Exclusively foot & ankle Paragon 28®

HAMMERTUBE™ SYSTEM

HammerTube™ System

The HammerTube™ is a single piece titanium sprayed PEEK (Polyetheretherketone) implant intended for use in proximal interphalangeal (PIP) joint fusions.

HammerTube™ Features

Implant Composition

- Constructed from PEEK (Polyetheretherketone)
  - – More elastic than titanium and stainless steel; less likely to broach bone if bone comes in contact with a hard surface[1]
- Coated with a titanium plasma spray
  - – Spray amounts have been optimized to be coarse and aid in the stick fit of the implant
    - Limits the chance of spray becoming loose during insertion
    - Limits the chance of spray being left behind in patient in the case of removal
  - – Titanium plasma spray is absent at the joint (pure PEEK joint) to facilitate removal –
    - For removal, only PEEK material should be sawed through

Shape and Sizing

- Tapered ends allow for ease of insertion and press fit
- Offered in 2.75 mm and 3.50 mm diameters
- Straight and angled offerings

Packaging and Instrumentation

- Instrumentation in the system is cannulated to accommodate either a trocar or guidewire
  - – Allows for a standard direct drilling and insertion or retrograde insertion technique
- Implants sterile packed to allow for traceability and to maintain implant integrity

Implant Offerings

HammerTube™ System Implants

Available in four different configurations

HAMMERTUBE™ SYSTEM	2.75 HammerTube™ Straight	2.75 HammerTube™ Angled	3.50 HammerTube™ Straight	3.50 HammerTube™ Angled
Diameter	2.75 mm	2.75 mm	3.50 mm	3.50 mm
Length	14 mm	14 mm	16 mm	16 mm
Angle	0°	10°	0°	10°

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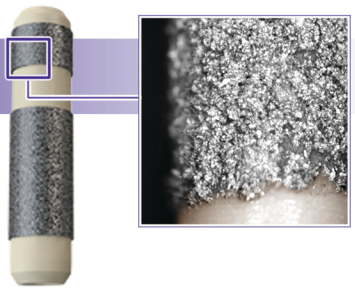
HAMMERTUBE™ SYSTEM

HammerTube™ System Science



Titanium Plasma Spray

The HammerTube implant is coated both proximally and distally with a porous titanium spray to increase mechanical fixation on either side of the joint when compared to uncoated implants.

Shear Strength of Titanium Plasma Spray to PEEK vs. Bone

Internal testing has demonstrated the adherence strength of the titanium plasma spray to the surface of the PEEK implant exceeds that of the titanium plasma spray to bone. This helps to ensure that in the case of removal the spray will remain fixed to the implant – not the patient.[2]

Drill to Plasma Spray Outer Diameter Ratio

Internal testing was completed to determine the appropriate drill diameter to prepare bone for the implant with a given plasma spray diameter.

In order to achieve this optimum outer diameter of spray and ensure enough spray to allow for bone on-growth while minimizing the chance of broaching, a limited amount of the titanium plasma spray was inset into the PEEK portion of the implant.[3]

HammerTube™ Packaging and Instrumentation

Inserter

- Intended to control the depth to which the implant will be placed
- Press release mechanism which frees the implant from the inserter at the appropriate depth
- May be reprocessed reducing waste associated with each case

Planer

- Fluted tip to aid in preparation of either side of the joint space
- Trocar insert to limit skiving during reaming

References:

[1] Kurtz S, Devine J, PEEK Biomaterials in Trauma, Orthopedic, and Spinal Implants. Biomaterials. 2007. Nov 28 (32): 4845-4869.

[2] Test Report 17011702

[3] Test Report 17011703

HTUB-01 RevC

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