

## Instructions For Use MagnetOs Putty synthetic bone void filler

### DESCRIPTION

MagnetOs Putty is a synthetic 65-75% Tri-Calcium Phosphate (TCP -  $\text{Ca}_3(\text{PO}_4)_2$ ) and 25-35% Hydroxyapatite (HA -  $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$ ) resorbable micro-structured bone void filler for the repair of bony defects. The product consists of granules, premixed with a synthetic polymeric binder that provides cohesion between the granules.

MagnetOs Putty is osteoconductive and has a porous trabecular structure that resembles the interconnected porosity of human cancellous bone. While the polymeric binder is rapidly resorbed after implantation, the granules of MagnetOs Putty induce and guide the three-dimensional regeneration of bone in the defect site into which it is implanted. When placed next to viable host bone, new bone will be deposited on the surface of the implant. The implant resorbs and is replaced by bone during the natural process of bone remodelling.

MagnetOs Putty is a ready for use product. Pressure applied by manipulation allows the shaping of MagnetOs Putty to conform to the defect contours.

MagnetOs Putty is gamma-sterilised, comes in several sizes in block form and is sterile packaged for single use only.

### INTENDED USE

MagnetOs Putty is intended for use as bone void filler for voids and gaps that are not intrinsic to the stability of the bony structure. MagnetOs Putty is indicated for use in the treatment of surgically created osseous defects or osseous defects resulting from traumatic injury to the bone. MagnetOs Putty is intended to be packed into bony voids or gaps of the skeletal system (i.e. extremities, spine and pelvis) and may be combined with autologous bone.

MagnetOs Putty should not be used to treat large defects that in the surgeon's opinion would fail to heal spontaneously. In load bearing situations, MagnetOs Putty must be used in conjunction with internal or external fixation devices.

### Application in general bone surgery (entire skeletal system)

Replacing or supplementing autologous / allogenic spongiosa, e.g. for:

- Filling and bridging of skeletal bone defects including spine;
- Plastic reconstruction of damaged or resected bone areas;
- Filling of intervertebral implants.

### CONTRAINDICATIONS

Use of MagnetOs Putty synthetic bone void filler is CONTRAINDICATED in the presence of one or more of the following clinical situations:

- To treat conditions in which general bone grafting is not advisable;
- In conditions where the surgical site may be subjected to excessive impact or stresses, including those beyond the load strength of fixation hardware (e.g. defect site stabilisation is not possible);
- In case of significant vascular impairment proximal to the graft site;
- In case of severe metabolic or systemic bone disorders that affect bone or wound healing;
- In case of acute or chronic infections in the operated area (soft tissue infections; inflammation, bacterial bone diseases; osteomyelitis);
- When intraoperative soft tissue coverage is not planned or possible;
- In direct contact with the articular space;
- In case of treatment with medication interfering with calcium metabolism.

### POTENTIAL ADVERSE EVENTS

Potential adverse events may include but not limited to:

- As with any major surgical procedures, there are risks involved in bone grafting surgery such as pain, hematoma, edema, swelling and fluid accumulation, superficial wound infection, deep wound infection, deep wound infection with osteomyelitis, loss of reduction, loss of bone graft, graft protrusion and/or dislodgment, and general complications associated with anaesthesia use and/or surgery;
- Incomplete, or lack of, osseous ingrowth into the bone void;
- Delayed union or non-union;
- Fracture of the implant with or without particulate formation;
- Inflammatory response or allergic reaction as the results of the tissue reaction to the implant.

### WARNINGS, CAUTIONS and PRECAUTIONS

Warning: MagnetOs Putty does not possess sufficient mechanical strength to support reduction of the defect site. Rigid fixation techniques are recommended as needed to ensure stabilisation of the defect in all planes. MagnetOs Putty cannot be used to obtain purchase for screws. Screws must gain purchase in the host bone.

Warning: The granules contained in MagnetOs Putty must not be damaged or altered (e.g. by excessive compaction or crushing of the implant). Avoid overfilling of the defect as tension free wound closure is required.

Precaution: Successful results may not be achieved in every surgical case. Reoperation to remove or replace an implant may be required due to specific medical conditions or device failure.

Caution: MagnetOs Putty is to be stored at ambient temperature (max 45 °C). Higher temperatures may affect the consistency and the ability of the device to retain its shape.

Caution: MagnetOs Putty's radiopacity is comparable to that of bone and diminishes as it is resorbed. This moderate radiopacity may mask underlying pathological conditions and must be considered when evaluating X-rays.

**Caution:** Inspect all packaging and components for damage before use. Do not use the device if it is damaged in any way.

**Caution:** Dosage is for SINGLE USE ONLY. Remaining material must be discarded. No special disposal is necessary. DO NOT re-use or re-sterilise. Re-use or re-sterilisation of the device may pose additional risks including, but not limited to, transmission of infectious agents.

**Caution:** Confirm expiration date before use. Do not use if expiration date has been exceeded.

#### **DIRECTIONS FOR USE**

1. The product can be shaped by finger manipulation to fit the defect contours.
2. The desired consistency and malleability can be achieved by pressure and warming in surgeon's hands overtime.
3. The product is ready for use: mixing with aqueous solutions is not recommended.
4. Defect site should be filled completely and secured to prevent migration of the implant.

MagnetOs Putty is intended for use by surgeons familiar with bone grafting and rigid fixation techniques. Familiarisation with the product and proper knowledge of bone grafting and rigid fixation techniques are extremely important.

Radiographic evaluation of the defect site is essential to accurately assess the extent of a traumatic defect and to aid in the selection and placement of the bone void filler and fixation devices. MagnetOs Putty must only be employed by or under the supervision of medical professionals with experience in the required surgical techniques and the use of biomaterials.

The exact operating procedures depend on the location, type and size of the defect. Close contact with vital bone is important for its function as a bone regeneration material and, therefore, a thorough freshening of the bone surface before applying the device is recommended (e.g. removal of bone fragments and necrotic tissue).

The defect must be completely filled with the product. Strong compacting or destruction of the granules structure (e.g. by crushing) contained in MagnetOs Putty must be avoided. Overfilling must be avoided to achieve a tension free closure.

Fixation of the implant site must be sufficient to prevent collapse and deformity secondary to functional loading.

Anatomical reduction and rigid fixation in all planes must be obtained to ensure that the graft is not supporting load.

For large defects MagnetOs Putty may be admixed with autologous/ allogenic spongiosa of comparable size. The selection of MagnetOs Putty size depends on the size of the defect to be filled.

Post-operative patient management should follow the same regimen as similar cases utilising autologous bone grafting. Standard post-operative practices should be followed, particularly as applicable to defect repairs involving the use of fixation devices.

**Note:** Responsibility for proper selection of patients, for adequate training, for experience in the choice and placement of MagnetOs Putty, and for the choice of post-operative follow-up procedures rests entirely with the physician.

#### **STERILISATION**

MagnetOs Putty is provided sterile (Gamma irradiation). Do not re-sterilise.

#### **HOW SUPPLIED**

MagnetOs Putty is provided as a sterile, single use device. Do not use if package is opened or damaged.



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<b>GRAPHICAL SYMBOLS</b>	
	Products with the CE mark fulfil the requirements of the European legislation related to medical devices. The numbers identify the Notified Body of manufacturers.
	Caution (consult the instructions for use for important cautionary information)
	Do not re-use
	Catalogue number
	Lot number / batch code
	Sterilized using irradiation
	Upper limit of temperature
	Use-by date
	Manufacturer