Available Iliac Bifurcation Devices
Advantages and Limitations

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Conflicts of Interest
- COOK Medical - Consulting, Speakers Bureau, IP, Research support
- Medtronic – Advisory Board
- Aortica – Advisory Board
- Cordis – Research Support
- Gore – Research Support, Speakers Bureau

Iliac Aneurysms
- 15-20% of AAA are associated with common iliac aneurysms
- Add Complexity to Open or Endovascular AAA Repair
  - Internal Iliac Embolization
  - Preservation makes the overall procedure more complex

Complication to IIA occlusion
- Buttock claudication 30-90%
- Sexual dysfunction 50%
- Scrotal sloughing
- Bowel ischemia
- Spinal cord ischemia

RESULTS COOK Iliac Branched Stentgraft

<table>
<thead>
<tr>
<th>Author</th>
<th>n</th>
<th>30d mortality</th>
<th>Technical success</th>
<th>Branch patency</th>
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<tbody>
<tr>
<td>Hackett</td>
<td>52</td>
<td>0</td>
<td>45/52</td>
<td>43/48</td>
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<tr>
<td>Diamantini</td>
<td>35</td>
<td>1</td>
<td>21/23</td>
<td>18/22</td>
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<tr>
<td>Vermeen</td>
<td>32</td>
<td>0</td>
<td>30/32</td>
<td>23/23</td>
</tr>
<tr>
<td>Zeitler</td>
<td>46</td>
<td>0</td>
<td>30/46*</td>
<td>26/50</td>
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</tbody>
</table>
Helical Sidebranch

- Longer mating stent overlap
- Directional Flow

Bifurcated/Bifurcated graft

Fenestration

Pre-loaded wire, snared from other side to form a "through wire"

Flap valve

Endovascular repair of aortoiliac aneurysmal disease with the helical iliac bifurcation device and the bifurcated-bifurcated iliac bifurcation device
Morphological limitations with Iliac Branch Devices

- Iliac tortuosity?
- Common iliac artery length?
- Internal iliac diameter

Gray EJVES 2015
Karthikesalingam et al JEVT 2010

- Study Applicability of Iliac branch devices
  - 51 pts retrospectively studied
  - Comparison of IFU and Published Expert Criteria
- Applicability of IBD was 38% and 29% respectively
- Most common CI was wide IIA

Comparison IBD vs. IBE

<table>
<thead>
<tr>
<th></th>
<th>Gore IBE</th>
<th>Cook ZBI</th>
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</thead>
<tbody>
<tr>
<td>CIA</td>
<td>Proximal ≥13mm</td>
<td>Distal ≥16mm</td>
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<tr>
<td>Hypogastric</td>
<td>Diam 6.5-13.5</td>
<td>Diam 6-11</td>
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<tr>
<td>Introducer</td>
<td>18F</td>
<td>20F</td>
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</table>

- Only 1/3 eligible in trial setting
- IIA ectasia most common exclusion for both
- Eligibility in 20% IBD vs 25% IBE

Summary

- Internal Iliac revascularization is sometimes necessary but always desirable
- Results are good
- Many adverse anatomical features can be overcome with current graft designs
- Different Devices might confer different advantages
  - No comparative outcome studies