

Current Approach for BioMimics 3D Implants

Dr. Michael Piorkowski
CCB - Cardioangiologisches Centrum Bethanien
Frankfurt a.M.

Disclosure

Speaker name:

Michael Piorkowski

I have the following potential conflicts of interest to report:

- Consulting Veryan Medical, W.L.Gore
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)

I do not have any potential conflict of interest

Swirling Flow[®]: It's natural

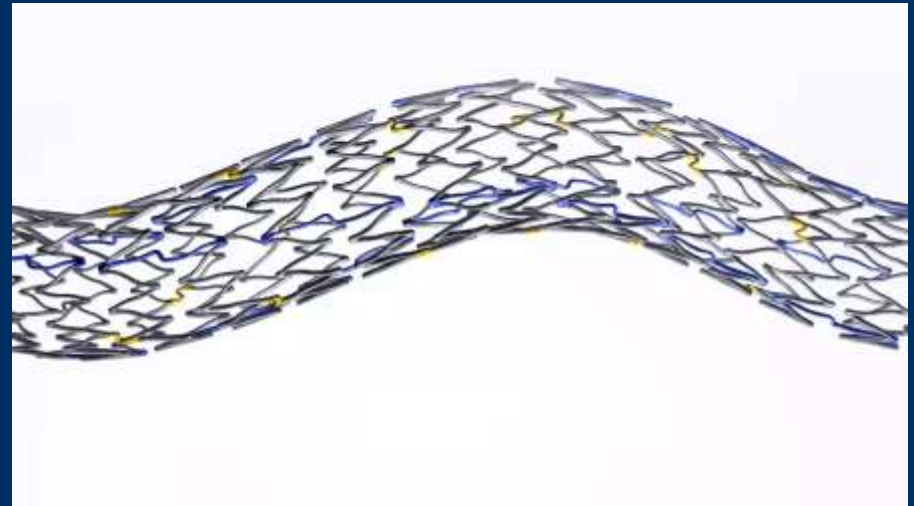


1.

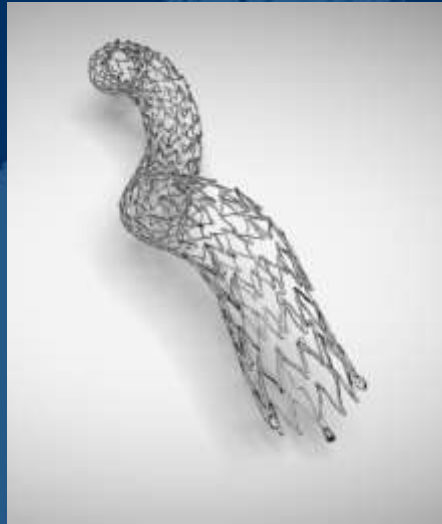
Vascular system uses **non-planar curvature** to promote **swirling blood flow** that protects vessels by increasing wall shear on endothelial cells and promotes diffusion of oxygen to the arterial wall¹

BioMimics 3D[®]: The Swirling Flow[®] Stent

- Helical centreline
- Simple, accurate placement using standard delivery system
- Imparts non-planar curvature to stented segment
- Improved biomechanical performance compared to straight stents¹

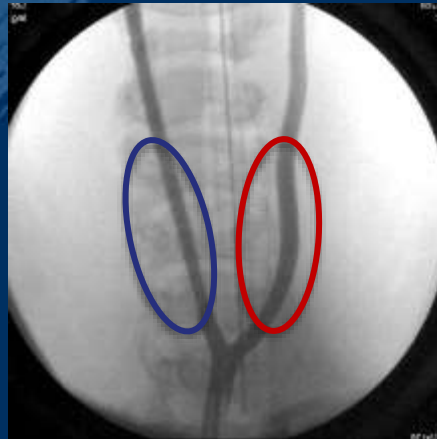


Pre-clinical study to demonstrate effect of swirling flow



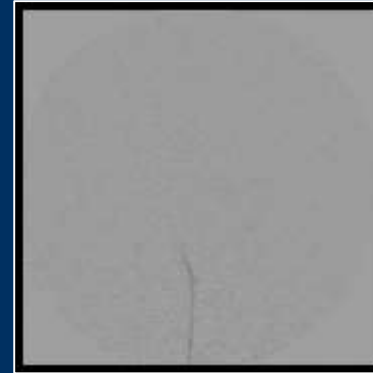
3D helical stent benefit on flow proven in a porcine carotid artery model

Straight Stent



30-day histology: 45% reduction in neointimal thickness ($P < 0.001$)¹

3D Helical Stent



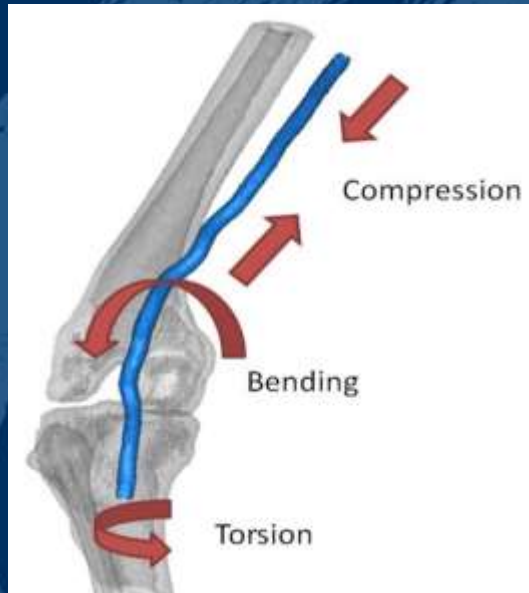
Straight Stent



3D Helical Stent



Pre-clinical study to demonstrate biomechanical compatibility



Straight Stent



BioMimics 3D



Extension

90° Flexion

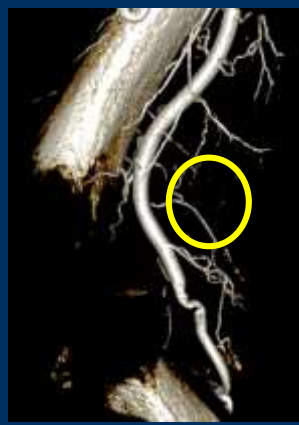
Full Flexion

BioMimics 3D

Biomechanical compatibility

Straight Stent

Stiffens vessel - creates risk of fracture & distal kink

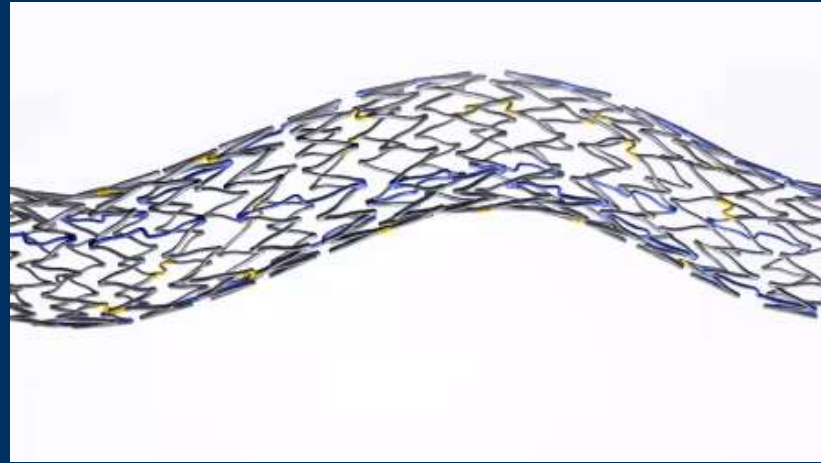


BioMimics 3D

Allows shortening - reduces fracture & distal kink risk



The Swirling Flow Stent



- Self-expanding Nitinol stent to treat SFA and proximal popliteal artery disease
- Unique helical 3D centreline: promotes swirling flow to increase wall shear stress¹ to reduce intimal hyperplasia²
- Highly fracture resistant: 0% fractures in MIMICS-RCT* and MIMICS-2** to date
- Diameters 5 – 8mm
- Lengths 60 – 150mm

*44 MIMICS-RCT subjects at 2 years. **225 MIMICS-2 subjects at 2 years

1. Malek et al *JAMA* 1999

2. Caro et al *J R Soc Interface* 2013

Delivery System



intuitive pin & pull delivery system

- 0.035" wire compatible
- Co-axial, over-the-wire
- Easy and intuitive to use
- Very accurate stent placement

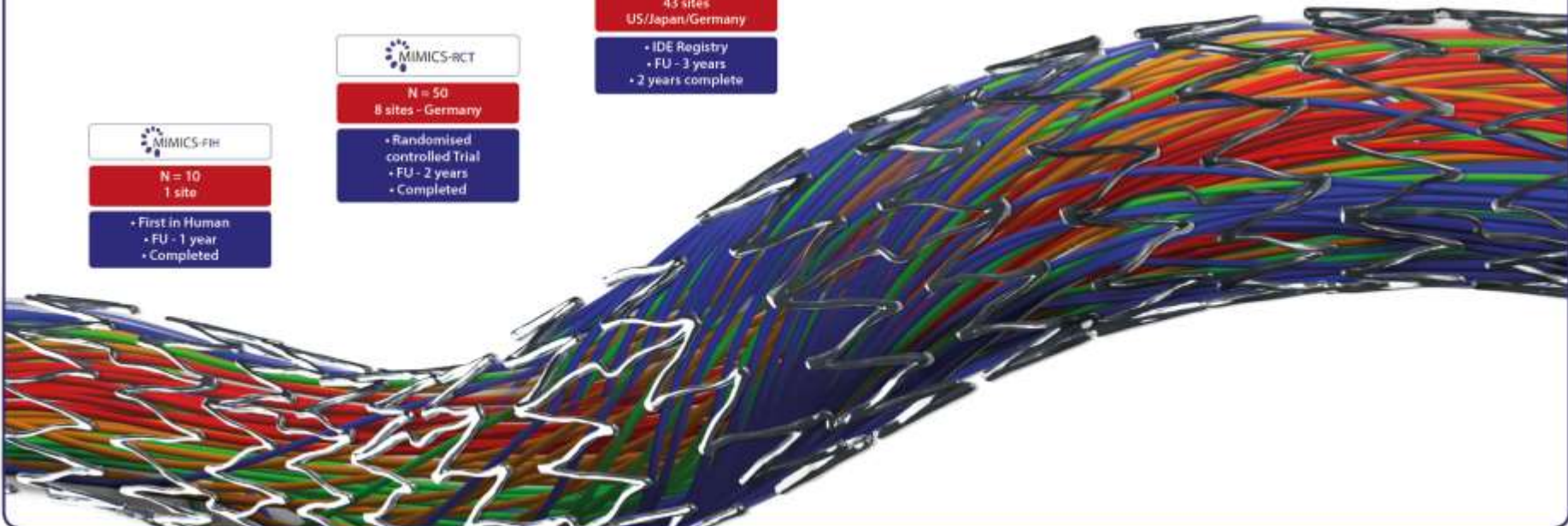
MIMICS Clinical Programme

The MIMICS Clinical Programme: An evolving database of the safety and effectiveness of the BioMimics 3D Swirling Flow® Stent

Gathering clinical evidence from a “real world” patient population from single de novo to complex, long and severely calcified lesions.



1250+
PATIENTS
AND
GROWING



BioMimics 3D data presentations at LINC20

Tuesday 28th January: Room 1

17.42 -17.47

Latest updates from the MIMICS clinical programme: *Thomas Zeller*

17.47 – 17.52

1-yr results from the MIMICS-3D registry: *Michael Lichtenberg*

Thursday 30th January: Room 3

12.30 – 13.30

Symposium: BioMimics 3D – The Swirling Flow Stent: nature's alternative to drug elution

Speakers: *Peter A Gaines, Sebastian W Carpenter, Jan Robert Kröger, Michael Lichtenberg and Michael Piorkowski*

Current Approach for BioMimics 3D Implants

Dr. Michael Piorkowski
CCB - Cardioangiologisches Centrum Bethanien
Frankfurt a.M.