

Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Study-specific inclusion and exclusion criteria

2.1 Enrollment Inclusion Criteria
Patient must meet all of the following criteria to be eligible for treatment in the study:
1. Patient is > 18 years of age.
2. Patients undergoing percutaneous intervention with stent deployment (or has w/in 3 calendar days).
3. Patients without known contraindication to dual antiplatelet therapy for at least 30 months after enrollment and stent implantation.
4. The patient has consented to participate and has authorized the collection and release of his medical information by signing the “Patient Informed Consent Form”. The informed consent will be valid for the duration of the trial or until the patient withdraws.
2.2 Enrollment Exclusion Criteria
Patients will be excluded from the study if any of the following criteria are met:
1. Index procedure stent placement with stent diameter <2.25 mm or >4.0 mm.
2. Pregnant women.
3. Planned surgery necessitating discontinuation of antiplatelet therapy (>14 days) within the 30 months following enrollment.
4. Current medical condition with a life expectancy of less than 3 years.
5. Concurrent enrollment in another device or drug study where the primary endpoint has not yet been reached or the device/drug might affect major endpoint outcomes in either open label or randomized phases of the DAPT study. The patient may only be enrolled in the DAPT Study once.
6. Patients on long-term warfarin (or similar anticoagulant) therapy who are anticipated to still be on warfarin at the time of randomization.
7. Patients with hypersensitivity or allergies to one of the drugs or components indicated in the Instructions for Use for the device implanted.
8. Patients unable to give informed consent.
9. Patient treated with both DES and BMS during the index procedure.
2.3 Randomization Inclusion Criterion at 12 months
Patient must meet the following criterion to be eligible for randomization in the study:
1. Patient is “12 Month Clear”, defined as patients who are treated with 12 months of DAPT post index procedure and who are event free (from all death, myocardial infarction, stroke, repeat coronary revascularization, stent thrombosis, and major bleeding – “severe” or “moderate” by GUSTO classification) during that time. During the open label portion of this study (time 0-12m post-index procedure), a patient is considered compliant with the thienopyridine therapy for the purposes of eligibility if they take between 80% and 120% of the prescribed drug in the 0-6 month and 6-12 month periods without an interruption of therapy longer than 14 days.

2.4 Randomization Exclusion Criteria at 12 months
Patients will be excluded from randomization if any of the following criteria are met:
1. Pregnant women.
2. Patient switched thienopyridine type or dose within 6 months prior to randomization.
NOTE: thienopyridine switching during the open label portion of this study is discouraged.
3. Percutaneous coronary intervention or cardiac surgery between 6 weeks post index procedure and randomization.
4. Planned surgery necessitating discontinuation of antiplatelet therapy (>14 days) within the 21 months following randomization.
5. Current medical condition with a life expectancy of less than 3 years.
6. Patients on warfarin or similar anticoagulant therapy.

eTable 2. Baseline characteristics of all randomized patients

Characteristic	Drug-Eluting Stents N=9961	Bare Metal Stents N=1687	P Value	Continued Thienopyridine N=5862	Placebo N=5786	P Value
Patients						
Age (years); Mean±SD (N)	61.7±10.2 (9961)	59.0±10.8 (1687)	<.001	61.4±10.3 (5862)	61.2±10.3 (5786)	0.38
Female	25.4% (2526/9961)	23.7% (399/1687)	0.14	75.2% (4405/5862)	74.6% (4318/5786)	0.52
Race-Non-White*	8.8% (857/9765)	7.4% (123/1665)	0.07	8.7% (500/5748)	8.5% (480/5682)	0.64
Weight (kg); Mean±SD (N)	91.5±19.6 (9940)	88.3±18.6 (1686)	<.001	91.0±19.6 (5850)	91.1±19.4 (5776)	0.78
BMI (Kg/m ²); Mean±SD (N)	30.5±5.8 (9874)	29.5±5.4 (1677)	<.001	30.4±5.7 (5810)	30.4±5.8 (5741)	0.82
Diabetes mellitus	30.6% (3037/9933)	21.2% (354/1668)	<.001	29.8% (1737/5839)	28.7% (1654/5762)	0.22
Hypertension	74.9% (7445/9940)	64.3% (1077/1674)	<.001	74.1% (4330/5840)	72.6% (4192/5774)	0.06
Cigarette smoker	24.7% (2432/9858)	43.8% (710/1620)	<.001	27.4% (1582/5777)	27.4% (1560/5701)	0.98
Stroke/TIA	3.3% (324/9937)	4.6% (77/1681)	0.01	3.4% (198/5845)	3.5% (203/5773)	0.72
Congestive heart failure	4.6% (461/9927)	3.7% (63/1681)	0.11	4.7% (273/5840)	4.4% (251/5768)	0.42
Peripheral arterial disease	5.8% (568/9794)	4.9% (81/1670)	0.14	5.5% (319/5768)	5.8% (330/5696)	0.55
Prior PCI	30.7% (3047/9923)	19.1% (321/1680)	<.001	28.6% (1668/5833)	29.5% (1700/5770)	0.31
Prior CABG	11.6% (1149/9942)	5.9% (100/1682)	<.001	10.6% (618/5851)	10.9% (631/5773)	0.53
Prior MI	21.6% (2118/9823)	20.4% (338/1653)	0.32	21.7% (1252/5777)	21.1% (1204/5699)	0.48
Indication for Index PCI						
ACS	26.0% (2588/9961)	58.6% (988/1687)	<.001	30.8% (1805/5862)	30.6% (1771/5786)	0.84
STEMI	10.5% (1045/9961)	37.6% (635/1687)	<.001	14.4% (845/5862)	14.4% (835/5786)	1.00
NSTEMI	15.5% (1543/9961)	20.9% (353/1687)	<.001	16.4% (960/5862)	16.2% (936/5786)	0.78
Unstable Angina**	16.7% (1663/9961)	9.4% (158/1687)	<.001	15.6% (915/5862)	15.7% (906/5786)	0.96
Stable Angina	37.7% (3752/9961)	23.5% (397/1687)	<.001	35.5% (2081/5862)	35.7% (2068/5786)	0.79

Region			<.001			0.96
North American	89.5% (8918/9961)	60.9% (1028/1687)		85.5% (5011/5862)	85.3% (4935/5786)	
Europe	8.1% (807/9961)	35.8% (604/1687)		12.0% (706/5862)	12.2% (705/5786)	
Australia or New Zealand	2.4% (236/9961)	3.3% (55/1687)		2.5% (145/5862)	2.5% (146/5786)	
Any Risk Factor for Stent Thrombosis	50.9% (4799/9436)	69.0% (1137/1647)	<.001	53.5% (2978/5572)	53.7% (2958/5511)	0.82
Any Clinical	32.3% (3016/9346)	63.6% (1046/1645)	<.001	37.2% (2056/5531)	36.7% (2006/5460)	0.65
Enzyme positive ACS (STEMI or NSTEMI)	26.0% (2588/9961)	58.6% (988/1687)	<.001	30.8% (1805/5862)	30.6% (1771/5786)	0.84
Renal insufficiency/failure	4.2% (420/9932)	2.9% (48/1677)	0.01	4.3% (251/5839)	3.8% (217/5770)	0.14
LVEF < 30%	1.6% (146/9125)	3.8% (61/1590)	<.001	2.1% (111/5399)	1.8% (96/5316)	0.36
Any Lesion-Related	31.3% (3089/9873)	38.1% (641/1681)	<.001	32.4% (1880/5812)	32.2% (1850/5742)	0.89
> 2 vessels stented	0.5% (48/9961)	0.1% (1/1687)	0.01	0.3% (19/5862)	0.5% (30/5786)	0.12
> 2 lesions per vessel	1.9% (187/9959)	1.0% (17/1687)	0.01	1.7% (102/5861)	1.8% (102/5785)	0.94
Lesion length ≥ 30 mm	10.1% (1004/9947)	6.6% (111/1687)	<.001	9.5% (558/5854)	9.6% (557/5780)	0.85
Bifurcation sidebranch ≥ 2.5 mm	6.5% (647/9946)	4.3% (72/1687)	<.001	6.2% (363/5852)	6.2% (356/5781)	0.94
In-stent restenosis of a DES	3.2% (313/9916)	0.5% (9/1687)	<.001	2.7% (159/5839)	2.8% (163/5764)	0.74
Vein bypass graft stented	2.8% (280/9959)	2.5% (42/1687)	0.52	2.5% (149/5861)	3.0% (173/5785)	0.14
Unprotected left main stented	0.4% (42/9959)	0.1% (1/1687)	0.02	0.3% (19/5861)	0.4% (24/5785)	0.45
Thrombus-containing lesion	11.8% (1070/9091)	27.4% (462/1687)	<.001	14.5% (784/5416)	14.0% (748/5362)	0.44
Prior Brachytherapy	0.3% (26/9918)	0.1% (2/1679)	0.42	0.2% (14/5836)	0.2% (14/5761)	1.00
Thienopyridine at randomization			<.001			0.97
Clopidogrel	65.3% (6500/9961)	86.7% (1462/1687)		68.4% (4008/5862)	68.3% (3954/5786)	
Prasugrel	34.8% (3461/9961)	13.3% (225/1687)		31.6% (1854/5862)	31.7% (1832/5786)	

No. of treated lesions; Mean±SD (N)	1.3±0.6 (9961)	1.2±0.4 (1687)	<.001	1.3±0.5 (5862)	1.3±0.5 (5786)	0.29
No. of treated vessels; Mean±SD (N)	1.1±0.3 (9944)	1.0±0.2 (1687)	<.001	1.1±0.3 (5854)	1.1±0.3 (5777)	0.34
No. of stents; Mean±SD (N)	1.5±0.8 (9961)	1.3±0.6 (1687)	<.001	1.5±0.7 (5862)	1.4±0.7 (5786)	0.25
Minimum stent diameter			<.001			0.85
< 3 mm	46.5% (4634/9961)	24.1% (407/1687)		43.4% (2542/5862)	43.2% (2499/5786)	
≥ 3 mm	53.5% (5327/9961)	75.8% (1280/1687)		56.6% (3320/5862)	56.8% (3287/5786)	
Total stent length – mm; Mean±SD (N)	27.6±16.9 (9961)	23.9±13.1 (1687)	<.001	27.2±16.3 (5862)	26.9±16.6 (5786)	0.41
Lesion(s) ††						
Treated vessel						
Left main	0.9% (110/12993)	0.1% (1/1966)	<.001	0.7% (55/7561)	0.8% (56/7398)	0.85
Left anterior descending	40.8% (5301/12993)	31.2% (614/1966)	<.001	40.0% (3023/7561)	39.1% (2892/7398)	0.27
Right coronary artery	32.4% (4210/12993)	45.2% (889/1966)	<.001	34.3% (2590/7561)	33.9% (2509/7398)	0.67
Circumflex	22.9% (2979/12993)	21.0% (413/1966)	0.06	22.2% (1679/7561)	23.2% (1713/7398)	0.17
Venous graft	2.5% (327/12993)	2.5% (49/1966)	1.00	2.4% (178/7561)	2.7% (198/7398)	0.21
Arterial graft	0.5% (66/12993)	0.0% (0/1966)	<.001	0.5% (36/7561)	0.4% (30/7398)	0.54
Modified ACC–AHA lesion class B2 or C‡	43.3% (5397/12472)	47.7% (890/1866)	<.001	44.0% (3194/7260)	43.7% (3093/7078)	0.72

Abbreviations: ACC, American College of Cardiology; ACS, acute coronary syndrome; AHA, American Heart Association; BMI, body mass index; CABG, coronary artery bypass graft; DES, drug-eluting stent; LAD, left anterior descending; LVEF, left ventricular ejection fraction; MI, myocardial infarction; NSTEMI, non-ST elevation MI; PCI, percutaneous coronary intervention; STEMI, ST-elevation MI; TIA, transient ischemic attack.

*Race was self-reported.

**This category included unstable angina without reported elevation of cardiac enzymes.

††A total of 13007 lesions were treated in DES-treated patients, 1966 in BMS-treated patients, 7569 in the continued thienopyridine group, and 7404 in the placebo group.

eTable 3. GUSTO and BARC Definitions

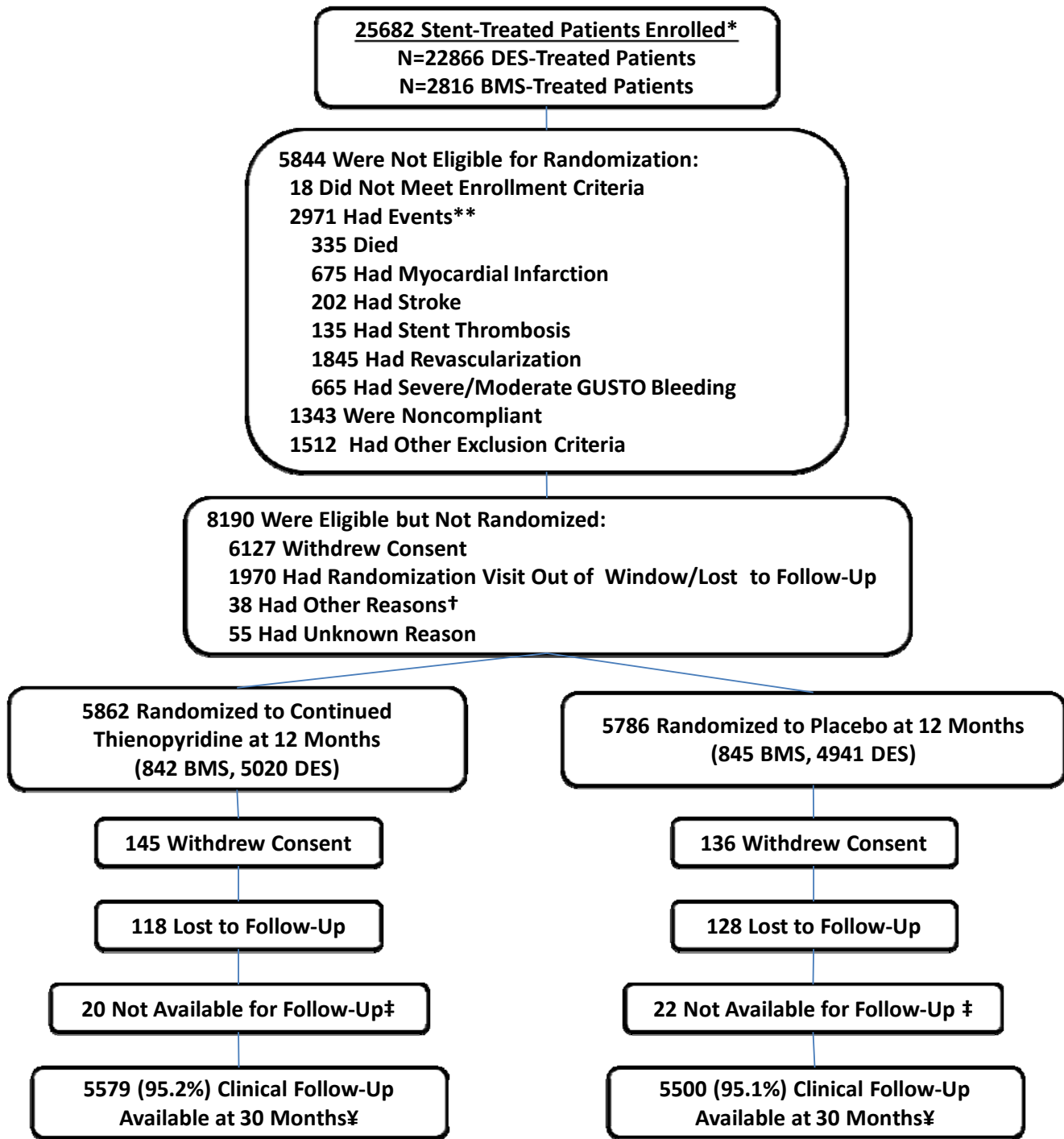
GUSTO:

- Severe or life-threatening
 - Intracerebral hemorrhage
 - Resulting in substantial hemodynamic compromise requiring treatment
- Moderate
 - Requiring blood transfusion but not resulting in hemodynamic compromise

BARC:

- Type 2: any overt, actionable sign of hemorrhage (eg, more bleeding than would be expected for a clinical circumstance, including bleeding found by imaging alone) that does not fit the criteria for type 3, 4, or 5 but does meet at least one of the following criteria: (1) requiring nonsurgical, medical intervention by a healthcare professional, (2) leading to hospitalization or increased level of care, or (3) prompting evaluation
- Type 3
 - Type 3a
 - Overt bleeding plus hemoglobin drop of 3 to <5 g/dL* (provided hemoglobin drop is related to bleed)
 - Any transfusion with overt bleeding
 - Type 3b
 - Overt bleeding plus hemoglobin drop ≥ 5 g/dL* (provided hemoglobin drop is related to bleed)
 - Cardiac tamponade
 - Bleeding requiring surgical intervention for control (excluding dental/nasal/skin/hemorrhoid)
 - Bleeding requiring intravenous vasoactive agents
 - Type 3c
 - Intracranial hemorrhage (does not include microbleeds or hemorrhagic transformation, does include intraspinal)
 - Subcategories confirmed by autopsy or imaging or lumbar puncture
 - Intraocular bleed compromising vision
- Type 4: CABG-related bleeding
 - Perioperative intracranial bleeding within 48 h
 - Reoperation after closure of sternotomy for the purpose of controlling bleeding
 - Transfusion of ≥ 5 U whole blood or packed red blood cells within a 48-h period[‡]
 - Chest tube output ≥ 2 L within a 24-h period
- Type 5: fatal bleeding
 - Type 5a
 - Probable fatal bleeding; no autopsy or imaging confirmation but clinically suspicious
 - Type 5b
 - Definite fatal bleeding; overt bleeding or autopsy or imaging confirmation

eFigure. Enrollment, randomization, and follow-up among randomized patients



*Screening for eligibility data are not available to report.

**Subjects may have >1 event.

† Site terminated participation, randomization target met prior to subject follow-up, or subject not recognized to be eligible by site

‡Subjects move, were incarcerated, or were prematurely exited from the study.

¥ Although the number of patients with available data on clinical follow-up at 30 months is reported in each group, the efficacy end points were analyzed with the last available follow-up information in the intention-to-treat population, which included all patients who underwent randomization.

eAppendix. DAPT Investigators by Country

Listed are investigators randomizing at least one DES patient.

ABBOTT XIENCE V USA STUDY

Co-Principal Investigators:

James Hermiller, St. Vincent Medical Center, Indianapolis, Indiana, US

Mitch Krucoff, Duke Clinical Research Institute, Durham, North Carolina, US

United States

Aaron Kaplan, Dartmouth Hitchcock Medical Center, Lebanon, New Hampshire; Aaron J. Grantham, St. Luke's Hospital, MAHI (Mid America Heart Institute), Kansas City, Missouri; Abdulhay Albirini, Genesis HealthCare System, Good Samaritan Hospital, Zanesville, Ohio; Ahmed Abdel, Altru Health System, Grand Forks, North Dakota; Alice Jacobs, Boston Medical Center, Boston, Massachusetts; Ameer Kabour, Mercy St. Vincent's Medical Center, Toledo, Ohio; Arif Shakir, Midwest Regional Medical Center, Midwest City, Oklahoma; Arvind Agarwal, The Valley Hospital, Ridgewood, New Jersey; Ash Jain, California Cardiovascular Consultants Medical Associates, Washington Hospital, Fremont, California; Aylmer Tang, Chambersburg Hospital, Chambersburg, Pennsylvania; Barry Hackshaw, Desert Cardiology Center, Rancho Mirage, California; Brent McLaurin, AnMed Health, Anderson, South Carolina; Brent J. Muhlestein, J.L. Sorenson Heart & Lung, Intermountain Medical Center, Murray, Utah; Brian Dearing, Thomas Hospital, Fairhope, Alabama; Brian Negus, The Chattanooga Heart Institute, Chattanooga, Tennessee; Brian Jefferson, Centennial Heart, Sarah Cannon Research Institute, Nashville, Tennessee; Daniel Cassavar, The Toledo Hospital, Toledo, Ohio; Daniel Fisher, UMASS Memorial Medical Center, Worcester, Massachusetts; Daniel Lee, Bay Regional Medical Center, Bay City, Michigan; Daniel Donovan, Cardiology Clinic San Antonio, San Antonio, Texas; David Brill, Washington Adventist Hospital, Takoma Park, Maryland; David Lorenz, Cardiology Associates of Fairfield County, Stamford, Connecticut; David Eich, Sentara Norfolk General Hospital, Sentara Cardiovascular Research, Norfolk, Virginia; David Mego, Little Rock Cardiology Clinic, Arkansas Heart Hospital, Little Rock, Arkansas; David Rizik, Scottsdale Health Care, Scottsdale, Arizona; Dean Kereiakes, The Christ Hospital, Lindner Center, Cincinnati, Ohio; Dean E. Nukta, Cleveland Cardiology Research, Fairview Park, Ohio; Donald Westerhausen, Midwest Cardiovascular Research & Education Foundation, Elkhart, Indiana; Ernesto Rivera, Amarillo Heart Group, Amarillo, Texas; Gary Swank, Carilion Medical Center, Roanoke, Virginia; Gary Renaldo, Novant Clinical Research Institute, Forsyth Medical Center, Winston-Salem, North Carolina; Gene Chang, Penn Presbyterian Medical Center, Philadelphia, Pennsylvania; George Stouffer, University North Carolina Hospitals, Chapel Hill, North Carolina; George Chrysant, Integris Baptist Medical Center, Oklahoma City, Oklahoma; George Tadros, North Memorial Medical Center, Minneapolis, Minnesota; Gregory Elsner, The Care Group LLC, St. Vincent's Heart Center of Indiana, Indianapolis, Indiana; Gregory Mishkel, St. John's Hospital, Prairie Education and Research Cooperative, Springfield, Illinois; Gregory Boxberger, Galichia Heart Hospital, Wichita, Kansas; Gregory Giugliano, Baystate Medical Center, Springfield, Massachusetts; Hiroshi Yamasaki, St. John Hospital and Medical Center, Detroit, Michigan; Hoshedar Tamboli, Bay Area Cardiology Associates,

Brandon, Florida; Jack Jones, Cotton Oneil Cardiovascular Center, Topeka, Kansas; James Leggett, Over Lake Hospital Medical Center, Hope Heart Institute, Bellevue, Washington; James Choi, Baylor Heart & Vascular Hospital, Cardiology Consultants of Texas, Dallas, Texas; James Mills, Duke Raleigh Hospital, Raleigh, North Carolina; James Bengtson, Michigan Heart PC, Ypsilanti, Michigan; Jeffrey Lins, Tri-State Medical Group Cardiology, Beaver, Pennsylvania; Jeffrey Chambers, Metropolitan Cardiology Consultants, Minneapolis, Minnesota; Jeffrey Marshall, Northeast Georgia Medical Center, Gainesville, Georgia; Jerome Williams Jr., Mid Carolina Cardiology, Charlotte, North Carolina; Jerry Greenberg, Aurora Denver Cardiology Associates, Aurora, Colorado; John McPherson, Vanderbilt Medical Center, Nashville, Tennessee; John Wang, Union Memorial Hospital, MedStar Health, Baltimore, Maryland; John Rashid, HeartCare Midwest, St. Francis Hospital, Peoria, Illinois; John Miles McClure, Mid-Michigan Heart and Vascular Center, Saginaw, Michigan; Jorge Saucedo, University of Oklahoma Health Science Center, Oklahoma City, Oklahoma; Joseph Aragon, Santa Barbara Cottage Hospital, Santa Barbara, California; Kenneth Baran, St. Paul Heart Clinic, St. Paul, Minnesota; Kimberly Skelding, Geisinger Medical Center, Danville, Pennsylvania; Kiritkumar Patel, St. Joseph Mercy Oakland, Pontiac, Michigan; Louis Cannon, Cardiac and Vascular Research Center of North Michigan, Petoskey, Michigan; Lowell Satler, Washington Hospital Center, MedStar Health, Washington, District of Columbia; Luis Gruberg, Stony Brook University Medical Center, Stony Brook, New York; Mahesh Bikkina, St. Joseph's Regional Medical Center, Paterson, New Jersey; Manohar Angirekula, Permian Research Foundation, Odessa, Texas; Mark Studeny, University Cardiovascular Services, Huntington, West Virginia; Mark Goodwin, Midwest Heart Specialists, Edward Heart Hospital, Naperville, Illinois; Michael Ragosta, University of Virginia, Charlottesville, Virginia; Michael Martinelli, Albany Associates in Cardiology, Albany, New York; Michael Chang, Mercy General Hospital, Mercy Heart and Vascular Institute, Sacramento, California; Michael Rinaldi, Carolinas Medical Center, Sanger Heart Vascular Research, Charlotte, North Carolina; Michael Tamberella, Carolina Heart Specialists, Mid Carolina Cardiology Gastonia, Gastonia, North Carolina; Michael R. Wyman, Torrance Memorial Medical Center, Torrance, California; Mirle Kellett, Maine Medical Center, Portland, Maine; Mohammad Shoukfeh, Lubbock Heart Hospital Texas Cardiac Center, Lubbock, Texas; Naim Farhat, North Ohio Heart Center, North Ohio Research Ltd, Lorain, Ohio; Neerav Shah, Cardiology Partners Clinical Research, Wellington, Florida; Osvaldo Gigliotti, Seton Heart Institute, Austin, Texas; Patrick Cambier, Heart and Vascular Institute of Florida, Clearwater, Florida; Patrick Hall, Providence Hospital, South Carolina Heart Center, Columbia, South Carolina; Patrik Zetterlund, Salinas Valley Memorial Hospital, Salinas, California; Paul Gordon, The Miriam Hospital, Providence, Rhode Island; Paul Tolerico, York Hospital, York, Pennsylvania; Peter Kerwin, Midwest Heart Foundation, Elmhurst Memorial Hospital, Oakbrook Terrace, Illinois; Peter Ver Lee, Northeast Cardiology Associates, Eastern Maine Medical Center, Bangor, Maine; Raj Chandwaney, Hillcrest Medical Center, Tulsa, Oklahoma; Rajesh Dave, Spirit Physician Services, Capital Cardiovascular Associates, Camp Hill, Pennsylvania; Rajesh Sharma, Exempla Rocky Mountain Cardiology Associates, Denver, Colorado; Randel Smith, Hattiesburg Clinic P.A., Hattiesburg, Mississippi; Ray Matthews, University of Southern California, Los Angeles, California; Ricardo Yaryura, Sarasota Memorial Hospital, Sarasota, Florida; Richard Goldweit, Englewood Hospital and Medical Center, Englewood, New Jersey; Richard Padgett, Endovascular Research, Sacred Heart General Hospital, Springfield, Oregon; Robert Applegate, Wake Forest University, Winston-Salem, North Carolina; Robert Watson, Abington Medical Specialist, Abington, Pennsylvania; Robert

Merritt, St. John's Medical Research Institute, Springfield, Missouri; Ronald Caputo, St. Joseph Hospital Cardiology Associates, Liverpool, New York; Rupal Dumasia, Lancaster General Health, Lancaster, Pennsylvania; Saeed Shaikh, St. Francis Medical Group, Indiana Heart Physicians, Indianapolis, Indiana; Samin Sharma, Mount Sinai Medical Center, New York, New York; Samir Dabbous, Oakwood Hospital, Dearborn, Michigan; Sean Janzer, Paoli Hospital, Paoli, Pennsylvania; Sergio Waxman, Lahey Clinic Medical Center, Burlington, Massachusetts; Simon Dixon, William Beaumont Hospital, Royal Oak, Michigan; Spencer King, St. Joseph's Hospital Atlanta, St Joseph's Research Institute, Atlanta, Georgia; Steven Guidera, Doylestown Hospital, Doylestown, Pennsylvania; Steven Hearne, Delmarva Heart Research Foundation, Peninsula Regional Medical Center, Salisbury, Maryland; Tarek Helmy, University of Cincinnati, Cincinnati, Ohio; Theodore Lau, Franciscan Research Center, Tacoma, Washington; Thomas Martyak, Mary Washington Hospital, Fredericksburg, Virginia; Thomas Pow, Great Lakes Heart and Vascular Institute, St. Joseph, Michigan; Thomas Stuver, Rochester General Hospital, Rochester, New York; Thomasz Stys, Sanford Research, University of South Dakota, Sioux Falls, South Dakota; Vankeepuram Srinivas, Weiler Hospital, Montefiore Medical Center, Bronx, New York; William Bachinsky, PinnacleHealth, Moffitt Heart and Vascular Group, Wormleysburg, Pennsylvania; William Newman, Wake Heart Research Institute, Wake Heart and Vascular Associates, Raleigh, North Carolina; William Crowder, Jackson Heart Clinic, Jackson, Mississippi; Winaya Chepuri, Providence Regional Medical Center, Everett Colby Campus, Everett, Washington; Zafir Hawa, North Kansas City Hospital, North Kansas City, Missouri; Zaki Masud, Kaleida Health, Buffalo Heart Group, Buffalo, New York

BOSTON SCIENTIFIC LIBERTE POST-APPROVAL STUDY

Co-Principal Investigators:

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