



A

**Objectives** - Effect of electromagnetic field therapy on reduction in pain, stiffness, and ADL autonomy; cartilage degeneration, oedema and sclerosis of subchondral bone; walking performance



CERC®



Patients with osteoarthritis (OA)

**Electromagnetic field therapy**

- Size: di 1 x 60mm; 1 x 100mm; 1 x 80mm (pair)
- Maximal power: 350 W
- Frequency of emission: 1,8 MHz/2,0 MHz

**Software program**

- Artificial intelligence algorithms
- self-calibration
- Target area detection

B

**Study design-** Pilot multi-center observational assessor-blinded study

**Participants**

Ambulatory, community-dwelling adults, age 50-80 years old with disability due to knee osteoarthritis

**Inclusion criteria**

Mild to moderate radiographic medial tibiofemoral osteoarthritis (Kellgren-Lawrence score, 2 or 3)..

**Exclusion criteria**

Severe patellofemoral EO; cognitive deficit..

**Clinical and instrumental assessment**



T0

**Primary outcomes**  
NRS, WOMAC, KOOS

T1

**Secondary outcomes**

T2

G-walk, MRI (MOAKS) measures

CercTherapy®  
8-week treatment

C

**Preliminary results (case series)** - Post-treatment MRIs show reduction of subcondral bone and periarticular edema and an increased cartilage thickness indicating regeneration

Pre-treatment

Post-treatment (4 months)

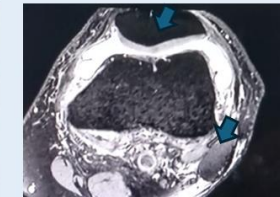
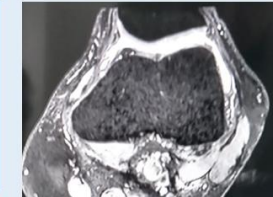
**Case 1**

- Age and gender: 68 years old man.
- History and symptoms: many years of knee pain, recurrent swelling and stiffness, difficulty in moving the joint
- Cherc-therapy effect: pain reduction, Womac and KOOS scores reduction.



**Case 2**

- Age and gender: 50 years old man
- History and symptoms: knee pain during walking in the last six months. Mild stiffness sensation without swelling and functional limitation.
- Cher-Therapy effect: pain relief, WOMAC and KOOS scores reductions



**Case 3**

- Age and gender: 53 years old man.
- History and symptoms: pain, stiffness and mild recurrent swelling in the last 2 years.
- Cher-Therapy effect: pain reduction, WOMAC and KOOS scores reductions

