



University Heart Center  
Hamburg

GERMAN  
AORTIC CENTER  
HAMBURG



# Fibre Optic RealShape (FORS) Technology: 3D Device Guidance in Practice

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University Heart Center  
University Hospital Eppendorf

The LINC logo features the letters 'L', 'I', 'N', and 'C' in a white, sans-serif font, set against a background of colorful, abstract brushstrokes in shades of blue, red, and yellow.

L I N C

25–29 January 2021



# Disclosures



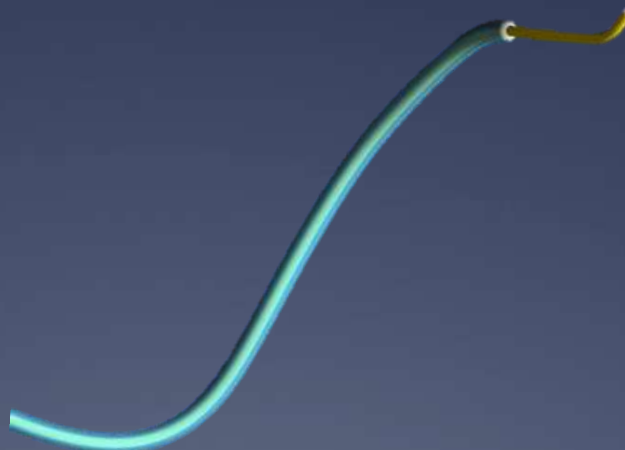
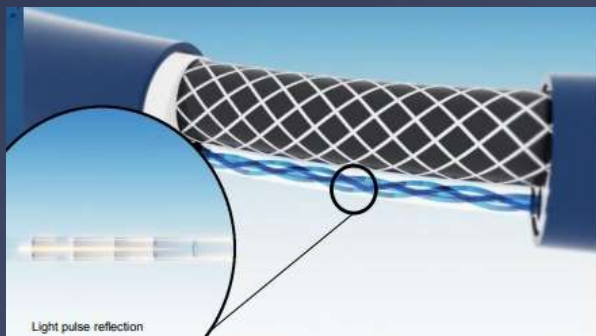
- \* Consultant: Cook Medical, Philips, Getinge, Terumo Aortic, Arterica, Medyria
- \* Research-grants: Cook Medical, Philips, Terumo Aortic, Medtronic
- \* Travel-grants: Cook Medical, Getinge proctoring speaking-fees,
- \* Speaking fees: Cook Medical, Philips, Getinge
- \* Shares: Mokita-Medical, Arterica, Siemens, Philips
- \* IP: Cook Medical, Terumo Aortic, Mokita Medical
- \* Royalties: Cook Medical, Terumo Aortic



# FORS Technology



- \* New Philips technology with CE-mark: two catheters and hydrophilic guidewire
- \* Embedded optical fiber enables real-time 3D visualization of the full shape of devices inside the body without the need for fluoroscopy





# FORS-Technology





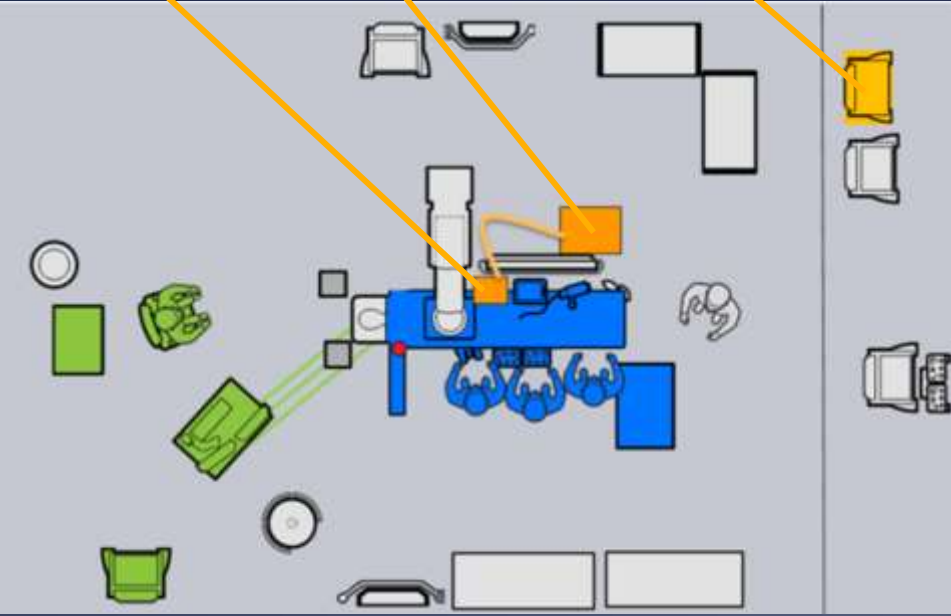
# Hybrid Room - Set up Hamburg



Docking Base

Trolley

Control Room Interface





# Casereport

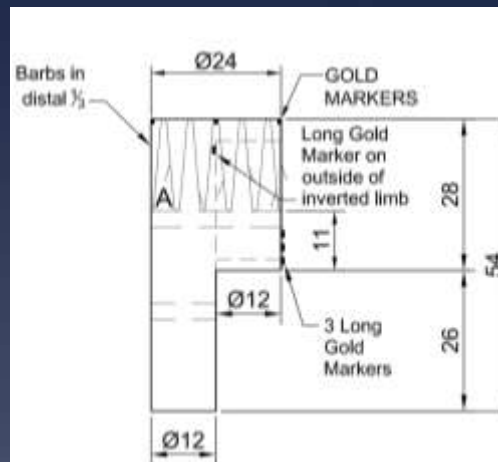
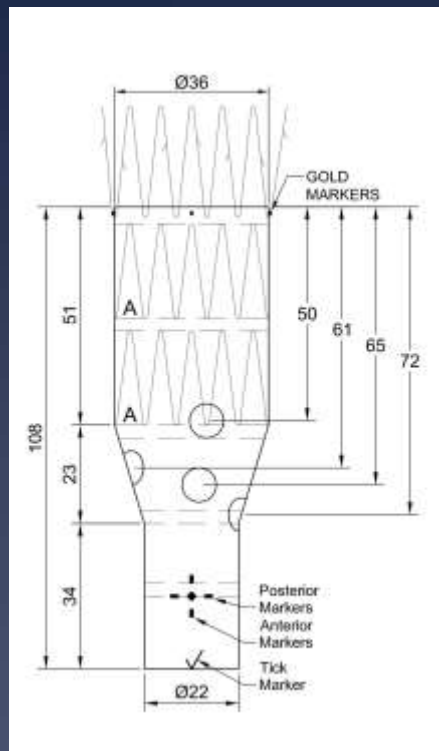


- \* Male, 74y
- \* Prev. EVAR OSH 2003
- \* Myelodypl. syndrome, chron.  
Anemia, art. HT, DM
- \* Type I + II Endoleak
- \* Progress. diameter 4.5 – 7.5cm





# Plan: Full Relining



Plus:

Ipsilateral Leg Extension

**ZISL-20-93**

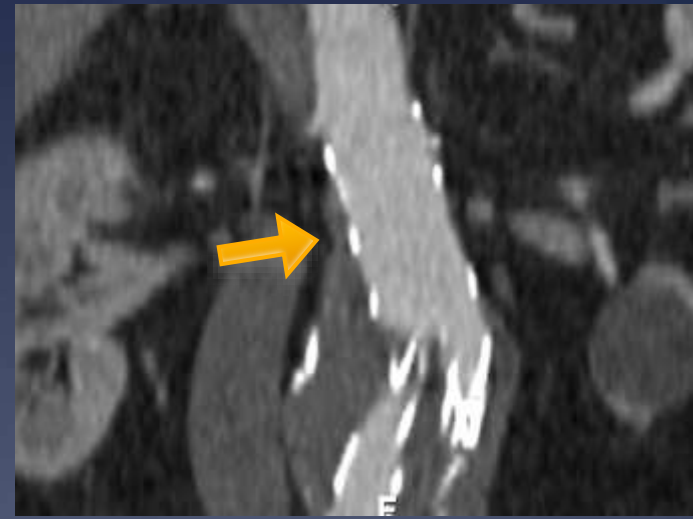
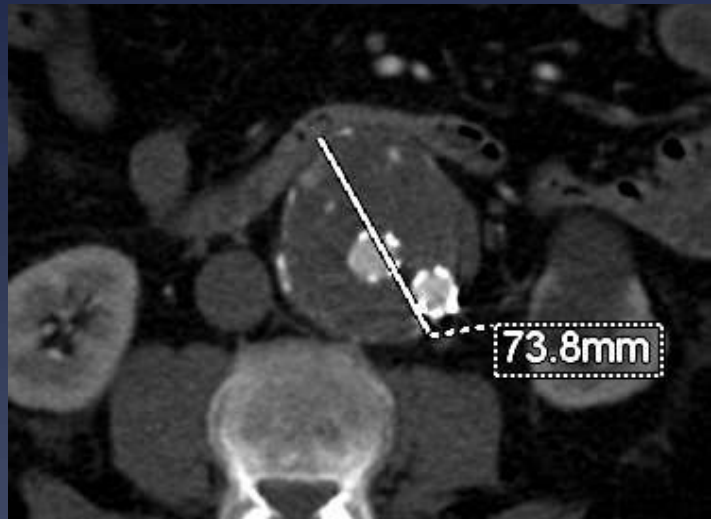
Contralateral Leg Extension

**ZISL-11-59**

**ZISL-20-76**



# Casereport





# Demonstrating 3D device guidance through a recorded case

Prof. Tilo Kölbel

Universitätsklinikum Hamburg Eppendorf

September 2020

Powered by  
**Fiber Optic RealShape**  
technology

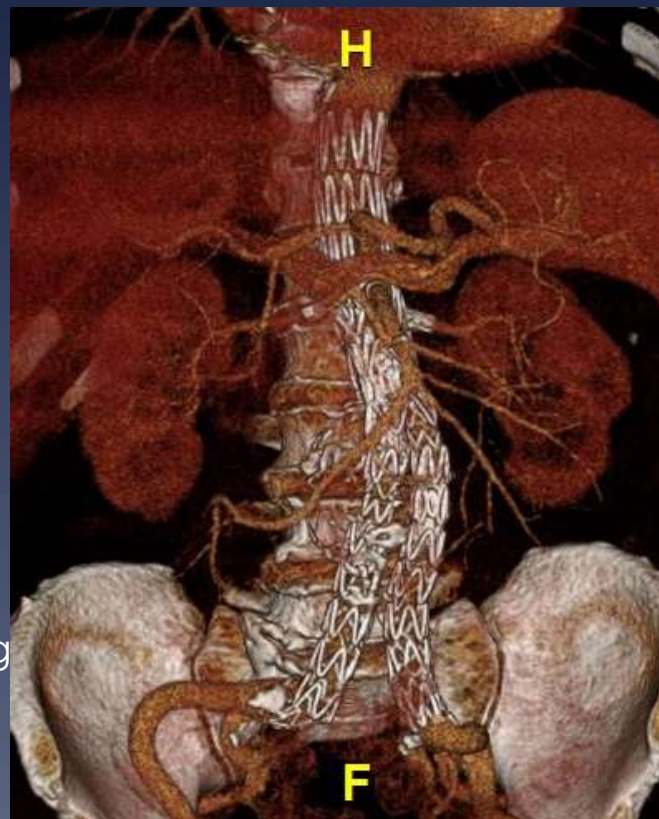




# Postoperative Course



- \* Fluorotime 33min
- \* OR-time: 168min
- \* Contrastvolume 87ml
- \* DAP:
  - \* Fluoro: 57 Gycm<sup>2</sup>
  - \* DSA: 118 Gycm<sup>2</sup>
- \* Uneventful recovery
- \* Two days IMC for SCI-monitoring
- \* Discharge p.o. day 6
- \* FU-plan: 1y CTA

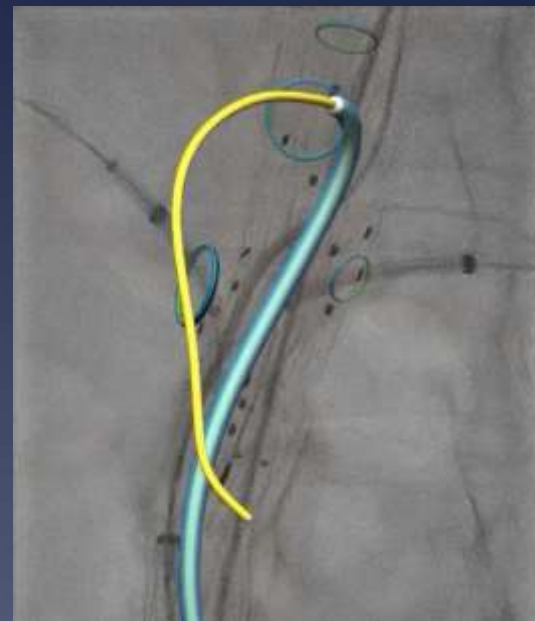
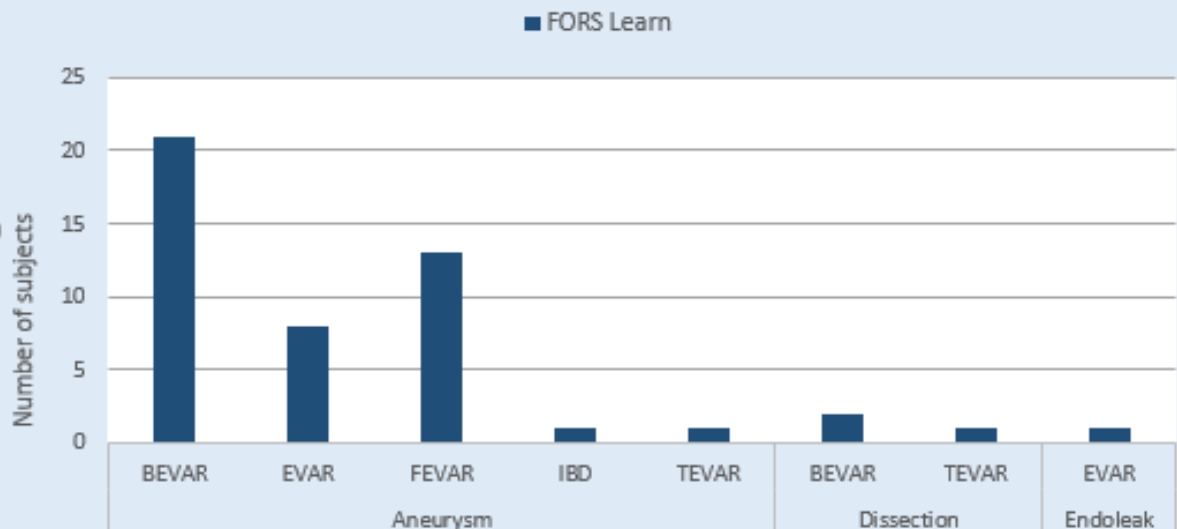




# FORS Usage at German Aortic Center Hamburg



FORS Experience - Procedure distribution UHZ





# Conclusions



- \* FORS technology allows reliable 3D navigation by visualizing catheters and guidewires in full shape using laser light.
- \* High potential for reduction of radiation and workflow-improvement by intuitive virtual biplane visualization.
- \* Revolutionary new tool on the horizon.

