BEST-CLI for the Endovascular Surgeon
How This Changes Practice...

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Consultant to:
- Medtronic
- Abbott Vascular
- BD Bard
- Intervene
- Surmodics
- Philips Healthcare
- Nectero Medical
- Alucent Biomedical

Shareholder:
- W.L. Gore
- R3 Vascular

- EBR Systems
- Provisio Medical, inc
- Vesteck Inc
Surgery or Endovascular Therapy for Chronic Limb-Threatening Ischemia


for the BEST-CLI Investigators†

BEST – CLI Trial

BEST-CLI International Participation

Canada
12 sites

United States
133 sites

Italy
1 site

Finland
1 site

New Zealand
3 sites

150 sites enrolled patients
BEST – CLI Trial Results

![Graph showing Major Adverse Limb Events or Death]

- **Probability**
  - Endovascular therapy
  - Surgery

- **Years since Randomization**
  - 0, 1, 2, 3, 4, 5, 6, 7

- **No. at Risk**
  - Endovascular therapy: 716, 404, 304, 175, 102, 46, 14, 0
  - Surgery: 718, 463, 349, 204, 117, 52, 12, 0

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Surgery</th>
<th>Endovascular Therapy</th>
<th>Hazard Ratio (95% CI)†</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficacy</td>
<td>302/709 (42.6)</td>
<td>408/711 (57.4)</td>
<td>0.68 (0.59–0.79)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Primary outcome: major adverse limb event or death from any cause — no./total no. (%)‡</td>
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</table>
BEST – CLI Trial Results
What does this tell us?

**In Well Selected Patients...**

• THEY WORK! Both Endo and Surgery are effective at reducing major amputation
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• THEY’RE SAFE! Both have acceptably low rates of death and MACE
What does this tell us?

In Well Selected Patients...

• THEY WORK! Both Endo and Surgery are effective at reducing major amputation
• THEY’RE SAFE! Both have acceptably low rates of death and MACE
• Bypass is a valuable therapy that every service should be proficient at
Is This the Right Primary Endpoint?

• BASIL 1 & 2 used **Amputation Free Survival**
  (Freedom from major amputation or death)

• BEST – CLI used **MALE Free Survival**
  (Freedom from **major reintervention**, major amputation or death)
Is This the Right Primary Endpoint?

Three questions come from this:

1. What is MALE

major adverse limb event was defined as above-ankle amputation of the index limb or a major index-limb reintervention (new bypass, interposition graft revision, thrombectomy, or thrombolysis). The need for and timing of the reintervention
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   The Efficacy of CLI treatment is its ability to heal wounds, save legs and prevent mortality
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2. Why add it to AFS
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1. What is MALE
2. Why add it to AFS
   - Because clinical trials need to have events to show a difference between the two arms and
   - Primary endpoints are usually chosen to achieve a desired result
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Three questions come from this:
1. What is MALE
2. Why add it to AFS
3. Is it OBJECTIVE
Is This the Right Primary Endpoint?

Three questions come from this:
1. What is MALE
2. Why add it to AFS
3. Is it OBJECTIVE

The need for and timing of the reintervention was determined by the trial site investigator on the basis of clinical assessment. All first major reinterventions were adjudicated by an independent, multidisciplinary clinical-events committee. A
BEST – CLI Trial Results

15.3% of endo was a technical failure

vascular group. Of the 108 cases of early technical failure in the endovascular group, 66 were treated with a bypass operation within 30 days.

-> 61%
What Should Technical Success Be?

- VQI data between 2010-2013
- 4838 CLI patients treated with endo
- All-comers vascular surgical data, these patients were not selected

What Should Technical Success Be?

- OLIVE Multi-center Japanese registry between 2009-2011
- 314 CLI patients treated with endo
- All-comers cardiology data, these patients were not selected

Does This Change Practice?

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- We already knew that a proportion of patients may go on to require surgery after EVT.
- This should not be part of the primary endpoint and it was subjectively determined in the trial.
- In this group of patients where there is equipoise this doesn’t mean we shouldn’t do EVT first.
BEST-CLI for the Endovascular Surgeon

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