Interventional Cardiologists Enthusiastically Adopt SCAI’s New Quality Improvement Toolkit

The debut of the SCAI Quality Improvement Toolkit (SCAI-QIT) has been a great success, as interventional cardiologists from across the country answer the call to get to work on quality, one cath lab at a time.

“The response of members has exceeded my wildest expectations,” said SCAI President Christopher J. White, M.D., FSCAI. “I think we’ve hit a chord. We’re in the right place at the right time.”

In fact, at the SCAI 2011 Scientific Sessions in May, some 120 “Quality Champions” filled a workshop where the toolkit was unveiled. Not only were they introduced to the contents of the quality improvement toolkit, they were given the opportunity to work through obstacles and challenges that might arise in their own cath labs.

In late June, another 90 participated in the first of a series of interactive webinars designed to spread the word to SCAI members and provide detailed descriptions of key elements of the SCAI-QIT. Additional webinars are scheduled for July 21 and August 3.

The SCAI-QIT is just one of several quality initiatives the Society has launched in the last year as part of an ongoing commitment to helping interventional cardiologists provide high-quality care to their patients—and demonstrate that quality to health insurers and regulators. Its development was led by Sunil V. Rao, M.D., FSCAI, along with Steven Yakubov, M.D., (continued on page 2)

New Consensus Documents Lay Foundation for PCI Quality Improvement Programs

SCAI has released a set of position papers on quality improvement in interventional cardiology that together lay the foundation for an effective quality improvement program and offer recommendations for the appropriate release of quality measures to the public.

The companion documents provide guidance on everything from specific indicators for gauging the quality of PCI, to the role of random case review in monitoring appropriateness, to the need for risk-adjustment and benchmarking in public reporting. Both documents are available online at www.SCAI.org and have been published in Catheterization and Cardiovascular Interventions. Part 1, on standards for quality assessment and improvement, was e-published in (continued on page 5)
SCAI-QIT (cont’d from pg 1)

FSCAI, Skip Anderson, M.D., FSCAI, and the members of the SCAI Quality Improvement Committee.

The SCAI-QIT is not intended to be a one-size-fits-all program, said Dr. White. Instead, it is designed to be flexible, so that each cath lab can choose elements to spur improvement in key areas of concern in their own institution. It encompasses everything from pre-procedure checklists to how to make the best use of benchmarking data to the importance of random case review to incorporation of clinical guidelines into daily practice.

“The starting ground for each hospital is pretty variable, so we built the toolkit with a variety of options that any institution will find useful,” Dr. White said. “It doesn’t matter where you start. The important thing is that you’re better tomorrow than you are today, and better next month than you are this month.”

Built into the SCAI-QIT roll-out is ongoing support for Quality Champions as they introduce the toolkit in their hospitals and cath labs. The new webinar series is part of that mentorship. The first webinar, on June 21, focused on cath lab best practices and procedural quality. It featured presentations by Kirk Garratt, M.D., FSCAI; Kalon Ho, M.D., FSCAI; and Srihari Naidu, M.D., FSCAI. Specific topics included:

**Best practices**
- Pre-procedure checklist
- Patient preparation
- Sedation and anesthesia
- Infection control
- Time-out protocols
- Access site management
- Monitoring, length of stay, and discharge
- Communication with patients, family, and referring physicians

**Procedural quality**
- Why benchmark
- What to do with benchmarking data
- Analyzing data by meaningful subgroups
- Using outliers as learning opportunities
- Outcomes to track, including fluoroscopy time, in-hospital all-cause mortality, vascular complications, stents per PCI admission, appropriateness of PCI

**Key conferences**
- Invasive cardiology morbidity and mortality (cath lab M&M)
- Invasive case review conference (angio review)
- Catheterization laboratory educational conference
- Why have key conferences
- How to make key conferences happen

**Remediation and professional evaluation**
- Criteria for identifying a “performance issue,” including questions of competence, excessive lengths of stay, patterns of unnecessary diagnostic testing/treatments, failure to follow clinical practice guidelines, and frequent readmissions
- Ongoing professional performance evaluations
- Focused professional performance evaluation
- Effective remediation


A second webinar slated for Thursday, July 21, will focus on operator and staff requirements, and will feature...
presentations by Dr. Yakubov and Lyndon Box, M.D., FSCAI. A third webinar on Wednesday, Aug. 3, will focus on defining quality in the cath lab, and facility and environmental controls. Presentations will be delivered by Dr. Anderson and Charles E. Chambers, M.D., FSCAI. A team of quality experts has been critical in developing the toolkit, Dr. White said, but the ultimate success of the SCAI-QIT will depend on the physicians who serve as quality champions working with their cath lab teams in their hospitals.

“We made a strategic decision to really engage physicians in this process,” Dr. White said. “With physicians leading, the magnitude of what we can accomplish is enormous.”

To learn about and register for future SCAI-QIT webinars, go to http://www.scai.org/QIT. To sign up to be a Quality Champion, go to http://www.scai.org/QITChampion.aspx.

The SCAI Quality Improvement Toolkit was developed with support from Daiichi Sankyo, Inc., and Lilly USA, LLC. The Society gratefully acknowledges this support while taking sole responsibility for all content developed and disseminated through this effort.

SCAI Announces Winners of 2011–12 Interventional Cardiology Fellows-in-Training Grants

This spring, SCAI announced that more than 40 interventional cardiology training programs will receive grants to support the education of their fourth-year fellows. For the fourth consecutive year, SCAI has administered a competitive program that provides a number of Accreditation Council for Graduate Medical Education–accredited training programs with funding enabling their fellows to complete an additional year of training, supporting fellows’ travel to educational meetings, and providing teaching resources. This year’s list of winners (see sidebar on p. 4) also includes grants designated for structural, peripheral, or vascular training programs.

SCAI’s Interventional Cardiology Fellows-in-Training Grants program has grown increasingly competitive each year, as more and more programs apply for scarce resources. More than 75 programs applied this year, and the FIT Grants Committee faced the challenge of selecting among “a field of truly excellent applications,” says Joseph D. Babb, M.D., FSCAI, who chairs the committee that also includes Barry Uretsky, M.D., FSCAI, Tyrone J. Collins, M.D., FSCAI, Jonathan Tobis, M.D., FSCAI, and Robert Applegate, M.D., FSCAI.

“We take this responsibility very seriously because we know these grants can make a big difference for the programs that receive them and for the doctors who train at those institutions,” adds Dr. Babb.

Program directors throughout the country emphasize the importance of the grants for the training of their fellows, and many cite concerns about the future of advanced interventional cardiology training. One program director wrote, “Without your generous support, our educational mission is threatened. We do appreciate the significant involvement SCAI has provided in training interventional fellows.”

“The SCAI FIT Grants program embodies the Society’s educational mission,” says Dr. Babb, “and the program would not be possible with the generous and unrestricted grants from the Boston Scientific Foundation, which contributes in honor of Don Baim, M.D., FSCAI; Cordis Cardiac & Vascular Institute; and Medtronic. We thank them for the ongoing support of SCAI and tomorrow’s interventional cardiologists.”

Applications for the SCAI FIT Grant for 2012–13 will be accepted this fall. Contact Sheila Agyeman at sagyeman@scai.org for more information.

SCAI thanks the following companies for their generous support of the SCAI FIT Grants Program:
SCAI FIT Grant Recipients

SCAI congratulates the following 2011–12 Interventional Cardiology Fellows-In-Training Grant recipients:

Aurora Sinai Medical Center  
Beth Israel Deaconess Medical Center  
Brown University Program, The Miriam Hospital  
Case Western Reserve University  
Cedars-Sinai Medical Center  
Columbia Presbyterian Medical Center  
Duke University Hospital  
Emory University Hospital  
Harbor UCLA/Good Samaritan Hospital  
Johns Hopkins University Program  
Lenox Hill Hospital  
Loyola University Medical Center  
Massachusetts General Hospital  
NorthShore University HealthSystem  
Northwestern Memorial Hospital  
Ochsner Clinic Foundation  
Ohio State University  
Rush University Medical Center  
Scripps Clinic  
St. Luke’s Mid America Heart Inst  
Stanford University Medical Center  
Tufts-New England Medical Center  
UCLA Medical Center  
University of Alabama at Birmingham  
University of California (Irvine) Program  
University of California (San Diego) Program  
University of California Davis  
University of Florida  
University of Florida Health Science Center Jacksonville  
University of Kentucky at Lexington College of Medicine  
University of Minnesota  
University of North Carolina Hospitals  
University of Southern California/LAC+USC Medical Center Program  
University of Texas at Houston Program  
University of Texas Health Sciences Center at San Antonio  
University of Vermont Program  
Vanderbilt University Medical Center  
Wake Forest University School of Medicine Program  
Washington Hospital Center  
Washington University School of Medicine  
William Beaumont Hospital

SCAI Welcomes New Trustees

SCAI is pleased to welcome the following Fellows to the Board of Trustees or the Executive Committee:

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Secretary, SCAI  
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New York, NY

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Li Battiati, Italy

SCAI thanks the following Fellows whose terms as Trustees or Executive Committee members ended in May 2011. Their service to the Society is gratefully acknowledged:
March, and Part 2, on public reporting and risk adjustment, was featured in a news conference at the SCAI 2011 Scientific Sessions.

“Part 1 addresses how to develop and evaluate a quality improvement program internally,” said Lloyd W. Klein, M.D., FSCAI, professor of medicine at Rush Medical College in Chicago and lead author of both consensus documents. “Part 2 really gets at public reporting: What should be done, what shouldn’t be done, how to do it correctly, how to do it incorrectly.”

Public reporting is an especially hot-button issue, noted Dr. Klein. When done appropriately, it can guide patients in selecting an excellent interventional cardiologist and provide reassurance about the quality of both the physician and the medical center. However, when public reporting on PCI relies on raw clinical data without risk-adjustment for case mix—as it typically does today—it can be misleading and actually cast a shadow on interventionalists who treat high-risk patients.

“We’re in favor of having public reporting of some sort,” Dr. Klein said. “In theory, it’s a good thing. Our patients should have a way to choose doctors who are high quality, and they should have more than a television commercial paid for by a hospital to rely on. But we want public reporting to be done correctly and appropriately.”

Dr. Klein is concerned that public reporting of raw clinical data may ultimately reduce treatment options for high-risk patients. “That’s not in the patient’s best interest,” he said. “If we don’t change the public reporting systems that are out there now, we’re going to get a result that nobody wants.”

Similarly, Dr. Klein believes that, within a medical institution, there is a correct and objective way to look at quality improvement—and it starts from the ground up. Effective quality improvement programs focus not just on outcomes but also the structure of the health system and the processes used to evaluate and improve clinical results. Part 1 of the consensus documents defines core and optional quality indicators and describes a systematic approach to data collection, data analysis, program intervention and reassessment.

“This document serves as a baseline reference that people can turn to when they create a quality improvement program,” Dr. Klein said. “It’s important that a cath lab program captures all of the relevant data, but we’ve also left it open to people to decide what they want to focus on in their institution.”

The essential elements of objective, fair, and meaningful quality improvement and public reporting programs include the following:

- **A quality program must be objective and impartial**, with careful attention paid to the selection of quality indicators and the use of standard definitions for adverse events.
- **Quality outcomes should be benchmarked against those of similar institutions**. Participation in national or regional clinical databases is strongly recommended.

“Our patients should have a way to choose doctors who are high quality, and they should have more than a television commercial paid for by a hospital to rely on. But we want public reporting to be done correctly and appropriately.”

— Dr. Klein

- **The PCI quality process should include peer review of individual operator performance**, including the use of random case review. This process should focus on improving the quality of care, rather than being punitive. All proceedings must be confidential.
- **In public reporting, validated risk-adjusted models should be the primary method to assess clinical outcomes**. These models should include all major complications—such as major bleeding complications and compromised renal function—not just mortality.
- **Health insurance claims data should not be used as a way to evaluate quality**.

The consensus documents are now being used by the Accreditation for Cardiovascular Excellence (ACE) program in developing a more detailed quality assurance manual for participating cath labs, Dr. Klein said.

To access both consensus documents, go to www.SCAI.org/Guidelines. For more information about ACE accreditation, visit www.CVEXCEL.org.
Advocacy and Guidelines Update

SCAI Admission Into AMA House of Delegates Strengthens Cardiology’s Voice

This spring, the American Medical Association (AMA) accepted SCAI as the third cardiology group in the Association’s House of Delegates (HOD). SCAI’s new status as an HOD member gives Cardiology an additional vote on AMA’s policies and for the first time provides Interventional Cardiology with its own vote.

“This is a major step forward for SCAI and for the field of Interventional Cardiology,” said SCAI Past President Joseph D. Babb, M.D., FSCAI, who has represented SCAI on the AMA’s Specialty and Service Society (SSS) Caucus. “In the past, as provisional members of the SSS, we were very limited in our ability to address interventional concerns. Now, as a voting member of the HOD, we can do much more to make sure our issues are considered both in the House of Medicine and with policymakers the AMA lobbies.”

While SCAI has not always agreed with AMA policies, it is considered to be the most prominent representative for physicians on Capitol Hill, noted SCAI President Christopher J. White, M.D., FSCAI. “The best way, and perhaps the only effective way, to make sure our concerns are reflected in AMA efforts is from within.”

The HOD seat will also provide the interventional cardiology specialty with more credibility and prominence in the House of Medicine, notes SCAI Senior Director for Advocacy and Guidelines Wayne Powell. “When the White House or Congressional leaders look for input on healthcare policy, they generally refer to the list of specialty groups in the AMA’s HOD. Our HOD seat will allow SCAI greater access and involvement in important policymaking groups.”

Mr. Powell cited a number of entities where SCAI can potentially leverage its new HOD membership, among them:

• The Physicians Consortium on Performance Improvement, which is guiding the development of performance measures on PCI;
• The Relative Value Update Committee (RUC), which plays a major role in setting physician fees; and
• The CPT Editorial Panel, which defines new and evolving procedures.

“SCAI has a strong history of collaborating with the other two cardiovascular organizations that are HOD members: the American College of Cardiology and the Heart Rhythm Society,” said Dr. Babb. “I have no doubt we will continue to coordinate well with them and others, but now there will be a special focus on invasive and interventional cardiovascular procedures. This is good news for us as interventional cardiologists and for our patients.”

For more information about the AMA HOD or SCAI’s advocacy efforts, email Mr. Powell at wpowell@scai.org.

SCAI Admission Into AMA House of Delegates
Strengthens Cardiology’s Voice

Sessions Include:

- How to start and manage a radial program
- Training and competency guidelines
- Review case studies and hands on simulator time

Featured Lecturers:

Mehrdad Saririan, MD, FSCAI, James Tift Mann III, MD, FSCAI,
Ian C. Gilchrist, MD, FSCAI, John E. Lassetter, MD, FSCAI, Richard R. Heuser MD, FSCAI

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SCAI Members Advocate on Capitol Hill

Drs. Steve Giglioti, Joseph D. Babb, Elizabeth Holper, Peter L. Duffy, and Thomas Tu discussed advocacy issues with Congressman Dave Camp, Chair of the Ways and Means Committee. SCAI was well represented during the Alliance of Specialty Medicine Legislative events in mid-July.

Serving among SCAI’s representatives to the Alliance of Specialty Medicine, Drs. Elizabeth Holper and Steve Giglioti had a busy day visiting the congressional offices of seven of the U.S. Congressional representatives from their state of Texas, including a face-to-face meeting with Representative Pete Sessions (R-TX-32). They thanked those already supporting the repeal of the Independent Medical Advisory Board (IPAB) (H.R. 452/S. 668) and medical liability reform (H.R. 5/S. 1099) and urged those who aren’t already doing so to support these bills of high interest to the interventional/invasive cardiology community.
SCAI 2011 Scientific Sessions Delivers Quality Content That Impacts Practice

SCAI 2011 Scientific Sessions attendees came from four continents to participate in an educational event whose quality almost all rated as “excellent.” Well over 1,400 interventional cardiologists, cath lab nurses and technicians, as well as other cardiovascular providers, attended SCAI’s 34th annual meeting. Their feedback reveals SCAI’s signature focus of practical guidance on relevant topics will impact their performance in their own practices.

“The evaluation reports showed that 96 percent of attendees updated their knowledge or skills, and 89 percent think their performance will be impacted positively because of the meeting,” said SCAI President and Program Co-chair Christopher J. White, M.D., FSCAI. “That’s what we want to hear from attendees – that they think they’ll be better at their jobs because of the program.”

In addition to giving the meeting high scores on the quantitative measures, attendees told SCAI what they want in the future. They like the small, focused sessions, for example. One attendee elaborated: “Meeting informally with thought-leaders was useful. Continue this tradition. [SCAI’s] relaxed atmosphere is always a plus. At [other cardiology meetings] there isn’t an opportunity to walk up and speak to the presenters.”

Attendees also stressed the value of practical tips and “take-home points” provided during many of the sessions. One attendee’s comments were echoed by many: “I really like the summary speakers … . Every expert has an opinion, but I like to understand the one or two points to take home.”

As in past years, attendees thanked SCAI for the Hemodynamics Symposium and its emphasis on “back to basics reminders.” One attendee emphasized: “These sorts of presentations are what make the SCAI annual meeting special.”

Also receiving requests for encore sessions at future meetings were the Transradial Symposium, Congenital Heart Disease Symposium (see p. 9), and the Quality Improvement Workshop (see p. 1).

True to SCAI tradition, case-based sessions received the
enthusiastic approval of many attendees. “Interventionalists are consistent in what they like – and that’s cases,” said Program Co-chair James B Hermiller, M.D., FSCAI. “Whether it’s Brain Scratchers or Best Saves or Worst Nightmares, the cases that focus on handling complications – or preventing them in the first place – always get high ratings.

“No doubt next year’s program will feature cases again,” said Dr. Hermiller, who is already working on the 2012 program with his new co-chair, Kenneth Rosenfield, M.D., FSCAI. “We’re in the first stages of planning – which includes an in-depth review of the feedback from the previous year’s program. Next year’s attendees will get more of what they liked, plus some innovative new features.”

Check out www.SCAI.org/SCAI2012 for more about SCAI 2012, to be held in Las Vegas, NV, May 9–12.

SCAI 2011 Congenital Heart Disease Program Scores High With Attendees

The 2011 Scientific Sessions program on congenital and structural heart disease won accolades from attendees, who praised its value for both pediatric and adult interventional cardiologists. On average, attendees scored the congenital heart disease presentations at 3.6 out of a possible 4.0. Of all the sessions offered during the 2½ days of lectures, case reviews, interactive discussions, taped case presentations, and workshops, the ever-popular “I Blew It” sessions received the highest rating, an amazing 3.9.

Cases Scratch Attendees’ Brains

“The ‘I Blew It’ sessions are always a valuable opportunity for discussion of interventional complications in a non-intimidating atmosphere that promotes both teaching and learning,” said Frank F. Ing, M.D., FSCAI, who chaired the program with co-chair Daniel S. Levi, M.D., FSCAI.

“Of course, it is always fun to crown the ‘I Blew It’ king or queen, based on the participants’ votes for overall best case,” said Dr. Ing, adding that this year the honor went to Mark Hoyer, M.D., FSCAI, for his case on occlusion of a giant LV aneurysm.

Back by popular demand, and in keeping with attendees enthusiasm for case-based sessions, the “Brain Scratchers” session featured five taped “conundrum cases” focusing on unusual diagnostic or interventional “mysteries,” said Dr. Ing. “Each of these cases included much discussion between the audience, moderators, and faculty, and concluded with clear teaching points that attendees can take home to their own practices.”

Another popular feature of the congenital heart disease program is the annual debate, this time between Jonathan J. Rome, M.D., and Phillip Moore, M.D., who faced off over the pros and cons of balloon atrial septostomy for infants with d-transposition of the great arteries. “It was interesting to see these two senior pediatric interventional ‘warriors’ who were trained at the same center at around the same time but now live on opposite coasts as they battled it out,” said Dr. Ing. “I believe the voting for the winner resulted in a deadlock tie at the end.”

Sessions Highlight Ongoing Challenges, New Advances

While the case-based session were back, new sessions also provided opportunities for cross-pollination of ideas, said Dr. Ing. The new workshop on “Diagnosis and Treatment of Thrombosis in the Pediatric Patient,” for example, included pediatric hematologists Marilyn Manco-Johnson, M.D., and Leo Brando, M.D. “This was the first time the SCAI program has included pediatric subspecialists outside of cardiology,” said Dr. Ing. “They shared their expertise on the work-up, treatment, and predisposing factors for

(continued on page 10)
cardiovascular thrombosis in pediatric patients.”

Also new to the program was the “Late-Breaking Pediatric Clinical Trials” session, where Richard Ringel, M.D., FSCAI, gave an update on the Coarctation of the Aorta Stent Trial (COAST). “It was exciting to hear the results of the only FDA-sponsored trial on the use of stents in congenital heart disease,” said Dr. Ing.

The session was timely, as later that day in the Congenital Heart Disease Committee meeting, it was announced that the FDA had endorsed the IMPACT Registry, which tracks outcome measures of procedures performed in the pediatric cath lab. “This is the first time we have had an official endorsement by the FDA and the ACC for a registry specific to congenital heart disease interventions,” said Dr. Ing. “We urge all pediatric cath labs to join the IMPACT Registry.”

Among new advances highlighted during the congenital and structural heart disease program were presentations on the recently approved Melody valve for the pulmonary position and the development of bioabsorbable stents and the transcatheter Colibri valve for the aortic position. These and other presentations were part of sessions titled “Dress for Success: Anticipation, Preparation, and Prevention” and “The Role of the Interventionalist in Genetic Research.”

With its focus on complications of various interventions, “Dress for Success” also featured discussions on stenting the pulmonary artery, using radiofrequency wires for perforation across atretic valves and vessels, the “hybrid Norwood” procedure, and covered stents for coarctations of the aorta.

Retired but still active in research, Charles E. Mullins, M.D., FSCAI, presented a novel technique of temporary hepatic vein occlusion to allow for more effective hepatic absorption of viral vectors carrying genes that produce factors to treat various diseases such as diabetes and hemophilia. “It was quite exciting to envision the potential role of the pediatric interventionist in treating non-cardiac diseases,” said Dr. Ing.

Not Just for Children’s Cardiologists

As SCAI’s congenital heart disease program expands and its therapies become increasingly effective, the curriculum is also becoming more relevant for adult interventionalists, stressed Dr. Ing. “Just as cardiovascular thrombosis is a topic that should be of interest to all cardiologists, we created sessions of broad interest.” Dr. Ing cited as one example “The Adult with the Single Ventricle.”

This is a likely trend for future SCAI Scientific Sessions, said Dr. Ing, who is looking forward to attending next year’s program. “It was a great privilege to have chaired the program this year with Dr. Levi,” he said. “These are exciting times for us.”

For updates on the program Dr. Levi is developing along with program co-chair Thomas E. Fagan, M.D., FSCAI, for 2012, watch for future issues of this newsletter and visit www.SCAI.org/SCAI2012.

SCAI 2011 Still Available With New Online Program

If you missed the SCAI 2011 Scientific Sessions or want to review content presented onsite, it’s not too late. Both SCAI 2011 attendees and those who didn’t attend the meeting can use SCAI 2011 On Demand to download the presentation slides with audio as well as streaming video and taped cases.

Available for the first time, this new SCAI program was designed to allow the entire interventional cardiology community – including those who stayed at home to cover their cath labs – to catch up on the “Best of the Best” science presented at SCAI 2011 in Baltimore. It’s also a great tool for training staff and getting familiar with SCAI’s top-notch educational offerings.

SCAI 2011 On Demand is available around the clock. Tuition starts at just $99 for SCAI 2011 attendees, To browse the sessions and sign up, go to http://ovationevents.com/SCAI.
SCAI 2011: Clinical Highlights

The SCAI 2011 Scientific Sessions featured a wide range of new science, including late-breaking clinical trials, Best of the Best oral abstracts, and poster sessions. Follow are highlights of just some of the studies:

Late-Breaking Clinical Trials
• The EVISTA-DVT trial showed that stenting is safe, effective, and superior to balloon venoplasty for patients with a high-grade (>70%) residual stenosis after thrombolysis for deep venous thrombosis (DVT). A total of 141 patients were randomized to stenting or balloon venoplasty alone. During a follow-up averaging 35 months, 4 percent of patients in the stenting group and 10 percent in the balloon venoplasty group redeveloped DVT. In addition, venous patency was greater in the stenting group.

• Results from the PROTECT II study suggest that hemodynamic support with the Impella 2.5 may improve outcomes during high-risk PCI as compared to use of an intra-aortic balloon pump. The analyses showed a significant reduction of 29 percent in the MACCE rate for the Impella arm at 90 days. Additionally, the Impella patient population had overall average hospital charge savings of approximately $19,000 in all patients, without device costs included. With the device costs included, hospital charges with Impella ranged from being equivalent to $3,000 less than the intra-aortic balloon pump.

• In the HERCULES trial, 202 patients with uncontrolled hypertension experienced a significant reduction in systolic blood pressure after renal artery stenting. However, there was no correlation between this finding and levels of brain-type natriuretic peptide (BNP) at baseline or a change in BNP levels 24 hours and 30 days after the procedure.

• The ST-DETECT study offered insight into the potential for high-fidelity intracardiac electrograms (EGMs) generated by implantable cardioverter-defibrillators (ICDs) to detect ischemic ST deviation in high-risk patients with coronary artery disease. The study was terminated early because rates of adverse cardiac event were very low, totaling just 182 in 89 of 173 patients but including no cases of ST-elevation myocardial infarction (STEMI).

Abstracts
• The MitraClip system is turning in a consistent performance in analyses of its safety and effectiveness in high-risk patients with mitral regurgitation (MR). In a comparison of 133 high-risk patients enrolled in the EVEREST II REALISM continued-access study and 78 in the EVEREST II high-risk clinical trial, researchers found a 30-day mortality of 3.8 percent and 7.7 percent, respectively (p=0.34). At one year, 83 percent and 78 percent, respectively, had an MR grade of 1+ or 2+. Researchers noted that increasing physician experience was associated with significant improvements in procedure duration, time in the intensive care unit, and length of hospitalization.

• An analysis of data on 118 elderly patients enrolled in the EVEREST I, EVEREST II, and EVEREST II REALISM studies showed that 30-day rates of major adverse cardiac events (MACE) were significantly lower in those treated with the MitraClip, 17.9 percent as compared with 73.5 percent in surgery patients (p<0.0001). At 12-month follow-up, the combined rates of survival, mitral regurgitation ≤2+, and avoidance of new mitral valve surgery were 72.2 percent among MitraClip patients and 76.7 percent among surgery patients. These rates were 63.9 percent and 70.0 percent, respectively, at 24-month follow-up.

• The MitraClip procedure produces a significant improvement in quality of life, according to a study of 49 high-risk elderly patients treated at the University of Catania, Italy. Six months after successful implantation of the device, scores for (continued on page 12)
physical well-being climbed from 35, on average, to 44 (p < 0.0001), while scores for mental well-being climbed from 38, on average, to 46 (p = 0.0001).

- **African American patients who undergo PCI fare worse over the long run** than patients of other races, regardless of socioeconomic status, according to a new study of 1,432 patients treated at a large public health system in Chicago. After an average follow-up of 2.7 years, MACE-free survival was 78 percent among African American patients, vs. 86 percent among patients of another race (p=0.001). Overall mortality at 2.7 years was 8.6 percent; however, among African Americans, it spiked to 12.1 percent, as compared with 5.0 percent among other patients (p<0.005).

- A study from Geisinger Health System found that **fewer than 1 percent of patients who had elective or emergency PCI were re-hospitalized within 30 days** for reasons that could be traced to the procedure itself. Analysis of the medical records of 4,523 patients showed that just 30 patients (13 percent of readmitted patients, or 0.6 percent of all patients) returned to the hospital because of a PCI-related complication. The most common was stent thrombosis (0.2 percent of all patients).

- Even in a highly organized regional system, achieving timely PCI for STEMI patients remains challenging, according to data from the **Reperfusion of Acute Myocardial Infarction in North Carolina Emergency Departments (RACE) project**. Among 2,933 STEMI patients transferred from one hospital to another for primary PCI, the median “first door to device time” was 94 minutes when the PCI hospital was no more than a 30-minute drive away. However, median treatment time climbed to 134 minutes with a drive time of 31 to 45 minutes, and to 192 minutes with a drive time of more than 45 minutes. Use a medical helicopter for transport had little effect on the timeliness of treatment, except to the most distant hospitals.

- In a “real-world” test of treatments for hypertrophic obstructive cardiomyopathy, **alcohol septal ablation (ASA) was found to be significantly safer and less expensive than isolated septal myectomy (ISM)**. Among 415 patients in the PREMIER database, in-hospital survival, the need for hemodialysis, and the length of hospitalization were all significantly better with ASA. There was no significant difference between the two groups in the rates of stroke or the need for a permanent pacemaker or defibrillator. Patient costs were less than half those of surgery.

- **Community programs that help people recognize the symptoms of STEMI and get to the hospital quickly can significantly speed treatment and reduce infarct size.** After launching a community outreach program, New York Presbyterian Hospital found that average symptom-onset-to-balloon time fell from 270 minutes to 217 minutes and peak CK levels fell from 2,625 units/L to 1,812 units/L.

- **Elderly patients with severe aortic stenosis who undergo transcatheter aortic valve implantation (TAVI) report a significant improvement in quality of life,** according to a study from the University of Catania, Italy. Among 157 patients, average overall scores for physical well-being increased from 29 at baseline to 43 at five months and 42 at 12 months (p<0.001). The average overall scores for mental well-being rose from 39 at baseline to 49 and 48 at five and 12 months, respectively (p<0.001).

- The Women’s Heart Health Initiative, an innovative program that screens women for heart disease in the gynecologist’s office, has found that **fewer than one out of three women is aware of all of her cardiovascular risk factors.** The initiative is a collaboration between SCAI and Abbott Vascular. Questionnaires for 297 women screened in Peoria, IL, showed that 83.1 percent of women had at least one risk factor for heart disease, and 13.5 percent had more than three risk factors. However, only 28.3 percent of women could provide information on all of their risk factors.
Clinic. A total of 254 patients with severe symptomatic AS were propensity matched with 508 patients without AS. Thirty-day mortality after PCI was 4.3 percent and 4.7 percent, respectively (p=0.2).

- A study from the UK found no gender disparity in the treatment and outcomes of patients undergoing PCI. In an analysis of 7,545 consecutive patients, 28 percent of them female, researchers found no significant difference between men and women in the number of lesions successfully treated, the use of drug-eluting stents, or the rates of in-hospital major complications. However, women were significantly more likely to experience femoral access site complications and significantly less likely to be treated with glycoprotein IIb/IIIa inhibitors.

- A separate U.S. study found no gender disparity in patients undergoing PCI of the left main coronary artery. The analysis involved 227 patients, 43 percent of them female. During the first year there was no significant difference in rates of MI, death, or recurrent cardiac events.

- Exercise electrocardiography, sestamibi rest/stress myocardial scintigraphy, and dobutamine echocardiography demonstrated equivalent sensitivity and overall accuracy for the detection of in-stent restenosis, according to a study of 80 patients evaluated an average of six months after PCI. However, dobutamine echo had a specificity of 81 percent, as compared with 61 percent for exercise ECG and 59 percent for nuclear imaging.

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Media Highlights From the SCAI 2011 Scientific Sessions

The SCAI 2011 Scientific Sessions received significant media coverage as a result of considerable news highlighted, including late-breaking clinical trials, the launch of the SCAI-Quality Improvement Toolkit (see p. 1) and SCAI position papers. In fact, since SCAI first hosted a newsroom at the annual meeting three years ago, SCAI has secured coverage by mainstream and trade reporters every year, with interest continuing to build over time. This year’s efforts resulted in more than 102 million media impressions from mainstream media, wire reports, and cardiovascular trade publication original articles.

This year, reporters from most of the cardiovascular trade publication were onsite in Baltimore, including Cardiac Interventions Today, Cardiovascular Business, Doctors Guide, MedPage Today, theheart.org, and TCTMD. Journalists from other trade and many mainstream media outlets accessed SCAI’s online newsroom, and many original articles were published during and after SCAI 2011.

The launch of SCAI’s Quality Improvement Toolkit was the focus of a news conference as well as multiple articles, such as theheart.org’s “SCAI stays on offensive with cath-lab initiative: Accreditation, education, peer review” and TCTMD’s “SCAI Launches Nationwide Cath Lab Quality Improvement Effort,” which featured several quotes from SCAI leaders:

“This is not a one-time thing. Accreditation is an ongoing process; peer review is an ongoing process…These are things that should be ingrained into the fabric of our existence so that, moving forward, we are not subject to the kind of external vilification that we’ve been subjected to in some cases. It’s up to us to take ownership of that.”

— Dr. Bonnie Weiner, SCAI Past President and chief medical officer of the Accreditation for Cardiovascular Excellence Program (theheart.org)

“We as a profession really need to step up to the plate and acknowledge that we have not done a good job at regulating ourselves. We as a profession have to take charge of this, because it is a privilege to be able to regulate ourselves, and if we don’t do this it will taken away. That’s where the answer is: local facilities getting together and saying, ‘This is something we have to do.’”

— Dr. Gregory Dehmer, SCAI Past President (theheart.org)

SCAI 2011’s late-breaking clinical trials, including EVISTA-DVT, HERCULES, PROTECT II, and ST-DETECT, all received attention as did SCAI’s new documents on transradial access guidelines and public reporting, and abstracts such as PCI readmission rates, carotid stenting, percutaneous valve therapies, and treatment of hypertrophic cardiomyopathy.

SCAI’s media relations activities are conducted by the Public Relations Committee, chaired by Charles Chambers, M.D., FSCAI, and co-chaired by John P. Reilly, M.D., FSCAI. For more information, email Kathy David at kbdavid@scai.org.
SCAI 2011 featured another successful Hemodynamics Symposium, directed by Dr. Zoltan Turi and Dr. Mort Kern (shown here, at the podium). Dr. Blase Carabello (seated in this photo) was part of the program’s renowned faculty. Attendees praised this review of important fundamentals that has become a signature event at SCAI annual meetings.

Baltimore residents joined the SCAI 2011 Scientific Sessions during Saturday’s morning’s Know What Counts “Heart Smarts” program for patients and others concerned about heart disease (see p. 17).

Newly inducted SCAI President Dr. Christopher J. White (left) thanked Dr. Larry Dean for a terrific year at SCAI’s helm. Dr. Dean steered SCAI and the interventional cardiology specialty through numerous challenges. “He provides a model for all of us who follow in his footsteps,” said Dr. White of his predecessor.

Award-winning investigative reporter and heart attack survivor C. Bruce Johnson talked to attendees about strategies for influencing media coverage, particularly through social media.

SCAI’s live and taped cases provided opportunities for attendees to learn...
More than 200 interventional cardiologists became Fellows of SCAI in Baltimore.

SCAI 2011 Program Co-chair Dr. James B. Hermiller (left) thanked Dr. John Webb for his Founders’ Lecture, an exciting look at one of the field’s most rapidly emerging new therapies: transcatheter valve therapies.

Dr. Christopher J. White became SCAI’s 2011-12 president during the Scientific Sessions. His plan is to focus on quality improvement, starting with the launch of the SCAI Quality Improvement Toolkit (see p. 1).

In his Hildner Lecture, Dr. Richard Schatz encouraged attendees to continue the tradition of innovation that has advanced the specialty for decades.

In Pictures
Acknowledgments

The Society gratefully acknowledges the generous support of the following companies while taking sole responsibility for all content developed and disseminated at the SCAI 2011 Scientific Sessions.

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**Silver**
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Abbott Vascular
Abiomed
AGA Medical
GE Healthcare Interventional Systems
GE Healthcare Medical Diagnostics
For decades cardiologists, nurses, and technicians have come together for SCAI’s Scientific Sessions, but this year the meeting also welcomed a new category of attendees: patients.

On Saturday, May 7, SCAI opened the doors of its annual meeting to Baltimore’s heart patients, their families, and other members of the community interested in learning about cardiovascular health. The program, titled “Heart Smarts: What Every Heart Patient Should Know,” was the latest offering in SCAI’s Know What Counts regional public education series.

“Over the past few years, Know What Counts programs have been held with great success in several cities, but ‘Heart Smarts’ was the first to be held on-site at SCAI’s annual meeting, and it was the first to offer attendees free heart disease screenings,” said Know What Counts Committee Chair Tony G. Farah, M.D., FSCAI. “It was nice to offer something back to the residents of our host city.”

Attendees agreed that the program was valuable for them. “I was not very knowledgeable until this event,” wrote one participant on the program evaluation. “Now I will have a list of questions when I go to the doctor’s office.”

Self-advocacy was a major message of the program, said John P. Reilly, M.D., FSCAI, who co-directed the Baltimore program with SCAI President Christopher J. White, M.D., FSCAI. “We wanted to give attendees useful tools to help them have conversations with their healthcare provider about their cardiovascular health.”

Among the tools attendees received were the results of free blood pressure and ankle-brachial index screenings offered as part of the program by the University of Maryland Heart Center.

“We had people lined up at 7 a.m. to be tested,” said Dr. Reilly. “It was a great service to the attendees, many of whom were African American. Rates of hypertension, stroke, and cardiovascular disease are all higher among African-Americans, and African-Americans often have less access to health care. We are grateful to the nurses at the University of Maryland Heart Center. They arrived very early to donate their time to a great cause.”

After attendees underwent their screening tests and enjoyed a heart-healthy breakfast, they heard from both heart doctors and heart patients about how to take charge of their own cardiovascular care and access high-quality medical care.

Stories of Survival, Strategies for Self-Advocacy

“I was too young and too busy to have a heart attack,” said local news anchor and investigative reporter C. Bruce Johnson. “There was no way it was happening to me … except it was happening to me. And it nearly killed me.”

One of three heart disease survivors who spoke at the Baltimore program, Mr. Johnson encouraged attendees to listen to their bodies and to take immediate action. “Don’t believe it can’t happen to you because it can. If it could happen to me, it could happen to anyone.”

Mr. Johnson’s journalistic competitor and friend
Jennifer Donelan underscored his message. She, too, suffered her heart attack while covering a story – and couldn't believe it was happening to her. She survived because she received prompt, aggressive treatment.

Hers is a story more women need to hear, said WomenHeart Champion Marilyn Smedberg-Gobbett, who told the audience how her supraventricular tachycardia came to be diagnosed and treated. She provided a list of tips for self-advocacy, such as suggesting patients keep a journal compiling information about their own and their family’s medical history as well as their symptoms.

She also offered a patient’s perspective on successfully navigating the healthcare system: “If you don’t understand what is being said, ask your doctor to repeat it,” she stressed. “Take notes and, if you are still feeling confused, ask the doctor to write out instructions.”

Local cardiologist Robert Vogel, M.D., of the University of Maryland, offered a five-fold prescription for heart health participants could begin using immediately to live longer: Don’t smoke. Stay thin. Drink tea and a little bit of alcohol.

Be optimistic, and get educated to be successful.

Dr. White’s presentation also delivered practical advice, specifically on identifying high-quality doctors. He offered cautions about putting too much stock in some metrics, including Board certification or web-based report cards, but instead advised attendees to think about what they need in a healthcare provider.

First, he told the audience, “you have to decide what ‘best’ means to you, whether it’s a cutting-edge researcher, an expert in a particular procedure, or a good communicator.”

He urged participants to seek out physicians who are lifelong learners, easy to talk to, and possess the five “C’s”: courage, character, compassion, competence and commitment.

“I want my physician to be a good friend and advisor,” he said. “I don’t want someone who tells me what to do, but someone who will talk with me about my problems and advise me.”

To learn about hosting a Know What Counts program in your community or to join the Know What Counts Committee, contact Kathy Boyd David at kbdavid@scai.org.
Graduation Time: Great! ... So, What Do You Do Now?

By Larry J. Diaz-Sandoval, M.D., FACC

Finally, you have conquered 15–17 years of pre-med, medical school, residency, and multiple fellowships. You have graduated! Congratulations! But now comes the tricky part. During most of your training years, there has been a structure — a plan laid out for you with certain requirements and goals. Now, you are moving to the “big leagues,” where there will be no pre-established programs. It will be up to you to determine what to do, and it can be nerve-wracking!

Choose the Right Job for You

Unfortunately, there is no “perfect” job; no matter what, there will be points that require compromise. As you evaluate job offers, invest meticulous thought and aim to strike the right balance of pros and cons with the job you ultimately accept.

If you are planning to stay in academics, keep in mind that you must:
• Have a line of research that will keep you occupied for the foreseeable future.
• Know the expectations that the institution will have in terms of academic and financial production, teaching obligations, compensation, production bonus structure, vacation time as well as time off to attend conferences.

If you are going into private practice, you must:
• Know the specific areas of needs of the hiring group
• Assess whether their needs match your areas of expertise or interest, as this is crucial for you to be able to develop your own “niche”
• Remember at the beginning you will likely have to “pay your dues” by seeing patients in the office, reading noninvasive tests, and not necessarily doing all of the state-of-the-art procedures that you spent the last two to three years training to do.
• Recognize that the “not-so-interesting, pay-your-dues” tasks currently generate the gross of our income.

Have a Plan

To develop a “niche,” it is of utmost importance that you have a plan that will sell your passion to your group, the referring doctors, the hospital, and the community where you will work. They all need to know why is it important for them to help you do whatever it is you want to do, whether it is developing a transradial program, a CTO program, a PAD program, a carotid program, or a structural program.

Once you get started in either academics or private practice, you will need another type of plan, namely a marketing plan developed in conjunction with the administration. Part of your plan should be how you will make yourself visible to referring doctors and practices in your institution’s area of influence. A proven strategy is to organize community lectures about the “new” services you will be offering. Although time-consuming and sometimes perceived as unnecessary, attending the general medicine staff meetings and medical ground rounds will allow you to network with more referral sources.

Stay Up-to-Date

It will be your responsibility to keep yourself updated. Try to attend at least two meetings a year, and dedicate one of them to general cardiology, as it is the specialty changing fastest. Among the interventional cardiology meetings, consider attending the SCAI Scientific Sessions, because it encompasses all of the interventional fields and allows for a significant amount of one-to-one interaction with the faculty. You’ll get the answers to your questions, and may also find great opportunities for collaborative research and publication as well as networking.

Become Involved!

Finally, keep in mind that you are starting to practice interventional cardiology during exciting, yet difficult, times. Interventional Cardiovascular Medicine is an ever-changing landscape affected by economics, politics, technology, new discoveries, and pressing circumstances that have led to the era of public reporting, accountability, and calls for quality measures and accreditations. At times it all can seem rather overwhelming, and you may find yourself asking what to do.

My recommendation: become involved with the leadership of your Society. This will provide you with a unique opportunity to interact on a personal level with senior members who are world leaders in the field and have been through several cycles of “ups and downs.” Your participation could develop into relationships with mentors, allowing you to benefit from their experience and perspective, which will definitely solidify your foundation, enrich your career, and expand your horizons.

Dr. Diaz is an interventional cardiologist at the Metro Heart and Vascular Center at Metro Health Hospital Grand Rapids, MI. His interests are in endovascular interventions, specifically tibio-pedal interventions; optical coherence tomography; endovascular treatment of chronic total occlusions in the lower extremities, and endovenous interventions. He is currently a member of SCAI’s Interventional Career Development Committee.
Outpatient vs. Inpatient vs. Observation Status
Under the Medicare Payment Systems

Key Points
• Patients staying overnight in the hospital can be classified as “outpatient.”
• Medicare patients will typically experience higher co-payment rates for more complex procedures, such as coronary stent services, when these services are performed as outpatient versus when they are performed as inpatient.
• The same service typically costs the Medicare system significantly more money when performed as “inpatient” than when it is performed as “outpatient” due to the substantial increase in facility costs for inpatient services.
• Observation status cannot be determined retroactively. If it is not ordered initially and clearly documented in the patient medical record, then the facility and provider will not be able to bill for these services.

Q: Can an overnight stay at the hospital be considered “outpatient” under the Medicare system? What impact does status have on payment rates to the facility and to the physician, and how does status impact patient co-payment?

A: The simple answer to your question is yes, a Medicare patient can remain overnight in the hospital and still be considered an “outpatient.”

How CMS Defines Status
For a patient to qualify for inpatient status, the Centers for Medicare and Medicaid Services (CMS) instructs: “Review of the medical record must indicate that inpatient hospital care was medically necessary, reasonable, and appropriate for the diagnosis and condition of the beneficiary at any time during the stay. The beneficiary must demonstrate signs and/or symptoms severe enough to warrant the need for medical care and must receive services of such intensity that they can be furnished safely and effectively only on an inpatient basis.” [Medicare Program Integrity Manual; Chapter 6.5.2].

CMS Says …
Physicians should use a 24-hour period as a benchmark (i.e., they should order admission for patients who are expected to need hospital care for 24 hours or more, and treat other patients on an outpatient basis). However, the decision to admit a patient is a complex medical judgment which can be made only after the physician has considered a number of factors, including the patient’s medical history and current medical needs, the types of facilities available to inpatients and to outpatients, the hospital’s by-laws and admissions policies, and the relative appropriateness of treatment in each setting. Factors to be considered when making the decision to admit include such things as:
• The severity of the signs and symptoms exhibited by the patient;
• The medical predictability of something adverse happening to the patient;
• The need for diagnostic studies that appropriately are outpatient services (i.e., their performance does not ordinarily require the patient to remain at the hospital for 24 hours or more) to assist in assessing whether the patient should be admitted; and
• The availability of diagnostic procedures at the time when and at the location where the patient presents.

CMS defines observation status as follows: “Observation care is a well-defined set of specific, clinically appropriate services, which include ongoing short-term treatment, assessment, and reassessment before a decision can be made regarding whether patients will require further treatment as hospital inpatients or if they are able to be discharged from the hospital. The purpose of observation is to determine the need for further treatment or for inpatient admission. Thus, a patient receiving observation services may improve and be released or be admitted as an inpatient.”

Observation status cannot be determined retroactively. If it is not ordered initially and clearly documented in the patient medical record, then the facility and provider will not be able to bill for these services.

**Impact of Status on Payment**

**Why does status impact payment to facilities but not to physicians?** Because physician work is the same whether the patient is classified as outpatient or inpatient. In contrast, the resources used by the facility are significantly different for outpatient vs. inpatient. Physician services and facility outpatient services are paid under Medicare Part B, whereas facility inpatient services are paid under Medicare Part A. Facility observation services are also paid under Medicare Part B unless the patient subsequently qualifies for and is admitted as an inpatient.

The difference in payment between the Medicare Part A Inpatient Prospective Payment System (IPPS) and the Part B Hospital Outpatient Prospective Payment System (HOPPS) can vary significantly. The IPPS pays the facility based on Medicare Severity Diagnosis Related Groups (MS-DRGs). The HOPPS pays the facility based on Ambulatory Procedure Classifications (APCs). As Tables 1 and 2 indicate, coronary stent placement services qualifying for inpatient status are reimbursed between $10,047 and $17,759 whereas these services are paid only $5,656–$7,279 when classified as outpatient.

By focusing on the difference in facility costs for outpatient vs. inpatient status, it becomes clear that when outpatient facility costs exceed $5,660, the patient typically pays more for outpatient services than he or she would for inpatient services.

**Table 1. Coronary Stent Medicare Severity Diagnosis Related Groups (MS-DRGs)**

<table>
<thead>
<tr>
<th>MS-DRG</th>
<th>Descriptor</th>
<th>2011 National Base Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>246</td>
<td>Percutaneous cardiovascular procedure with drug-eluting stent with major complication or comorbidity or 4+ vessels/stents</td>
<td>$17,759</td>
</tr>
<tr>
<td>247</td>
<td>Percutaneous cardiovascular procedure with drug-eluting stent without major complication or comorbidity</td>
<td>$10,996</td>
</tr>
<tr>
<td>248</td>
<td>Percutaneous cardiovascular procedure with non-drug-eluting stent with major complication or comorbidity or 4+ vessels/stents</td>
<td>$16,332</td>
</tr>
<tr>
<td>249</td>
<td>Percutaneous cardiovascular procedure with non-drug-eluting stent without major complication or comorbidity</td>
<td>$9,902</td>
</tr>
<tr>
<td>250</td>
<td>Percutaneous cardiovascular procedure without coronary artery stent or acute myocardial infarction (AMI) with major complication or comorbidity</td>
<td>$16,102</td>
</tr>
<tr>
<td>251</td>
<td>Percutaneous cardiovascular procedure without coronary artery stent or acute myocardial infarction (AMI) without major complication or comorbidity</td>
<td>$10,047</td>
</tr>
</tbody>
</table>

**Table 2. Coronary Stent Ambulatory Procedure Classifications (APCs)**

<table>
<thead>
<tr>
<th>APC</th>
<th>Descriptor</th>
<th>2011 National Average Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0104</td>
<td>Transcatheter Placement of Intracoronary Stents</td>
<td>$5,656</td>
</tr>
<tr>
<td>0656</td>
<td>Transcatheter Placement of Intracoronary Drug-Eluting Stents</td>
<td>$7,279</td>
</tr>
</tbody>
</table>

**For More Information**


*Please note: SCAI is committed to making every reasonable effort to provide accurate information regarding the use of CPT®, and the rules and regulations set forth by CMS for the Medicare program. However, this information is subject to change by CMS and does not dictate coverage and reimbursement policy as determined by local Medicare contractors or any other payor. SCAI assumes no liability, legal, financial, or otherwise, for physicians or other entities who utilize this information in a manner inconsistent with the policies of any payors or Medicare carriers with which the physician or other entity has a contractual obligation. CPT codes and their descriptors are copyright 2010 by the American Medical Association.*
Need to Increase Your Same-Day Discharge PCI Volume? Go Transradial!

By L. Van-Thomas Crisco, MD, FACC, FSCAI, St. Joseph’s Hospital of Atlanta, GA

Key Points
- Change the access, change the culture, then change the discharge destination.
- “Hospitals are high-risk places for low-risk patients”

Dr. Crisco is an interventional cardiologist and clinical trialist who practices in the St. Joseph’s Heart and Vascular Institute, in Atlanta, GA. He has been a radial access interventionalist for over 10 years.

Since the 2007 CMS coverage change that moved payment for percutaneous coronary intervention (PCI) to an outpatient procedure, hospitals, doctors, and staff have struggled with same-day discharge from an operational standpoint. The stakeholders are numerous: patient, physician, cath lab staff, nursing, and hospital administration. With U.S. data suggesting that < 10 percent of elective PCI cases are discharged the same day, one cringes at the thought of Recovery Audit Contractors (RACs) lining up at their home computers to review the number of elective PCI cases admitted as inpatients. While this appears to be an easy target for the RACs, transradial PCI can quickly increase same-day discharge PCI volume at your institution. The virtual absence of access-related bleeding complications, earlier patient ambulation, and improved patient satisfaction can also increase referrals to your center.

Why Transradial?

While multiple studies have proven transradial catheterization has the lowest rate of vascular access complications1,2 and many operators point to increased radiation dose to the patient and the operator3 as reasons to not consider transradial access for diagnostic and interventional cases. Much of this information, however, does not correct for improvements in procedure and fluoroscopy times that are realized with greater transradial experience4. The same can be said of case time, contrast volume, and procedural success rates5. Data do exist describing the safety of femoral access same-day discharge using successfully deployed closure devices6, but this increases procedural costs and may not improve safety. There is a strong correlation between a reduction in vascular access site complication rates and significant reductions in length of stay, which has related health-economic savings1,2. Concern for vascular access complications still remains the top reason patients are admitted as inpatients. There are multiple data sets showing the safety and feasibility of transradial PCI in comparison to transfemoral PCI, in day-case PCI, in high-risk PCI, and in adjunctive PCI with use of glycoprotein IIb/IIIa inhibitors and in elderly patients above age 75.2,7,15.

Increasing the Same-Day Discharge Patient Population

SCAI’s recently published expert consensus document16 regarding generally accepted criteria for same-day discharge PCI may only apply to a small number of patients at centers that have adopted a transradial same-day discharge strategy focused on “post-procedural” patient characteristics rather than “pre-procedural” ones8. According to a study presented at the SCAI 2010 Scientific Sessions, many patients can safely go home the same day or within 23 hours — even some with chronic medical conditions and complex coronary disease9. Low complication rates enabled a much wider range of patients than might be expected to go home within hours of undergoing PCI, including patients with insulin-dependent diabetes, renal impairment, contrast allergies, peripheral vascular disease, congestive heart failure, prior heart transplant, and chronic obstructive pulmonary disease who underwent complex PCI, including left main coronary artery disease, proximal left anterior descending disease, and multi-vessel PCI. None of the 106 patients in this study were readmitted following same-day discharge transradial PCI.

Given appropriate patient selection, transradial access post-PCI discharge criteria can be simplified to the following: a successful procedure, the absence of symptoms or dynamic ECG changes, sufficient social support, effective

SCAI is pleased to introduce “Hot Topics in Interventional Cardiology,” a new column featuring articles written by members on topics of their choice. SCAI thanks these contributors for their work while noting the opinions and recommendations expressed in this column are solely their own. Publication in the Hot Topics column does not constitute an endorsement by SCAI.

To suggest a topic or volunteer to contribute a column, contact Kathy Boyd David at kbdavid@scai.org.
anti-platelet therapy, and transportation access to a PCI facility within 1 hour of their destination.

**Stakeholder #1: The Patient**

Central to the strategy of transradial discharge within 23 hours is patient expectation. Discussion about transradial benefits and the concept of safe discharge within 23 hours is paramount. Pre-procedural exclusions for discharge within 23 hours consideration include unstable coronary syndromes, residence over 60 minutes from PCI capability, noncompliant and unreliable social support, including absence of transportation, high risk for contrast nephropathy, and absence of a radial conduit. If presented as an accepted treatment strategy, patients actually prefer to be in their own beds. In one’s own home, patients have a hard time erroneously getting another patient’s medication, avoid nosocomial infections, and they rarely trip on an IV pole on their way to a bathroom they’ve never navigated. Hospitals are high-risk places for low-risk patients.

**Stakeholder #2: The Physician**

If transradial catheterization is not something you perform routinely, there are courses and training sites available to get you started. Once the anatomic strategies, catheters, and support issues from the radial position are appreciated with routine catheterization, movement to transradial PCI is relatively easy for the experienced interventionalist. Transradial is a “buzzword” among cath lab staff around the country now, and there are similar training opportunities for technicians and nursing staff as well in the above references. Potential benefits to the doctor include fewer inpatients, improved throughput, and lower costs with similar outcomes.

While cost containment may not be a benchmark for physician reimbursement as it is currently structured, it certainly may be in the future. Limiting moderate sedation such that patients are capable of cognitive retention for post-PCI education is paramount. Procedural anxiolysis is the target, and avoidance of combination narcotic-benzodiazepine cocktails is encouraged. Radial spasm is painful and, as such, diagnostic catheters in 5 and 6 Fr sizes for men, and 4 and 5 Fr for women, and guide catheters in 5 and 6 Fr sizes, as well as radial cocktails (Verapamil, Heparin, and NTG) may reduce the incidence of spasm.

**Stakeholder #3: Nursing**

Nursing transition to transradial same-day discharge requires a “culture change.” It begins and ends with the assumption that the patient is going home the same day, and the nursing focus is squarely on patient education, both pre- and post-procedure, with family involvement using educational videos and pamphlets specific to same-day transradial PCI. A specific post-procedure location for transradial patients helps with the “culture change” concept and provides a more relaxed atmosphere (Figures 1 and 2). Some institutions use nurse practitioner next-day follow-up (by phone or in person) to improve compliance and ensure appropriate use of anti-platelet therapies. Time constraints may

(continued on page 24)
Transradial (cont’d from pg 23)

necessitate patient educational topics (e.g., smoking cessation, diet instructions, primary or secondary CAD prevention) be transferred to the outpatient/office setting given typical 4-hour post-PCI discharge.

Stakeholder #4: Hospital Administration

Moving a block of patients to same-day discharge necessitates administrative buy-in, support, and anticipation of volume shifts and workforce needs to make the transition economically sound. The low-risk nature of transradial post-PCI patients removes significant responsibility from the usual inpatient floor staff, pharmacy, and clerical support. Transradial PCI has been shown to reduce procedure costs, staffing, and length of stay compared to transfemoral PCI among acute coronary syndrome patients with an overall savings of approximately $2,900. Same-day discharge PCI saving compared to overnight PCI stay is roughly $350 per case, with additional indirect cost savings depending on your hospital’s day rates. Regarding standard of care, the proven lower risk of transradial PCI and the clinical data on same-day discharge of selected patients suggest same-day discharge transradial PCI is actually above the standard of care in most communities. Our institution and others have documented the same as a hospital-accepted standard of practice to address this concern directly.

References

(continued on page 27)
**New M3 Program Offers Strengths of Two Conferences in One**

**Key Points**
- M3 combines the strengths of MOTA and MIRS to give attendees a comprehensive program on endovascular, structural, and coronary interventions.
- M3’s location in Miami Beach, FL, sets the stage for a world-renowned faculty and international audience.
- The participation of speakers from all over the world will provide attendees with an up-close look at therapies that are still “emerging innovations” in the United States.

SCAI and the University of Miami are merging their international educational meetings to offer the latest interventional cardiology and surgical technologies, practices, and advances in cardiovascular disease therapies in a single conference. The new program, christened “M3 International Cardiovascular Conference,” gets its name from the original programs and the location of this year’s program: SCAI’s Meeting of the Americas (MOTA) and the University of Miami’s Masters in the Repair of Structural Heart Disease (MIRS), to be held in beautiful Miami Beach, FL, Oct 3–5, 2011.

“The sum of the two meetings is greater than the parts,” says Program Director Robert M. Bersin, M.D., FSCAI. “MOTA and MIRS share an international focus but concentrate on different aspects of interventional care.”

Program Co-director Eduardo de Marchena, M.D., FSCAI, agrees. “It was a natural for us to merge as one international conference given MOTA’s strength in endovascular, MIRS’ strength in structural heart disease, and the strength of both in coronary interventions,” he says.

**One-of-a-Kind Curriculum and Faculty**

“Interventionalists have a lot of choices of where they can go for their CME updates,” says Dr. Bersin. “But with SCAI’s support, this conference promises to provide evidence-based, state-of-the-art content in concert with professional guidelines, current state of knowledge, and recommendations of what we consider the best therapies today for patient management.

“Whether attendees are early in their practice and completing their fellowship training or more established and want to broaden their scope,” Dr. Bersin continues, “this curriculum touches on all aspects of interventional management, including not only structural coronary or endovascular treatments but also lipid management for the interventionalist and future therapies like gene and myocardial regeneration.”

The curriculum will also include sessions and case studies on advanced minimally invasive techniques for managing life-threatening situations and new, potentially life-saving techniques and therapies, such as percutaneous valve therapies for patients without good surgical options, acute MI management, STEMI, and myocardial regeneration sessions on how to improve cardiac function following a massive heart attack.

And, because M3 will be an international conference, world-renowned faculty members from South, Central, and North America, as well as from Europe, will share data from techniques used in other countries that are just now being evaluated in the United States. “We’ll show some first-in-man, pre-FDA data,” says Dr. de Marchena. “Not only what’s available now, but also new and emerging innovations that will give us even more tools to care for patients.”

“M3 gives busy interventionalists everything they need in one conference.”

— Dr. Bersin

**Format and Location Encourage Interaction**

Another benefit of the new conference is its location. “We specifically chose to do the program in Miami because it’s geographically an excellent location for an international focus,” says Dr. Bersin. “It’s an easy place for attendees from North, Central, South America, and Europe to attend.”

The size of the conference and the single session format are also designed to allow more time for Q&A with the faculty. “In a meeting this size you can present that case you’re struggling with,” says Dr. de Marchena. “It’s an intimate meeting that touches on all aspects of interventional care,” says Dr. Bersin. “With its focus on advanced technology and updates in all areas of interventional therapies, it gives busy interventionalists everything they need in one conference.”

To register or learn more about the M3 program, visit www.SCAI.org, or call 800-992-7224.
August 2011

- 2011 ACCF/SCAI PREMIER INTERVENTIONAL CARDIOLOGY OVERVIEW AND BOARD PREPARATORY COURSE
  Date: Aug. 19–21, 2011
  Sponsor: American College of Cardiology Foundation
  Location: Dallas, TX
  Directors: Joseph D. Babb, M.D., FSCAI, and James E. Tcheng, M.D., FACC
  For more info: www.SCAI.org/Education/CosponsoredEvents.aspx

- GLOBAL ENDOVASCULAR COMPLICATIONS SEMINAR
  Date: Aug. 21, 2011
  Sponsor: Strategic Medical Seminars
  Location: Jackson Hole, WY
  Director: L. Nelson Hopkins, M.D.
  For more info: jan@strategicmedicalseminars.org

September 2011

- BEST PRACTICES IN TRANSRADIAL PCI
  Date: Sept. 7–9, 2011
  Sponsor: Canadian Association of Interventional Cardiology
  Location: Quebec, Canada
  Director: Olivier F. Bertrand, M.D.
  For more info: www.SCAI.org/Education/CosponsoredEvents.aspx

- TRANSRADIAL INTERVENTIONAL PROGRAM
  Date: Sept. 11, 2011
  Location: Las Vegas, NV
  Directors: Richard R. Heuser, M.D., FSCAI, and John E. Lassetter, M.D., FSCAI
  For more info: www.promedicacme.com

- WOMEN IN INTERVENTIONAL CARDIOLOGY
  Date: Sept. 15–17, 2011
  Location: Chicago, IL
  Directors: Kimberly A. Skelding, M.D., FSCAI, and Patricia Best, M.D., FSCAI
  For more info: www.SCAI.org/Education/CosponsoredEvents.aspx

- TRANSRADIAL INTERVENTIONAL PROGRAM – NORTH CAROLINA
  Date: Sept. 16, 2011
  Location: Cary, NC
  Directors: Sunil V. Rao, M.D., FSCAI, and Mitchell W. Krucoff, M.D., FSCAI
  For more info: http://www.SCAI.org/TRIPNC

- RADIAL LIVE 2011
  Date: Sept. 17–18, 2011
  Location: Gurgaon, India
  Sponsor: Wellness and Radial Interventional Society (WARIS)
  Director: S.K. Chugh, M.D., FSCAI
  For more info: www.radiallive.com

October 2011

- ENCORE SEOUL 2011
  Date: Sept. 22–24, 2011
  Sponsor: Korean Society of Cardiology
  Location: Seoul, South Korea
  Directors: Taehoon Ahn, M.D., Yang Soo Jang, M.D., Hyo-Soo Kim, M.D., and Hyeon-Cheol Gwon, M.D.
  For more info: www.SCAI.org/Education/CosponsoredEvents.aspx

- THE VEINS CHICAGO 2011: NATIONAL VENOUS INTERVENTIONAL SUMMIT
  Date: Sept. 23–25, 2011
  Sponsor: Prairie Education and Research Cooperative (PERC)
  Location: Chicago, IL
  Directors: Gregory Mishkel, M.D., FSCAI, and Raghu Kalluri, M.D.
  For more info: www.SCAI.org/Education/CosponsoredEvents.aspx

- M3 INTERCONTINENTAL CARDIOVASCULAR CONFERENCE
  Date: Oct. 3–5, 2011
  Location: Miami, FL
  Directors: Eduardo de Marchena, M.D., FSCAI, and Robert M. Bersin, M.D., MPH, FSCAI
  For more info: www.SCAI.org/m3

- BEST YOUNG INTERVENTIONAL CASES
  Date: Oct. 11, 2011
  Location: Genoa, Italy
  Sponsor: Italian Society of Invasive Cardiology (GISE)
  Directors: Gennaro Sardella, M.D., and Giulio Gaugliumi, M.D.
  For more info: http://www.oic.it/gise2011/

- EDUCATIONAL FELLOWS COURSE IN PCI FOR YOUNG INTERVENTIONALISTS
  Date: Oct. 11–14, 2011
  Location: Genoa, Italy
  Sponsor: Italian Society of Invasive Cardiology (GISE)
  Directors: Gennaro Sardella, M.D., and Giulio Gaugliumi, M.D.
  For more info: http://www.oic.it/gise2011/

- THE CARDIOLOGY HANDBOOK LIVE VII: MASTERS OF THE NONINVASIVE AND INVASIVE LABORATORIES
  Date: Oct. 12–15, 2011
  Location: Philadelphia, PA
  Directors: Zoltan G. Turi, M.D., FSCAI, and Priscilla J. Peters, M.D.
  For more info: (856) 382-6480

- 2011 HEART VALVE SUMMIT: MEDICAL, SURGICAL AND INTERVENTIONAL DECISION MAKING
  Date: Oct. 13–15, 2011
  Sponsors: American Society of Echocardiography; Learning Pathways: Heart Disease
  Location: Chicago, IL
  Directors: David H. Adams, M.D., Steven F. Bolling, M.D., Robert O. Bonow, M.D., and Howard C. Herrmann, M.D., FSCAI
  For more info: www.SCAI.org/Education/CosponsoredEvents.aspx
Transradial (cont’d from pg 24)


17. Personal communication, Kevin Brenan, CFO, St. Joseph’s Hospital of Atlanta, Atlanta, GA.
Program Directors:
Robert M. Bersin, MD, MPH, FSCAI
Eduardo de Marchena, MD, FSCAI

International Cardiovascular Conference

Fontainebleau Miami Beach
OCTOBER 3-5, 2011

www.SCAI.org/M3