



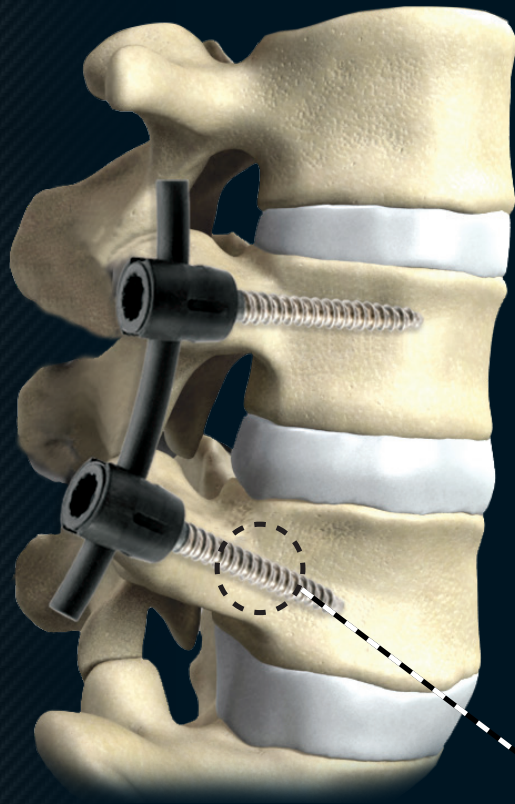
**CARBOFIX  
SPINE**

# CarboClear® X Pedicle Screw System

Carbon Fiber Implants - Essential in Spine Oncology and DDD Surgery\*

## The Only Full Carbon Fiber System

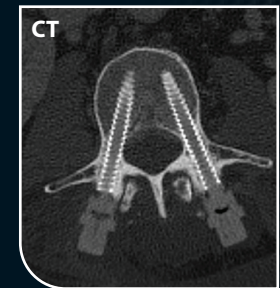
- **Unparalleled fatigue resistance**
- **CT/MRI artifact free**
  - Enhanced follow-up
- **Enhanced radiation therapy administration**
  - Negligible backscattering and attenuation for optimal dosage.
  - Improved precision in radiation planning & reduced planning time.
- **Surgical Technique Identical to conventional systems**
- **Navigation compatible**



Cross Section showing the Carbon Fiber core & the Ultrathin Titanium Shell

Ultrathin Titanium Shell to allow:

- X-Ray visualization
- Bone integration

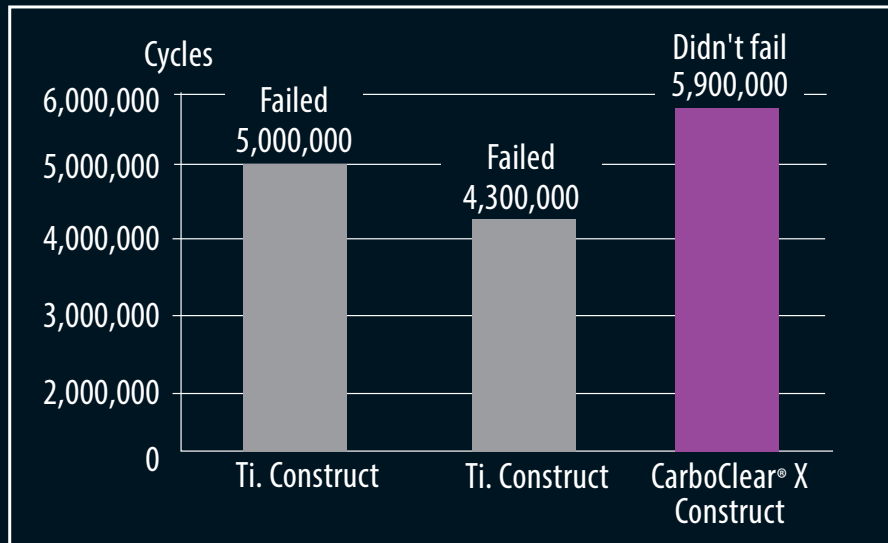




# CarboClear® X Pedicle Screw System

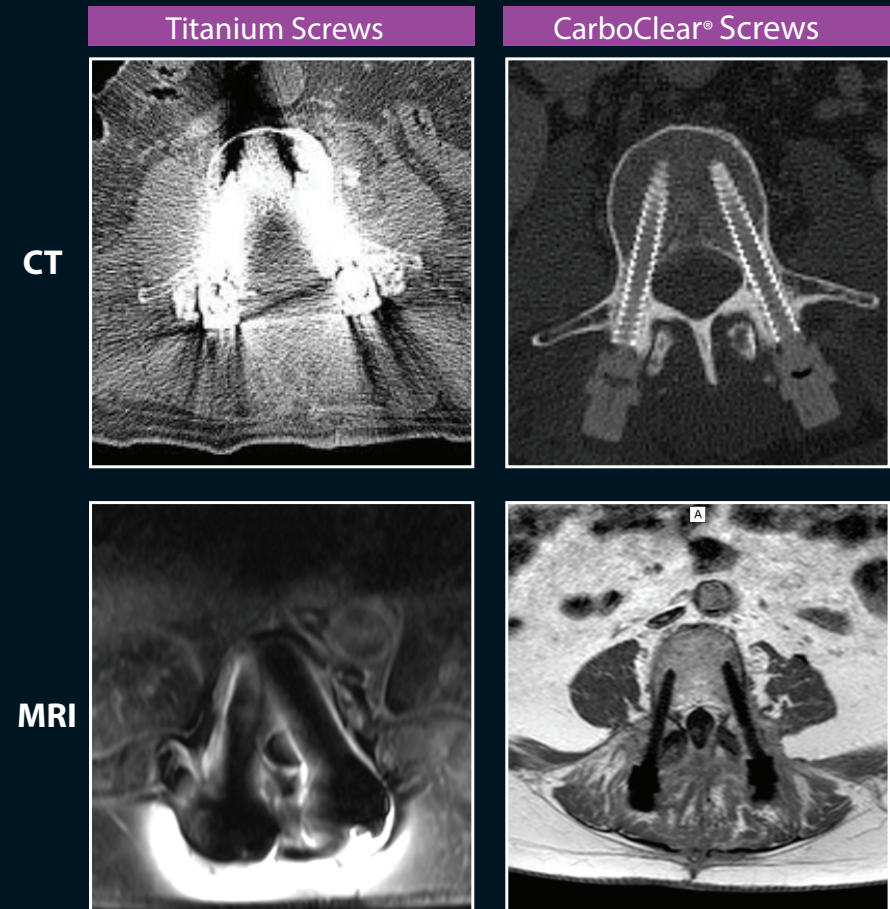
Carbon Fiber Implants - Essential in Spine Oncology and DDD Surgery\*

## Unparalleled Fatigue Resistance



- Enhanced support for non-fusion and delayed fusion\* patients

## CT/MRI Artifact Free



- Allows precise follow-up and identification of local recurrence<sup>1</sup>
- Improved radiation planning accuracy<sup>2</sup>
- Reduced radiation planning work time<sup>3</sup>

<sup>1</sup> S. Boriani, et al. Carbon-fiber-reinforced PEEK fixation system in the treatment of spine tumors: a preliminary report. Eur Spine J. DOI 10.1007/s00586-017-5258-5

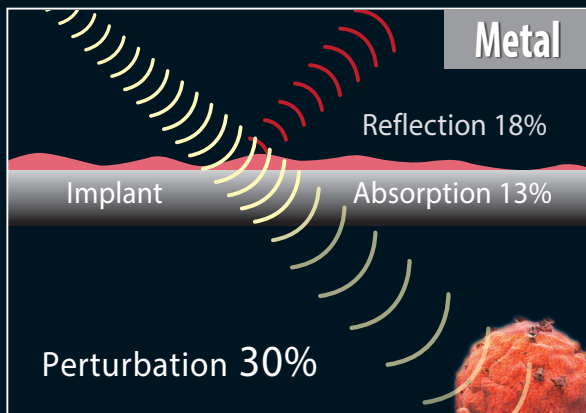
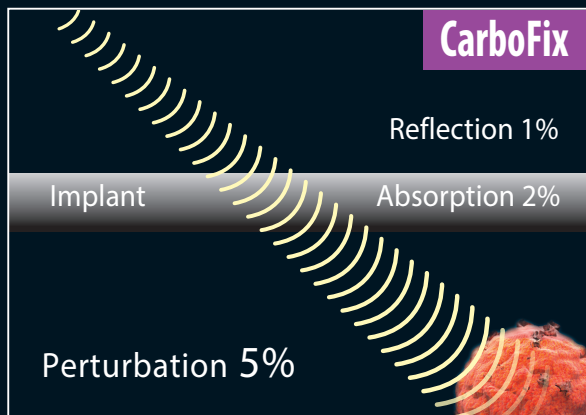
<sup>2</sup> E. Mastella, et al. Dosimetric characterization of carbon fiber stabilization devices for postoperative particle therapy. Physica Medica 44 (2017) 18–25

<sup>3</sup> J.W. Snider III, et al. Challenges Associated With Pencil Beam Scanning Proton Therapy for Spinal Tumors Following Surgical Stabilization: A Robustness Evaluation of Carbon Fiber Reinforced Polyetheretherketone (Carbon-PEEK) Versus Titanium, International Journal of Radiation Oncology, Volume 96, Number 2S, Supplement 2016, pp. E699–E700.

## Enhanced Radiation Therapy Administration

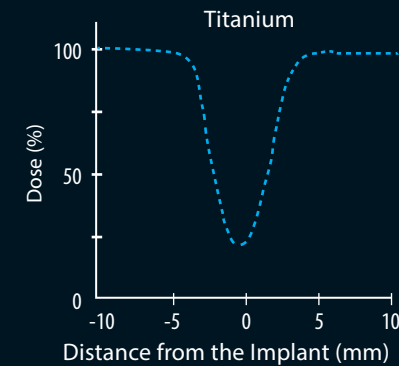
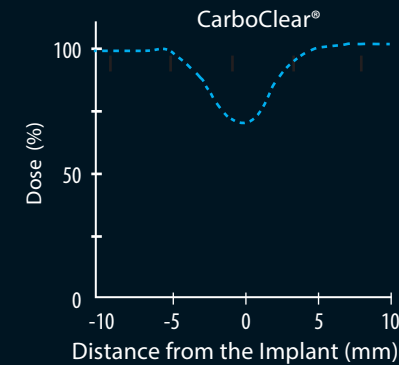
### Radiation Therapy (Photon)

Negligible Effect on Radiotherapy Dose Distribution<sup>4</sup>



### Proton Therapy

Attenuation of Carbon Fiber Vs. Titanium Implants<sup>2</sup>



- Attenuation of titanium in radiosurgery is up to 78% vs. negligible attenuation with carbon fiber

<sup>4</sup>A. Nevelsky, E. Borzov, S. Daniel, R. Bar-Daroma. Perturbation effects of the carbon fiber-PEEK screws on radiotherapy dose distribution. J Appl Clin Med Phys. 2017 Mar;18(2):62-68.



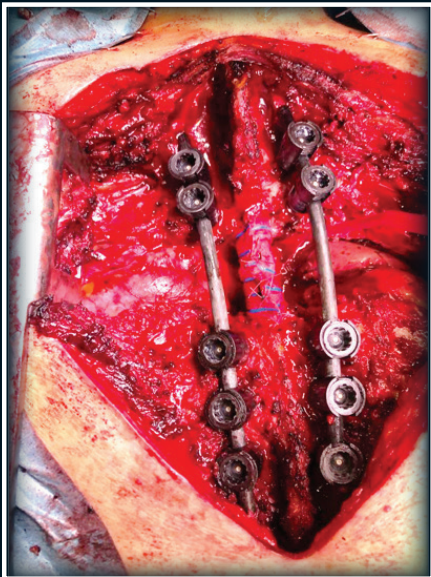


**CARBOFIX  
SPINE**

# CarboClear® X Pedicle Screw System

Carbon Fiber Implants - Essential in Spine Oncology and DDD Surgery\*

**All system implants made of Carbon Fiber, including rods, screws, tulips & trans-connectors**



## Pedicle Screws

| Cat. Number | Diameter (mm) | Length, mm (increments) | Cannulated |  |
|-------------|---------------|-------------------------|------------|--|
| PNNS50XXN   | 5.0           | 25-45 (5)               | No         |  |
| PNNS55XXN   | 5.5           | 30-45 (5)               | No         |  |
| PNNS65XXN   | 6.5           | 35-55 (5)               | No         |  |
| PNNSC65XXN  |               |                         | Yes        |  |
| PNNS75XXN   | 7.5           | 35-55 (5)               | No         |  |
| PNNSC75XXN  |               |                         | Yes        |  |
| PNNSC85XXN  | 8.5           | 40-55 (5), 65-95 (10)   | Yes        |  |

• xx - length, in mm

## Trans-Connectors

| Cat. Number | Description                            | Diameter (mm) | Length (mm) |  |
|-------------|--|---------------|-------------|--|
| PPTCR60XX   | Trans-Connector Rod                    | 6             | 30-70 (2)   |  |
| PPILR6100   | Iliac Crest Rod                        | 6             | 100         |  |
| PPSTCC4000  | Trans-Connector Locking Element + Ring |               |             |  |

## Short Rods

| Cat. Number | Type     | Diameter (mm) | Length, mm (increments) |  |
|-------------|----------|---------------|-------------------------|--|
| PPLOSR60XX  | Straight | 6.0           | 35-80 (5)               |  |
| PPLOCR60XX  | Curved   | 6.0           | 35-80                   |  |

• xx - length, in mm

## Fenestrated Screws

| Cat. Number | Diameter (mm) | Length, mm (increments) |
|-------------|---------------|-------------------------|
| PNNSC65XXFN | 6.5           | 35-55 (5)               |
| PNNSC75XXFN | 7.5           |                         |
| PNNSC85XXFN | 8.5           | 40-55 (5) 65-95 (10)    |

• xx - length, in mm

## Shaped Long Rods

| Cat. Number | Rod Type              | Diameter (mm) | Length (mm) |  |
|-------------|-----------------------|---------------|-------------|--|
| PPLCR6190S  | "S" Shaped Rod Type 1 | 6.0           | 190         |  |
| PLMCR6200   | Curved Rod Type 2     | 6.0           | 280         |  |
| PNNSR4270   | Shaped Rod Type 3     | 6.0           | 270         |  |
| PNNSR6270   | Shaped Rod Type 4     | 6.0           | 285         |  |
| PPLSR6270   | Straight Rod Type 5   | 6.0           | 270         |  |

Patient specific rods can be promptly supplied

## Locking Element

| Cat. Number |  |
|-------------|--|
| PPLCUR4000N |  |



Variable Angle 34°

All implants supplied sterile.

### MANUFACTURED BY:

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4672411, Israel  
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E-Mail: info@carbo-fix.com

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### EC AUTHORIZED REPRESENTATIVE:

MedNet EC-REP IIb GmbH  
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Germany

Patent protected

\* DDD indication is not cleared in the US

0483 **Rx ONLY**



**CARBOFIX  
SPINE**

US Indications for use: The CarboClear X Pedicle Screw System is intended to restore the integrity of the spinal column even in the absence of fusion for a limited time period in patients with advanced Stage tumors involving the thoracic and lumbar spine in whom life expectancy is of insufficient duration to permit achievement of fusion. For complete indications for use, contraindications, warnings and precautions, refer to the product IFU.