PEEK-OPTIMA™ Ultra-Reinforced Polymer

TECHNOLOGY OVERVIEW

Transforming trauma with polymer composites
- PEEK-OPTIMA Natural reinforced with continuous carbon fibers
- Provides strength and fatigue resistance demanded by high-load implant applications

Benefits of Carbon Fiber PEEK compared to metal
- Modulus similar to bone
- Tailored stiffness
- Greater material fatigue life
- Radiolucency and artifact-free imaging
- Reduced tissue adhesion without bone ongrowth
- No cold welding reported

PRE-CLINICAL EVIDENCE

Potential to enhance healing
- Complications related to non-unions, delayed unions and implant failures continue to be a challenge, especially in high risk patient populations.

Compared to metal plates PEEK-OPTIMA Ultra-Reinforced provides:
- 360° fracture visibility
  Radiolucency offers circumferential visibility of the fracture site during and after the procedure
- Callus formation observed by radiograph in ovine healing study

Clinical history demonstrated with:
- Devices receiving:
  - FDA 510(k) clearance
  - CE mark approval
  - ANVISA and TFDA approval
- Growing number of peer-reviewed publications

Potential advantages in orthopedic oncology
- Compared to metal, Carbon Fiber PEEK devices have been demonstrated to:
  - Improve accuracy of radiotherapy dosing
  - Reduce MRI and CT artifact

CLINICAL EVIDENCE

Outcome | PEEK-OPTIMA Ultra-Reinforced Plates | VS. Metallic Plates |
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Better union rate | 100% | 75% |
Fewer hardware failures | 0% | 8% |
Better reduction - Joint line restored | 98% | 95% |
Quicker Procedures | 18% reduction in operative time |

Quicker Procedures
- 2-week reduction in operative time
- 18% reduction in operative time

~9M PEEK-OPTIMA Devices Implanted Worldwide

15+ Years of Clinical History

Image courtesy of Joshua Niemann, MD
For further information call us toll free at 866-INVIBIO or +44 (0)1253 898000 or please visit our website at:

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REFERENCES

8. Jo Wilson, PhD, Matthew Cantwell; Polyether Ether Ketone (PEEK) Carbone Fiber Composites May Improve Healing of Fractures Stabilized with Intramedullary Nails. (Basic Science Focus Forum, paper #4, 2014) 155.

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