BETTER DIALYSIS DOESN'T JUST COME FROM A BOX.

**ARTERIAL**

- **Arterial pressure POD**
  - The airless pressure-transmitting assembling is designed to eliminate blood-air interface
  - No need for external transducer protector
  - Hemodialysis Studies 1,2 show that the elimination of blood-air interface may reduce the risk of clotting which may:
    - Lower heparin needs as compared to conventional bloodlines
    - Decrease the number of blood-side machine alarms

- **Locksite® needleless access**
  - Reduced risk of accidental needlesticks

- **Simplified tubing design**
  - Optimized tubing length reduces extracorporeal volume

**VENOUS**

- **Airless venous vortex chamber**
  - No air-gap, Streamline venous chamber runs completely filled with blood
  - Horizontal “vortex” flow of blood designed to reduce stagnation, foaming, splashing, and microbubble formation

- **Slim venous filter**
  - Designed to reduce clotting by reducing blood to surface contact

- **Venous pressure POD**
  - The airless pressure-transmitting assembly is designed to eliminate blood-air interface
  - Elimination of blood-air interface may reduce the risk of clotting

**Available for Fresenius® 2008® and B. Braun hemodialysis machines**

For more information: bbraunusa.com/streamline
# RESULTS OF FOUR CLINICAL STUDIES WITH STREAMLINE® BLOODLINES AND CONVENTIONAL BLOODLINES

Results summarized below were obtained with Streamline tubing sets used with the Fresenius 2008 series machine.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Study 1</th>
<th>Study 2</th>
<th>Study 3</th>
<th>Study 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>James D. Cooke, RN CNN and John Moran MD</td>
<td>Sharon Haas RN, CDN</td>
<td>Pat Smith R.N., CNN</td>
<td>Joan E. Arslanian Carl M. Lockman Yvette C. Parker Chaim Charytan</td>
<td></td>
</tr>
<tr>
<td>Study design</td>
<td>Cross-over</td>
<td>Cross-over</td>
<td>Cross-over</td>
<td>Cross-over</td>
</tr>
<tr>
<td>Study sample size (n)</td>
<td>117</td>
<td>67</td>
<td>117</td>
<td>202</td>
</tr>
</tbody>
</table>

### Results with Streamline

<table>
<thead>
<tr>
<th></th>
<th>Study 1</th>
<th>Study 2</th>
<th>Study 3</th>
<th>Study 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in blood flow rate (%)</td>
<td>18%</td>
<td>5%</td>
<td>4%</td>
<td>19%</td>
</tr>
<tr>
<td>Change in arterial pressure (%)</td>
<td>Not assessed</td>
<td>-16%</td>
<td>-12%</td>
<td>-4%</td>
</tr>
<tr>
<td>Increase in % of patients meeting target Kt/V as compared to conventional bloodline</td>
<td>+20.7% @ target 1.4</td>
<td>+10% @ target 1.4</td>
<td>+4% @ target 1.2</td>
<td>+34% @ target 2.0</td>
</tr>
<tr>
<td>Change in heparin dose</td>
<td>-28.0%</td>
<td>-57%</td>
<td>Not assessed</td>
<td>Not assessed</td>
</tr>
<tr>
<td>Change in dialysate flow rate</td>
<td>-26.0%</td>
<td>Not assessed</td>
<td>-7%</td>
<td>Not assessed</td>
</tr>
</tbody>
</table>

The summaries in the table above were gathered from public available information and are not intended for comparison purposes.

### References