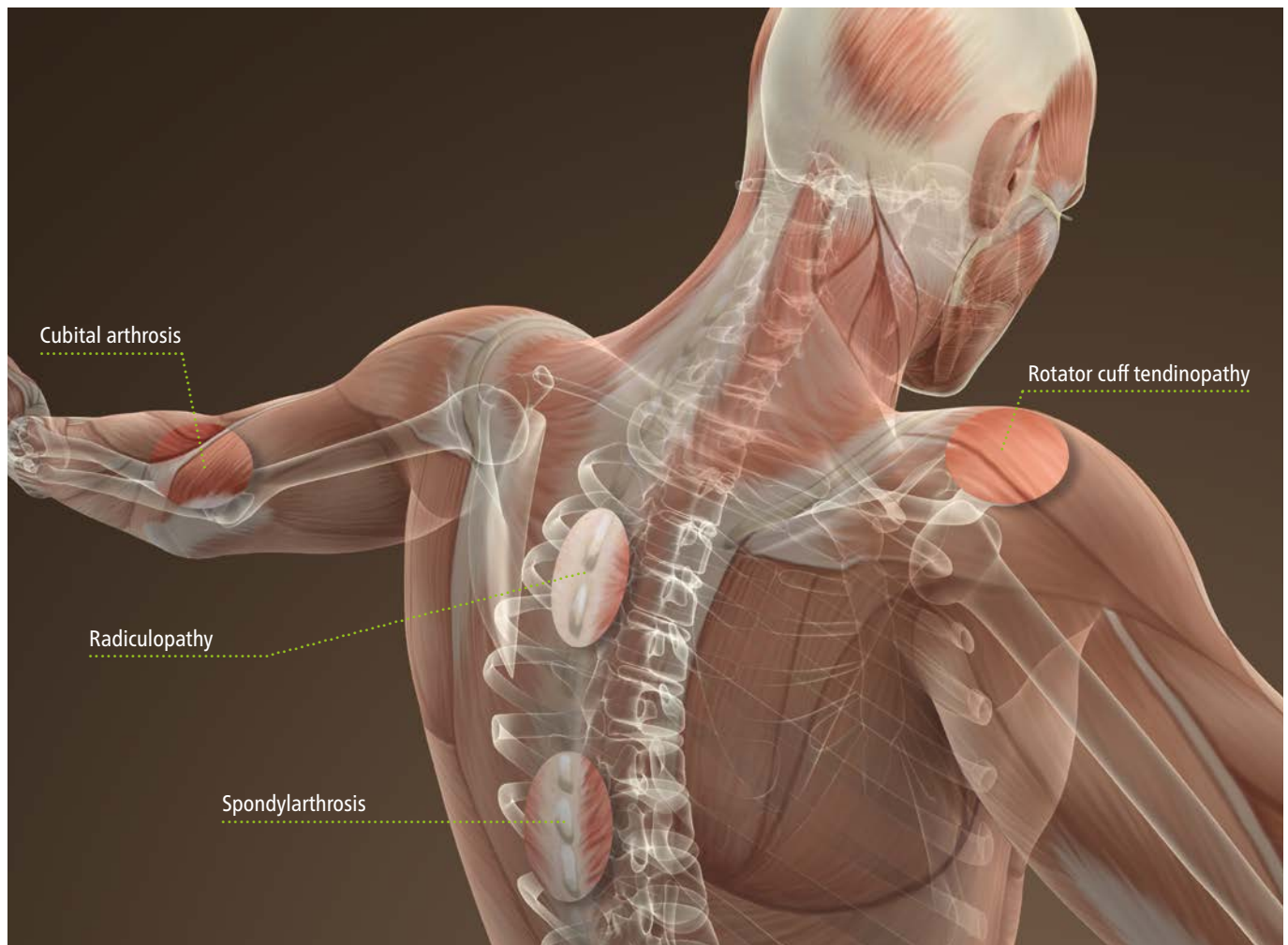


**MAGNETOLITH® ultra+**  
Extracorporeal Magnetotrans-  
duction Therapy (EMTT)





Examples of EMTT applications

## MAGNETOLITH® ultra+ – Supercharge your tissue

Extracorporeal Magnetotransduction Therapy (EMTT) with the MAGNETOLITH® ultra+ opens up new possibilities in regeneration and rehabilitation.

Non-invasive, evidence-based<sup>1,2,3,4</sup> EMTT is considered one of the most innovative technologies for the treatment of chronic musculoskeletal diseases and is an outstanding complement to Extra-

corporeal Shock Wave Therapy (ESWT). The areas of application include diseases of the musculoskeletal system such as lower back pain, tendinopathies of the rotator cuff or the Achilles tendon.

## At a glance

- Evidence-based, non-invasive, outpatient therapy
- Wide range of therapeutic applications
- High oscillating frequency with high penetration depth

### Evidence of significant therapeutic effects of using STORZ MEDICAL EMTT devices

<sup>1</sup> Krath, A. et al., J Orthop. 2017;14(3):410-415. doi: 10.1016/j.jor.2017.06.016.

<sup>2</sup> Klüter, T. et al., Electromagn Biol Med. 2018;37(4): 175-183. doi: 10.1080/15368378.2018.1499030.

<sup>3</sup> Klüter, T. et al., J Orthop Ther. 2018: JORT-1113. doi: 10.29011/2575-8241.001113.

<sup>4</sup> Gerdemeyer, L. et al., J Foot Ankle Surg. 2017;56(5): 964-967. doi: 10.1053/j.jfas.2017.06.014.

## EMTT for musculoskeletal diseases



### Degenerative joint diseases

Wear and tear conditions such as osteoarthritis (knees, hips, hands, shoulders, elbows), herniated discs, spondylarthrosis



### Pain treatment

(Chronic) pain, for example, back pain, lumbago, tension, radiculopathy



### Sports injuries

(Chronic) inflammation of tendons and joints, tendon overuse syndromes, inflammation of the pubic bone

## MAGNETOLITH® ultra+ in daily practice

Treatment with MAGNETOLITH® ultra+ is comfortable and straightforward:

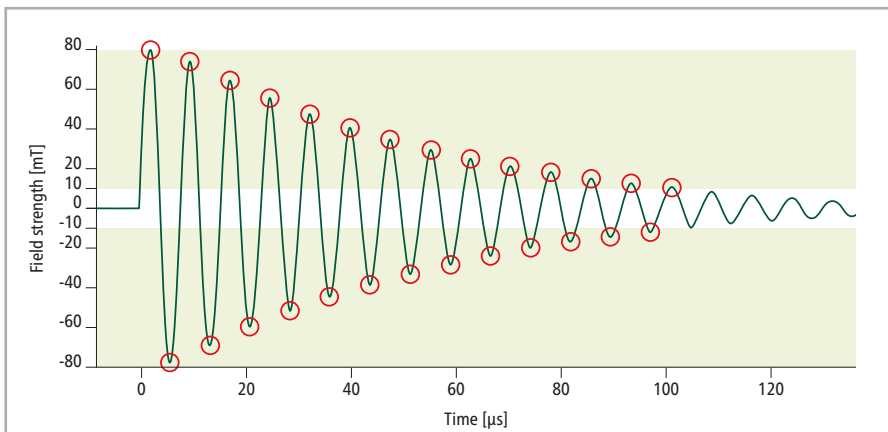
- 9 energy levels, adjustable frequency up to 10 pulses per second
- The patient does not have to remove their clothes.
- Effective and comfortable working
- Positioning of the handpiece by hand or with the flexible holding arm (click & connect)
- One treatment session lasts between 5 and 20 minutes depending on the indication.
- Clinically relevant effect with occasional, mild side effects such as reddening or slight treatment pain



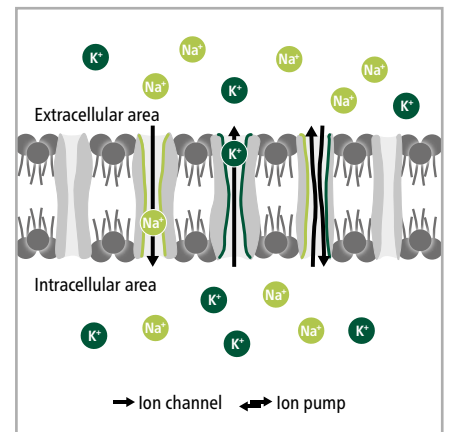
Dynamic treatment: Ankle example

## Effects of EMTT

The magnetic field strength (in Tesla) is not the only factor contributing to therapeutic effectiveness. Rather, it is a combination of two factors: the magnetic field strength and the oscillating frequency in Hertz. This is how EMTT differs from other forms of magnetic field therapy, such as PEMF, in its higher oscillation frequency and magnetic field strength, resulting in a strong »effective transduction power«. It may be assumed that the faster the magnetic field pulses or the higher the effective transduction power, the more pronounced the bioelectrical activity in the organism will be. These properties mean that the EMTT achieves a high penetration depth (up to 18 cm) and therefore covers a wide range of applications.



Each pulse > 10 mT or < -10 mT induces a cell-activating voltage.



Electromagnetic activation of the ion channels<sup>5,6</sup>

## MAGNETOLITH® ultra+ highlights

- High-frequency magnetic field (100 – 300 kHz)
- Continuous and reliable operation thanks to water-cooled handpiece
- Safe and easy handpiece replacement
- Integrated touch screen for setting 9 intensity levels, application frequency and number of pulses

<sup>5</sup> Weaver, J. et al., Bioelectrochemistry, 87, 236–243. doi: 10.1016/j.bioelechem.2012.02.007 (2012)2

<sup>6</sup> Ahn, A. C. et al., Medical Engineering & Physics, 31: 7, 733 741. doi: 10.1016/j.medengphy.2009.02.006 (2009)4



Intuitive operation thanks to the clear touch screen



Continuous handpiece cooling



Equipment trolley for flexible use in practices

**STORZ MEDICAL**

STORZ MEDICAL AG · Lohstampfstrasse 8 · 8274 Tägerwil · Switzerland  
Tel. +41 (0)71 677 45 45 · Fax +41 (0)71 677 45 05 · [www.storzmedical.com](http://www.storzmedical.com)

Subject to change without notice. The information in this document is only intended for medical and healthcare professionals. This document provides information on products/indications that may not be available/relevant in all countries.