**Background**

- Prior Technology: Expensive
- Current Device: Cheaper/Easy to Use
- Our Device: Reusable (Five Uses), Two Sections (Disposable & Reusable)

**Procedure**

- Enters vein to remove infected leads
- Cuts through calcification buildup around leads
- Switches to shielded mode around heart wall
- Pulls leads out through driveshaft and out back of device

**Project Requirements**

1. Handle Reusability ✓
2. Functionality Maintained ✓
3. Cost Reduction ✓
4. Retraining Time ✓
5. Tip Exchangeability ✓
6. Weight ✓
7. Ergonomic ✓
8. Sterilizability ✓
9. Sterilization Time ✓

**Sterilization**

<table>
<thead>
<tr>
<th>Sterilization Method</th>
<th>ETO*</th>
<th>FI*</th>
<th>Autoclave</th>
<th>VHP*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robustness</td>
<td>✓</td>
<td>×</td>
<td>✓</td>
<td>0</td>
</tr>
<tr>
<td>Availability</td>
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<td>0</td>
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<tr>
<td>Materials</td>
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<td>0</td>
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<tr>
<td>Eco-Friendly</td>
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<tr>
<td>Heat</td>
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<td>×</td>
<td>✓</td>
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<td>Pressure</td>
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</tr>
</tbody>
</table>

*ETO: Ethylene Oxide

VHP: Hydrogen Peroxide Vapor

FI: Fluid Immersion

- ✓: Desirable
- ○: Moderate
- ×: Undesirable

**Testing**

- VHP Machine (Biological Indicators)
- Functionality - simulated fibrotic and calcified lesion models
- Fluorescent dye
- Pressure and Temperature (Injection Molded)

**Impact/Future Work**

- Testing will be pass or fail grade given performance
- More affordable, environmentally friendly, easy to use
- Redesign with smoother features for injection molding