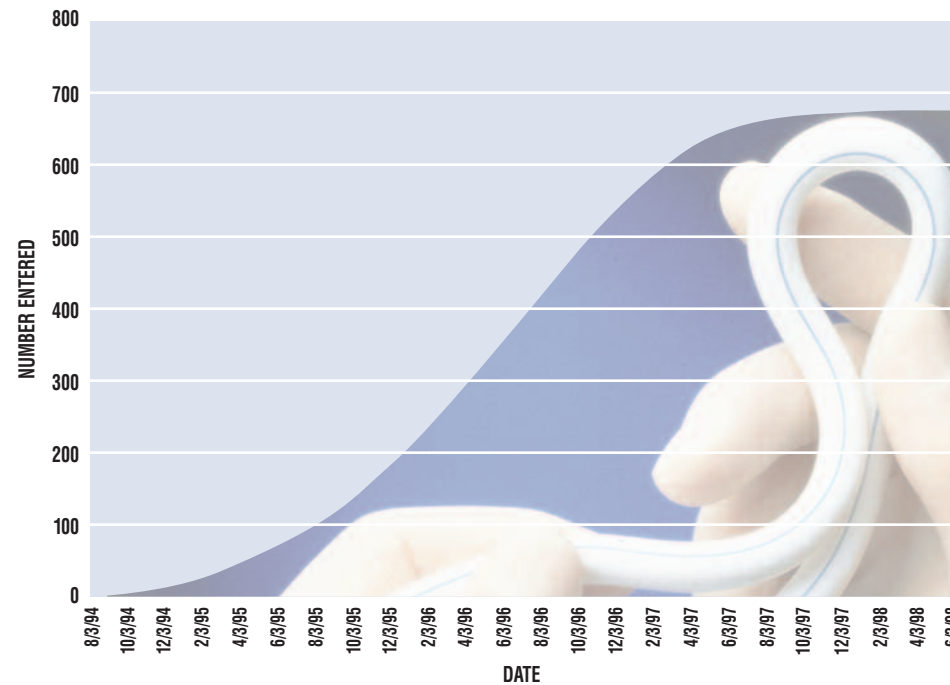


Mission Statement:

CHAPS (Comprehensive Hemodialysis Access PTFE Study) is a randomized prospective multi-center clinical study designed to demonstrate the safety and efficacy of Atrium's Advanta™ VS PTFE vascular graft for routine hemodialysis access use. This study compares Advanta™ VS to both Gore-Tex® and Impra™ PTFE graft products.

Total Enrollment



The first implant was placed on August 3, 1994 and the study has grown to include 678 patients from 12 independent study centers.



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CHAPS

CHAPS is a randomized prospective multi-center study designed to demonstrate the clinical safety and efficacy of Atrium's Advanta™ VS PTFE for Hemodialysis Access. This study compares Atrium PTFE to other commercially available PTFE grafts.

CHAPS

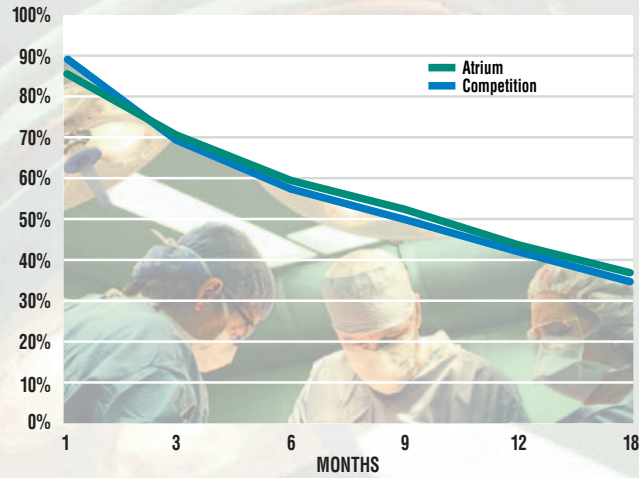


CHAPS
Comprehensive
Hemodialysis
Access PTFE Study

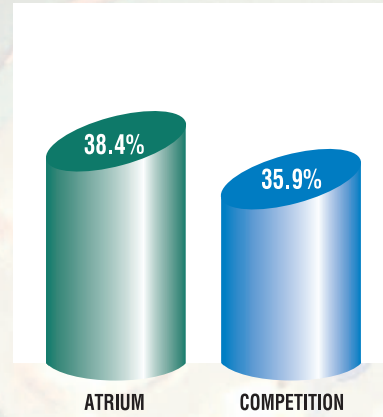
CHAPS is the largest multi-center PTFE graft study of its kind, representing 678 patients from 12 independent study centers. Participating study centers are geographically distributed across the entire U.S., including private practices and teaching institutions, from both rural and large metropolitan areas. All patients requiring a new PTFE graft for dialysis access are included. These include first time graft recipients as well as patients who have received multiple grafts and/or prior access grafts. Each institution randomly compared Atrium Advanta™ VS PTFE vascular grafts for use in several implant locations to their choice of either Gore-Tex® or Impra® grafts.

Primary Patency*

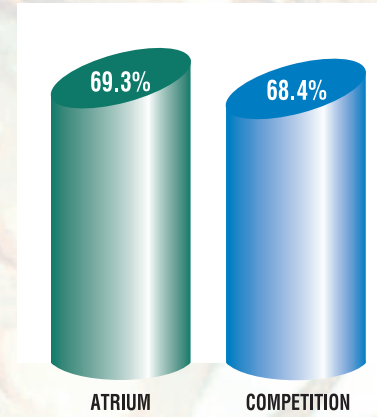
18 Month AV Access Graft Life-Table Results



Primary Patency* at 18 months



Secondary Patency* at 18 months

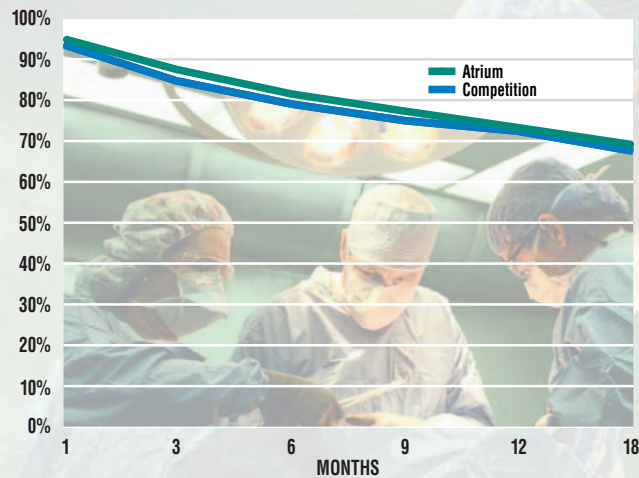


CHAPS Participants

- | | | |
|-------------------------|------------------------------------|-----------------|
| J. Wesley Alexander, MD | University of Cincinnati Med. Ctr. | Cincinnati, OH |
| Duane Donovan, MD | Akron City Hospital | Akron, OH |
| Lisa Florence, MD | Swedish Medical Center | Seattle, WA |
| Howard E. Katzman, MD | Cedars Medical Center | Miami, FL |
| Jeffrey Lowell, MD | Washington University | St. Louis, MO |
| John Martin, MD | Horizon Research Institute | Rockville, MD |
| Joseph Mills, MD | University of Arizona | Tucson, AZ |
| Jeffrey R. Rubin, MD | Western Reserve Care System | Youngstown, OH |
| H.L. Saylor III, MD | Minneapolis Vascular Institute | Edina, MN |
| David Shaffer, MD | Deaconess Hospital | Boston, MA |
| Sergio Villegas, MD | Cedars Medical Center | Miami, FL |
| Fred A. Weaver, MD | University of Southern California | Los Angeles, CA |

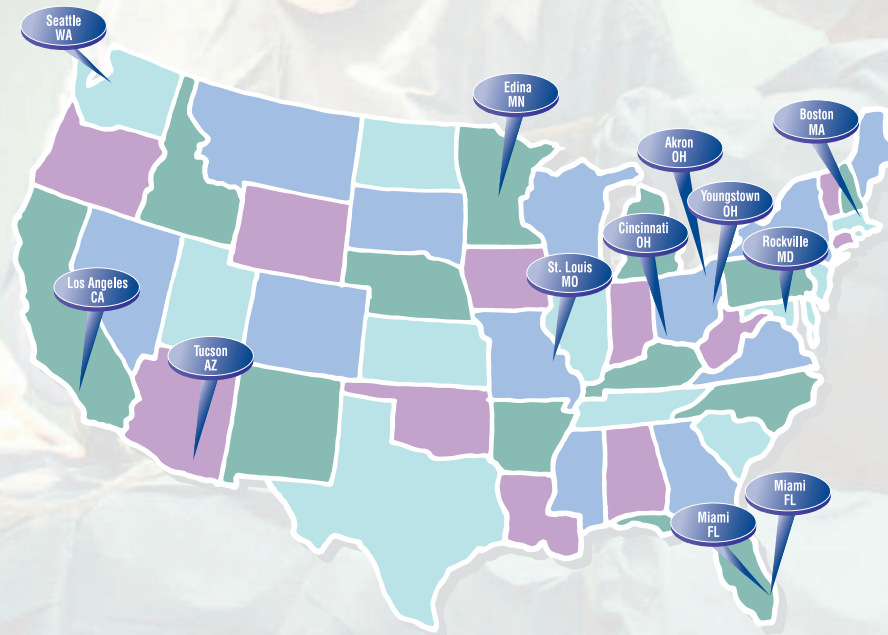
Secondary Patency*

18 Month AV Access Graft Life-Table Results



Life-Table Results

The CHAPS study clearly demonstrates that the Atrium Advanta™ VS PTFE graft is safe and effective to use under a wide variety of hemodialysis implant locations and clinical conditions, at all time periods when compared to Gore-Tex® and Impra® PTFE graft products.



*Reference Robert B. Rutherford, MD, J. Dennis Baker, MD, Calvin Ernst, MD, K. Wayne Johnston, MD, John M. Porter, MD, Sam Ahn, MD, and Darrell N. Jones, PhD. Recommended standards for reports dealing with lower extremity ischemia: Revised version. (J Vasc Surg 1997;26:517-38.)

Primary Patency*

Life-Table Data at 18 Months

Month	Advanta VS (n=358)	Competition (n=320)
1	86.6%	89.2%
3	70.1%	69.9%
6	59.9%	58.1%
9	52.0%	50.4%
12	43.9%	43.4%
18	38.4%	35.9%

p-value = 6390

Secondary Patency*

Life-Table Data at 18 Months

Month	Atrium (n=358)	Competition (n=320)
1	95.5%	94.3%
3	88.2%	86.5%
6	81.0%	79.5%
9	78.0%	76.6%
12	73.2%	73.4%
18	69.3%	68.4%

p-value = 8437



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