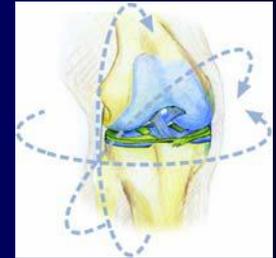
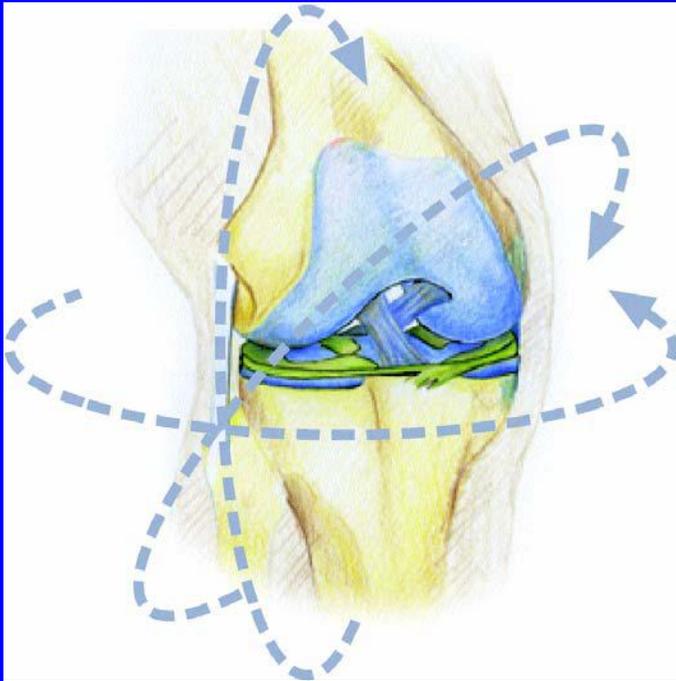


# The Active mechanism of MBST - nuclear spin resonance therapy New beginning to the arthrosis therapy

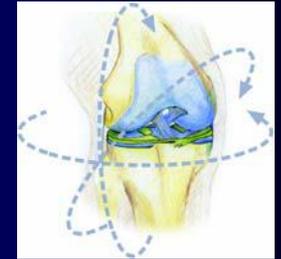


1. Motivation
2. Physical basics
  - Nuclear spin resonance
3. Technological aspects
4. Treatment system
5. Summary and a view in to future

MedTec Medizintechnik GmbH  
Gotenweg 51  
35578 Wetzlar  
Germany



**Treatment  
for  
Cartilago regeneration**



**„Das richtige  
Signal !“**

# Physical basics

## - Nuclear spin resonance

### Nuclear spin resonance

(NMR = Nuclear Magnetic Resonance)

➤ Diagnostic procedures with high resolution pictures  
(Nuclear Magnetic Resonance Tomograph)

- high resolution
- strong electromagnetic fields

➤ The effect's leg therapie is not investigated.

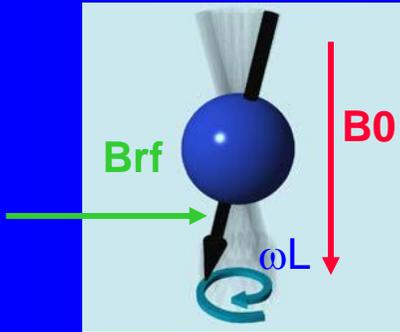
- Beginning: adapt the Elektromagnetic field's Auxillary processes in Cartilage or bones.

# Physical bases

## - Nuclear spin resonance

Nuclear cores own  
Magnetic moment ( $\mu$ ) and  
Torque (rotation)

In an external magnetic field ( $B_0$ ) the nuclear core  
Leads precession movements with the Larmor frequency ( $\omega_L$ ) by.  
( $\gamma$  = gyromagnetic ratio)



$$\omega_L \sim \gamma \cdot B_0$$

External rotating electromagnetic field  $B_1f$  with  
of the Larmor frequency turns:  $\omega_{rf} = \omega_L$

Condition:  $B_0$  regardless of  $B_1f$   
 $B_0$  orthogonal to  $B_1f$

### Nuclear spin resonance

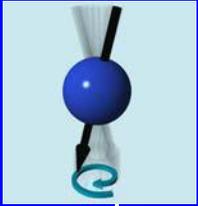
⇒ Rotation of the spinors around  $180^\circ$

⇒ Resonant energy amount carried over on nuclear cores

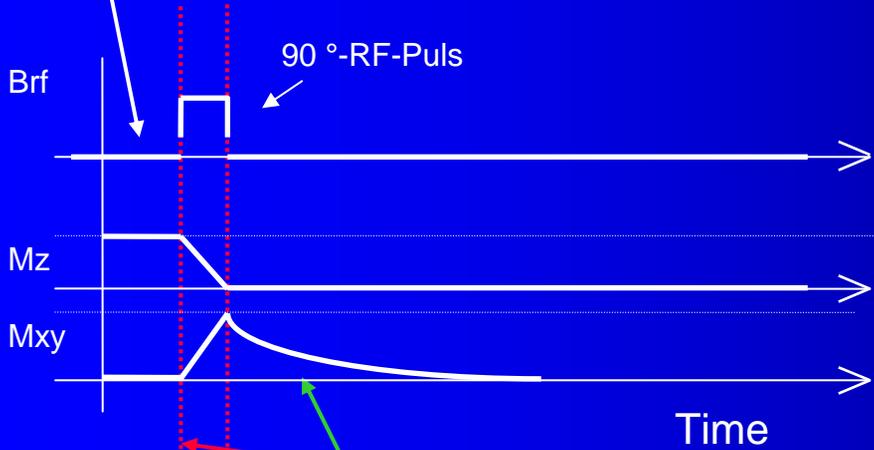
### Spin grid relaxation

⇒ Übergabe of the energy of the nuclear core surroundings (= lattice), z. B. Approx.

# - Nuclear spin resonance

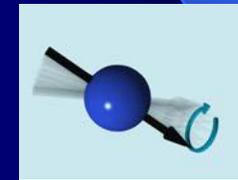
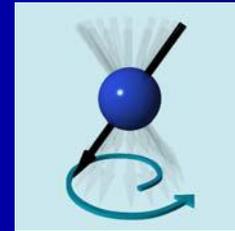


1. Origin state

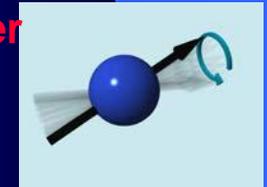


Rotation of the spinning around 180° in the external magnetic field

## - Quick Adiabatischer passageway



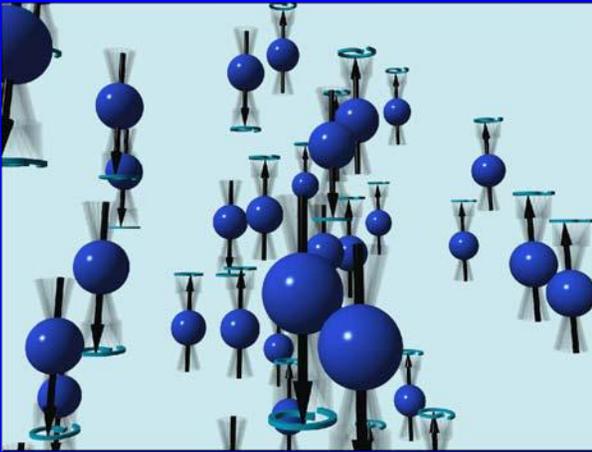
2. Rotation of the rotations  
- Energy amount Carried over



3. Spin grid relaxation

- Delivery of energy surroundings, i.e. Approx.)

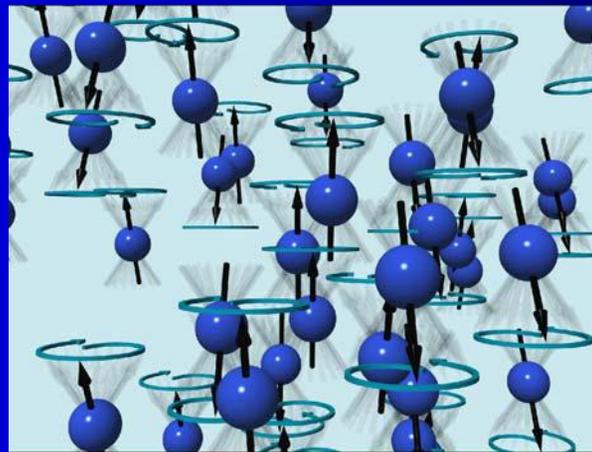
## 1. Origin state



Rotation of the spinning around  $180^\circ$   
in the external magnetic field

- Quick Adiabatischer passageway

2. Rotation of the rotations  
- Energy amount Carried over



## 3. Spin grid relaxation

- Delivery of energy surroundings, i.e. Approx.)

# Technology

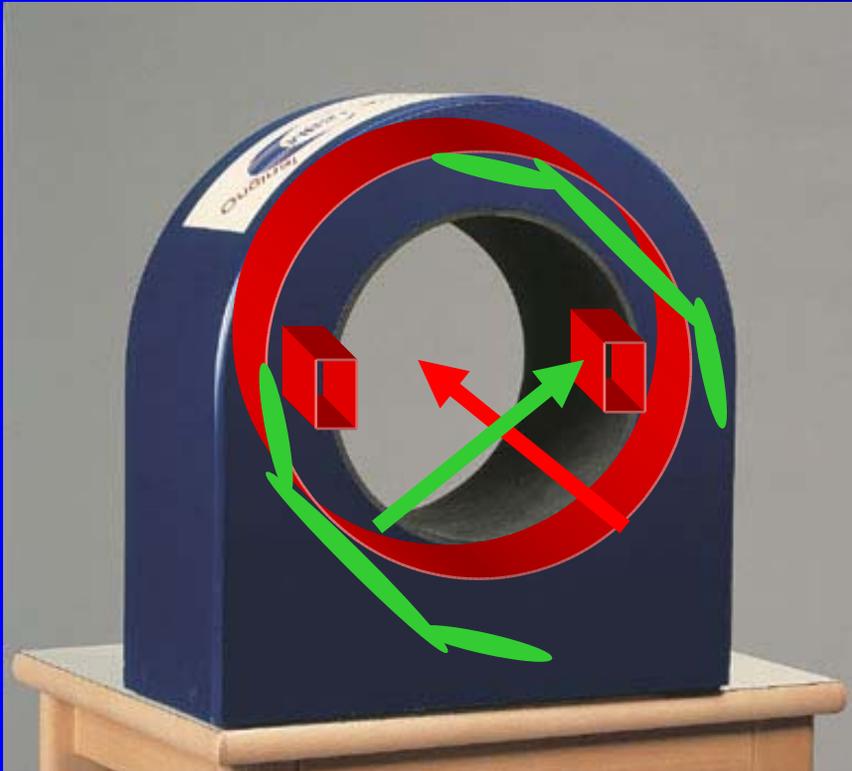
## Reel system

Permanentmagnete

(axially field)

Around reel

(axially sweeping)



orthogonaler in addition

Radio frequency reel - NMR

# Technology

## Reel system

### High level complex reel system

#### Combination from

- Static and
- EM To change fields
  - of each other independently
  - orthogonal

Suggestion of here

Nuclear spin resonance

In the fabric



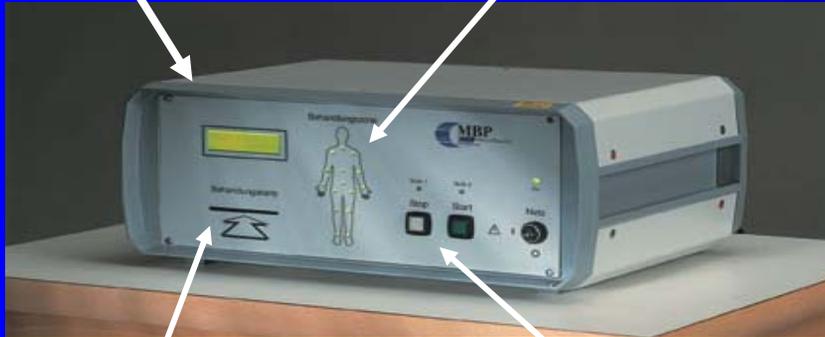
# Technology

# Control device



Announcement

Zone of treatment



Map reader

Service

Beginning - sweetly

$\mu$  - controller steered treatment

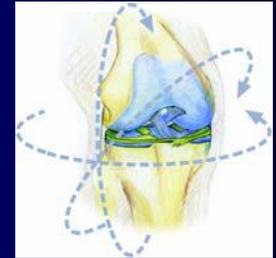
- Implementing of the newest research results
- Constant quality of the treatment guarantees
- False service impossible

# Of system of treatment

## Backbone and pelvic belt



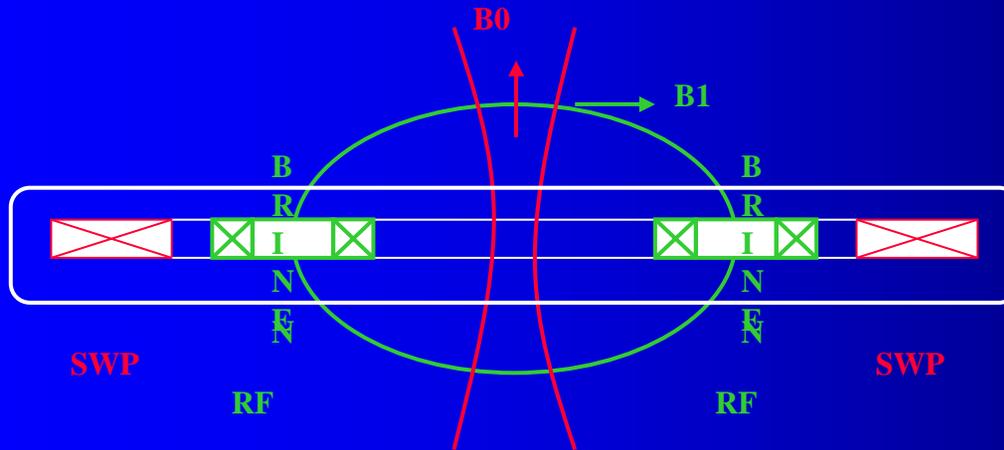
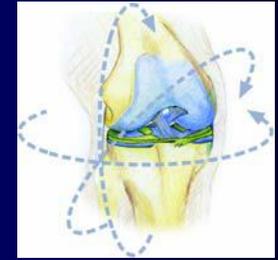
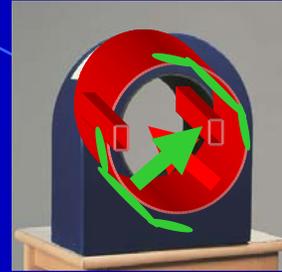
# Summary



- **New therapy for arthrosis in quick to all stages**
- **Painless and invasive ones**
- **Resonance frequency belonging to body**  
- **Nuclear spin resonance**
  
- **Scientific investigations cover**  
**Effectiveness of the treatment them**

# View

Nuclear spin resonance  
draft  
in a level?



- Osteoporosis treatment
- Pine arthrosis treatment
- Dental treatment - Quickened Established itself from cog implant  
- Jawbone construction
- Tinnitus treatment