Zenith Alpha TAA: why Alpha TAA is my preferred thoracic endograft

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Key Technical Goals in TEVAR

- Deliver the graft safely at the intended landing zone
- Exact deployment at the foreseen position
- Achieve seal
- Retrieve Delivery System easily and safely
Zenith Thoracic – Timeline

Zenith® Thoracic:
Evolution

2001
Zenith TX1*

2004
Zenith® TX2* with Z-Trak Plus*

2006
Zenith® TX2* with Pro-Form*

2009
Zenith® Dissection Endovascular System

2010
Zenith® Dissection Endovascular Stent

2011

2013
Zenith Alpha™ Thoracic
## Comparison to Zenith® TX2®

<table>
<thead>
<tr>
<th>Zenith Alpha™ Thoracic Endovascular Graft</th>
<th>Zenith® TX2® Endovascular Graft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitinol stents</td>
<td>Stainless steel stents</td>
</tr>
<tr>
<td>Thinner, more tightly woven polyester</td>
<td>Standard polyester</td>
</tr>
<tr>
<td>Bare rounded proximal stent</td>
<td>Covered proximal stent</td>
</tr>
<tr>
<td>16–20 Fr introduction system</td>
<td>20–24 Fr introduction system</td>
</tr>
<tr>
<td>24–46 mm graft diameter</td>
<td>22–42 mm graft diameter</td>
</tr>
<tr>
<td>MR compatible</td>
<td>MR conditional</td>
</tr>
</tbody>
</table>
Low Profile and Delivery System

Low profile (16F–20F ID)
- Nitinol stents
- Thin, tightly woven polyester

Delivery System
- Rotation handle
- Kink–resistant Flexor® sheath with hydrophilic coating
Use of iliac conduits (challenging native access) is associated with increased mortality for TEVAR.

...a need for decreased device delivery size and improvements in endovascular technology.
Trackability of the Alpha Thoracic

- 82-year-old male with 60mm TAA and stenotic iliacs and aortic angulation
Trackability of the Alpha Thoracic in tortuous aorta
Highly Flexible Inner Nitinol Cannula

❖ Precurved introduction system—cannula has “candy cane” shape that hugs the inner curve
❖ Bare proximal stent optimizes apposition
❖ Utilizes Pro–Form for 40–46 mm diameter grafts
Bare proximal stent optimizes apposition

Barbs prevent from distal migration (active fixation)
Distal Component
### Key Players on thoracic endografting

<table>
<thead>
<tr>
<th></th>
<th>Cook Alpha Thoracic (ID)</th>
<th>Medtronic Valiant Navion (OD)</th>
<th>Gore CTAG (ID)</th>
<th>Bolton Relay Prp</th>
<th>Jotec 3G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profile</td>
<td>16–20 Fr</td>
<td>18–22 Fr</td>
<td>18–24 Fr</td>
<td>19–23 Fr</td>
<td>20–24 Fr</td>
</tr>
<tr>
<td>Sheath required</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Tip Capture</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Distal Taper</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Distal component</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Sizes (mm)</td>
<td>24–46</td>
<td>20–46</td>
<td>21–45</td>
<td>22–46</td>
<td>24–44</td>
</tr>
<tr>
<td>Lengths (mm)</td>
<td>105–233</td>
<td>100–200</td>
<td>100–200</td>
<td>100–250</td>
<td>100–230</td>
</tr>
<tr>
<td>Precurved Delivery system</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Source: Endovascular Today Europe 2019 Buyer’s Guide
Challenging cases II: Steep Arch angulation

- 76-year-old female with 60mm TAA and steep aortic arch
Challenging cases III: Steep Arch angulation

- 72-year-old male with 58mm TAA and steep aortic arch
Challenging cases IV: Type B AD with Malperfusion (outside IFU)

- 81-year-old male with acute TBAD and Renal and SMA Malperfusion prior infrarenal repair with Kinking
Challenging cases IV: Type B AD with Malperfusion (outside IFU)
Challenging cases: Huge (13cm) thoracic Aortic Aneurysm

- 32-year-old male with contained ruptured 13 cm aortic aneurysm
- Post open coarctation surgery
- Hoarseness, back pain
Challenging cases: Huge (13cm) thoracic Aortic Aneurysm

- Carotid–Subclavian bypass
- TEVAR with Cook Alpha
- Through and through wire axillo–brachial
- MuVIT for Cardiac Output reduction
- LSA embolization
Challenging cases: Huge (13cm) thoracic Aortic Aneurysm

- Carotid–Subclavian bypass
- TEVAR with Cook Alpha x2
- Through and through wire axillo-brachial
- MuVIT for Cardiac Output reduction
- LSA embolization
Performance of Alpha Thoracic for Key Technical Goals in TEVAR

- Deliver the graft safely at the landing zone
- Exact Deployment at the intended position
- Achieve seal
- Retrieve Delivery System easily
Thank you

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Challenging cases: Contained ruptured Aortic arch PAU

- 67-year-old female with contained ruptured Thoracic PAU
- Infectious, post Endocarditis
- Inner curvature localization
Challenging cases: Contained ruptured Aortic arch PAU

- Carotid–Subclavian bypass
- TEVAR with Cook Alpha ZTA 34–161
- Chimney of the LCA (V12+Everflex)
- LSA embolization