Summary of Safety and Effectiveness Data

1. General Information

Device Generic Name:	Endovascular Graft
Device Trade Name:	FLAIR™ Endovascular Stent Graft
Applicant's Name and Address:	Bard Peripheral Vascular, Inc. 1625 West 3rd Street P.O. Box 1740 Tempe, AZ 85280-1740 USA
Date of Panel Recommendation:	None
PMA Number:	P060002
Date of Notice of Approval:	July 23, 2007

2. Indications for Use

The FLAIR™ Endovascular Stent Graft is indicated for use in the treatment of stenoses at the venous anastomosis of ePTFE or other synthetic arteriovenous (AV) access grafts.

3. Contraindications

There are no known contraindications for the FLAIR™ Endovascular Stent Graft.

4. Warnings and Precautions

See WARNINGS AND PRECAUTIONS in the FLAIR™ Endovascular Stent Graft labeling (Instructions for Use).

5. Device Description

The FLAIR™ Endovascular Stent Graft (implant) is a flexible, self-expanding endoprosthesis comprised of expanded polytetrafluoroethylene (ePTFE) encapsulating a Nitinol stent framework. Nitinol is an alloy that can be processed to assume a pre-defined final configuration upon exposure to body temperature.

The Nitinol stent, including distal and proximal ends, is encapsulated within two layers of ePTFE. The inner lumen of the stent graft (blood contacting surface) is carbon impregnated. The ePTFE outer wall of the stent graft, which contacts the AV access graft and native vein, contains cutouts which expose the Nitinol stent in order to promote stent graft flexibility.

The FLAIR™ Endovascular Stent Graft is available in both flared (Figure 1) and straight (Figure 2) configurations. The stent graft is offered in lengths of 30, 40 and 50 mm and diameters of 6, 7, 8 and 9 mm, which will accommodate synthetic arteriovenous (AV) grafts ranging from 5 to 9 mm in diameter.

Figure 1. Flared configuration

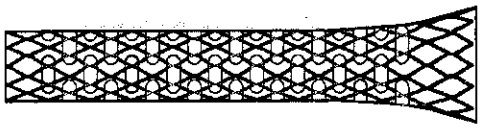
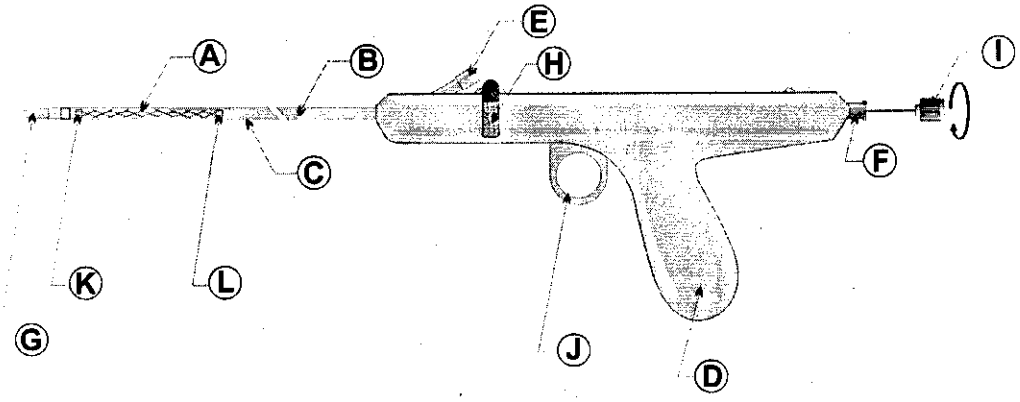


Figure 2. Straight configuration

Flared devices are intended for use in lesions where the vein diameter is larger than the graft diameter, with the distal flared end of the device to be placed in the vein. The diameter of the distal flared end of the stent graft is approximately 4 mm greater than the medial diameter of the stent graft. Straight devices are intended for all lesions in which the vein diameter is equivalent to or less than that of the AV access graft. The diameter of the straight stent graft is equal from the distal to the proximal end of the device.

The stent graft (A) is supplied premounted between the inner catheter (B) and the outer sheath (C) on the distal section of the delivery system (Figure 3). The delivery system features an ergonomically shaped handgrip (D) with two syringe adapters (E) and (F) for flushing with sterile normal saline prior to introduction of the delivery system. The soft and atraumatic catheter tip (G) is tapered to fit with a 0.035" guidewire. There is a blue safety seal (H) attached to the pistol handgrip to prevent premature stent graft release. This safety seal should not be removed until the stent graft has been positioned across the lesion and is ready to be deployed. A stainless steel stylet is inserted in the delivery system to protect the device from kinking during transport. This stylet must be removed after removal of the device from packaging by unthreading the hub (I) located on the back end of the pistol handle. Pulling on the trigger (J) on the pistol handle causes the outer catheter sheath to retract in incremental steps and release the stent graft. Radiopaque markers (K and L) are used to visualize the stent graft during deployment.

Figure 3. Delivery System



6. Alternative Practices and Procedures

The current standard for treating AV access graft stenosis is percutaneous transluminal angioplasty (PTA) for both maintenance of patency (assisted patency), and during thrombectomy (re-establishing secondary patency). PTA is the initial treatment of choice, with surgery typically reserved for early recurrences and failures.

Both of these alternative procedures have their limitations. PTA often has suboptimal primary patency rates due to immediate post-angioplasty recoil and tissue growth. Surgical revision is invasive, rarely immediately available (unlike catheter directed approaches), and can require interim catheter placement until the revised AV access graft is available for reuse.

7. Marketing History

The FLAIR™ Endovascular Stent Graft has not been marketed in the United States or any foreign country.

8. Potential Adverse Effects of the Device on Health

A. Observed Adverse Events

A total of 227 patients were treated at 16 U.S. investigational sites to evaluate the safety and effectiveness of the FLAIR™ Endovascular Stent Graft. This study compared the FLAIR™ Endovascular Stent Graft to PTA in patients with stenoses at the venous anastomosis of a synthetic AV access graft. Physicians unfamiliar with the system enrolled "roll-in" patients before starting the randomized phase of the trial. A total of 37 "roll-in" patients and 190 randomized patients, 97 in the treatment group and 93 in the control group, were enrolled in the clinical study. Adverse Event rates (through 210 days) for randomized and "roll-in" patients are presented in Table 1. The statistical comparisons and p-values presented in Table 1 are from the randomized population only.

Table 1. Adverse Events through 6 Months

	ROLL-IN PATIENTS	RANDOMIZED PATIENTS		
Adverse Events	FLAIR Device (N=37)	FLAIR Device (N=97)	PTA Only (N=93)	P-value
Death	2.78% (1/36)	5.26% (5/95)	5.56% (5/90)	1.000
Infection	0.00% (0/36)	6.32% (6/95)	2.22% (2/90)	0.280
Stenosis	41.67% (15/36)	40.00% (38/95)	76.67% (69/90)	<0.001
Thrombotic occlusion	33.33% (12/36)	32.63% (31/95)	21.11% (19/90)	0.098
Vessel rupture	0.00% (0/36)	3.16% (3/95)	1.11% (1/90)	0.621
Pseudoaneurysm	2.78% (1/36)	5.26% (5/95)	2.22% (2/90)	0.445
Hemorrhage	0.00% (0/36)	0.00% (0/95)	0.00% (0/90)	--
Hematoma	0.00% (0/36)	2.11% (2/95)	0.00% (0/90)	0.498
Significant arm or hand edema	2.78% (1/36)	3.16% (3/95)	2.22% (2/90)	1.000
Steal syndrome	2.78% (1/36)	2.11% (2/95)	1.11% (1/90)	1.000
Congestive heart failure	2.78% (1/36)	4.21% (4/95)	2.22% (2/90)	0.683
Cerebrovascular accident	0.00% (0/36)	2.11% (2/95)	3.33% (3/90)	0.676
Device kinking	0.00% (0/36)	0.00% (0/95)	N/A	--
Device migration	0.00% (0/36)	4.21% (4/95)	N/A	--
Embolism	0.00% (0/36)	0.00% (0/95)	N/A	--
Permanent deformation of the Endoluminal Device	2.78% (1/36)	1.05% (1/95)	N/A	--

Note: p-values are unadjusted for multiple comparisons

B. Potential Adverse Events

Complications and adverse events associated with the use of the FLAIR™ Endovascular Stent Graft may include the usual complications associated with endovascular stent and stent graft placement and dialysis shunt revisions. Previously reported complications include: thrombotic occlusion, restenosis requiring reintervention, pseudoaneurysm, vessel rupture, perforation, pain, infection, hemorrhage, hematoma, arm or hand edema, steal syndrome, congestive heart failure, cerebrovascular accident and death.

Stent graft specific events that could be associated with clinical complications include stent graft misplacement, stent graft migration, stent graft fracture, stent graft kinking, insufficient stent graft expansion, and stent graft embolism.

9. Summary of Non-clinical Studies

A. Biocompatibility

Biocompatibility testing of the materials in the FLAIR™ Endovascular Stent Graft and delivery system was performed in accordance with ISO 10993, *Biological Evaluation of Medical Devices*. All biocompatibility tests were conducted in accordance with Good Laboratory Practices (GLP) per 21 CFR, Part 58. The stent graft was classified as an implant device with permanent (> 30 days) contact, and the delivery system was classified as an externally communicating device with limited (≤ 24 hr) intravascular exposure to circulating blood.

The following testing was conducted to assess the biocompatibility of the components of the FLAIR Endovascular Stent Graft System:

Nitinol Stent:

- Cytotoxicity – MEM Elution Test
- Sensitization – Guinea Pig Maximization Test
- Intracutaneous Reactivity – Intracutaneous Injection Test
- Systemic Toxicity – Systemic Injection Test
- Subchronic Toxicity – Intravenous Toxicity Study in Mice
- Genotoxicity – Ames Test (DMSO and Saline Extracts)
- Implantation – Intramuscular Implantation
- Hemocompatibility – Hemolysis (Direct Contact Method)

ePTFE Graft:

- Cytotoxicity – MEM Elution Test
- Sensitization – Guinea Pig Maximization Test
- Intracutaneous Reactivity – Intracutaneous Injection Test
- Systemic Toxicity – Systemic Injection Test
- Subchronic Toxicity – Intravenous Toxicity Study in Mice
- Genotoxicity:
  - Ames Test (DMSO and Saline Extracts)
  - Chromosome Aberrations in Chinese Hamster Ovary (CHO) Cells

    - Unscheduled DNA Synthesis Assay in Rat Primary Hepatocytes
- Implantation – Implantation Test for Biological Reactivity Test, *In Vivo*
- Hemocompatibility:
    - Hemolysis (Direct Contact Method)
    - *In Vivo* Efficacy and Hemocompatibility Evaluation
- Chronic Toxicity – Injection Test in Mice

Stent Graft:

- Cytotoxicity – MEM Elution Test

Delivery System:

- Cytotoxicity – MEM Elution Test
- Sensitization – Guinea Pig Maximization Test
- Intracutaneous Reactivity – Intracutaneous Injection Test
- Systemic Toxicity – Systemic Injection Test
- Hemocompatibility – Hemolysis (Direct Contact Method)

All materials of the FLAIR™ Endovascular Stent Graft and delivery system were evaluated with consideration for the intended implant duration of the stent graft in the body and duration of external contact with the delivery system. All test results indicate that the materials and processes used to manufacture the FLAIR™ Endovascular Stent Graft and delivery system are biocompatible and suitable for their intended use.

B. Bench Testing

In vitro laboratory bench testing was conducted as part of design verification and validation to support the safety and effectiveness of the FLAIR™ Endovascular Stent Graft. This testing was conducted based on recommendations from risk assessments with consideration to FDA and industry recognized voluntary standards.

The bench test results are summarized for the Implant in Table 6 and for the Endovascular System and Delivery System in Table 7.

Table 6. Summary of *In Vitro* Bench Testing of Implant (Stent Graft) Device

Test	Purpose/Objective	Summary of Acceptance Criteria and Test Results
Finite Element Analysis (FEA)	Determine stress/strain characteristics of the implant when subjected to a worst-case physiological load. To prove the structural integrity of device for the intended use.	All resulting stress points were below the Goodman line, which indicates that the maximum stresses were below the yield limit of the material. This meets the specified acceptance criteria of this test. .
Accelerated Durability Testing	Evaluate device integrity after simulated 2.5 and 5 year arterial pulsatile fatigue testing. To prove the structural integrity of device for the intended use.	Time-accelerated pulsatile fatigue testing was conducted on 10 worst-case stent grafts to an equivalent of 2.5 years and 10 worst-case stent grafts to an equivalent of 5 years. Upon completion of testing, the stent grafts were inspected for fatigue-related defects such as fracture and covering damage. No fatigue-related defects were observed at either duration, which meets the specified acceptance criteria of this test.
Local Compression	Characterize elastic deformation of the implant in response to localized compressive force. To show adequate resistance to localized compressive values.	Local compression testing was conducted on a total of 60 stent grafts (various sizes/configurations). All units passed the acceptance criteria of greater than or equal to 2.00 N.
Radial Force	Characterize force exerted by the implant as a function of implant diameter. To show adequate radial force in both expansion and compression modes.	Radial force testing was conducted on a total of 50 stent grafts (various sizes/configurations) for both expansion and compression modes. All units passed the specified acceptance criteria of less than or equal to 0.115 N/mm during expansion mode and greater than or equal to 0.050 N/mm during compression mode.
Crush Resistance	Evaluate the ability of the implant to resist permanent deformation. To determine the force required to fully collapse the stent graft.	Crush resistance testing was conducted on a total of 70 stent grafts (various sizes/configurations). All units passed the acceptance criteria of greater than or equal to 0.03 N/mm
Migration Resistance	Evaluate migration resistance of implant during pulsatile fatigue testing. To verify migration resistance during simulated use conditions.	Migration resistance testing was completed in conjunction with accelerated durability testing. Testing was performed on a total of 10 stent grafts to an equivalent of 5 years. Upon completion of testing, there was no evidence of implant migration, which meets the specified acceptance criteria of this test.
Flex/Kink	Evaluate the implant's flexibility in its deployed configuration. To determine the minimum radius that the implant can accommodate without kinking.	Kink resistance testing was conducted on a total of 30 stent grafts (various sizes/configurations). All devices passed the specified acceptance criteria of 20 mm radius without kinking.
Dimensional Verification	Evaluate the stent graft dimensions (outer diameter and length) post-deployment, post-ballooning. To verify that the device meets the critical design dimensional specifications following deployment and balloon dilatation.	Dimensional verification was performed on a total of 80 to 160 stent grafts (dependent upon attribute under assessment). All units passed the specified acceptance criteria.

Test	Purpose/Objective	Summary of Acceptance Criteria and Test Results
Strength of Graft to Stent/Attachment System Bond	Measure the force required to separate the layers of ePTFE graft material that encapsulate the stent. To verify that the bonded graft material will not separate during intended use.	Bond peel testing was conducted on a total of 19 simulated stent grafts. All units passed the acceptance criteria of greater than or equal to 6 grams force per millimeter (gf/mm).
Graft Material Characterization	Measure the Water Entry Pressure (WEP), Internodal Distance (IND), Longitudinal Tensile Strength (LTS), and Burst/Circumferential Strength (Radial Tensile Strength, RTS) of the graft material layers. To characterize properties of the graft material of the implant.	Graft material characterization was conducted on a total of 30 grafts. Results provide a basis for repeatable manufacturing and comparison on potential design/process changes.
Implant Length to Diameter Relationship	Evaluate relationship between implant length and diameter while compressed in catheter and after deployment. To analyze foreshortening of the implant after delivery.	Implant length to diameter relationship characterization was conducted on a total of 160 stent grafts (various sizes/configurations). All units passed the specified acceptance criteria of a 5.4% change in implant length to stent diameter between the compressed and deployed configurations.
Visibility (Radiopacity)	Evaluate ability to visualize the implant during fluoroscopic examination. To verify that the implant is adequately visible for the intended use.	Radiopacity of the stent graft was evaluated via fluoroscopic flat films compared to a control. The device exhibited adequate visibility under fluoroscopic examination and was found equivalent to controls.
Integrity (Post Deployment)	Evaluate the integrity of the implant following deployment and balloon dilatation. To verify that the implant shows no defects that would render it unsuitable for the intended use.	Visual integrity (post deployment) was conducted on a total of 160 stent grafts (various sizes/configurations). All deployed stent grafts were visually inspected and maintained integrity.
Corrosion Resistance	Evaluate susceptibility of materials to corrosion via standard *in vitro* testing. To verify that the implant maintains corrosion resistance after implantation.	Corrosion resistance was conducted on a total of 10 stent grafts. Breakdown protection margin (breakdown potential - rest potential) and nickel leaching were found to be in acceptable ranges. Scanning electron photomicrographs illustrate minimal corrosion of the stent surface following testing.
MRI Compatibility	Evaluate MRI safety and compatibility. To verify that the implant is not affected by MR scanning at specified conditions.	Non-clinical testing has demonstrated that the FLAIR™ Endovascular Stent Graft is MR Conditional. It can be scanned safely under the following conditions: 1. Static Magnetic field of 3-Tesla or less; 2. Spatial gradient field of 720 Gauss/cm or less 3. Maximum whole-body-averaged specific absorption rate (SAR) of 3 W/kg for 15 minutes of scanning. In non-clinical testing, the FLAIR™ Endovascular Stent Graft produced a temperature rise of less than or equal to 0.5°C at a maximum whole body averaged specific absorption rate (SAR) of 3 W/kg for 15 minutes of MR scanning in a 3-Tesla, Excite, General Electric Healthcare MR scanner.

Table 7. Summary of *In Vitro* Bench Testing of Endovascular System and Delivery System

Test	Purpose/Objective	Summary of Acceptance Criteria and Test Results
Bond Joint Strength and Torsional Bond Strength	Determine bond joint strength and torsional bond strength between relevant components of the delivery system. To verify the strength of bond joints are adequate for the intended use.	Bond joint testing was conducted on a range of 12 to 118 devices, depending upon the joint under evaluation. All units passed the specified acceptance criteria of bond strengths.
Dimensional Verification and Component Dimension Compatibility	Evaluate dimensions of the endovascular system (e.g., outer diameter, guidewire lumen diameter, useable length) for verification to design specifications and for compatibility with the recommended accessories. To verify that the endovascular system is dimensionally acceptable for the intended use and compatible with a 0.035" guidewire and a 9F Introducer.	Dimensional and compatibility testing was conducted on a range of 50 to 120 devices, depending upon the attribute under assessment. All units passed the specified acceptance criteria.
Profile / Diameter Test	Evaluate maximum diameters of the endovascular system. To verify that the maximum diameters of the endovascular system are adequate for the intended use.	Profile/Diameter testing was conducted on a total of 120 devices to assess all attributes.All units passed the specified acceptance criteria. Thus, these results support the labeling and clinical sizing criteria for the endovascular system.
Simulated Use	Characterize the ability of the endovascular system with respect to deployment accuracy, conformability to vessel wall, flex/kink, torquability, pushability, and trackability. To verify that the endovascular system performs adequately for the intended use with respect to the ability to access, deploy, and withdraw.	Simulated use testing was conducted on a range of 59 to 160 devices, depending upon the attribute under evaluation. All units passed the specified acceptance criteria. Results indicate acceptable deployment accuracy, conformability to vessel wall, flex/kink, torquability, pushability, and trackability.
Force to Deploy	Evaluate the force required to deploy the implant from the endovascular system. To verify that the deployment force is adequate for the intended use.	Deployment force testing was conducted on a total of 59 stent grafts. All units passed the acceptance criteria of greater than or equal to 11 lbf.
Assessment of Hemostasis	Evaluate ability of seals or valves to maintain an adequate hemostatic seal during flushing of the endovascular system. To verify the hemostatic properties of the endovascular system are adequate for the intended use.	An assessment of hemostasis was conducted on 11 endovascular systems. The endovascular systems were qualitatively evaluated and were ranked satisfactory.
Tubing Longitudinal Tensile Strength	Determine tensile strength of catheter tubing used in the delivery system. To verify that the catheter tubing has sufficient strength for the intended use.	Outer catheter tensile testing was conducted on a total of 30 delivery systems. All units passed the acceptance criteria of greater than or equal to 11 lbf.
Visibility (Radiopacity)	Evaluate ability to visualize the endovascular system during fluoroscopic examination. To verify that the endovascular system is adequately visible for the intended use.	Radiopacity of the endovascular system was evaluated via fluoroscopic flat films compared to a control. The device exhibited adequate visibility under fluoroscopic examination and was found equivalent to controls.

C. Sterility, Packaging and Shelf-Life Testing

The FLAIR™ Endovascular Stent Graft is a single-use device that is distributed sterile to the end user. Sterilization validation (in accordance with ANSI/AAMI/ISO 11135:1994 *Medical Devices Validation and Routine Control of Ethylene Oxide Sterilization*) for the FLAIR™ Endovascular Stent Graft demonstrates a Sterility Assurance Level (SAL) of 10^{-6}. Stability testing of the device and sterile packaging was performed and validated to assure a 1-year shelf life.

D. Animal Testing

Three (3) *in vivo* animal studies were conducted to evaluate the early (up to 1 month) and late (up to 1 year) response to implantation of the FLAIR™ Endovascular Stent Graft and to evaluate the performance of the delivery system. Two of these studies were conducted in canine iliac arteries and aortas to evaluate the performance of the first generation stent graft and delivery system. The third study was conducted in an Intended Use canine model (arteriovenous access graft model) to evaluate the final stent graft design and delivery system. Subsequent to this animal study being conducted, process improvements were made to the stent graft to optimize fatigue resistance and manufacturability. These modifications were evaluated through *in vitro* testing, which confirmed device equivalence; therefore, additional animal testing was not warranted. All studies were conducted in accordance with FDA Non-Clinical Good Laboratory Practice Regulation 21 CFR, Part 58. The results of these *in vivo* animal studies are summarized in Table 8.

Table 8. Summary of *In Vivo* Animal Studies

Animal Study	Total Number of Animals and Time points	Devices Tested	Relevant Findings
Long Term Study in the Canine Aorta	18 Canines: 1 week (n=3), 1 month (n=3), 3 month (n=3), 6 month (n=6), and 1 year (n=3)	24 Devices	All stent grafts were successfully deployed to the intended location. The functional requirements of the stent graft were met. The stent graft demonstrated long term performance *in vivo* with no evidence of migrations or stent graft failures up to 1 year following implant. The host tissue response was judged to be acceptable at histological evaluation. Additional studies to evaluate the second generation delivery system were performed during the Intended Use Study in the Canine Model.
Long Term Study in the Canine Iliac	10 Canines: 1 week (n=2), 1 month (n=2), 3 months (n=2), and 6 month(n=4)	25 Devices	All stent grafts were successfully deployed to the intended location. The functional requirements of the stent graft were met. The stent graft demonstrated long term performance *in vivo* with no evidence of migrations or stent graft failures up to 6 months following implant. The host tissue response was judged to be acceptable at histological evaluation. Additional studies to evaluate the second generation delivery system were performed during the Intended Use Study in the Canine Model.
Intended Use Study in the Canine Model	8 Canines: 1 month	11 devices	All stent grafts were successfully deployed to the intended location. The stent graft demonstrated acceptable performance *in vivo* with no evidence of migrations ($\geq$ 2 mm) and good apposition up to 1 month following implant. The host tissue response was judged to be acceptable at histological evaluation. The second generation delivery system performed as intended.

10. Summary of Clinical Studies

A total of 227 patients were treated at 16 U.S. investigational sites to evaluate the safety and effectiveness of the FLAIR™ Endovascular Stent Graft. This study compared the FLAIR™ Endovascular Stent Graft to balloon angioplasty in patients with stenoses at the venous anastomosis of a synthetic AV access graft. Physicians unfamiliar with the system enrolled "roll-in" patients before starting the randomized phase of the trial. A total of 37 "roll-in" patients and 190 randomized patients, 97 in the treatment group and 93 in the control group, were enrolled in the clinical study.

A. Study Endpoints

Treatment Area Primary Patency (TAPP) at six months was the primary outcome used to compare the effectiveness of the study device to the PTA Control. The primary safety endpoint was evaluated based on the incidence of adverse events observed within the same time interval.

Secondary endpoints included: 1) the ability to successfully deliver the FLAIR™ Endovascular Stent Graft, 2) procedural success 3) 2-month treatment area primary patency, 3) 2- and 6-month access circuit primary patency, 4) 2- and 6-month assisted access circuit primary patency, 5) 2- and 6-month access circuit cumulative (i.e., secondary) patency, and 6) 2- and 6-month percent stenosis of the treatment area.

B. Patients Studied

Eligible patients had a hemodynamically significant stenosis (≥ 50% reduction of normal vessel diameter) accompanied by a hemodynamic, functional or clinical abnormality (defined by the Kidney Disease Outcome Quality Initiative (K/DOQI) and the Society for Interventional Radiology (SIR) guidelines), without thrombotic occlusion, at the synthetic AV access graft-vein-anastomosis. To be included in the study, total stenosis length could not exceed 70mm, and the entire lesion had to be located within 70mm of the venous anastomosis. The AV access graft must have also been implanted at least 30 days and undergone at least one hemodialysis.

Patients were excluded from the study if they had had a thrombosis of the AV access graft within 7 days before the index procedure. Patients were also excluded for a variety of conditions which would make the implantation procedure more difficult or dangerous or would confound the interpretation of the results of the study.

C. Methods

Patients were prospectively randomized to treatment with the FLAIR™ Endovascular Stent Graft or PTA. Cross-overs were not allowed. Clinical follow-up visits were conducted two months and six months after the index procedure. Interim visits were conducted as clinically indicated. Quantitative angiography was conducted in conjunction with the scheduled follow-up visits. Antiplatelet and anticoagulation therapy was at the discretion of the physician. Patients were monitored for adverse events throughout their participation in the trial.

An independent Clinical Events Committee (CEC) adjudicated all occurrences of death, acute graft occlusion during the index procedure, cerebrovascular accident, congestive heart failure, graft dysfunction or failure, hematoma, graft or wound infection, other

infection, wound complications, peripheral thromboembolism, pseudoaneurysm, pulmonary embolism, restenosis (angiographic), significant hand or arm edema, steal syndrome, subacute graft occlusion (out of lab but <24 hours post-procedure) and thrombotic occlusion (>24 hours post-procedure). In addition, the CEC reviewed all adverse events related to study device failure or malfunction. The CEC was also to review all unanticipated adverse events; however, no such events were observed during the study.

D. Results

Patient Demographics and Baseline Characteristics

The randomization process resulted in 97 patients treated with the study device and 93 patients treated with balloon angioplasty as a control. The following tables summarize the patient demographics, medical history, AV access graft characteristics and AV access graft type for the two study groups. The 37 "roll-in" FLAIR patients are also noted in each table of this results section (Section D); however, the statistical comparisons and p-values are from the randomized population only.

Table 9. Patient Demographics

	ROLL-IN PATIENTS	RANDOMIZED PATIENTS		
	FLAIR Device (N=37)	FLAIR Device (N=97)	PTA Only (N=93)	P-value
Male	37.84% (14/37)	34.02% (33/97)	38.71% (36/93)	0.548
Age of patients (yrs)				
Mean±SD (N)	62.16±11.84 (37)	61.83±14.63 (97)	59.83±13.58 (93)	0.331
Range (min,max)	(37.60, 84.67)	(30.85, 87.37)	(24.13, 90.53)	--

Note: p-values are unadjusted for multiple comparisons

Table 10. Medical History

	ROLL-IN PATIENTS	RANDOMIZED PATIENTS		
	FLAIR Device (N=37)	FLAIR Device (N=97)	PTA Only (N=93)	P-value
Hypertension	91.89% (34/37)	98.7% (96/97)	93.55% (87/93)	0.061
Coronary Artery Disease	30.56% (11/36)	36.67% (33/90)	38.64% (34/88)	0.877
Congestive Heart Failure	25.00% (9/36)	28.09% (25/89)	22.09% (19/86)	0.388
Diabetes	51.35% (19/37)	60.82% (59/97)	62.37% (58/93)	0.882
COPD	2.70% (1/37)	7.69% (7/91)	5.75% (5/87)	0.767
Hypercoagulability	0.00% (0/37)	1.10% (1/91)	0.00% (0/83)	1.000
Glomerulonephritis	5.88% (2/34)	5.56% (5/90)	3.57% (3/84)	0.721

Note: p-values are unadjusted for multiple comparisons

Table 11. AV Access Graft Location

	ROLL-IN PATIENTS	RANDOMIZED PATIENTS		
	FLAIR Device (N=37)	FLAIR Device (N=97)	PTA Only (N=93)	P-value
Age of AV Graft (yrs)				
Mean±SD (N)	2.15±1.83 (36)	2.19±1.89 (87)	2.65±2.14 (88)	0.134
Range (min,max)	(0.00, 7.26)	(0.00, 10.55)	(0.11, 11.98)	
Location				
Right	16.22% (6/37)	23.71% (23/97)	23.66% (22/93)	0.993
Left	83.78% (31/37)	76.29% (74/97)	76.34% (71/93)	
Forearm	24.32% (9/37)	20.62% (20/97)	26.09% (24/92)	0.637*
Upper arm	67.57% (25/37)	75.26% (73/97)	72.83% (67/92)	
Across elbow joint (forearm with jump graft)	13.51% (5/37)	2.06% (2/97)	1.09% (1/92)	
Forearm + Elbow	--	2.06% (2/97)	0.00% (0/92)	
Configuration				0.624
Loop	51.35% (19/37)	43.30% (42/97)	39.78% (37/93)	
Straight	48.65% (18/37)	56.70% (55/97)	60.22% (56/93)	
Arterial Anastomosis				0.280
Axillary	5.41% (2/37)	2.06% (2/97)	2.15% (2/93)	
Brachial	89.19% (33/37)	94.85% (92/97)	93.55% (87/93)	
Radial	5.41% (2/37)	1.03% (1/97)	4.30% (4/93)	
Ulnar	0.00% (0/37)	0.00% (0/97)	0.00% (0/93)	
Other	0.00% (0/37)	2.06% (2/97)	0.00% (0/93)	
Venous Anastomosis				0.009
Axillary	29.73% (11/37)	22.68% (22/97)	32.26% (30/93)	
Basilic	51.35% (19/37)	57.73% (56/97)	54.84% (51/93)	
Brachial	10.81% (4/37)	14.43% (14/97)	3.23% (3/93)	
Cephalic	5.41% (2/37)	3.09% (3/97)	9.68% (9/93)	
Other	2.70% (1/37)	2.06% (2/97)	0.00% (0/93)	
Prior Procedure				
AV Access Graft	48.57% (17/35)	58.51% (55/94)	55.56% (50/90)	0.766
Venous Anastomosis	62.86% (22/35)	68.09% (64/94)	67.42% (60/89)	1.000
Venous Outflow Tract	61.76% (21/34)	44.44% (40/90)	33.72% (29/86)	0.166

* The p-value does not include category "Forearm + Elbow" which consists of two patients who have checked both forearm and elbow.

Note: p-values are unadjusted for multiple comparisons

Table 12. AV Access Graft Type

	ROLL-IN PATIENTS	RANDOMIZED PATIENTS		
	FLAIR Device (N=37)	FLAIR Device (N=97)	PTA Only (N=93)	P-value
Graft Type				0.341
Tapered	15.63% (5/32)	17.50% (14/80)	12.99% (10/77)	0.509
Straight	78.13% (25/32)	66.25% (53/80)	79.22% (61/77)	0.076
Stepped	6.25% (2/32)	10.00% (8/80)	6.49% (5/77)	0.565
Other	0.00% (0/32)	6.25% (5/80)	1.30% (1/77)	0.210
Graft Size (mm)				0.373
5	0.00% (0/32)	0.00% (0/81)	0.00% (0/80)	--
6	65.63% (21/32)	66.67% (54/81)	68.75% (55/80)	0.866
7	9.38% (3/32)	6.17% (5/81)	8.75% (7/80)	0.565
8	0.00% (0/32)	0.00% (0/81)	2.50% (2/80)	0.245
4/7	15.63% (5/32)	20.99% (17/81)	20.00% (16/80)	1.000
5/8	0.00% (0/32)	1.23% (1/81)	0.00% (0/80)	1.000
3/6	0.00% (0/32)	0.00% (0/81)	0.00% (0/80)	--
4.5/6.5	0.00% (0/32)	1.23% (1/81)	0.00% (0/80)	1.000
Other	9.38% (3/32)	3.70% (3/81)	0.00% (0/80)	0.245

Note: p-values are unadjusted for multiple comparisons

Pre-Procedural (Baseline) Angiographic Characteristics

The following table summarizes the angiographic characteristics of the test and control groups.

Table 13. Baseline Angiographic Characteristics

	ROLL-IN PATIENTS	RANDOMIZED PATIENTS		
	FLAIR Device (N=37)	FLAIR Device (N=97)	PTA Only (N=93)	P-value
Lesion side				
Right	16.22% (6/37)	23.71% (23/97)	23.66% (22/93)	1.000
Left	83.78% (31/37)	76.29% (74/97)	76.34% (71/93)	1.000
Lesion Length (mm)				
Mean±SD (N)	32.17±11.35 (30)	35.28±13.94 (95)	37.78±12.70 (90)	0.206
Range (min,max)	(13.89, 60.12)	(9.86, 71.49)	(9.61, 66.92)	
Eccentric	0.00% (0/30)	1.04% (1/96)	0.00% (0/90)	1.000
Bend >90 degrees	0.00% (0/30)	0.00% (0/96)	0.00% (0/90)	--
Thrombus	0.00% (0/30)	2.08% (2/96)	0.00% (0/90)	0.498
Tortuosity	0.00% (0/30)	0.00% (0/96)	0.00% (0/90)	--
Calcification	0.00% (0/24)	0.00% (0/73)	0.00% (0/71)	--
Ulcerated	0.00% (0/30)	3.13% (3/96)	4.44% (4/90)	0.714
Aneurysm	3.33% (1/30)	4.17% (4/96)	7.78% (7/90)	0.360
Intimal Flap	0.00% (0/30)	0.00% (0/96)	0.00% (0/90)	--
Ectasia	0.00% (0/30)	5.21% (5/96)	3.33% (3/90)	0.722
Interpolated Reference Vessel Diameter (mm)				
Mean±SD (N)	8.38±2.25 (30)	8.28±1.54 (96)	8.71±1.72 (90)	0.069
Range (min,max)	(4.99, 13.44)	(5.35, 14.30)	(5.87, 13.53)	
MLD (mm)				
Mean±SD (N)	2.56±1.27 (30)	2.37±0.88 (96)	2.32±0.80 (90)	0.655
Range (min,max)	(0.75, 6.23)	(0.54, 4.92)	(0.00, 4.81)	
% Interpolated stenosis				
Mean±SD (N)	70.09%±9.94% (30)	70.93%±10.46% (96)	72.92%±8.95% (90)	0.167
Range (min,max)	(51.28%, 88.89%)	(49.88%, 91.84%)	(42.64%, 100.00%)	

Table 13 is based on angiographic core laboratory analysis except for lesion location information which is site reported, specifically, not from the core laboratory.

Note: p-values are unadjusted for multiple comparisons

Patient Accountability

A total of 13 of the 190 randomized patients missed their 6-month follow-up examination, 6 in the test group and 7 in the control group. Compliance in the test group was 93.8% (91/97), and compliance in the control group was 92.5% (86/93).

Summary of Effectiveness

A total of 125 stent grafts were implanted in the randomized test group (49 stent grafts in the "roll-in" test group) as summarized in the following table.

Table 14. Device and Procedure Characteristics

	ROLL-IN PATIENTS FLAIR Device (N=37)	RANDOMIZED PATIENTS FLAIR Device (N=97)
Total Devices Used	49	125
Delivery success by Device	89.80% (44/49)	94.40% (118/125)
Patients with device implanted	37	97
0	0.00% (0/37)	0.00% (0/97)
1	72.97% (27/37)	75.26% (73/97)
2	21.62% (8/37)	21.65% (21/97)
3	5.41% (2/37)	2.06% (2/97)
4	0.00% (0/37)	1.03% (1/97)
Total Length Delivered (mm)		
Mean±SD (N)	52.70±21.56 (37)	52.58±26.07 (97)
Range (min,max)	(30.00, 120.00)	(30.00, 200.00)
Delivery success by Patient	100.00% (37/37)	98.97% (96/97)
Length of Procedure (hours)		
Mean±SD (N)	1.13±0.53 (37)	1.08±0.56 (95)
Median	1.17	0.98
Range (min,max)	(0.25, 2.42)	(0.25, 3.42)
Fluoroscopy time (min)		
Mean±SD (N)	8.38±3.81 (18)	11.01±12.46 (90)
Median	7.56	8.60
Range (min,max)	(4.03, 18.00)	(2.47, 88.30)

Primary Effectiveness Results:

Treatment Area Primary Patency (TAPP) at six months was the primary outcome used to compare the effectiveness of the study device to the PTA Control.

Per protocol, the TAPP was defined as patency (open to blood flow) after the study index procedure until reintervention in the treatment area (within 5 mm proximal or 5 mm distal to the study device or index balloon angioplasty treated area), or thrombotic occlusion that involved the treatment area. Percutaneous or surgical treatment in areas outside the treatment area did not affect TAPP. Treatment Area Primary Patency ended when: 1) there was a reintervention in the treatment area, 2) a thrombotic occlusion involved the treatment area, 3) a surgical intervention excluded the treatment area from the access circuit, or 4) the AV graft was abandoned due to an inability to treat the primary lesion.

The Treatment Area Primary Patency at six months in the study device group was significantly higher than that observed in the PTA Control group as noted in the following table. This demonstrated superiority of the study device over the PTA Control with respect to treatment area primary patency.

Table 15. Treatment Area Primary Patency

	ROLL-IN PATIENTS	RANDOMIZED PATIENTS		
	FLAIR Device (N=37)	FLAIR Device (N=97)	PTA Only (N=93)	P-value
Treatment Area Primary Patency				
2-month	89.2% (33/37)	80.21% (77/96)	77.17% (71/92)	0.722
6-month	60.0% (21/35)	50.55% (46/91)	23.28% (20/86)	<0.001

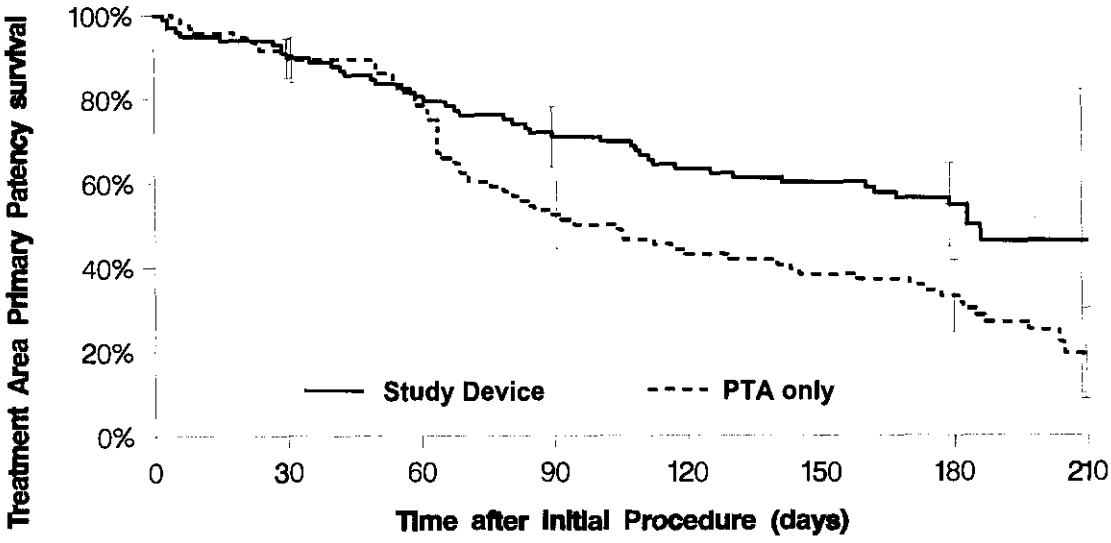
The reasons for TAPP failures are noted in the following table.

Table 16. Treatment Area Primary Patency Failure Reasons

	ROLL-IN PATIENTS	RANDOMIZED PATIENTS		
	FLAIR Device (N=37)	FLAIR Device (N=97)	PTA Only (N=93)	P-value
Two Month Treatment Area PP Failure	10.8% (4/37)	19.79% (19/96)	22.83% (21/92)	0.722
Reintervention in the treatment area	10.8% (4/37)	12.50% (12/96)	20.65% (19/92)	0.169
Thrombotic occlusion that involves treatment area	8.1% (3/37)	13.54% (13/96)	9.78% (9/92)	0.499
Surgical intervention that excludes the treatment area from the access circuit	0.0% (0/37)	5.21% (5/96)	3.26% (3/92)	0.721
AV graft abandoned due to inability to treat primary lesion	2.7% (1/37)	0.00% (0/96)	3.26% (3/92)	0.115
Six Month Treatment Area PP Failure	40.0% (14/35)	49.45% (45/91)	76.74% (66/86)	<0.001
Reintervention in the treatment area	34.3% (12/35)	30.77% (28/91)	75.58% (65/86)	<0.001
Thrombotic occlusion that involves treatment area	34.3% (12/35)	34.07% (31/91)	22.09% (19/86)	0.095
Surgical intervention that excludes the treatment area from the access circuit	5.7% (2/35)	18.68% (17/91)	12.79% (11/86)	0.309
AV graft abandoned due to inability to treat primary lesion	5.7% (2/35)	9.89% (9/91)	8.14% (7/86)	0.796

Figure 4 presents the Kaplan-Meier curves for freedom from treatment area loss of primary patency. Freedom from treatment area loss of primary patency was significantly better (p=0.008) in the study device group (45.8% through 210 days) than in the PTA Control (19.3% through 210 days). Empirically, the separation between the curves was observed between 60 and 90 days after the index procedures and persisted throughout the remaining follow-up time.

Figure 4. Freedom from Loss of Treatment Area Primary Patency (Randomized Patients)



Secondary Effectiveness Results:
The results for the secondary study endpoints are listed in Table 17.

Table 17. Secondary Effectiveness Results

	ROLL-IN PATIENTS	RANDOMIZED PATIENTS		
	FLAIR Device (N=37)	FLAIR Device (N=97)	PTA Only (N=93)	P-value
Device delivery success by patient	100.00% (37/37)	98.97% (96/97)	N/A	N/A
*Procedural Success	94.59% (35/37)	93.81% (91/97)	73.12% (68/93)	<0.001
**Access Circuit Primary Patency				
2-month	86.5% (32/37)	79.17% (76/96)	77.17% (71/92)	0.860
6-month	42.9% (15/35)	38.04% (35/92)	19.77% (17/86)	0.008
***Access Circuit Assisted Primary Patency				
2-month	91.9% (34/37)	86.46% (83/96)	89.13% (82/92)	0.659
6-month	65.7% (23/35)	65.56% (59/90)	73.81% (62/84)	0.253
****Access Circuit Cumulative Patency				
2-month	97.3% (36/37)	94.79% (91/96)	95.65% (88/92)	1.000
6-month	91.4% (32/35)	81.32% (74/91)	85.88% (73/85)	0.542
*****Binary Restenosis Rate of the Treatment Area				
2-month	0.00% (0/27)	20.00% (16/80)	70.59% (48/68)	<0.001
6-month	25.00% (7/28)	27.63% (21/76)	77.61% (52/67)	<0.001

Note: p-values are unadjusted for multiple comparisons

***Procedural Success:** Anatomic success (achievement of a post procedure residual stenosis <30% measured at the narrowest point of the lumen, as indicated by angiography) and at least one indicator of hemodynamic or clinical success.

****Access Circuit Primary Patency:** Patency (open to blood flow) following the index study procedure until access thrombosis or an intervention of a lesion anywhere within the access circuit (arterial anastomosis to the superior vena cava-right atrial junction). Access primary patency ends when: 1) there was an intervention for a stenosis anywhere within the access circuit, 2) there was an occlusion anywhere within the access circuit, or 3) there was a surgical intervention that excluded the index stenotic area from the access circuit.

***Access Circuit Assisted Primary Patency:** Patency (open to blood flow) following the index study procedure until access thrombosis or a surgical intervention that excludes the treated lesion from the access circuit. Percutaneous treatment(s) of either restenosis of the previous treated lesion or a new arterial or venous outflow stenosis/occlusion, excluding access thrombosis, are compatible with assisted primary patency. Assisted primary patency ends when: 1) there is an occlusion anywhere within the access circuit, or 2) there is a surgical intervention that excludes the index stenotic area from the access circuit.
****Access Circuit Cumulative Patency (i.e., secondary patency):** Patency (open to blood flow) following the index study procedure until the access is surgically revised or abandoned because of inability to treat the original lesion. Multiple/repetitive treatments for occlusions that restore patency are compatible with cumulative patency. Cumulative patency ends when: 1) there is a surgical intervention that excludes the index stenotic area from the access circuit, or 2) the AV access venous anastomosis is surgically revised, or 3) the AV graft is abandoned due to an inability to treat the primary lesion.
*****Binary Restenosis Rate of the Treatment Area:** Binary restenosis rates, as demonstrated by procedural, 2 and 6-month follow-up angiograms, were calculated by the core lab. Quantitative vessel analysis was performed to identify the restenosis rate at 2 and 6-months. Lesions within, just proximal to or just distal to the study device or index balloon angioplasty treatment area with a ≥50% diameter stenosis were categorized as restenotic.

Figure 5 presents the Kaplan-Meier curves for freedom from loss of access circuit primary patency. Freedom from loss of access circuit primary patency was 32.0% through 210 days in the study device group and 16.3% through 210 days in the PTA Control (p=0.044).

Figure 5. Freedom from Loss of Access Circuit Primary Patency (Randomized Patients)

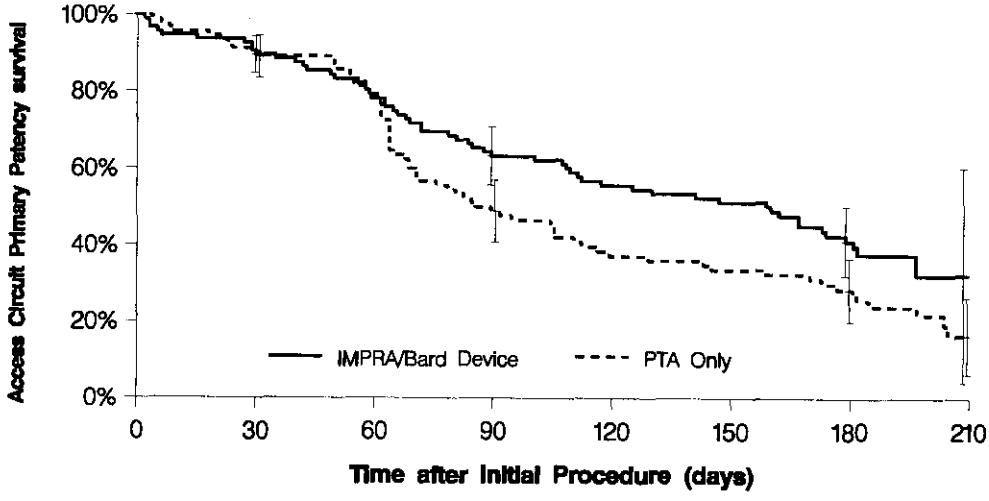


Figure 6 presents the Kaplan-Meier curves for freedom from loss of access circuit assisted primary patency. Freedom from loss of access circuit assisted primary patency was 60.4% through 210 days in the study device group and 72.9% through 210 days in the PTA Control (p=0.149).

Figure 6. Freedom from Loss of Access Circuit Assisted Primary Patency (Randomized Patients)

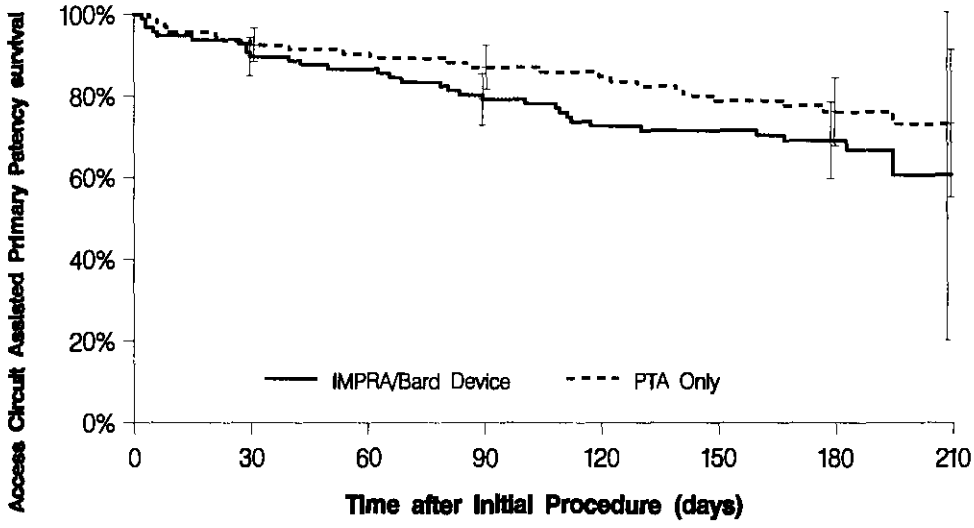
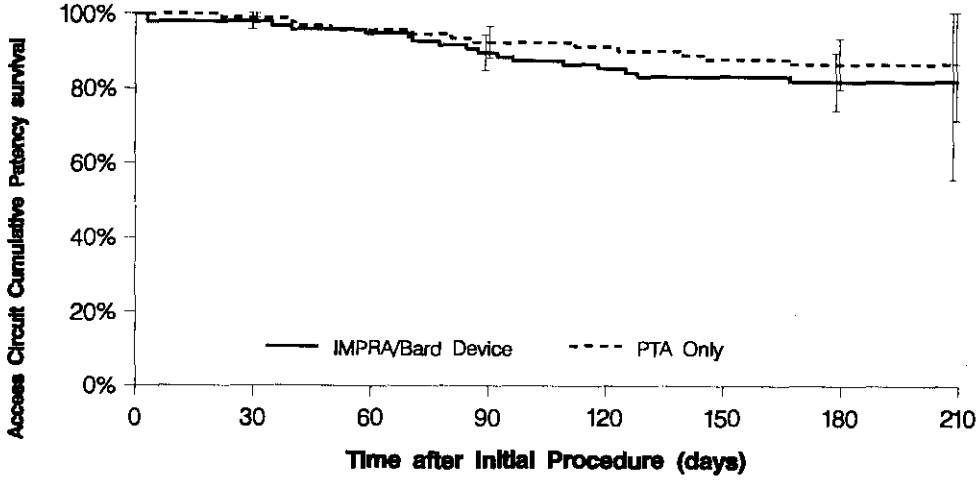


Figure 7 presents the Kaplan-Meier curves for freedom from loss of access circuit cumulative patency. Freedom from loss of access circuit cumulative patency was 81.7% through 210 days in the study device group and 86.3% through 210 days in the PTA Control (p=0.374).

Figure 7. Freedom from Loss of Access Circuit Cumulative Patency (Randomized Patients)



Angiographic Results:

The following table summarizes the angiographic characteristics of the test and control groups at six months.

Table 18. Six-Month Angiographic Evaluation

	ROLL-IN PATIENTS	RANDOMIZED PATIENTS		
	FLAIR Device (N=37)	FLAIR Device (N=97)	PTA Only (N=93)	P-value
Lesion Length (mm)				
Mean±SD (N)	17.54±10.22 (11)	18.02±12.54 (41)	32.12±14.32 (50)	<0.001
Range (min,max)	(6.70, 37.70)	(4.52, 52.68)	(6.96, 69.51)	
Eccentric	3.57% (1/28)	0.00% (0/70)	0.00% (0/55)	--
Bend >90 degrees	0.00% (0/28)	0.00% (0/70)	0.00% (0/55)	--
Thrombus	3.57% (1/28)	0.00% (0/70)	0.00% (0/55)	--
Tortuosity	0.00% (0/28)	0.00% (0/70)	0.00% (0/55)	--
Calcification	0.00% (0/20)	0.00% (0/54)	0.00% (0/36)	--
Ulcerated	0.00% (0/28)	0.00% (0/70)	0.00% (0/55)	--
Aneurysm	0.00% (0/28)	4.29% (3/70)	7.27% (4/55)	0.698
Intimal Flap	0.00% (0/28)	0.00% (0/70)	0.00% (0/55)	--
Ectasia	0.00% (0/28)	0.00% (0/70)	1.82% (1/55)	0.440
Interpolated Reference Vessel Diameter (mm)				
Mean±SD (N)	7.35±1.44 (28)	7.59±1.19 (70)	8.36±1.71 (55)	0.004
Range (min,max)	(4.76, 11.10)	(4.35, 10.03)	(5.47, 13.37)	
MLD (mm)				
Mean±SD (N)	4.63±2.00 (28)	5.10±1.49 (70)	3.32±1.46 (55)	<0.001
Range (min,max)	(0.00, 7.89)	(0.00, 8.30)	(0.00, 6.53)	
% Interpolated stenosis				
Mean±SD (N)	0.35±0.27 (28)	32.07%±19.76% (70)	59.22%±19.55% (55)	<0.001
Range (min,max)	(0.08, 1.00)	(2.01%, 100.00%)	(7.13%, 100.00%)	
Binary Restenosis Rate	25.00% (7/28)	27.63% (21/76)	77.61% (52/67)	<0.001
Stent Graft MLD (mm)				
Mean±SD (N)	5.41±1.82 (28)	5.76±1.34 (70)	N/A	N/A
Range (min,max)	(0.00, 7.89)	(0.00, 8.40)		
% Interpolated stent graft stenosis				
Mean±SD (N)	0.24±0.27 (28)	22.94%±18.88% (70)	N/A	N/A
Range (min,max)	(-0.25, 1.00)	(-9.97%, 100.00%)		
Edge MLD (mm)				
Mean±SD (N)	5.67±1.82 (28)	6.38±1.41 (70)	N/A	N/A
Range (min,max)	(0.00, 7.87)	(0.00, 9.97)		
% Interpolated edge stenosis				
Mean±SD (N)	0.20±0.29 (28)	14.35%±20.92%	N/A	N/A
Range (min,max)	(-0.27, 1.00)	(-26.20%, 100.00%)		

Table 18 is based on angiographic core laboratory analysis except for lesion location information which is site reported, specifically, not from the core laboratory.

Note: p-values are unadjusted for multiple comparisons

E. Patient Death Summary

There were eleven (11) deaths among the randomized patients, including 5 patients in the test group and 6 patients in the control group, and 1 death among the "roll-in" patients. None of these deaths were attributed to the study device.

The five (5) deaths in the study device group and one (1) death in the "roll-in" group occurred between 52 days and 197 days following the index procedure. Causes of death included: stroke (day 163), MI (day 60), cardiac arrest (day 101), respiratory failure (day 197), HIV complications (day 52) and one (1) unknown (day 136).

The six (6) deaths in the PTA Control group occurred between 45 and 222 days following the index procedure. Causes of death included: stroke (day 45, day 59 and day 111), pulmonary edema (day 160), pericardial effusion (day 176), and complications from adenocarcinoma (day 222). Please note that the sixth death in the PTA group (day 222) was not included as an adverse event because it did not fall within the 6-month reporting period as pre-defined in the protocol (i.e., 180 ± 30 days).

F. Observed Device Malfunctions

There were eleven (11) observations regarding performance of the study device reported in 8 patients. Five (5) devices were reported to be placed improperly, such that the stent-graft did not deploy where intended, requiring implantation of an additional stent graft in four cases. In addition, four (4) device migrations, three (3) of which occurred during the index procedure, and one (1) instance each of permanent device deformation and delivery system malfunction were reported.

11. Conclusions Drawn from Studies

The non-clinical studies indicate that the FLAIR™ Endovascular Stent Graft meets or exceeds safety and performance specifications.

Results of the randomized, prospective, multi-center clinical trial demonstrated that the FLAIR™ Endovascular Stent Graft was superior to the PTA Control with respect to six-month Treatment Area Primary Patency (TAPP), the primary effectiveness endpoint, and no different than the PTA Control with respect to safety.

Data from non-clinical testing and the clinical trial provide a reasonable assurance that the FLAIR™ Endovascular Stent Graft is safe and effective for the treatment of stenoses at the venous anastomosis of ePTFE or other synthetic arteriovenous (AV) access grafts when used in accordance with its labeling.

12. Panel Recommendations

In accordance with the provisions of section 515(c)(2) of the act as amended by the Safe Medical Devices Act of 1990, this PMA was not referred to the Circulatory Systems Devices Panel, an FDA advisory committee, for review and recommendation because the information in the PMA substantially duplicates information previously reviewed by this panel.

13. FDA Decision

FDA issued an approval order on July 23, 2007. The conditions of approval require the sponsor to conduct a post-approval study of at least 270 patients and follow patients through 24 months. The FLAIR Endovascular Stent Graft Labeling will be amended to reflect the post-approval study results when the study is complete.

The results of the clinical trial demonstrated a clear clinical benefit for the FLAIR device relative to the control procedure with respect to primary patency of the treatment area. The review team noted that the results associated with the secondary endpoints of assisted primary patency and cumulative patency were less favorable, although statistically indistinguishable from the control treatment. See Figures 6 and 7, above. More information on these secondary endpoints will be developed from the post-approval study and this information will be included in amendments to the device labeling.

The applicant's manufacturing facility was inspected and was found to be in compliance with the Quality System Regulation (21 CFR 820).

14. Approval Specifications

Directions for use: See the labeling.

Hazards to Health from Use of the Device: See Indications, Contraindications, Warnings, Precautions and Adverse Events in the labeling.

Postapproval Requirements and Restrictions: See approval order.