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 **Manufactured by:**  
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## MECTA-C STAND ALONE

### CAUTION

For a U.S. specific package insert, please go to [www.medacta.com](http://www.medacta.com) or call toll free 800-901-7836.

#### SYMBOLS / SIMBOLI / PICTOGRAMMES / PIKTOGRAMME / PICTOGRAMAS / PICTOGRAMAS / PICTOGRAMMES

	Do not reuse / Non riutilizzare / Niet hergebruiken / Nicht wiederverwenden / No reutilizable / Não reutilizar / Ne pas réutiliser
	Do not sterilize / Non risterilizzare / Niet resteriliseren / Bitte nicht re-sterilisieren / No reesterilize / Não reesterilizar / Ne pas restériliser
	Caution, read the accompanying documents / Attenzione, consultare i documenti di accompagnamento / Opgelet, raadpleeg de bijgeleverde documenten / Achtung, Begleitdokumente beachten / Atención, consulte los documentos que se acompañan / Atenção, consultar os documentos de acompanhamento / Attention, consulter les documents d'accompagnement
	Consult instructions for use / Consultare le istruzioni di utilizzo / Gebruiksaanwijzing / Bitte lesen Sie die Gebrauchsanweisung / Consulte las Instrucciones antes de su uso / Consulte as instruções de uso / Consultez les instructions d'utilisation
	Do not expose to sunlight / Non esporre alla luce del sole / Niet blootstellen aan zonlicht / Vor Sonnenlicht schützen / No exponer a la luz solar / Não expor à luz solar / Ne pas exposer à la lumière du soleil
	Store in a dry place / Conservare in luogo asciutto / Droog bewaren / Trocken aufbewahren / Conservar en lugar seco / Conservar em local seco / Conserver au sec
	Do not use if package is damaged / Non utilizzare se la confezione è danneggiata / Niet gebruiken als verpakking beschadigd is / Bitte nicht verwenden, falls Verpackung beschädigt ist / No utilize si el envoltorio está dañado / Não utilizar se a embalagem estiver violada / Ne pas utiliser si l'emballage est abîmé
	Use by / Utilizzare entro il / Te gebruiken voor / Zu verwenden bis / Utilizar antes de / A utilizar antes de / A utiliser avant
	Lot number / Numero di lotto / Nummer van de partij / Waren-Lot-Nummer / Número de lote / Número de lote / Numéro de lot
	Reference number / Riferimento commerciale / Handelsreferentie / Referenznummer / Numero de Referencia / Referência comercial / Référence commerciale
	Sterilized with ethylene oxide / Sterilizzato con ossido di etilene / Gesteriliseerd met ethyleenoxide / Ethylenoxid-sterilisiert / Esterilizado con óxido de etileno / Esterilizado com óxido de etileno / Stérilisé à l'oxyde d'éthylène
	Sterilized by irradiation / Sterilizzato mediante irradiazione / Gesteriliseerd door doorstraling / Sterilisiert durch Bestrahlung / Esterilizado por irradiación / Esterilizado por irradiação / Stérilisé par irradiation
	Manufacturer / Produttore / Fabrikant / Hersteller / Fabricante / Fabricante / Fabricant
	MR Conditional

**Index**

ENGLISH: MECTA-C STAND ALONE - INSTRUCTIONS FOR USE ..... 3

## ENGLISH: MECTA-C STAND ALONE - INSTRUCTIONS FOR USE

Important notice: the device(s) can be prescribed and implanted only by a doctor legally authorized to perform this type of surgery.

### 1. GENERAL

Before any surgery, the surgeon must be familiar with the sales product literature and operative technique and must carefully read these instructions for use. Patient selection is as important as implant placement or positioning. Overweight patients or unsuitable functional requirements may generate exceptional stresses and reduce the implant life. The warnings must be heeded, and the instructions for use must be strictly followed

### 2. INTENDED USE

The Mecta-C Stand Alone Intervertebral Body Fusion Devices is intended for use following anterior cervical discectomy for reduction and stabilization of the cervical spine.

### 3. PRODUCT DESCRIPTION

The Mecta-C Stand Alone Intervertebral Fusion Device System is a system consisting of cages, plates and bone screws. Locking and lag screws are offered to be used in combination with Locking or lag plates. The system includes four designs of locking plate and four designs of lag plate. The system is modular. It offers three cage footprints, a fixed lordosis angle of 7° and different cage heights. The surgeon can connect any of the profile plates as required for the specific pathology to be treated. The Mecta-C Stand Alone Intervertebral Fusion Device System is offered in PEEK (Polyetheretherketone polymer) as well as in TiPeek material (Titanium Coated PEEK) . The plates and the screws are in Ti6Al4V. The Mecta-C Stand Alone Intervertebral Fusion Device System has titanium markers. All the implants are available in sterile packaging.

### 4. INDICATION FOR USE

The Medacta Mecta-C Stand Alone System is a standalone anterior cervical interbody fusion system indicated for use in skeletally mature patients with cervical disc degeneration and/or cervical spinal instability, as confirmed by imaging studies (radiographs, CT, MRI), that results in radiculopathy, myelopathy, and/or pain at multiple contiguous levels from C2-T1. The System is intended to be used with autogenous and/or allogeneic bone graft comprised of cancellous, cortical, and/or cortico-cancellous bone graft to facilitate fusion.

### 5. CONTRAINDICATIONS

The Mecta-C Stand Alone system is contraindicated in the following cases:

- Spinal fracture.
- Spinal tumour.
- Severe osteoporosis.
- Spinal infection.

### 6. WARNINGS

- A successful result is not always achieved in every surgical case. This fact is especially true in spinal surgery where the patient has other concomitant conditions which may compromise the results. Use of this product without bone graft or in cases that do not develop a union will not be successful.
- Preoperative and operating procedures, including knowledge of the surgical techniques and correct selection and placement of the implants are important considerations in the successful utilization of the system by the surgeon. Furthermore, the proper selection and the compliance of the patient will greatly affect the results. Patients who smoke have been shown to have a reduced incidence of bone fusion. These patients should be advised of this fact and warned of this consequence. Obese, malnourished and / or alcohol / drug abuse patients and those with poor muscle and bone quality and / or nerve paralysis are also poor candidates for spinal fusion.

- Patients with previous spinal surgery at the levels to be treated may have different clinical outcomes compared to those who have not experienced previous surgery.
- The following circumstances may reduce the chance of a successful outcome: Signs of local inflammation; fever or leukocytosis; Metal/polymer sensitivity/allergies to the implant material; Grossly distorted anatomy due to congenital abnormalities; osteopenia and/or osteoporosis; unsuitable or insufficient bone support, bone immaturity.
- The Mecta-C Stand Alone implants should never be replanted. While an implant may appear undamaged, microscopic imperfections may occur and cause implant failure.
- The Mecta-C Stand Alone implants have not been evaluated for safety and compatibility in the MR (magnetic resonance) environment and scanning of patients who have the implant may result in patient injuries.
- The Mecta-C Stand Alone implants have not been tested for heating or migration in the MR environment or to determine the specifications for conditional status in the MR environment.

One Medacta label for each device must be properly applied to the Medacta Implant Card provided, and delivered to the patient.

### **MRI Compatibility**

Non clinical testing has demonstrated the product Mecta-C Stand Alone is MR Conditional. A patient with this device can be safely scanned in an MR system meeting the following conditions:

- Static magnetic field of 3 T.
- Maximum spatial field gradient of 12,800 gauss/cm.
- Maximum Force Product 216,000,000 G<sup>2</sup>/cm (108 T<sup>2</sup>/m).
- The theoretically estimated maximum whole body averaged specific absorption rate (SAR) of <2 W/kg (Normal Operating Mode).

Under the scan conditions defined above, the product Mecta-C Stand Alone is expected to produce a maximum temperature rise of less than:

- 1.9 °C (2W/kg, 1.5Tesla) RF-related temperature increase with a background temperature increase of 1.4°C (2W/kg, 1.5Tesla).
- 1.1°C (2 W/kg, 3 Tesla) RF-related temperature increase with a background temperature increase of 0.7°C (2 W/kg, 3 Tesla) after 15 minutes of continuous scanning.

In non-clinical testing, the image artifact caused by the device extends approximately 38.2 mm from the product Mecta-C Stand Alone when imaged with a gradient echo pulse sequence and a 3T MRI system.

### **CAUTION**

Patient safety is ensured up to a static magnetic field of 3T. No further analysis has been performed for higher values.

## **7. PRECAUTIONS**

- The use of the Mecta-C Stand Alone System should only be undertaken after the surgeon has become thoroughly knowledgeable about spinal anatomy and biomechanics, has had experience with intervertebral fusion procedures and spinal supplemental fixation and has had hands-on training in the use of this device.
- The Mecta-C Stand Alone should not be implanted in patients with severe osteoporosis or osteopenia.
- Correct handling of the implants is extremely important.
- All the System devices supplied sterile should be handled with appropriate precautions to maintain sterility.
- The important medical information given in this document should be conveyed to the patient.
- An explanted implant should never be reimplanted. Even though the device appears undamaged, it may have small defects and internal stress patterns which may lead to early breakage.

## 8. ADVERSE EFFECTS

Adverse effects may occur when the implant is used either with or without associated instrumentation. The potential risk of adverse effects as a result of movement and non-stabilization may increase in cases where associated complementary support is not employed. Potential adverse events include but are not limited to:

- Implant migration.
- Breakage of the implant.
- Foreign body reaction to the implants including possible tumour formation, auto immune disease and / or scarring.
- Pressure on the surrounding tissues or organs.
- Loss of proper spinal curvature, correction, height and / or reduction.
- Infection.
- Bone fracture or stress shielding at, above or below the level of surgery.
- Non-union (or pseudarthrosis).
- Loss of neurological function, appearance of radiculopathy, development of pain. Neurovascular compromise including paralysis, Cerebral spinal fluid leakage.
- Haemorrhage of blood vessels and / or haematomas.
- Discitis, arachnoiditis and / or other types of inflammation.
- Deep venous thrombosis, thrombophlebitis and / or pulmonary embolus.
- Bone graft donor site complication.
- Dural tear requiring surgical repair. This risk is related to the surgical procedure. The intended use of the device does not require it to be close to the dura.
- Tracheo-esophageal injuries.
- Adjacent level degeneration.
- Soft tissue injuries.
- Disphagia.
- Inability to resume activities of normal daily living.
- Early or late loosening or movement of the implant.
- Scar formation possibly causing neurological compromise or compression around nerves and / or pain.
- Fracture, microfracture, resorption, damage or penetration of any spinal bone (including pedicles and / or vertebral body) and / or bone graft or bone graft harvest site at, above and / or below the level of surgery.
- Herniated nucleus pulposus, disc disruption or degeneration at, above or below the level of surgery.
- Loss of or decrease in spinal mobility or function.
- Development of respiratory problems, e.g. pulmonary embolism, atelectasis, bronchitis, pneumonia etc.
- Change in mental status.
- Death.

Adverse events may necessitate re-operation or revision. A revision is a procedure which adjusts or in any way modifies the original implant configuration, eg adjusting the position of the original configuration or removal of implants with their subsequent replacement. A removal is a procedure which removes one or more implants of the original device configuration without any replacement. A reoperation is a procedure which involves any surgical procedure at the involved spinal level(s) which does not remove, modify or add any implants.

## INSTRUCTION FOR USE

### 9. IMPLANT SELECTION

- The selection of the proper size, shape and design of the implant for each patient is crucial to the success of the procedure. Surgical implants are subject to repeated stresses in use and their strength is limited by the need to adapt to the design to the human anatomy. Unless great care is taken in patient selection, placement of the implant and postoperative management to minimize stresses on the implant. Such stresses may cause material fatigue and consequent breakage of the implant before the fusion process is complete, which may result in further injury or the need to remove the implant prematurely.
- Excessive loads, such as excessive torque, tensile or compression load applied to long handle insertion tools attached to the implant or direct application of loads to a small area of the Mecta-C Stand Alone system, can split or fracture the cage as well as damage the implant/instrument interface. Split or fractured cages should be removed and replaced.
- Improper selection, placement, positioning and fixation of these devices may result in unusual stress conditions reducing the service life of the implant.

- The surgeon is to be thoroughly familiar with the surgical procedure, instruments and implant characteristics prior to performing surgery. Periodic follow-up is recommended to monitor the position and state of the implants, as well as the condition of the adjoining bone.

## 10. IMPLANT FIXATION

Installation and positional adjustment of the implants must only be done with special ancillary instruments and equipment supplied and designated by Medacta. In the interests of patient safety, it is therefore recommended that Medacta implants are not used with implants from any other source.

## 11. PREOPERATIVE

The surgeon and operating theatre personnel should wear sterile surgical gloves. Under no circumstances should the components come into contact with hard objects (unless otherwise specified in the surgical technique). Under no circumstances should the porous surfaces come into contact with any cloth or material which can release fibres. Before use, each component must be visually inspected for imperfections. Special surgical instruments are required for the surgery. To avoid damaging the implants and the instruments, these should be handled with the utmost care by qualified personnel and in an environment where conditions of hygiene are controlled. The correct usage of instruments is described in the surgical technique. Instruments must be inspected visually before the operation. Distorted or damaged instruments may result in malposition of the implant or implant failure.

- Only patients that meet the criteria described in the indications should be selected.
- Patient conditions and / or predispositions such as those addressed in the aforementioned contraindications should be avoided.
- Care should be taken in the handling and storage of the implant(s). They should not be scratched or damaged.
- Further information about this system will be provided upon request.
- The surgeon should be familiar with the various implants before use and should personally verify that all implants are present before the surgery begins.
- The size of the implant(s) for the case should be determined prior to beginning the surgery. An adequate inventory of implant sizes should be available at the time of surgery, including sizes larger and smaller than those expected to be used.
- Additional sterile implants should be available in case of any unexpected need.

## 12. INTRAOPERATIVE

- The instructions in the Mecta C Stand Alone implants surgical technique manual should be carefully followed.
- At all times, extreme caution should be used around the spinal cord and nerve roots. Damage to the nerves will cause loss of neurological functions.
- Breakage, slippage or misuse of instruments or implants may cause injury to the patient or operative personnel.
- The implant surface should not be scratched or notched since such actions may reduce the functional strength of the implant.
- To ensure proper fusion below and around the location of the fusion, autogenous bone graft must be used.
- Bone cement (PMMA) should not be used, because this material may make removal of these implants difficult or impossible. The heat generated from the curing process may damage or deform the PEEK implants.

## 13. POSTOPERATIVE

The physician's postoperative directions and warnings to the patient and the corresponding patient compliance are extremely important.

- Detailed instructions on the use and limitations of the implant should be given to the patient. The patient must be warned that loosening and / or breakage of the implant(s) are complications which may occur as a result of early or excessive weight-bearing, mechanical vibrations, muscular activity or sudden jolts or shock to the spine.
- The patient should be advised not to smoke or consume excess alcohol during the bone fusion process.
- The patient should be advised of the inability to bend at the point of spinal fusion and be taught to compensate for this permanent physical restriction in body motion.
- It is important that the immobilization of the union is established and confirmed by radiographic examination. If a non-union develops or if the implants loosen, migrate and / or break, the implant should be revised and / or removed immediately before serious injury occurs.

- Mecta-C Stand Alone implants are interbody implants intended to stabilize the operative area during the fusion process.
- Any retrieved implants should be treated in such a manner that re-use in another surgical procedure is not possible.
- Adequately instruct the patient in the appropriated postoperative care. The patient's ability and willingness to follow instructions is one of the most important aspects of successful healing.

#### **14. PACKAGING**

Packages for each of the components should be intact upon receipt. If a loaner or consignment system is used, all sets should be carefully checked for completeness and all components including instruments should be carefully checked to ensure that there is no damage prior to use. Damaged packages or products must not be used and should be returned to Medacta International or to the local distributor. The sterilization method is indicated on the label. The expiration date must be checked on the label as well as the package integrity to ensure that sterility of the contents has not been compromised. If a sterile package is damaged or has been previously opened, do not use the implant.

#### **WARNING**

Carefully verify that the packaging parts like the foam protections cups or similar are properly removed from the implant.

#### **15. INSTRUMENTS**

Instruments are supplied non-sterile and must be cleaned and sterilized prior to use. Recommended cleaning, decontamination and sterilization instructions are provided on [www.medacta.com](http://www.medacta.com).

#### **16. STORAGE**

The packages must be stored in a cool, dry place, not exposed to sunlight.

#### **17. PRODUCT COMPLAINTS**

Any healthcare professional (e.g. customer or user of this system of products) who has any complaints or who has experienced any dissatisfaction in the product quality, identity, durability, reliability, safety, effectiveness and / or performance should notify Medacta or the distributor. Furthermore, if any of the implanted spinal system implant(s) ever malfunction (i.e. does not meet any of its performance specifications or otherwise does not perform as intended) or is suspected of doing so, the distributor should be notified immediately. If any Medacta product ever malfunctions and may have caused or contributed to the death or serious injury of a patient, the distributor should be notified immediately by telephone, fax or written correspondence. When filing a complaint, please provide the implant(s) name and number, lot number(s), your name and address, the nature of the complaint and notification of whether a written report from the distributor is requested.

#### **18. FURTHER INFORMATION**

Recommended directions for use of this system (surgical operative techniques) are available at no charge upon request. If further information is needed or required, please contact Medacta.

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