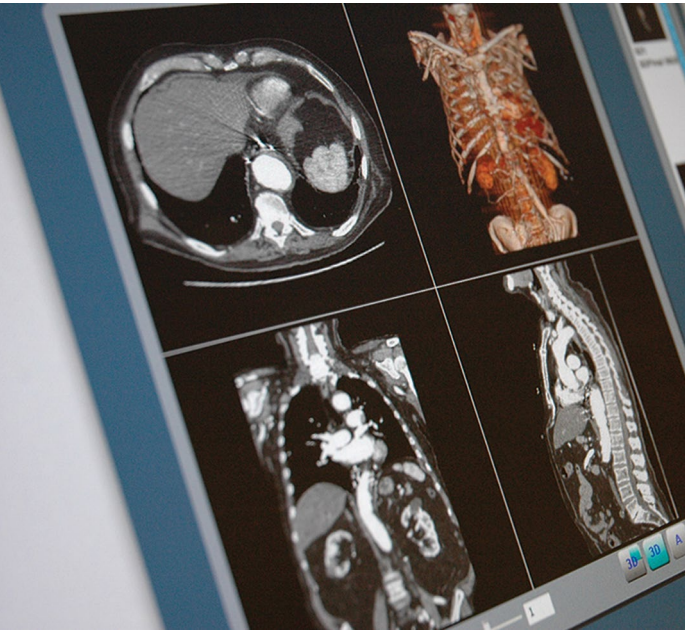
Addressing the progressive nature of aortic disease

DURABLE BY DESIGN

COOK® MEDICAL

The clinical challenges of endovascular graft design



In the last 25 years, as our understanding about the mechanics of EVAR has improved, it has become evident that disease progression plays an important role in the durability of endovascular repair.

Because of the chronic nature of aortic disease, endovascular grafts must be designed to address the clinical challenges that contribute to the failure of EVAR over time.

At Cook, we believe that it is our responsibility to partner with physicians to help improve patient outcomes by developing endovascular grafts that are designed for long-term durability.

"It has become clear that not only the technology but also disease progression plays an important role in the durability of endovascular aortic therapy."[4]

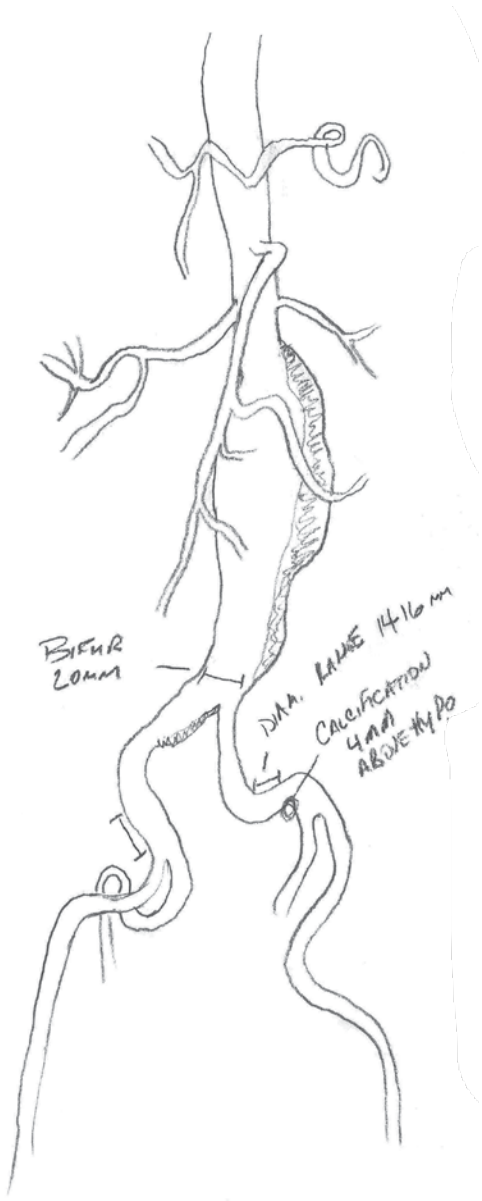
Device design that enables long-lasting repair

The biological and environmental factors that cause aortic disease are likely to continue weakening a diseased aorta over time—even with an endovascular graft in place.[1] That means we must plan for disease progression before surgical intervention, always identifying an adequate length of healthy aorta for graft attachment.[2]

Achieving a lasting aortic repair is the foundation of the Zenith design philosophy,[3] and it impacts everything we do.

Our primary goal is to help improve long-term patient outcomes by focussing on four keys to help ensure a more durable repair.

- **ENDOLEAK AND MIGRATION RESISTANCE**
- **PERSONALIZED SOLUTIONS**
- **PRECISION AND CONTROL**
- **HEALTHY SEAL ZONE**



Early testing and physician feedback showed that barbs are the most effective way to anchor a device.[5] The bevelled tips, staggered configuration, and precise angle help secure the device firmly in the vessel wall.[6]

ENDOLEAK AND MIGRATION RESISTANCE

Stent design, material selection, and production methods all play an instrumental role in the long-term performance of an endovascular graft. Each portion of the device—from the proximal to the distal seal—must be engineered with durability in mind.[4]

Zenith grafts employ three characteristics of structural stability to help ensure reliable attachment in a healthy seal zone: active fixation, radial force, and columnar strength. These features work in concert to resist migration and prevent type I endoleaks—even under the constant pressure and pulsating force of blood flow working against the graft.[7]

Active fixation
Proximal barbs arranged in a staggered configuration help secure the device in a healthy segment of the vessel wall.

Radial force
Self-expanding stents help support the aorta and promote optimal graft-to-vessel apposition.

Columnar strength
The length of the main-body component mimics anatomy and provides structural stability and flexibility.


Volume Rendering
Orientation
Measurements
Report
Vascular Analysis
Advanced
Workflow Assistant
Please select your type of analysis
AAA
TAA
Other
For hands-on information, please refer to our user manual
Series: 2736
Slices: 1-446 (1:8)
Slice Spacing: 1.2 mm

PERSONALIZED SOLUTIONS

Each patient's anatomy and disease state are unique, which can make it difficult to provide a lasting repair with a one-size-fits-all device.

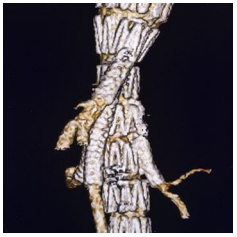
Treatment options should not be limited by technology. Cook's goal is to provide a variety of grafts and sizes that give physicians the flexibility to address aortic disease in the manner most appropriate for each patient.

The Zenith portfolio of modular devices is designed with numerous sizes, configurations, and disease-specific features such as branches and fenestrations to address a range of anatomy and disease states.

PLANNING FOR THE FUTURE

Disease progression makes planning for durability now, and in the future, an important consideration of endovascular repair.[8] Device modularity that allows physicians to continue extending grafts into a healthy seal zone is crucial for maintaining a lasting repair when secondary interventions are necessary.[9]

Zenith® t-Branch®



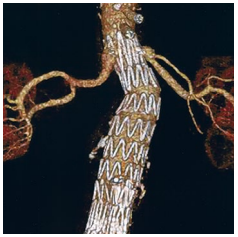
Zenith Alpha™ Abdominal

Zenith Fenestrated

Zenith Iliac Branch

Zenith Renu®

Zenith Flex®



Zenith Alpha Thoracic

Devices not featured

- Zenith TX2® with Pro-Form
- Zenith® Dissection
- Zenith Flex™ AUI
- Zenith Spiral-Z®
- Zenith Alpha Spiral-Z

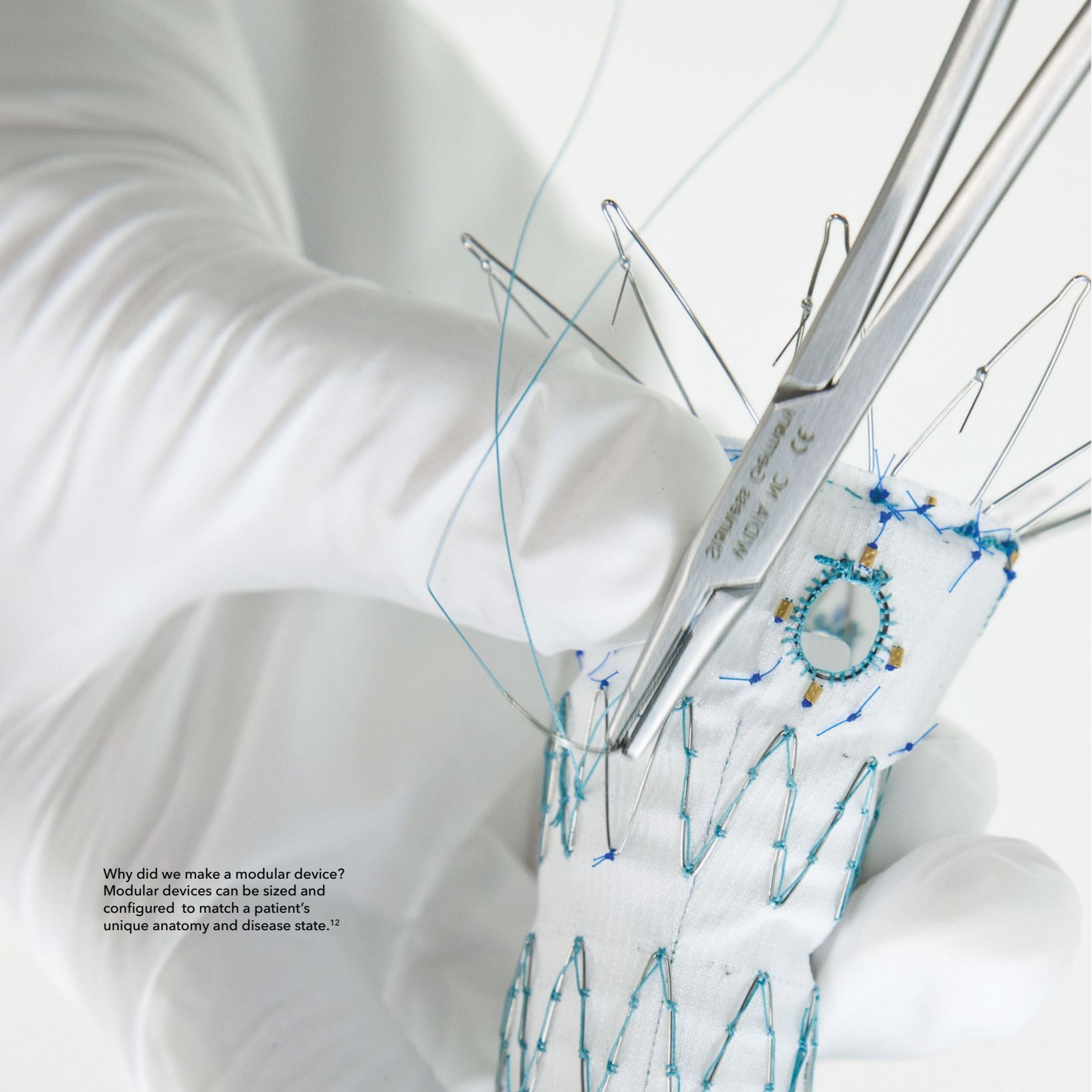
Some products or part numbers may not be available in all markets. Contact your local Cook representative or Customer Service for details.

PRECISION AND CONTROL

Placing a device in a compromised segment of the vessel may have a serious impact on long-term durability. Just a few millimeters of healthy tissue can mean the difference between a lasting repair and the need for reintervention.[10]

Accurate device placement begins with an introduction system that allows for precise control during delivery and deployment—even in the turbulent environment of an aortic arch or angulated infrarenal neck.

Every millimeter of healthy tissue counts in the seal zone.[6] A systematic approach to introduction and deployment gives physicians control of the device throughout the procedure.[11]

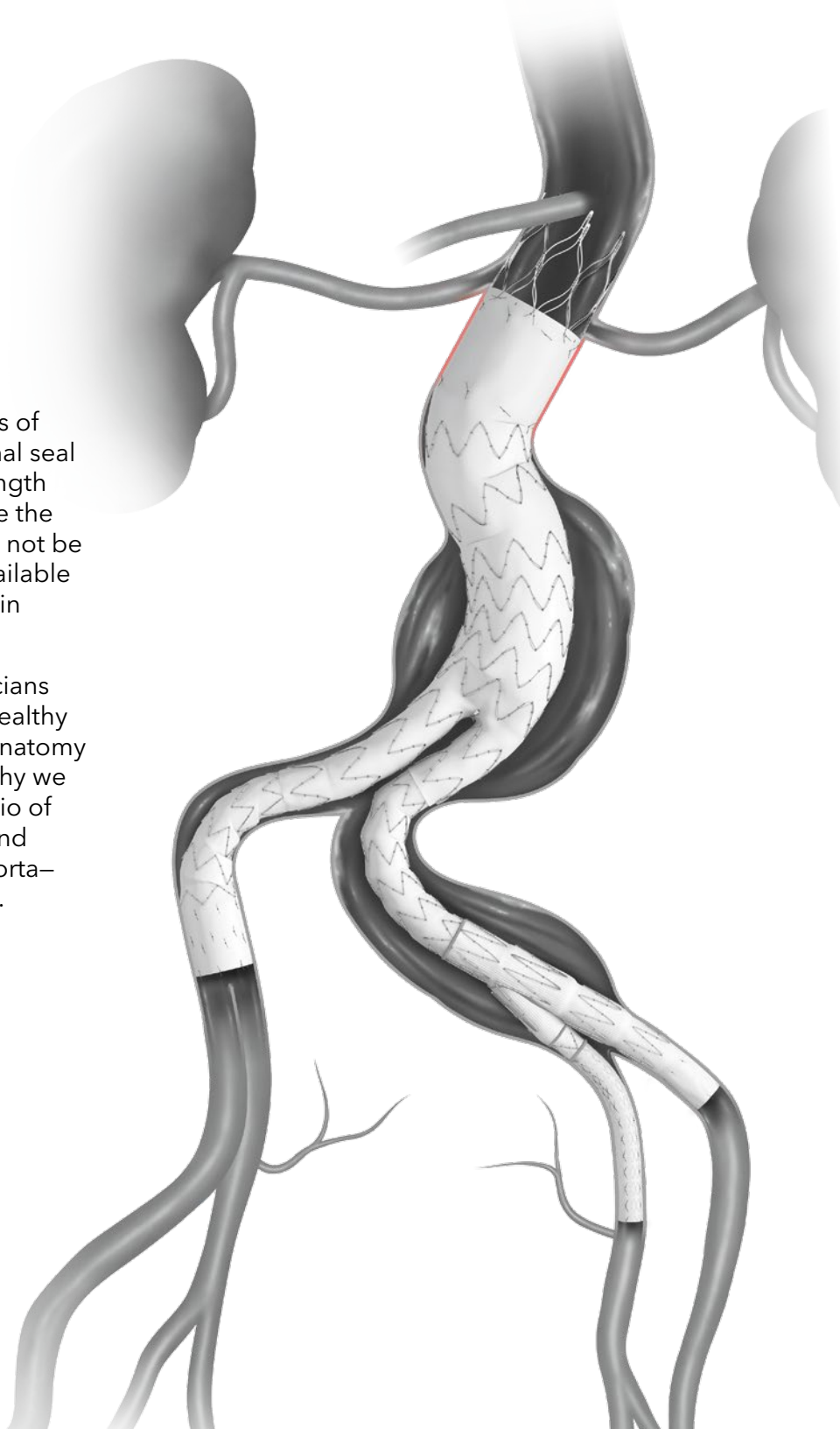


Why did we make a modular device? Modular devices can be sized and configured to match a patient's unique anatomy and disease state.[12]

HEALTHY SEAL ZONE

One of the key challenges of achieving a stable proximal seal is finding an adequate length of healthy aorta[4] to secure the device. Physicians should not be limited by the devices available or forced to place a graft in compromised tissue.

Our goal is to help physicians secure each device in a healthy seal zone, regardless of anatomy or disease state. That is why we have developed a portfolio of Zenith devices to safely and securely seal in healthy aorta—from the arch to the iliacs.



"Placing any stent graft in a healthy, nondissected, thrombus-free, parallel aortic segment should be a nonnegotiable condition for endovascular aortic interventions."[13]

Our goal is to improve long-term outcomes for patients.

We believe that our responsibility is to help physicians plan for the progression of aortic disease and to help prevent device migrations, endoleaks, and secondary interventions.

The best way to improve long-term patient care is by working together to find a durable repair for each patient. It's at the forefront of everything we do at Cook.

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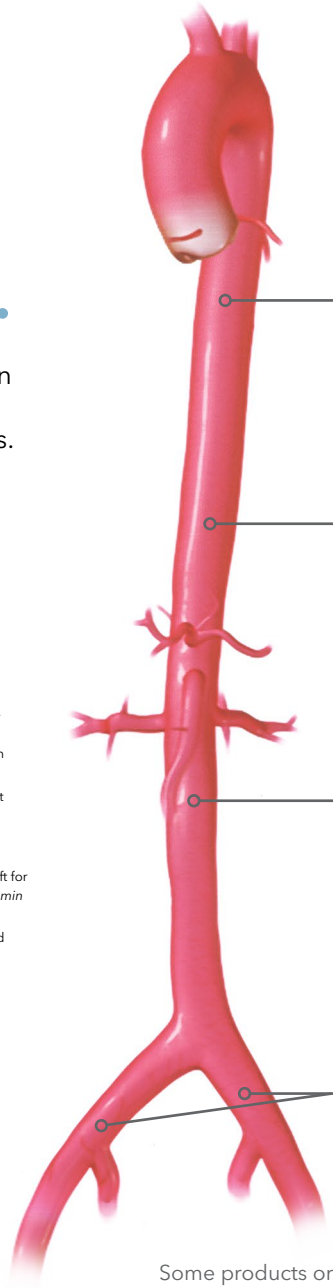

Learn more about Zenith disease-specific treatment options at cookmedical.eu/aortic-intervention.

THORACIC

Zenith Alpha™ Thoracic

Zenith® TX2® with Pro-Form®

Zenith® Dissection

THORACOABDOMINAL

Zenith® t-Branch®

ABDOMINAL

Zenith Alpha™ Abdominal

Zenith Flex™

Zenith Fenestrated

Zenith Flex AUI

Zenith Renu®

COMMON ILIAC

Zenith™ Iliac Branch

Zenith Alpha Spiral-Z®

Zenith Spiral-Z

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