

Technology Offer

MRT/CT compatible surgical drilling machine

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Technology

The invention comprises a magnetic resonance safe and X-Ray transparent surgical drilling machine. The drilling machine can be used for surgical interventions with real-time X-Ray computed tomography (CT) as well as with real-time magnetic resonance imaging (MRI) techniques. Besides the drilling and sawing of human bone the machine enables the insertion of drill wires (Kirschner wires) into the bone or the extraction of bone (marrow).



Figure: MRT/ CT compatible surgical drilling machine

Benefits

- ✓ MRI safe
- ✓ No magnetic field interactions
- ✓ No MRI-related heating
- ✓ No image artifacts
- ✓ CT compatible
- ✓ X-Ray transparent
- ✓ Sterilisable in an autoclave without loss of function
- ✓ Biocompatible
- ✓ Lightweight and compact construction (approx. 800 g)
- ✓ Switchable to reverse rotation
- ✓ Enables tool change

Application

Suitable for surgical interventions with CT and MRI techniques

- Orthopedic surgery
- Bone drilling and sawing
- Insertion of bone wires
- Bone (marrow) biopsy

Commercial Opportunity

In-licensing or industrial cooperation for further development, CE-certification and commercialization of the technology.

Keywords

Magnetic resonance tomography, MRT, Magnetic resonance imaging, MRI, X-Ray, CT

Developmental Status

Prototype

IP Status

German priority patent application (08/2011)
PCT Application (08/2012)

Patent Owner

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