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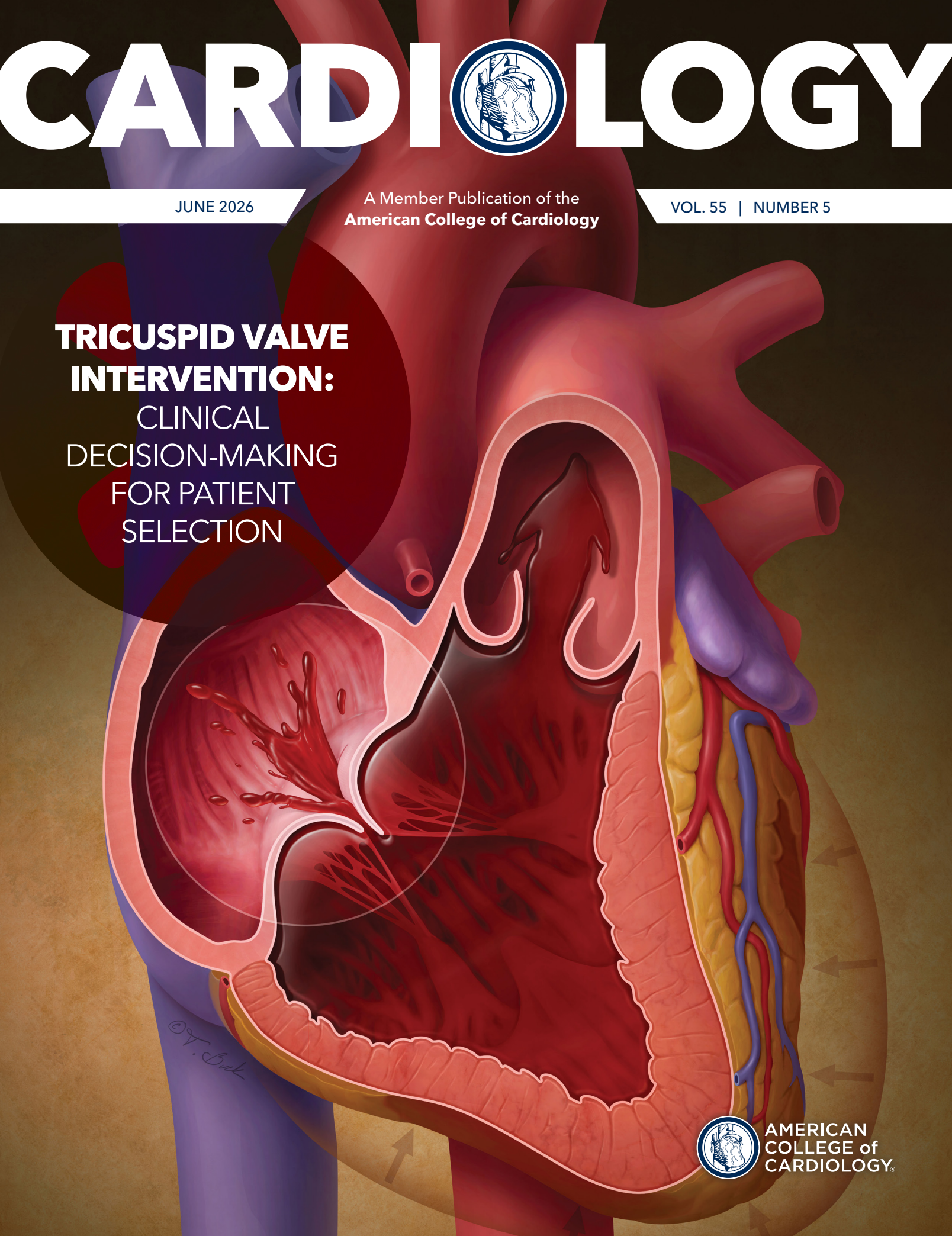
TRICUSPID VALVE INTERVENTION: CLINICAL DECISION-MAKING FOR PATIENT SELECTION



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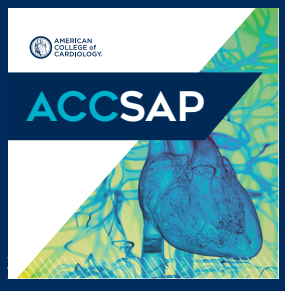

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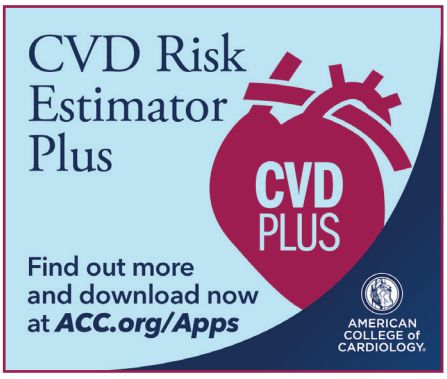
As the field of cardio-oncology continues to evolve, collaboration across the community is essential to address the latest science and critical topics including workforce capacity, growing public health needs, and specialized training and core competencies.

JACC: CardioOncology plays a central role by providing a globally recognized forum for original research, perspectives, case studies and community engagement. **Scan the QR code** to read the latest issue and access video interviews and more.

Plus, look for more on the topic of global collaboration during a special joint session at ESC Cardio-Oncology 2026 this month. The event will be hosted by *JACC: CardioOncology*, the ACC Cardio-Oncology Section and the ESC Council of Cardio-Oncology.

ALL-IN-ONE APP FOR SMARTER CV RISK ASSESSMENT

The new CVD Risk Estimator Plus app combines the 2013 ACC/AHA Pooled Cohort Equations with the 2023 AHA PREVENT calculator to deliver a more complete view of 10- and 30-year risk for total cardiovascular disease, atherosclerotic cardiovascular disease and heart failure.



JUNE 2026
Vol. 55 No. 5

WHAT'S INSIDE

The Ongoing Challenge of Tricuspid Regurgitation

Peter C. Block
MD, FACC

John Gordon Harold
MD, MACC

This month's cover story offers a practical, concise review of contemporary care for patients with tricuspid regurgitation (TR). It synthesizes key lessons from clinical trials that now guide decision-making for direct tricuspid valve interventions. Randomized transcatheter data show that tricuspid edge-to-edge repair can substantially reduce TR and improve symptoms and quality of life, while transcatheter tricuspid valve replacement can achieve more complete TR elimination in selected anatomies.

It also underscores two clinical pearls. First, much of secondary TR is driven by left-sided disease, particularly mitral pathology. Second, TR is increasingly recognized as "atrial functional TR" in the setting of atrial fibrillation. As a bonus, the article includes a practical checklist suitable for posting in clinic, as well as educational resources and support for shared decision-making conversations with patients.

Our cover story emphasizes that careful longitudinal follow-up and early referral are essential to recognizing the often-subtle manifestations of TR, including fatigue, edema, ascites, and hepatic or renal congestion and cardiac cirrhosis, before advanced right-sided failure develops.

When TR is driven primarily by left-sided disease, treating significant mitral regurgitation (MR) is an important first step. After correction of MR, TR improves in slightly more than half of patients. Unfortunately, it persists in nearly the other half.[1] When residual TR reflects structural changes of the tricuspid apparatus or the presence of a trans-tricuspid pacemaker or ICD lead, tricuspid intervention can be beneficial.

Yet TR is not always straightforward. Patients who undergo correction of MR but continue to have secondary TR are a challenge. Despite improved left atrial pressure, some have persistent pulmonary hypertension, progressive right ventricular (RV) dysfunction, tricuspid annular dilation as the RV enlarges, and worsening TR.

In this phenotype, the problem is not purely the tricuspid valve. Surgical or transcatheter annuloplasty, and even tricuspid replacement, cannot reverse advanced RV failure or fixed pulmonary vascular disease. In selected patients, tricuspid intervention may reduce congestion and improve quality of life, but abrupt reduction of severe TR as the RV loses its "blow-off" into the right atrium can unmask limited RV reserve. In such patients, mortality is driven by RV function, pulmonary vascular load, and the consequences of end-organ congestion. For structural heart disease, effective treatment of the pulmonary vasculature remains one of the last major therapeutic frontiers.

Enjoy this issue! As always, we welcome your thoughts at *CardiologyEditor@acc.org*. ■

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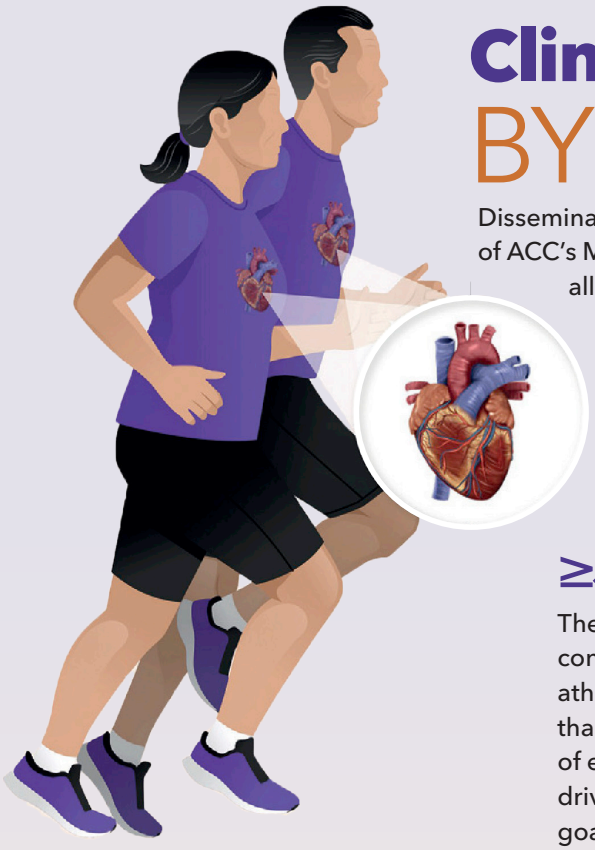

Clinical Guidance Roundup: BY THE NUMBERS

Disseminating trusted, evidence-based cardiovascular guidance is at the heart of ACC's Mission to transform cardiovascular care and improve heart health for all. Check out the following fast facts from some of the latest guidance released by the College and published in *JACC* since January. Access ACC's complete library of clinical policy documents and related resources at ***ACC.org/Guidelines***. ■

16

The number of outcome and performance monitoring metrics proposed as the minimum quality standards for a **transcatheter tricuspid valve intervention program**. The multisociety Expert Consensus Systems of Care Document on operator and institutional recommendations and requirements for tricuspid interventions also touches on the importance of the multidisciplinary team, shared decision-making requirements, facilities and institutional requirements, and more.

53%

The mean reduction in LDL-C levels in patients with heterozygous familial hypercholesterolemia, premature coronary artery disease or both treated with a novel gene editing therapy targeting PCSK9 in the Heart-2 phase 1b trial. The latest ACC Scientific Statement explores several early applications of **gene editing therapies in cardiovascular disease**, including transthyretin amyloid cardiomyopathy, lipid disorders and more.

≥35 years

The age range for those considered a "Masters athlete," performing more than 300 minutes per week of exercise training and driven by performance goals in addition to health goals. A new Clinical Consensus Statement from the ACC and the European Association of Preventive Cardiology of the ESC provides an in-depth look at current evidence surrounding **Masters athletes with abnormal cardiovascular findings**.

4

The number of common **pediatric left-to-right shunt lesions** covered by the most recent Concise Clinical Guidance (CCG) report. The CCG offers specific algorithms for atrial septal defect, ventricular septal defect, patent ductus arteriosus and atrioventricular septal defect, with each addressing anatomic and physiologic considerations, as well as offering comprehensive guidance for outpatient management.

210 and 145

The number of catheter ablation procedures and cardiac implantable electronic device (CIED) procedures, respectively, required to demonstrate **competency in clinical cardiac electrophysiology**. A joint Advanced Training Statement lays out additional procedure minimums for diagnostic electrophysiologic studies, CIED interrogations/programming, left atrial appendage occlusions and pericardial access procedures, as well as other optional procedural numbers by career focus.

Scan the QR code for an online exclusive highlighting key points to remember.

ACC Guidelines Always Within Reach

Access guideline recommendations, top take-home messages, and tools such as risk calculators and algorithms with ACC's Guideline Clinical App.

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In Memoriam:
Eugene Braunwald, MD, MACC

Eugene Braunwald, MD, MACC, often referred to as the father of modern cardiology for his groundbreaking work in hypertrophic cardiomyopathy (HCM) and other specialties, passed away April 22 at the age of 96.

Braunwald was born in Vienna, Austria, in 1929. He left Austria as a child during the Nazi occupation and emigrated to the U.S. as a refugee, an experience he later described as formative in shaping his outlook and work ethic.

He received his undergraduate and medical degree from New York University and completed his internal medicine residency at Johns Hopkins Hospital. Braunwald went on to serve as Chief of Cardiology and Clinical Director of the National Heart, Lung, and Blood Institute, and served as founding Chair of Medicine at the University of California, San Diego; Chair of the Department of Medicine at Brigham and Women's Hospital in Boston, MA; and Distinguished Hersey Professor of Medicine at Harvard Medical School.

"He was a legend of all legends: the 'father of modern cardiology,'" says ACC President **Roxana Mehran, MD, FACC**. "His contributions span decades and his legacy will live on with all of the many lives he touched through his work as a clinician, researcher, mentor and teacher."

It was Braunwald's, along with his longtime collaborator **Andrew Morrow, MD**'s, 1964 *Circulation* monograph that first described HCM as a unique clinical entity. In a 2021 *Cardiology* magazine article, **Martin S. Maron, MD**, described the two men as "like Lewis and Clark – they had no idea what was around the next corner, without any cardiovascular imaging to guide them, and they were able to put all the pieces together about this complex disease in a way that still stands true today."

Reflecting on Braunwald's legacy, Former *JACC* Editor-in-Chief **Valentin Fuster, MD, PhD, MACC**, says: "Eugene was my very good friend for many decades and was one of the most talented people that I have ever met. He was pragmatic and an observer of everything evolving in medicine. He could predict the future and was right in most situations."

Braunwald went on to found the Thrombolysis in MI (TIMI) Study group in 1984, revolutionizing large-scale cardiovascular clinical trials. He was the founding editor of *Braunwald's Heart Disease* and long-time editor of *Harrison's Principles of Internal Medicine*, shaping medical education worldwide. He also authored more than 1,000 peer-reviewed publications, becoming one of the most highly cited cardiologists in history.

"Dr. Braunwald's vision to create the TIMI Study Group profoundly shaped the practice of cardiovascular medicine across the world," says **Marc Steven Sabatine, MD, MPH, FACC**, chair of the TIMI Study Group. "While he touched many lives, we at TIMI were truly blessed to directly work with and learn from him over decades. We will deeply miss him but gain some comfort in knowing that we will carry forward his legacy and continue his lifelong mission to advance cardiovascular care."

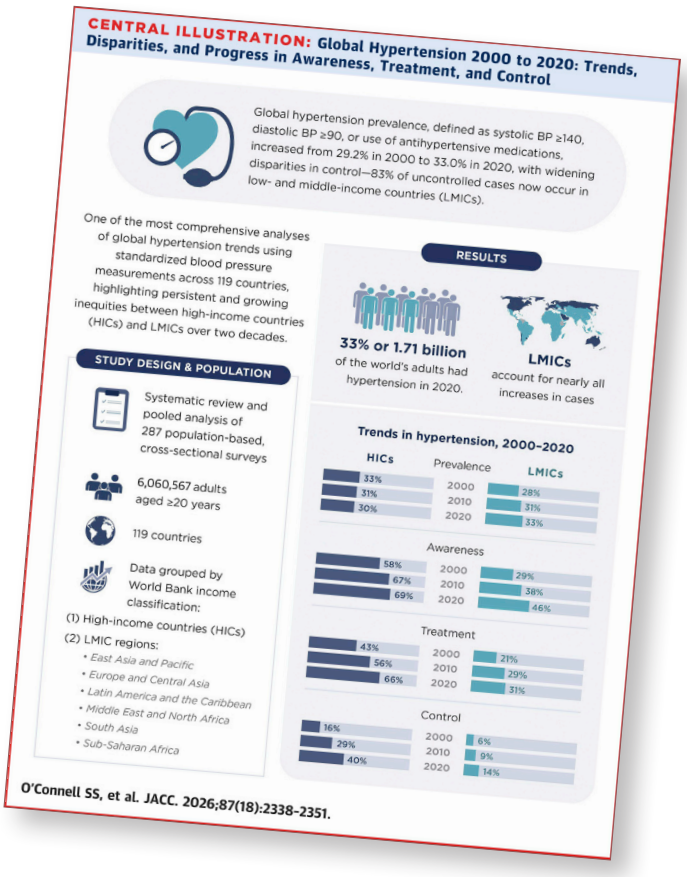
Among his other many accolades, Braunwald was recognized as a Master of the ACC, and received ACC's Distinguished Scientist Award in 1986, as well as the Lifetime Achievement Award in 2010. In addition, the Eugene Braunwald Keynote is a cornerstone of ACC's Annual Scientific Session, providing a platform for leading cardiovascular experts to explore emerging challenges and opportunities in the field – honoring Braunwald's enduring legacy and his commitment to advancing the field.

"You always wanted to hear what he had to say," says **Harlan M. Krumholz, MD, SM, MACC**, Editor-in-Chief of *JACC*. "I remember a recent lecture of his on the future of cardiology, still looking ahead, still steering the field. He did what he loved, and he did it his entire life, and we are all the better for it. He will be missed dearly." ■

Hypertension Research: What Comes Next?

Key advances in hypertension science are the focus of a special focus issue of *JACC*. Original research and commentaries provide insights into global population trends, breaking clinical trials and real-world implementation. Among the topics: links between blood pressure and critical outcomes; evaluation of pharmacologic and lifestyle treatments; environmental and genetic drivers of hypertension; and emerging approaches to blood pressure measurement and management across the lifespan.

"Lowering blood pressure is one of the most powerful ways clinicians can protect the lives patients hope to continue living," says *JACC* Editor-in-Chief **Harlan M. Krumholz, MD, SM, MAC**C, in an editorial kicking off the issue. He stresses that "the next frontier will be building systems, potentially aided by artificial intelligence, that help patients more reliably reach and sustain target blood pressure levels." ■



Scan the QR code to explore the full issue.

Scan this QR code to listen to Krumholz and first author **Samantha S. O'Connell, MS, MD**, discuss a comprehensive global analysis of hypertension trends from 2000 to 2020, drawing on data from nearly 300 population-based studies across 119 countries.

We Want Your Feedback

Help us build an ACC that delivers even greater value to you and your patients. ACC President **Roxana Mehran, MD, FACC**, is inviting members to share insights on where they find value in the College and how the ACC can provide the support you need to transform the future of care. **Scan the QR code** to take a brief survey and help shape what's next for ACC. ■

SUBMISSIONS WANTED!

All *JACC* Journals: Take advantage of the opportunity to amplify your abstract, case study or late-breaking trial being presented at **ESC Congress 2026** in Munich by simultaneously publishing in *JACC* Journals. Manuscripts should be submitted for consideration by **June 29** for the best chance of publication and up to **July 20 for Hotline trials.**

Scan the QR code for more information.

***JACC:* Case Reports:** Survivors of single-ventricle physiology and subsequent interventions are some of the most complex patients, and are increasingly surviving into later adulthood with additional layers of complexity and opportunities for novel interventions and management. Submit your original research and clinical cases by **June 24** and help shape the future of specialized care for this growing patient population.

***JACC:* Advances:** Submit your original research and/or viewpoints for a special Focus Issue aimed at showcasing new developments in preventive cardiology. Specifically, the issue will highlight the global burden of cardiovascular disease, identify critical gaps in prevention, and bring to our practitioners and researchers the latest science and developments in the fields of prevention, genomics, nutrition, therapeutics and implementation tools to promote cardiovascular health. Submissions are due by **Aug. 1**.

Scan the QR code or visit the Author Center at *JACC.org* for more details on these and other calls for papers.

Site Selection and Representation in Coronary Stent PMA Studies

Women and minority participants were underrepresented in premarket approval (PMA) studies for coronary stents, thus they did not fully reflect the intended-use population (IUP), according to research on enrollment implications of site selection published in *JACC*.

Using pooled data from nine coronary stent PMA studies submitted to the U.S. Food and Drug Administration from 2003-2018, **Wayne B. Batchelor, MD, MHS, MBA, FACC**; **Robert M. Califf, MD, MACC**; **Roxana Mehran, MD, FACC**, and colleagues identified 8,859 U.S. participants across 196 sites classified by U.S. region, surrounding county demographics, teaching status, Veterans Administration affiliation, trial volume, female principal investigator (PI) involvement and number of acute hospital beds.

Ony 12% of participants self-identified as a racial or ethnic minority (6% as Black, 4% as Hispanic) and 30% were women. No significant change in representation was seen over the 15-year study period.

Significant variation between sites was seen in enrollment of racial and ethnic minorities. Predictive factors were region (West and South), county minority population, population density and per-capita income. Less variation was seen in enrollment of women, which was not predicted well by research site characteristics including presence of female PI.

"A site selection strategy that accounts for regional and county-level demographics may normalize minority representation without compromising that of non-Hispanic Whites," write the investigators. "However, the effect on enrollment of women would be minimal, underscoring the need for additional targeted interventions to enhance representation of women in cardiovascular device trials." ■

Batchelor W, Califf R, Mehran R, et al. *JACC*. 2026;87(16):2163-76. doi.org/10.1016/j.jacc.2026.01.088

LBBP vs. RVP in High Burden Pacing

Left bundle branch pacing (LBBP), vs. right ventricular pacing (RVP), significantly reduced the composite ofpacing-induced cardiomyopathy (PICM), heart failure hospitalization (HFH) and all-cause mortality in patients with a high pacing burden and high risk of cardiac dysfunction, based on LBBP-FAVOUR results presented at HRS 2026 and simultaneously published in *JACC*.

Among the 160 patients randomized at multiple centers in China, the composite primary endpoint (all-cause mortality, HFH or PICM) occurred in 12% and 34% of the LBBP and RVP groups, respectively, at 36 months. PICM occurred in 7% and 18% of the respective groups. Rates of all-cause mortality and HFH did not differ between groups.

Additionally, "superior improvements" in LVEF, LV end-diastolic and LV end-systolic diameters were seen with LBBP, along with more improvement in NYHA functional class.

"Although this study did not show significant differences between two pacing modalities with respect to [HFH] and mortality, the benefits of LBBP … including prevention of PICM and preservation of cardiac structure and function … provide valuable clinical evidence for treatment decision-making in this high-risk population," says **Nan Qiu, MB**, et al. ■

Qiu N, Liu X, Wang Z, et al. *JACC*. 2026;April 23. doi: 10.1016/j.jacc.2026.03.161

Scan the QR code to read all the science published in the *JACC* Journals and presented at HRS 2026.

VA Ablation Using Dual Energy Lattice Tip Catheter

Catheter ablation of ventricular arrhythmias (VAs) with a lattice-tip catheter that allows toggling between radiofrequency ablation (RFA) and pulsed field ablation (PFA) "appeared effective and generally safe," based on findings from the CLEAR-VT Registry study presented at HRS 2026 and simultaneously published in *JACC: Clinical Electrophysiology*. This study was the first in the U.S.

The study conducted by **Osama Dasa, MD, PHD**, et al., included nearly 60 patients (median age 70 years; mean LVEF 36.3%) who underwent ablation of VA using the lattice-tip catheter. Of these, 50 (85%) had scar-related ventricular tachycardia (VT) and nine (15%) had frequent premature ventricular contractions (PVCs). Acute procedural success, defined as noninducibility of any VT or complete PVC suppression, was achieved in 78% and 100% of patients, respectively.

Researchers noted that VT recurred in nine patients (18%), and death/heart transplantation/left ventricular assist device implantation occurred in six patients (12%) after a median follow-up of 100 days. At six months, the Kaplan-Meier–estimated VT-free survival was 69.8%; the Fine-Gray cumulative incidence of VT recurrence, accounting for competing risks, was 28.4%. Additionally, no patient with PVCs had recurrence after a median follow-up of 54 days.

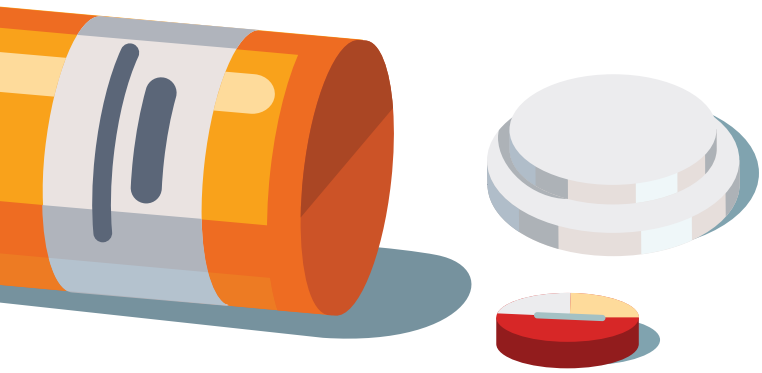
"Complications were uncommon but included acute device failure requiring intraoperative replacement and additional unique risks of catheter entrapment and fat entrapment within the sphere during epicardial mapping," researchers said. They added that caution should be used when applying PFA in proximity to exposed conductors of ICDs. ■

Dasa O, Younis A, Higuchi K, et al. *JACC EP*. 2026;April 26. doi:10.1016/j.jacep.2026.03.002.

Single Pill Combo Cuts BP, Recurrent Stroke Post ICH

A single pill combining three low-dose antihypertensive drugs added to standard care was associated with a lower incidence of recurrent stroke and major cardiovascular events, and improvement in blood pressure (BP), among patients with prior intracerebral hemorrhage (ICH), according to results of the TRIDENT trial published in *NEJM*.

The study randomized 1,670 clinically stable patients with a history of spontaneous ICH to either a once-daily pill (with telmisartan 20 mg, amlodipine 2.5 mg and indapamide 1.25 mg) or matching placebo. Their age was 58 years, a third were women and three-quarters were Asian; randomization was a median 54 days post index event. While patients were enrolled across 57 sites in 10 countries, 67% resided in Sri Lanka.



At 2.5 years, 38 patients (4.6%) in the treatment arm vs. 62 (7.4%) in the placebo arm experienced the primary endpoint of recurrent stroke (hazard ratio [HR], 0.61; p=0.02), driven by prevention of recurrent ICH (1.8% vs. 4.4%; HR, 0.40). The rate of major cardiovascular events, including nonfatal myocardial infarction, nonfatal stroke or cardiovascular death, was also lower in the treatment group (6.6% vs. 9.8%; HR, 0.67; p=0.04).

More patients in the treatment group than the placebo group achieved a systolic BP <130 mm Hg at six months (50% vs. 26%; HR, 3.15; p<0.001). The mean systolic BP during follow-up was 127 mm Hg and 138 mm Hg, respectively; reductions were consistent across subgroups and demographics.

Despite its importance, long-term BP control post ICH, "is generally inadequate owing to poor adherence to treatment, uncertainty surrounding the degree of benefit, varying guideline recommendations, insufficient intensification of treatment when [BP] remains elevated, and therapeutic inertia," write the authors. "Combination antihypertensive therapy delivered in a single pill holds considerable promise as a strategy to improve [it]." ■

Anderson CS, Chow CK, et al. *N Engl J Med*. 2026;394(16):1571-1582.

PCI vs. CABG: Comparable 10-Year Mortality in LM CAD

In patients with unprotected left main (LM) coronary artery disease (CAD) and no additional complex lesions, the rate of all-cause mortality at 10 years was similar with PCI and CABG, according to the NOBLE study published in *The Lancet*.

Conducted at 36 hospitals in northern Europe from Dec. 9, 2008 to Jan. 21, 2015, 1,201 patients were randomized to PCI or CABG, with 592 patients in each group comprising the intention-to-treat population. Their mean age was 66 years and 78% were men.

Eligibility was defined by clinical criteria (chronic or acute coronary syndrome, life expectancy >one year) and angiographic criteria (LM coronary artery diameter stenosis ≥50% or fractional flow reserve ≤0.80 in the left main ostium, mid-shaft or bifurcation). Patients with STEMI within 24 hours and those considered too high-risk were excluded.

Emil Nielsen Holck, MD, PhD, et al., found the primary outcome of all-cause mortality occurred in 23% of patients treated with PCI and 25% treated with CABG at 10 years (hazard ratio, 0.93; 95% CI, 0.74-1.18; p=0.56). No significant interaction between SYNTAX score and all-cause mortality was observed.

"These results will aid heart teams in developing an individualized patient-centered strategy and inform shared decision-making and future guideline recommendations," write Nielsen and colleagues. ■

Holck E, Holm N, Hildick-Smith D, et al. *Lancet*. 2026;407:1374-82.

Cardiac Measure Compliance Boosts Outcomes

Practice-level compliance with the heart failure (HF) composite measure as well as individual measures related to beta-blocker and ACE inhibitor/ARB use was associated with decreased risk of death or hospitalization, according to a study published in *American Heart Journal*.

Paul L. Hess, MD, MHS, et al., investigated the association between real-world outcomes and practice-level performance in the outpatient care setting. They included patients (age ≥65 years) diagnosed with atrial fibrillation (AFib), coronary artery disease (CAD), HF and/or hypertension at centers participating in the NCDR PINNACLE Registry in 2016. Registry data was linked with Centers for Medicare and Medicaid Services' outcomes of death and hospitalization through Dec. 31, 2017.

In patients with HF, the authors found that practice-level performance across quartiles was associated with a lower risk of death or hospitalization (compared with first quartile, second quartile hazard ratio [HR], 0.95; third quartile HR, 0.86; fourth quartile HR, 0.87; p for trend = 0.0041). The same was observed for death alone (compared with first quartile, second quartile HR, 0.86; third quartile HR, 0.78; fourth quartile HR, 0.80; p for trend <0.0001).

Hess and colleagues also note similar associations with individual HF measures of beta-blocker and ACE inhibitor/ARB use. Beta-blocker therapy in patients with CAD was also associated with a reduced risk of death (compared with first quartile, second quartile HR, 0.97; third quartile HR, 0.87; fourth quartile HR, 0.86; p for trend = 0.0413).

No associations in practice-level composite measure performance and death or rehospitalization were seen in patients with AFib, CAD or hypertension.

"Clinical trials demonstrated that renin-angiotensin system inhibition as well as beta-blocker use increase survival and reduce hospitalization among patients with HF with reduced ejection fraction. Data predating the current reperfusion era similarly support the use of beta-blockers among patients with a history of myocardial infarction or reduced ejection fraction..." write the authors. "The current analysis suggests achievement in these aspects of guideline-concordant ambulatory cardiovascular care on a practice level translates to substantial clinical benefits in the real world." ■

Hess PL, Fu Z, Desai NR, et al. *Am Heart J*. 2026;296:107364.

CMR and NT proBNP Sharpen HCM Risk Stratification

Results from a prospective study using data from the National Heart, Lung, and Blood Institute's Hypertrophic Cardiomyopathy (HCM) Registry provide important evidence in support of incorporating cardiac magnetic resonance (CMR) imaging and NT-proBNP into the evaluation of risk in patients with HCM.

The study, published in *JAMA*, uses data from approximately 2,700 patients with low- to intermediate-risk HCM enrolled in the HCM Registry from 44 sites in North America and Europe. The average patient age was 50 years, 71% were male and 16% were from underrepresented racial and minority groups. All patients completed a health history questionnaire and underwent contrast-enhanced CMR, as well as blood sampling for biomarkers and genotyping. Average follow-up was about seven years.

Results showed a total of 117 primary composite events involving HCM-related death, nonfatal sustained ventricular arrhythmias requiring cardioversion or defibrillation, and left ventricular (LV) assist device implant or heart transplant occurred among 104 patients (3.9%) and were predicted by CMR imaging of LV structure. Additionally, 77 sudden cardiac deaths and VA events occurred in 69 patients (2.3%) and were "predicted by LV structure and function and NT-proBNP," researchers said.

According to lead investigator **Christopher M. Kramer, MD, MACC**, the study is the largest of its kind to involve imaging and blood tests to identify patients with HCM who are at higher risk of adverse outcomes. "This is an important next step to do a better job of identifying HCM patients at high risk," he said. "This adds to presently used risk markers derived from the patient's and their family's prior history."

Kramer also noted that the study results will help clinicians better determine which patients could best benefit from cardioverter-defibrillator devices and potentially spare those at lower risk from unneeded implantations. He and colleagues say, "future work will include development of a risk score as well as external validation from independent databases with similar comprehensive measures." ■

The HCMR Investigators. *JAMA*. 2026;May 11. doi:10.1001/jama.2026.5633

Beyond Steroidal MRAs:
Rethinking MR Blockade in HF

Mineralocorticoid receptor antagonists (MRAs) are foundational in heart failure with reduced ejection fraction (HFrEF).[1,2] In patients with preserved or mildly reduced ejection fraction (HFpEF/HFmrEF), however, the evidence has been and does not build a compellilng case for the use of steroidal MRAs in HFpEF/HFmrEF.

The TOPCAT trial was neutral overall, though the Americas subgroup suggested potential benefit with spironolactone.[3] More recently, SPIRIT-HF, presented at ACC.26, did not demonstrate a benefit for spironolactone in HFpEF/HFmrEF; however, the trial was limited by the COVID-19 pandemic, with over half of patients discontinuing study drug.[4]

Taken together, and acknowledging the limitations of both trials, the available evidence does not build a compelling case for the use of steroidal MRAs in HFpEF/HFmrEF.

Enter Finerenone

Finerenone is a nonsteroidal MRA with selective receptor binding, distinct co-regulator interactions and balanced heart-kidney distribution – properties that together produce a more targeted transcriptional profile than conventional steroidal MRAs.

In practice, this translates to fewer off-target hormonal effects, a more favorable tolerability profile and lower observed rates of hyperkalemia compared with steroidal MRAs.[5,6]

Its clinical development has followed a distinctive path in the cardio-kidney-metabolic space, with regulatory approval for chronic

Table. Clinical Trials of Finerenone: Completed and Ongoing

Trial	Population	N	Treatment Arms	Primary Outcome	Key Result	Expected Completion
FIDELIO-DKD[7]	CKD + T2D	5,734	Finerenone vs. placebo	Kidney failure, sustained ≥40% eGFR decline, or renal death	HR 0.82 (95% CI 0.73-0.93)	
FIGARO-DKD[8]	CKD + T2D	7,437	Finerenone vs. placebo	CV death, MI, stroke, or HHF	HR 0.87 (95% CI 0.76-0.98)	
FINEARTS-HF[10]	HF, LVEF ≥40%	6,016	Finerenone vs. placebo	Worsening HF events or CV death	RR 0.84 (95% CI 0.74-0.95)	
CONFIDENCE[19]	CKD + T2D	807	Finerenone + empagliflozin vs. each alone	Change in UACR at 180 days	29% greater reduction vs. finerenone alone; 32% vs. empagliflozin alone	
CONFIRMATION-HF	HF (any EF) + recent HHF	1,500	Early finerenone + empagliflozin vs. usual care (open-label)	Win ratio: death, HF events, KCCQ-TSS	–	July 2026
REDEFINE-HF	HF, LVEF ≥40% + recent HHF	5,200	Finerenone vs. placebo	CV death or total HF events	–	November 2027
FINALITY-HF	HFrEF, sMRA-intolerant or ineligible	2,600	Finerenone vs. placebo	Time to CV death or HF event	–	March 2028

HHF, hospitalization for heart failure; KCCQ-TSS, Kansas City Cardiomyopathy Questionnaire-Total Symptom Score; MI, myocardial infarction; RR, rate ratio; sMRA, steroidal MRA; UACR, urine albumin-to-creatinine ratio.

kidney disease (CKD) with type 2 diabetes (T2D) first – on the basis of FIDELIO-DKD, FIGARO-DKD and the FIDELITY pooled analysis[7-9] – followed by expansion into HF. In FINEARTS-HF, finerenone reduced a composite of worsening HF events and cardiovascular death by 16% across 6,016 patients with HF and LVEF ≥40% (rate ratio, 0.84; 95% CI, 0.74-0.95; p=0.007),[10] supporting U.S. Food and Drug Administration approval for HFpEF/HFmrEF in July 2025.

Safety in Clinical Practice: The eGFR Dip and Hyperkalemia

Two factors may contribute to early discontinuation of finerenone, as with other guideline-directed medical therapies: an early decline in estimated glomerular filtration rate (eGFR) and hyperkalemia.

The eGFR dip, approximately 2-3 mL/min/1.73 m^2 within the first month, appears to be hemodynamic and reversible. A prespecified FINEARTS-HF analysis demonstrated that this decline does not portend worse cardiovascular outcomes, in contrast to spontaneous eGFR decline in the placebo arm.[11] Consistently, in the FIDELITY pooled analysis, clinical benefits were preserved irrespective of early eGFR trajectory.[12] These findings parallel other HF therapies and support tolerating modest creatinine increases without premature discontinuation of disease-modifying drugs.

Hyperkalemia remains a concern but appears manageable with routine monitoring. In FINEARTS-HF, potassium >5.5 mmol/L occurred in 14.3% of finerenone-treated patients vs. 6.9% with placebo; however, discontinuation due to hyperkalemia was infrequent (1.7% vs. 0.6%), and no fatal events were reported.[13] For context, in the TOPCAT Americas cohort, potassium >5.5 mmol/L occurred in 25.2% of patients receiving spironolactone (vs. 8.9% with placebo). A target trial emulation in CKD further suggested lower hyperkalemia rates with finerenone compared with spironolactone (17.2% vs. 26.4%).[14]

Implementation and Future Directions

Despite a favorable efficacy-safety profile, implementation barriers remain. At approximately $700 per month – compared with approximately $10 for generic spironolactone – cost and prior authorization requirements may limit uptake. Real-world uptake of finerenone in CKD with T2D has already proven limited,[15] echoing the well-documented therapeutic inertia seen across HF registries with other evidence-based therapies.[16]

The current ACC/AHA guideline for HF predates FINEARTS-HF,[17] and guideline incorporation of finerenone – likely at Class IIa alongside SGLT2 inhibitors – is anticipated. Notably, FINEARTS-HF subanalyses have confirmed that the benefit of finerenone is preserved with concomitant SGLT2 inhibitor use in HF,[18] while the CONFIDENCE trial demonstrated additive proteinuria reduction with the combination in patients with CKD and T2D.[19] Together, these trials build the case for combination therapy across the cardio-kidney-metabolic spectrum.

CONFIRMATION-HF, the ongoing trial that is evaluating early initiation of finerenone plus empagliflozin vs. usual care after a HF hospitalization, will further inform the strategy of combining nonsteroidal MRAs with SGLT2 inhibitors. Additional trials are also underway, including FINALITY-HF. Evaluating finerenone in patients with HFrEF intolerant to steroidal MRAs – potentially filling a gap in real-world practice where hyperkalemia concerns limit uptake of an otherwise effective drug class.

Key Takeaways

Finerenone is the first MRA to demonstrate clear benefit in a pivotal trial in HFpEF/HFmrEF. Its safety profile positions it as a meaningful addition to the treatment algorithm and may extend to HFrEF patients unable to tolerate steroidal MRAs pending further trial data. Realizing this potential, however, will require overcoming the therapeutic inertia that has delayed the adoption of every major advance in HF pharmacotherapy. ■

References available with the online version of this article at ACC.org/Cardiology.

This article was authored by **Alberto Pinsino, MD**, Cardiovascular Disease Fellow, New York Presbyterian Hospital, Columbia University Irving Medical Center, New York, NY.

Lower Extremity Atherectomy: A Clinical Review For the Interventional Cardiologist

Peripheral artery disease (PAD) affects more than 12 million Americans and is a leading cause of limb loss and cardiovascular mortality.[1] Atherectomy – the mechanical removal of atherosclerotic plaque – has emerged as an important adjunct to balloon angioplasty, stenting and drug delivery systems, offering improved luminal gain while minimizing vessel trauma. This review summarizes device platforms approved by the U.S. Food and Drug Administration (FDA), supporting evidence and unmet needs.

What Is Atherectomy?

Atherectomy employs catheter-based cutting, photoablation or rotational ablative mechanisms to debulk obstructive plaque prior to adjunctive therapy. By modifying lesion compliance and removing plaque volume – particularly in calcified or fibrotic segments – atherectomy aims to optimize drug-coated balloon (DCB) drug uptake, reduce elastic recoil, minimize flow limiting

Table 1. FDA-Approved Lower Extremity Atherectomy Devices

Device	Mechanism	FDA	Concentric calcium	Eccentric calcium	Long/ diffuse	Thrombus	ISR	Soft/ fibrotic	CTO/ occlusive	Key Evidence
Suitability: ++ Excellent | + Good | +/- Moderate | – Poor/contraindicated										
ROTATIONAL / EXCISIONAL										
Rotarex (Becton Dickinson)	Rotational/excisional + aspiration (helical screw, continuous debris extraction)	510(k)	+	+	+	++	+	+/-	++	ROTAPAC
Jetstream (Boston Scientific)	Rotational + aspiration (rotating blades with active debris removal)	510(k)	+	+	+	++	–	+	+	JETSTREAM PAD
Revolution (Rex Medical)	Rotational + aspiration (burr rotation with continuous aspiration 60-80k rpm)	510(k)	++	+	+/-	++	–	+/-	+	REVEAL
Phoenix (Philips)	Excisional + aspiration (rotating tip with aspiration)	510(k)	+/-	+	+	+/-	–	+	+	EASE
Rotablator (Boston Scientific)	Rotational (diamond coated burr, 140-190k rpm)	510(k)	++	+	+/-	–	–	–	+/-	CRAG
ORBITAL										
Diamondback 360 (Abbott)	Orbital (eccentric diamond crown, 60-120k rpm)	510(k)	++	++	+	–	–	–	+/-	CALCIUM 360; COMPLIANCE 360; LIBERTY 360
FreedomFlow (Cardioflow Inc.)	Orbital (helical diamond spheres, 50-76k rpm)	510(k)	++	++	+	–	–	–	+/-	FAST II
DIRECTIONAL										
HawkOne / TurboHawk (Medtronic)	Directional excision (rotating blade, plaque packed in nosecone)	510(k)	–	+	++	–	+/-	+	+	DEFINITIVE AR; DEFINITIVE LE
LASER / PHOTOABLATION										
Excimer Laser (Philips)	Laser / photoablation (308 nm UV pulsed energy)	PMA	+/-	+/-	++	++	++	+	+	EXCITE ISR; LACI registry
Auryon (Angio-Dynamics)	Laser / photoablation (355 nm solid-state pulsed laser)	510(k)	+/-	+	++	++	++	+	+	EX-PAD-03

CTO, chronic total occlusion; ISR, in-stent restenosis.

dissections and lower bailout stent rates.[2] Maximal lumen gain is associated with improved patency outcomes.[3] Four broad modalities are in clinical use: directional, rotational/excisional, orbital and laser photoablation; several of these devices incorporate aspiration to reduce risk of embolization.

Evidence Summary

The evidence base for atherectomy dates back to 1988 and spans randomized controlled trials (RCTs), prospective studies, registries and real-world datasets.[4]

Directional atherectomy was shown to deliver high primary patency (78% in claudicants) with low target lesion revascularization (TLR) rates of approximately 12% at one year in the DEFINITIVE LE trial.[5] Laser atherectomy plus percutaneous transluminal angioplasty (PTA) significantly reduced six-month TLR, vs. PTA alone, in patients with femoropopliteal in-stent restenosis in EXCITE ISR.[6] Rotational atherectomy with aspiration achieved effective debulking and favorable patency in complex femoropopliteal lesions, including calcified and occlusive disease in PATHWAY PVD.[7]

Two randomized trials – COMPLIANCE 360 in femoropopliteal disease and CALCIUM 360 in infrapopliteal disease – demonstrated that orbital atherectomy plus balloon angioplasty reduced bailout stenting rates and balloon inflation pressures vs. angioplasty alone in calcified lesions, as well as identified residual stenosis >30% as an independent predictor of adverse outcomes.[8,9]

A prospective registry, LIBERTY 360, reported two-year primary patency of 89.7% in claudicants and three-year freedom from major amputation of 88.6% in patients with critical limb ischemia, supporting an atherectomy-based approach across the full spectrum of PAD severity.[10]

Atherectomy may enhance DCB efficacy by modifying the lesion substrate and improving drug uptake. A 2025 network meta-analysis found atherectomy plus DCB was associated with higher technical success and 12-month patency rates vs. DCB alone for femoropopliteal interventions supporting plaque modification as a key strategy in complex PAD.[11]

A 2025 comprehensive systematic literature review and meta-analysis evaluated 322 atherectomy publications including 19 RCTs and reported pooled 12-month patency of 75.4%, TLR of 15.6% and major amputation of 1.7% – concluding atherectomy outcomes are favorable while calling for appropriately powered comparative trials.[4]

Device Selection

Although most devices treat multiple lesional morphologies, no single device is superior for all subtypes (**Table 1**). Device selection should be guided by lesion characteristics with the aim of achieving maximal luminal gain while minimizing deep wall injury and vessel barotrauma.

Unmet Needs and Questions Remaining

Several fundamental clinical questions remain. Does atherectomy improve drug delivery and durability for DCBs, drug-eluting stents and bioresorbable scaffolds – and if so, in which lesion subsets? Is the benefit device-specific or a class effect? What degree of plaque removal is optimal by lesion type and morphology?

The emergence of intravascular lithotripsy (IVL) also raises key questions. Does IVL complement atherectomy in severely calcified lesions, serve as a standalone alternative or is it preferred based on defined morphologies – concentric, deep or nodular calcium – where atherectomy alone may be insufficient? Do outcomes justify the cost burden these devices impose?

Also needed is standardized device selection algorithms across lesion subsets to achieve consistent outcomes, alongside structured training pathways for less experienced practitioners.

The heterogeneity of peripheral arterial lesions limits generalizability across atherectomy device categories and poses challenges for comparative effectiveness studies. Until appropriately powered, head-to-head randomized trials are conducted – particularly for infrapopliteal disease and chronic limb-threatening ischemia – device selection will rely on prospective studies, registry data, operator experience and expert consensus rather than level 1 evidence.

Conclusion

Atherectomy is well-supported within a multimodality endovascular approach to complex PAD, with device selection guided by lesion morphology. As the field evolves to include IVL and advanced drug delivery platforms, defining atherectomy's optimal role through well-designed comparative trials will be beneficial to delivering consistent, durable outcomes across the full spectrum of disease. ■

References available with the online version of this article at ACC.org/Cardiology.

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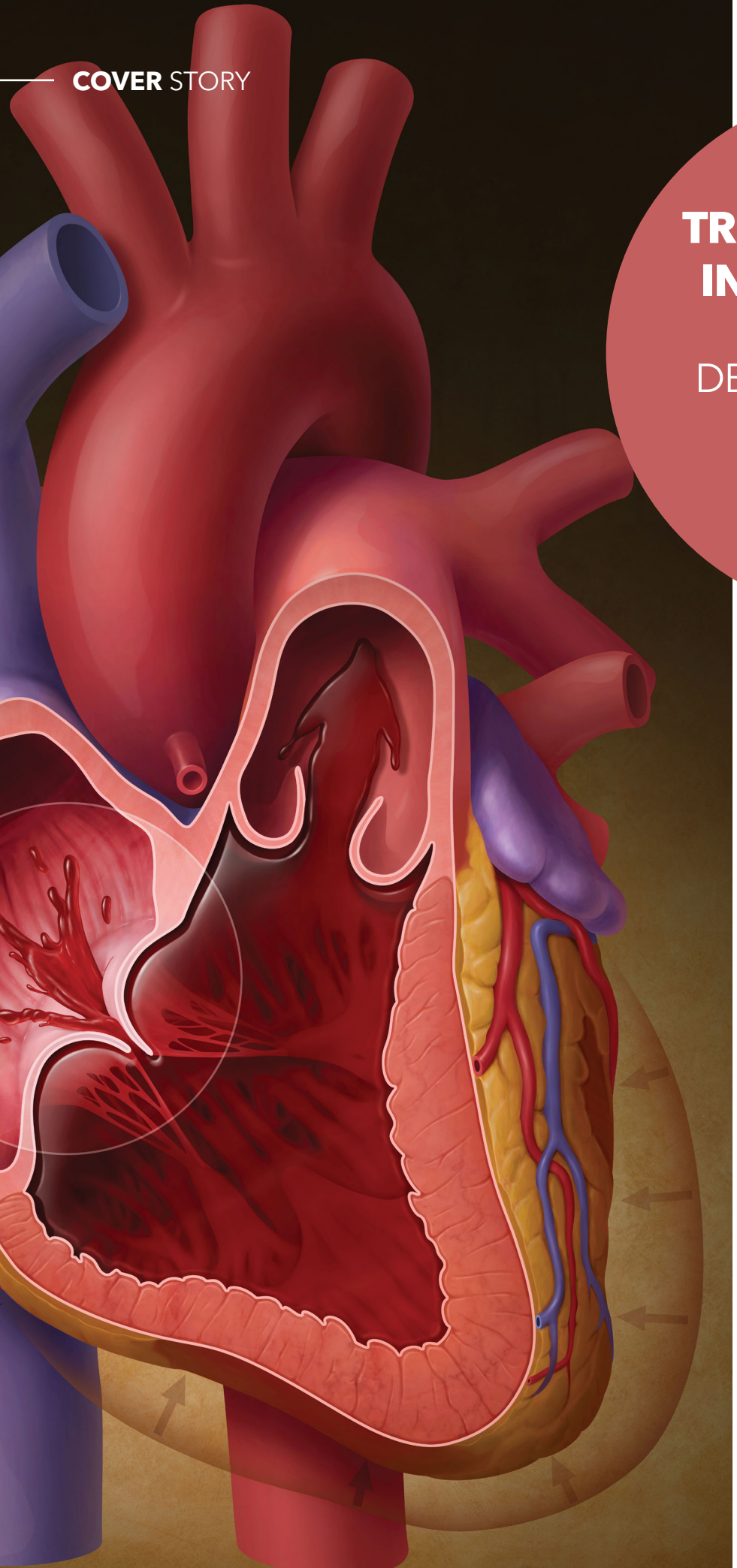

TRICUSPID VALVE INTERVENTION: CLINICAL DECISION-MAKING FOR PATIENT SELECTION

By Debra L. Beck, MSc

For decades, cardiologists have referred to the tricuspid valve as "the forgotten valve." One reason for this neglect is that tricuspid regurgitation (TR) often goes unnoticed, explains **Robert O. Bonow, MD, MACC**, Distinguished Professor at Northwestern University Feinberg School of Medicine in Chicago, IL.

Late presentations are common. With increasing TR severity, symptoms of systemic venous congestion, such as edema and those reflective of reduced forward cardiac output, including dyspnea and fatigue, may emerge.

"Tricuspid regurgitation can brew for years and suddenly manifest with symptoms like fatigue, edema and dyspnea," Bonow states. "Also, the tricuspid murmur is typically very soft, unlike the prominent murmur we see with mitral regurgitation (MR)." Assessment of the jugular venous pulse can be diagnostic, although often overlooked in a routine physical exam, and this can be challenging in patients with obesity.

The medical management of TR primarily involves the use of diuretics, which is a Class IIa recommendation.

The larger issue arises when diuretics stop working.

With two transcatheter devices approved by the U.S. Food and Drug Administration (FDA) now available, a landmark ACC Expert Consensus Decision Pathway published in 2025,[1] and rapidly evolving evidence for transcatheter intervention,[2] the question is no longer whether severe TR can be treated, but when to refer.

The Referral Threshold

Bonow's threshold is clear. "When patients have severe TR on echocardiography, especially if it's been progressive, and especially if they're not responding to diuretics, we should be considering whether to fix this valve before the patient has major complications," he says. "If your patient has developed liver enzyme abnormalities, you've waited too long."

Also, adds Bonow, "when a patient has mitral disease, we should always be looking for tricuspid disease." Although likely an underestimation of TR prevalence, in an analysis from the STS/ACC Transcatheter Valve Therapy Registry (2019-2021), 14.7% of those undergoing mitral transcatheter edge-to-edge repair (M-TEER) had severe TR at baseline (compared with 2.3% of TAVI patients).[1]

More advanced manifestations of right-sided congestion, such as abdominal bloating, worsening peripheral edema, weight gain and anorexia, follow later in the course of TR and are ominous.

For **Rajendra R. Makkar, MD, FACC**, from Cedars-Sinai Medical Center in Los Angeles, referral for TR intervention is related to the lack of randomized trials of medical therapy for TR. "If you have patients who are symptomatic despite reasonable medical therapy, they can be considered for device therapy and, at the very least, should be referred for proper imaging."

Bonow, editor-in-chief of *JAMA Cardiology* and editor of *Braunwald's Heart Disease*, and Makkar, whose Cedars-Sinai program is likely the world's largest for transcatheter tricuspid intervention, both bring decades of perspective on the field's evolution.

The Echo Problem

Both experts converge on a striking practical point: the single most important thing a community cardiologist can do is obtain a high-quality echocardiogram, which often means referring them to a comprehensive valve center.

"If the echo isn't being done by operators experienced in valvular imaging, it's fair to suggest it's not a quality echo, which is important for assessing all valvular heart disease, but especially the tricuspid," Makkar says. Without it, severity can be grossly underestimated.

The tricuspid valve is "the hardest to image accurately," adds Bonow. A well-done echo can be relied on to determine TR severity, but "a good 3D transesophageal echocardiogram (TEE) will allow for not just a determination of severity but also the mechanism of the TR."

The Mechanism Equation

Given that secondary TR accounts for about 80% of patients and TR related to implantable device leads accounts for another 10-15% of TR,[1] properly identifying the mechanism changes everything, says Makkar. He points to three growing secondary TR drivers: 1) left-sided heart disease progressing to right-sided failure; 2) atrial functional TR – the fastest growing cause – secondary to enlargement of the atria from atrial fibrillation; and 3) cardiac implantable electronic device (CIED) leads that cross the tricuspid and trap the valve leaflets.

CIED-related TR used to prompt lead extraction before intervention, but this has changed. In TRISCEND II,about one-third of patients undergoing transcatheter tricuspid valve replacement (TTVR) had leads left in place.

In real-world registry data from Makkar and colleagues, about 38% of patients had CIEDs.[2] The lead is simply "pushed aside – it just goes into the commissure of the valve." Outcomes were similar with patients without leads.

> When patients have severe TR on echocardiography, especially if it's been progressive, and especially if they're not responding to diuretics, we should be considering whether to fix this valve before the patient has major complications.
>
> Robert O. Bonow, MD, MACC

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The Device Decision

Two FDA-approved transcatheter options now exist: edge-to-edge repair (T-TEER) with the TriClip (Abbott) and full valve replacement with the Evoque system (Edwards Lifesciences). Makkar summarizes the trade-off crisply. "With replacement, 95-97% of patients will have mild or less residual TR. With repair, almost 30% will have moderate or more residual regurgitation."

Replacement appears more effective at eliminating TR, while repair has shown a more favorable early safety profile. Thirty-day mortality is very low, with no pacemaker risk. Replacement carries more upfront cost. In TRISCEND II, new pacemaker rates were nearly 25% in patients without preexisting CIEDs. In real-world practice, notes Makkar, citing his just-published STS/ACC registry analysis of 1,034 U.S. patients undergoing Evoque TTVR, the rate has dropped to roughly 15% in patients without preexisting CIEDs. "We're better at sizing the valve now, and maybe that puts less pressure on the conduction system." Bleeding complications were reportedly lower in the real-world data, possibly from simplified anticoagulation, among other reasons.

Makkar provides context for the 3.1% 30-day TTVR mortality rate seen in the most recent data, noting that the mortality after surgical tricuspid replacement is in the 8-10% range.

The Staging Advantage

Indeed, a structural advantage of transcatheter therapy is the ability to stage. "With surgery, there's a tendency to fix it all in one shot, which can lead to unnecessary procedures," says Makkar. "About half the time, when you fix the left-sided pathology, the right-sided pathology will improve."

> If the echo isn't being done by operators experienced in valvular imaging, it's fair to suggest it's not a quality echo, which is important for assessing all valvular heart disease, but especially the tricuspid.
>
> Rajendra R. Makkar, MD, FACC

Makkar's usual protocol: fix the left-sided lesion first, reassess at 30 days, follow over months to see if a right-sided fix is still needed. With that, he flags mechanisms that will not resolve with left-sided correction: "TR related to leads, prolapse or flail of the valve, or carcinoid heart is obviously not going away because you treated the mitral valve."

The Mortality Question

Neither transcatheter repair nor replacement has demonstrated a consistent reduction in mortality. Approvals thus far rest on TR reduction, symptom improvement and quality-of-life gains. Bonow suggests caution is warranted. "Since it's quality of life driving the composite, there could be a big placebo effect. But these patients are often quite sick, so a mortality reduction might be hard to show," he says.

While the initial pivotal trials did not demonstrate a benefit in reduction in heart failure (HF) hospitalization, extended follow-up from the Tri.FR trial, just presented at ACC.26, may shift that narrative. With no crossover permitted before 24 months (addressing a key limitation of TRILUMINATE) Tri.FR showed that T-TEER (compared with optimal medical therapy) reduced the composite of first HF hospitalization, tricuspid valve surgery or cardiovascular death by 44% (hazard ratio, 0.56; p=0.01), and cut recurrent HF hospitalizations roughly in half (rate ratio, 0.52; p=0.007), with the benefit emerging primarily beyond the first year of follow-up. Mortality itself was not significantly different between groups (30 deaths optimal medical therapy vs. 32 T-TEER).

Makkar reframes the question in disease-trajectory terms: "When you fix aortic stenosis or MR, you see dramatic mortality reduction. But TR is at the end of the cascade. The situation is a little burnt out, so it is harder to show an impact on mortality." Still, one-year mortality in TRISCEND II was similar with – or slightly better than – medical therapy alone.

Makkar's clinical experience convinces him the symptom benefit is real. "I have had patients who were severely compromised, and when you fix their TR, they're suddenly up and functioning."

The Timing Challenge

Both Bonow and Makkar expect the pattern seen with aortic stenosis and MR – initial skepticism followed by expansion to earlier and less-sick patients – to play out with TR. Longer follow-up may yet reveal a mortality signal.

Meanwhile, the message for referring cardiologists is practical: "Obtain for your patient the benefit of a multidisciplinary team totally involved in this area," Bonow says. "Earlier referral to a comprehensive valve center is key – at least to go get the good echo." ■

References available with the online version of this article at ACC.org/Cardiology.

WHEN TO REFER: A PRACTICAL CHECKLIST

- ☐ **Severe TR on echocardiography.** Especially if progressive on serial studies, refer for expert imaging and Heart Team evaluation.
- ☐ **Symptoms despite optimized diuretics.** Fatigue, peripheral edema, ascites or HF symptoms not controlled on reasonable medical therapy.
- ☐ **Before end-organ damage develops.** Refer before liver enzyme abnormalities, rising creatinine or overt cardiac cirrhosis. Waiting for these findings means waiting too long.
- ☐ **AFib with annular dilation.** Atrial functional TR is the fastest-growing cause; dilated atrium plus TR is a referral trigger even without severe left-sided disease.
- ☐ **CIED lead-related TR.** Pacemaker/ICD lead appears to impinge on a leaflet on imaging, or new/worsening TR after device implantation. TTVR can often be performed without routine lead extraction in selected patients, but lead management still requires individualized Heart Team and electrophysiology review.
- ☐ **Persistent TR after left-sided intervention.** After successful mitral or aortic repair, reassess TR at 30 days and over subsequent months. If significant TR persists, refer.
- ☐ **Lead-, prolapse-, flail-, or carcinoid-related TR.** These mechanisms will not improve spontaneously with medical therapy or left-sided correction. Refer early.
- ☐ **Any diagnostic uncertainty about TR severity.** Tricuspid imaging is technically the most challenging of any valve. If a center does not offer 3D TEE by an experienced imager, refer for the echo alone.

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Cardiovascular Device Safety Can't End at Implantation

Modern cardiovascular care is dependent on safe and effective implanted devices. In the U.S., the cardiovascular care team implants between one and two million new devices each year. The cumulative total of implanted devices in our patients cannot be accurately estimated but is easily in the tens of millions.

Our patients depend on the care team to assure them that their devices continue to perform as intended and are free from signals that might indicate potential for harm. Most devices perform flawlessly, but even a failure rate of 0.1% can have significant consequences in the population. For example, 1.7 million injuries and 83,000 deaths were potentially linked to medical devices during a 10-year period ending in 2018.[1]

A Bit of FDA History

The U.S. Food and Drug Administration (FDA) designates cardiac devices, such as stents, valves and electrical devices, as Class III high-risk devices recognizing their lifesaving functions. In 2007, the FDA Amendments Act mandated the agency to establish an active postmarket risk identification and analysis system for drugs approved in the U.S. In 2012, this mandate was expanded by the FDA Safety and Innovation Act to include medical devices.

On top of these acts, the FDA recognized the deficiencies in our device surveillance system more than a decade ago and proposed a suite of solutions to improve device safety.[2] The system had lofty goals of using high-quality standardized and structured electronic health record (EHR) data to identify potential safety signals in near real time throughout the marketed life of the medical device. To date, most of those systems have not been optimized or implemented and the U.S. remains dependent on a system that relies heavily on spontaneous reports of device issues, which is known to underreport events.

Recent concern over the durability of implanted valve prostheses has highlighted a critical need in cardiovascular care: the need for reliable, real-time systems for tracking implanted devices that can both detect population-level safety signals and alert the care team to device issues affecting an individual patient, even if they are not under the care of the implanting physician.

Device Safety as a Continuous Function

Technology exists that can address the challenge. Drive a rental car into the airport return lane and automated scanners know the entire history of the vehicle. Arrive in the emergency department with multiple defibrillator discharges and the process of identifying the device and the cause of problem is far from easy. Now, imagine that the emergency department is 1,000 miles from the site of the implantation procedure.

It is time to reexamine the collaboration of professional societies, regulatory agencies, legislators, industry and academia to ensure a lifetime of device safety.

Responsibility for the safety of an implanted device is a continuous function. A manufacturer may perform clinical trials as part of the FDA Premarket Approval process that show the device to be safe and effective when implanted according to the instructions for use – but what if there is a subsequent defect such as seen with the Accufix™ Atrial J lead?[3]

A facility where the implant took place may feel their responsibility ends with the safe discharge of the patient; but is the proper information readily available to all who might deal with that patient in the future? The implanting physician has a responsibility to not only educate the patient and provide appropriate ongoing care, but to also report suspected issues to the FDA. How many clinicians have ever filed a MedWatch report, or even known that the system exists as part of the U.S. safety surveillance system?

The Need For Advocacy and Society Collaboration

The need for advocacy around modern systems of care, as well as multi-society engagement and use of clinical data registries, is critical.

Unique Device Identifiers (UDI) have been proposed but not implemented at the federal level. UDI makes sense, but its value depends on the ability to follow devices across time and care settings. This requires that the identifier move seamlessly with the patient from one health system to another and can only be accomplished if federally proposed interoperability standards for the EHR are implemented and maintained.

The need for advocacy around modern systems of care, as well as multi-society engagement and use of clinical data registries, is critical.

A 2024 Government Accountability Office (GAO) report to Congress identified limited adoption of UDIs as a major barrier to establishing active postmarket surveillance systems.[4] Although the National Evaluation System for Health Technology Coordinating Center (NESTcc) was launched in 2016 to develop a national data network across 19 collaborators, by the time of the GAO report it had initiated active surveillance for only two medical devices – neither cardiovascular – with plans to expand to 14 devices by 2027.

As part of the 2024 GAO report, ACC was interviewed alongside the American Academy of Orthopaedic Surgeons and the American College of Obstetricians and Gynecologists. We emphasized that ACC, in partnership with organizations such as the Society of Thoracic Surgeons, has developed trusted registries containing high-quality clinical data on specific devices. To support meaningful postmarket surveillance, these registries would need to be longitudinal, spanning the full lifespan of both the device and the patient. While registries have been proposed as components of the FDA's surveillance strategy, significant challenges remain related to patient consent, data security and the cost of sustained surveillance.

Patients deserve a device safety surveillance system that is dependable and timely. Current efforts have been well conceived, but progress has been too slow to make a meaningful impact. The number of new cardiovascular devices is increasing almost weekly. It is time to reexamine the collaboration of professional societies, regulatory agencies, legislators, industry and academia to ensure a lifetime of device safety. ■

This article was authored by **Richard J. Kovacs, MD, MACC**, ACC's chief medical officer and a past ACC president.

Navigating Valve Disease

Shared decision-making has become central to the management of valve disease, including tricuspid regurgitation (TR) (see cover story) and severe aortic stenosis (AS). If done correctly, it can help clinicians engage patients and families in meaningful discussions about symptoms, prognosis, treatment burden and personal goals, ensuring care decisions align with what matters most to each individual patient.

ACC CardioSmart decision aids are designed to support these conversations and help patients understand the disease and navigate complex treatment choices.

For example, for patients with TR, CardioSmart resources offer short summaries of available treatment options and lifestyle impacts along with worksheets to brainstorm questions and weigh the treatment path that works best.

When it comes to valve replacement and treating AS, for many patients, both transcatheter aortic valve replacement (TAVR) and surgical aortic valve replacement (SAVR) are clinically appropriate options. A CardioSmart discussion guide provides a side-by-side comparison of TAVR and SAVR, including who may benefit from each approach, how the procedures are performed, expected hospital stay, recovery timelines, and key risks and benefits. It also outlines common patient scenarios and includes practical discussion prompts that encourage patients to share what matters most to them. ■

Scan the QR code to access AS resources.

Scan this QR code to access TR resources.

Additional CardioSmart decision aids are available to help guide discussions with patients about the following conditions:

- **Atrial Fibrillation:** Considering blood thinners or left atrial appendage closure to prevent strokes
- **Heart Failure:** Considering medicines or devices such as an implantable cardioverter defibrillator (ICD) or left ventricular assist device (LVAD)
- **ICDs:** Considering whether to have an ICD placed.

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ADVOCACY IN ACTION

Scan the QR code to read a joint statement from the ACC, the Society for Cardiovascular Angiography & Interventions (SCAI) and Society of Thoracic Surgeons (STS), released last month in response to recent media coverage of SAVR and TAVR. According to the societies, while the coverage raised important questions about treatment options and long-term outcomes for patients with valve disease, it fell short in highlighting the collaborative, multidisciplinary nature of cardiovascular treatment, including shared decision-making with patients.

TAVR: Shared Decision-Making Beyond the Procedure

For patients undergoing TAVR, the key long-term issue is not just "how well did the procedure go?" but "what is the lifetime valve strategy from here?" This is becoming especially important for younger or lower-risk patients who may outlive the valve and need future interventions. Here are some questions worth revisiting with patients over the months and years after TAVR.

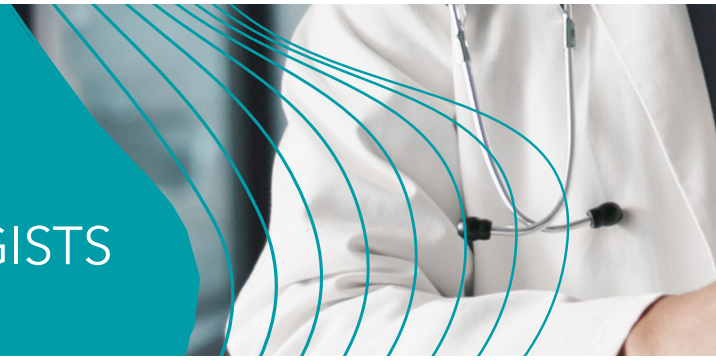
1. Exactly which valve was implanted?
Different valve platforms have different features and patients should know manufacturer/model, valve size, balloon-expandable vs. self-expanding, etc., to support postprocedure care. This matters because a second TAVR may someday be needed. Patients should be encouraged to keep a digital copy of their valve implant card.

2. What is the plan if the valve eventually fails?
Bioprosthetic valves, including TAVR valves, eventually deteriorate. Current estimates are around 10 to 15 years, sometimes shorter. Conversations around the potential need for another valve are increasingly important, especially among younger patients.

3. What is the antiplatelet and anticoagulation strategy?
Long-term blood thinner management after TAVR continues to evolve, with current guidelines favoring aspirin alone for patients without another reason for anticoagulation. Whether patients still need aspirin, are candidates for anticoagulation, and/or their bleeding risk has changed should be discussed periodically.

4. What about exercise and managing other risks?
Long-term valve function is helped by good cardiovascular management. Clinicians and patients should regularly discuss blood pressure control, lipid management, diabetes management, appropriate exercise routines and cardiac rehabilitation, and other topics like smoking. ■

BEYOND THE ACADEMIC MEDICAL CENTER: NEW FRONTIERS FOR CARDIOLOGISTS



Historically, academic medical centers (AMCs) provided cardiologists with the greatest opportunities for extracurricular impact, including research opportunities with the National Institutes of Health (NIH), medical education with university professorship, and a myriad of exclusive career advancement engagements. The scholarly activities afforded by AMCs were perceived as more significant than similar academic activities conducted in community hospitals and private practices.

Nowadays, a cardiologist may not need to be affiliated with AMCs to meaningfully advance the field. Here we share our perspectives from working in an AMC and non-AMC.

Blurring Boundaries in Cardiology

The distinction between AMCs and non-AMCs in cardiology is rapidly fading. Many landmark clinical trials now receive substantial physician support and patient enrollment from non-AMCs. Community hospitals are increasingly establishing residency and fellowship programs, further dissolving the line between "academic" and "non-academic" institutions.

Looking forward, career choices in cardiology will hinge less on the practice label and more on factors such as workplace culture, institutional resources, opportunities for research, teaching and innovation, as well as personal considerations like family and lifestyle needs. Ultimately, the most important determinant of a fulfilling and sustainable career is organizational culture. Environments that foster collective inspiration over territorial aspirations – with trust, flexibility and support for diverse needs such as maternity/paternity leave, protected research time and professional development – tend to provide greater long-term employment satisfaction.

A particularly striking trend is the growing role of non-AMCs in advancing science. Many clinical trials are now designed and conducted outside AMCs, expanding patient access and generating rich datasets that fuel discovery. This evolution has opened the door for private-practice physicians to meaningfully contribute to scientific advancement – an opportunity once thought to be the exclusive domain of AMCs

This realization underscores an urgent need: professional societies must create more supportive environments for extracurricular impact across all practice settings. Smaller organizations should have access to shared infrastructure, digital platforms and AI-based tools that can lower barriers to participation. Incentives such as CME credit and MOC points for research activity can also encourage greater engagement, aligning professional development with practice requirements.

Systemic challenges also persist. Medicare reimbursement cuts threaten financial sustainability, contribute to physician burnout via increased workload, and reduce available time and resources available for innovation. This is why the advocacy, well-being and workforce efforts of the ACC and other professional societies are vital and deserve strong support.

Creating Impact Where Its Least Expected

Over time the differences between academic opportunities in different practice settings have diminished, driven by changes in financial, educational and political climate. AMCs may have an advantage in facilitating academic endeavors, but the cost of employment to participate in these activities is becoming increasingly prohibitive. Established cardiologists, the majority of whom are hospital employed, are experiencing high levels of burnout and early career cardiologists, who are part of the newer Millennial and Generation Z era, may value extracurricular impact differently than their predecessors.

Additionally, federally funded health care initiatives that are not aligned with current federal priorities,

PERSONAL REFLECTIONS

"I spent my entire medical training at AMCs and never envisioned myself working outside of one," says Chu. However, with employment opportunities scare for graduating fellows during the COVID-19 pandemic, he joined a private practice that has subsequently evolved into a private equity-owned practice.

"For many years I yearned for the academic opportunities that were no longer available to me, until I eventually discovered similar meaningful engagements through collaboration with community health care organizations, industry partners and professional societies like the ACC," he says.

"Although I took the path less traveled as an early career cardiologist, I have slowly realized that it is possible to create academic impact where it is least expected."

such as transgender care and health equity projects, have come under scrutiny. Similarly, funding for NIH-sponsored research has decreased. Health care institutions have begun to restrict protected time and shift physician compensation towards productivity-based models. At the same time, hospital-employed cardiologists are increasingly tasked with administrative assignments that are often time-consuming and noncontributory to productivity metrics.

Concurrently, industry-sponsored clinical trials remain robust and physician participation has become more dependent on patient enrollment potential than hospital affiliation. Medical residency and fellowship programs have expanded to community hospitals, offering private practice cardiologists' opportunities to participate in medical education. Professional societies such as the ACC have created curricula for leadership advancement, particularly at the early career and mid-career levels, available to all who are interested. Graduating cardiology fellows have become more aware of nontraditional employment models, such as in private equity, as they explore other avenues of achieving professional impact.

Final Thoughts

Cardiology stands at a crossroads. Physicians today have more options than ever to pursue meaningful work in diverse employment structures. The boundary between AMCs and non-AMCs continues to blur. Perhaps it is time to stop seeing these worlds as separate and instead embrace a shared mission: to advance science, deliver exceptional patient care, and sustain our profession through curiosity, innovation and collective dedication.

As the landscape of cardiovascular medicine evolves, we may come to realize that the pursuit of academic impact is not dependent on the institution, but on the individual. ■

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Uncorking the Evidence: The Relationship Between Alcohol and CV Health

As cardiovascular physicians, we've all had patients who believe they are social drinkers but end up with cardiovascular complications. This raises some widely debated questions. What amount of alcohol is too much? Is alcohol truly cardioprotective? Should we recommend patients to start drinking in moderation or ask them to completely abstain?

The Foundations of the Alcohol-Heart Hypothesis

Early studies, including the Framingham Heart Study and the Physicians' Health Study, suggested cardioprotective effects of light to moderate alcohol consumption, particularly reduced coronary artery disease (CAD) and mortality.[1,2] Based on this and many other cohorts, the Dietary Guidelines Advisory Committee for Americans recommended limiting alcohol, if consumed, to ≤one drink a day for women and ≤two for men (about 14 grams of ethanol) in its 2020-2025 version[3] and to drink less alcohol in its 2025-2030 version.

However, a peek beyond the coronaries is crucial to exploring alcohol's systemic cardiovascular footprint.

The Risk Factor Equation: Decoding Alcohol's Role

While studies have shown improvement in the cardiovascular risk profile with light to moderate alcohol consumption, when quantified, these effects are relatively small.[4,5] Data showed that HDL increased by approximately 3 mg/dL (7%), while LDL, triglycerides and lipoprotein(a) decreased (3 mg/dL, 2.1% and 0.4%, respectively), while total cholesterol remained unchanged.[6]

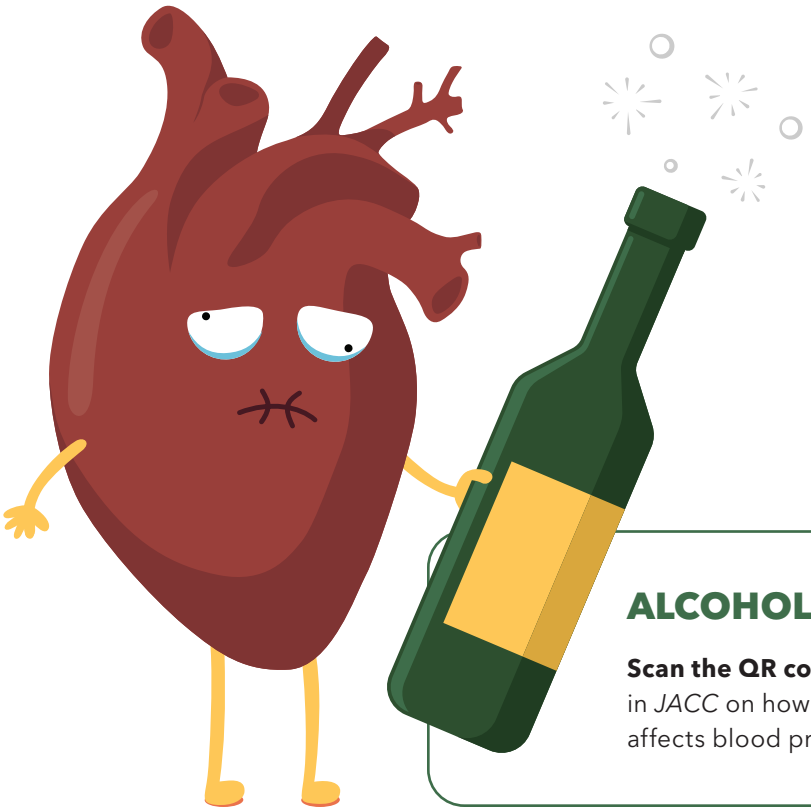
Similarly, a meta-analysis of 14 interventional studies found that alcohol had a neutral effect on fasting glucose and insulin sensitivity but was associated with a reduction in hemoglobin A1c.[6] A similar J-shaped association of alcohol and hypertension has been shown.[6,7]

Across multiple cohorts, light consumption has been linked to lower cardiovascular risk, whereas higher intake is clearly associated with worsening hypertension.[8] Whether such modest changes translate into meaningful clinical outcomes remains uncertain.

Beyond the Pipes: Alcohol's Influence From Pump to Periphery

Chronic heavy alcohol consumption is well established to cause dilated cardiomyopathy, cardiac arrhythmias like atrial fibrillation (AFib), atrial flutter and sudden cardiac death, and increased risk of stroke.[9-12]

While multiple studies, including the Framingham Heart Study, suggested a protective or



ALCOHOL AND BP

Scan the QR code to read a study in *JACC* on how light alcohol intake affects blood pressure.

neutral effect of alcohol against cardiomyopathy, newer data in a population of 50,000 Koreans and in British men failed to demonstrate any favorable cardiovascular effects of low-moderate alcohol.[2,10,13]

Recent data have strengthened the link between alcohol use and AFib episodes. Multiple case-control studies, and more recently I-STOP-AFib, have demonstrated a clear association between alcohol consumption and the occurrence of AFib.[13] Notably, emerging evidence challenges the traditional view that only binge drinking precipitates AFib; showing instead that even a single alcoholic beverage may be sufficient to trigger an episode in individuals with established AFib.[10]

A 2011 meta-analysis of 84 studies reported a J-shaped association between alcohol intake and stroke risk, suggesting lower incidence with light to moderate drinking due to alcohol's antithrombotic effects.[14] However, newer data indicate a dose-dependent increase in stroke risk, particularly beyond 100 g/week, supporting lower intake recommendations or abstinence for optimal health.[11,12] This is especially true with respect to hemorrhagic stroke which is more likely to occur even at low consumption levels, as opposed to ischemic stroke for which modest intake may confer limited protection.[8,11]

Alcohol's relationship with peripheral artery disease (PAD) parallels that of CAD. Observational data suggest mild to moderate intake may correlate with lower PAD prevalence and mortality though the optimal dose remains unclear.[8,15] In the absence of randomized trials, these findings warrant caution, as higher consumption may adversely affect vascular health.

Current Evidence and Guidelines

Newer evidence on larger inclusive populations, individual participant-level data meta-analysis and Mendelian randomization have now shown no clinically significant benefit of alcohol on cardiovascular health.[5] The Global Burden of Disease study of 2016, which analyzed data from 28 million participants in 195 countries noted the relative risk for all-cause mortality increased the moment patients started drinking even one drink per day.[16]

Even the Framingham Heart Study acknowledged that the statistically significant inverse link between alcohol use and CAD might have been overstated, as the large sample size could exaggerate modest associations.[2]

While the 2021 European Society of Cardiology prevention guideline has a class 1B recommendation of limiting alcohol to <100 grams/week, they mention that newer Mendelian randomization studies do not support the protective effects of alcohol, hinting at the lowest risk of cardiovascular disease in people who abstain from alcohol.[17]

The 2023 ACC/AHA guideline on chronic coronary disease has given a class 3 (no benefit) indication for patients with cardiac diseases to avoid consuming alcohol for the purpose of cardiovascular protection.[18]

Collectively, these observations advocate for prudent caution, especially among those who consume alcohol under the assumption of cardiovascular protection.

To Drink or Not to Drink: What Do We Tell Our Patients?

There is clear evidence that heavy and binge drinking increases risk of cardiovascular disease and its risk factors. Although observational studies have previously reported favorable effects of light drinking on cardiovascular risk profile, emerging data suggest there is optimal cardiovascular, oncologic and systemic protection with complete abstinence. While large-scale randomized trials are still needed to clarify the cardiovascular effects of drinking by accounting for individual variability in demographics, genetics, environmental factors and molecular mechanisms, the current message is unequivocal: no amount of alcohol promotes overall systemic health. ■

This article was authored by **Amrin Kharawala, MBBS**, cardiovascular medicine fellow, University of Nebraska Medical Center in Omaha, and **Columbus D. Batiste, MD, FACC**, regional chief of cardiology, Kaiser Permanente Southern California Regional in Riverside.

From Evidence to Action:
Recent Trials Influencing Interventional Strategy

The wave of coronary and structural heart intervention trials from last year is shifting how interventional cardiologists may approach patient care. Across multiple domains including coronary devices, revascularization strategies, lesion preparation and structural therapies, new data are challenging long-standing assumptions and offering credible alternatives to established practice. While guidelines often lag behind the evidence, the implications of these trials should impact interventional strategies now.

DEBs Move Beyond Being Niche Tools

Drug-eluting balloons (DEBs) have taken center stage.[1] More specifically, the results from the SELUTION DeNovo and SELUTION 4ISR trials have provided more evidence for their expanding role in treatment.[2,3] SELUTION DeNovo showed that among patients with de novo coronary artery disease (CAD), sirolimus DEBs were noninferior to drug-eluting stents (DES) at one year for target vessel failure (TVF) (defined as a composite of cardiac death, target vessel-related myocardial infarction [MI], and clinically driven target vessel revascularization).[2] SELUTION 4ISR extended this finding to patients with in-stent restenosis as sirolimus DEBs were shown to be noninferior to DES in terms of one-year TVF, while avoiding additional stent layers.[3] There may be a future in which PCI can be performed without a permanent metallic implant with success rates in line with DES.

Rethinking PCI Strategy Post CABG

Optimal revascularization in patients with prior CABG has long been uncertain. Current guidelines recommend native vessel PCI rather than PCI of the bypass graft.[1] However, there are limited observational data supporting this strategy. The PROCTOR trial directly addressed this gap by randomizing post-CABG patients to saphenous vein graft (SVG) PCI or native coronary PCI.[4] Surprisingly, at one year, patients undergoing SVG PCI had a lower rate of major adverse cardiac events (MACE) than those undergoing native vessel PCI. MACE was driven mainly by PCI-related MI and repeat revascularization. This suggests that SVG PCI may be of benefit among post-CABG patients with a clinical indication for revascularization.

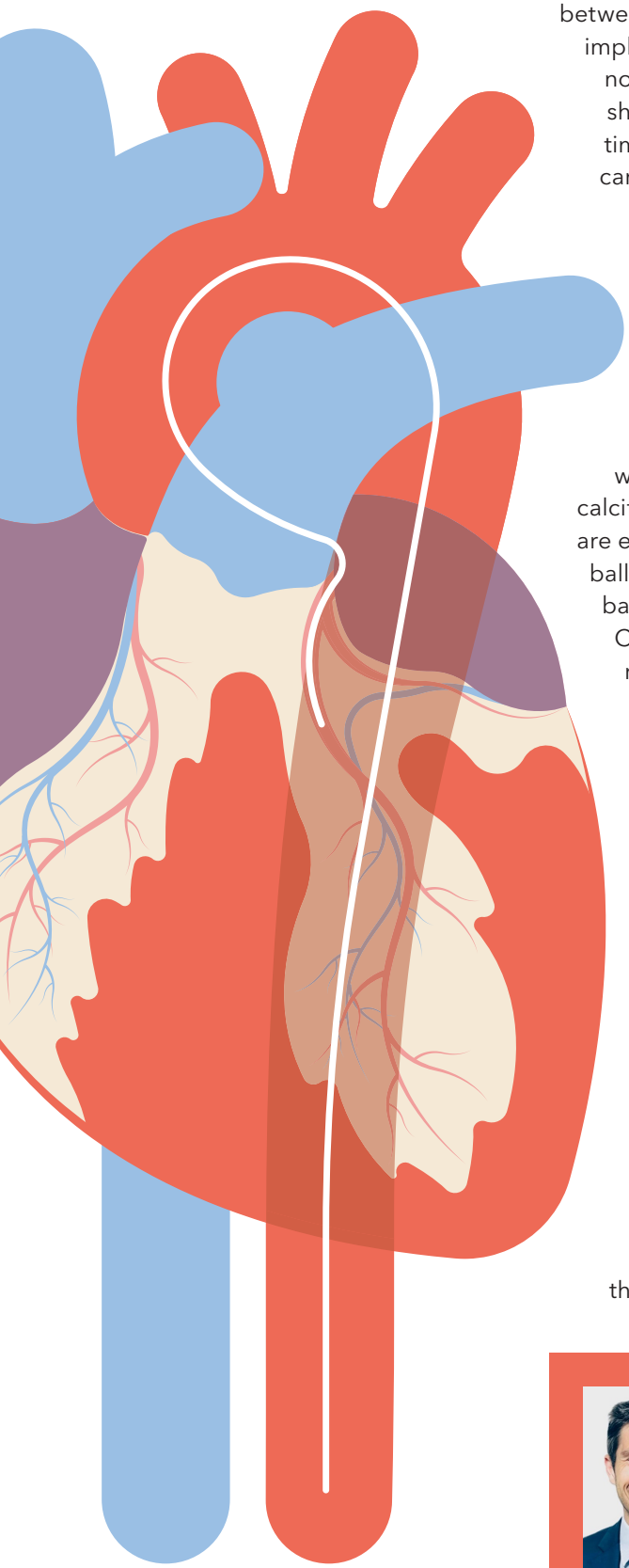
Ideal Timing of Nonculprit PCI

While complete revascularization in STEMI patients with multivessel CAD is now standard, the ideal timing for intervening on the nonculprit lesion is unsettled. In these patients, revascularization of nonculprit lesions at the time of culprit lesion revascularization may be preferable over staged approaches.[1] However, evidence from iMODERN suggests that deferring revascularization of the nonculprit lesion may be equivalent to its immediate revascularization.[5] In this comparison of immediate instantaneous wave-free ratio (iFR)-guided PCI of nonculprit lesions at the time of culprit lesion revascularization against staged cardiac stress MRI-guided PCI of nonculprit lesions, researchers found no significant differences

Table. 8 Pivotal Interventional Cardiology Trials Refining Practice

Trial	Key Findings
SELUTION DeNovo	DCBs noninferior to DES for de novo lesions
SELUTION 4ISR	DCBs noninferior to DES for in-stent restenosis
PROCTOR	SVG-PCI associated with a lower rate of MACE vs. native vessel PCI
iMODERN	Immediate iFR-guided PCI not superior to deferred cardiac stress MRI-guided PCI of nonculprit lesions
Short-CUT	Cutting balloons noninferior to IVL in CAD patients with heavily calcified vessels
VICTORY	Super-high-pressure NCBs noninferior to IVL for heavily calcified lesions
PARTNER 3	TAVR exhibits durable clinical outcomes comparable to SAVR at 7 years follow-up
SUMMIT-MAC	TMVR feasible in patients with MAC-related mitral dysfunction with improvement in quality of life and symptom reduction

CAD, coronary artery disease; DCB, drug-coated balloons; DES, drug-eluting stents; IVL, intravascular lithotripsy; NCBs, noncompliant balloons; SVG, saphenous vein graft; TMVR, transcatheter mitral valve replacement.



in death, recurrent MI or heart failure hospitalization at three years between groups.[5] This has practical implications: avoiding immediate nonculprit artery intervention should shorten procedure times and simplify acute STEMI care without compromising long-term outcomes.

New Tools For Severe Coronary Calcification

Intravascular lithotripsy (IVL) has been shown to be beneficial in patients with CAD plus severe coronary calcification.[6] However, other tools are emerging, including cutting balloons and noncompliant balloons (NCBs). In Short-CUT, cutting ballons were noninferior to IVL in terms of stent expansion, minimal stent area and 30-day MACE events in calcified coronary lesions.[7] In VICTORY, super-high-pressure NCBs were noninferior to IVL for stent expansion and clinical outcomes.[8] Thus, alternative adjunctive techniques may be of use among patients with severe coronary calcification.

More Validation of TAVR, TMVR

Longer-term data from the PARTNER 3 trial has blurred the distinction between surgical and transcatheter therapy for aortic stenosis among older patients at low surgical risk.[9] Among patients with symptomatic, severe aortic stenosis at low surgical risk, no significant differences were observed in seven-year clinical outcomes between TAVR and bioprosthetic surgical aortic valve replacement (SAVR).[9] Current guidelines primarily reserve TAVR for older, higher risk patients, but these results suggest comparable durability between TAVR and bioprosthetic SAVR valves.[10]

On the mitral side, SUMMIT-MAC investigated the use of the Tendyne system (Abbott) in high surgical risk patients with significant mitral valve dysfunction and severe mitral annular calcification.[11] This showed that transcatheter mitral valve replacement (TMVR) with Tendyne was safe while also significantly improving quality of life and reducing symptom burden in these patients.[11] Current guidelines do not include the option of TMVR for high surgical risk patients. These new findings suggest there may be emerging indications for TMVR consideration.

As interventional cardiology continues to evolve, the data from these trials will further refine clinical practice. Moreover, these trials will likely influence guideline recommendations, with more studies yet to come. ■

References available with the online version of this article at ACC.org/Cardiology.

This article was authored by **John D'Angelo, MD**, from the Division of Cardiology, Emory Structural Heart and Valve Center, Emory University Hospital Midtown in Atlanta, GA.

Back to Basics: Exploring the Building Blocks of **Medicare Payment**

Medicare payment policies shape everything from practice sustainability to patient access, yet many clinicians receive little formal education on how the system works. Building a strong understanding of Medicare payment fundamentals is essential to effectively advocate for long-term reform.

To that end, ACC Advocacy is developing resources to educate clinicians about the Medicare payment system, clarify policies that affect practice stability and empower ACC members to take action.

"If you're a practicing clinician, understanding how Medicare pays for care really matters," says **Pascha E. Schafer, MD, FACC**, chair of the Advocacy Education Workgroup taking the lead on this effort. "This knowledge gives you the power to advocate for yourself, your practice, and most importantly, your patient's ability to access the care they need."

One new resource available to cardiovascular clinicians is ACC's Medicare Payment Building Blocks video series, providing a clear, accessible overview of Medicare payment systems and how they work. The series also explains how payment reductions impact clinicians and patients alike and breaks down key concepts like budget neutrality and medical inflation. Perspectives across career stage and role in the care team are also included, reinforcing the ways Medicare payment affects everyone.

"It doesn't matter what practice setting you are in or which state you may be practicing in…all of us need to be engaged in this process, advocating for our patients' care delivery…and for our team members," says **Gurusher S. Panjrath, MBBS, MD, FACC**. ■

Scan the QR code to watch the full series.

From **Education to Advocacy** on the Hill

Medicare payment continues to be a key priority for the ACC, with the Congressional Affairs Team pushing for several bills under consideration in Congress. Of note, the *Provider Reimbursement Stability Act*, seeking to raise Medicare's budget neutrality threshold to $53 million, has doubled in co-sponsorship since its introduction.

Advocacy staff are also rallying support for the *Efficiency Adjustment Reduction Act*, which would delay the recently implemented "efficiency adjustment" that reduces work relative value units and intra-service time for all non–time-based codes by 2.5%.

In addition, the ACC supports the *Strengthening Medicare for Patients and Providers Act*, which proposes adding an automatic annual inflationary update to the Medicare Physician Fee Schedule (PFS), linking it to the Medicare Economic Index.

The College is also actively involved in broader long-term payment reform efforts, working with lawmakers and the broader medical community to introduce legislation that will improve stability in the PFS, strengthen value-based care, reduce unnecessary administrative burden and better equip clinicians to improve patient outcomes.

For more on establishing sustainable Medicare payment practices and ways to engage, visit ***ACC.org/MedicarePayment***. ■

Trending Topics From MedAxiom's CV Transforum

Sessions at MedAxiom's CV Transforum Spring'26 centered on the cardiovascular policy landscape and other key developments shaping care delivery. Experts spared no details in discussing the 2026 Medicare PFS final rule, Ambulatory Specialty Model for heart failure, cardiovascular ambulatory surgery centers, training tomorrow's cardiovascular workforce and more. **Scan the QR code** to view the meeting coverage.

Administration Exempts Physicians From **Visa Application Freeze**

The U.S. Department of Homeland Security will resume processing visas for international physicians after a travel ban implemented in January froze decisions on visa extensions and work permits for citizens of 39 countries.

This exemption comes after the ACC joined the American Academy of Family Physicians and several other medical associations in a letter citing concerns over the unintended consequences of prolonged visa processing delays and indefinite adjudicative holds for medical students, resident physicians, fellows and practicing physicians from outside the U.S.

"Physicians and medical trainees are indispensable to the nation's health care infrastructure," the letter states. "Preventing them from entering the country or forcing them to abandon their training due to administrative delay harms American patients, weakens the workforce, and undermines long-standing federal health policy goals."

The College continues to advocate for legislation in Congress with the aim of supporting the clinician workforce. The *H-1Bs for Physicians and the Healthcare Workforce Act*, a bill recently introduced in the U.S. House, would exempt physicians, nurses and other health care professionals from a new H1-B visa petition fee established by a presidential proclamation in September 2025. ■

Amplifying Our Global Impact: ACC Asia 2026

The ACC and Korean Society of Cardiology (KSC) hosted the ACC Asia 2026 Together with KSC Spring Conference in Gyeongju, South Korea, in April. The conference brought together leading experts and cardiovascular clinicians from Asia and across the globe to examine emerging trends and evidence-based approaches to the prevention and management of heart disease.

"This collaboration reflects our shared commitment to the highest standards of clinical excellence beyond national boundaries. Guided by a common vision, we strive to advance global innovation and revitalize cardiovascular research, ensuring that the latest scientific advances are effectively translated into clinical practice," says **Seok-Min Kang, MD, PhD, FACC**, ACC Asia conference co-chair and president of KSC.

Attendees had the opportunity to learn about the latest cardiovascular diagnostic methods and treatment strategies and engage in discussions with expert faculty on hot topics ranging from heart failure to prevention. Key sessions addressed issues facing cardiovascular clinicians throughout the region, including use of AI, global disparities in STEMI care delivery, localized implementation of clinical guidelines, and more.

The conference also provided unique forums to engage with Expo partners and discuss emerging research from across Asia through abstract and case study presentations. Additionally, three ACC Asia Chapter teams competed in FIT Jeopardy, with Team Singapore advancing to compete at the ACC Annual Scientific Session in Houston in April 2027.

"I believe the importance of the ACC international conferences lie in their ability to unite clinicians, researchers and trainees from diverse health systems the world over in the mission to improve cardiovascular care and improve heart health globally. Celebrating their 10th Anniversary, these meetings foster a global exchange of evidence-based science, best practice, innovation and cutting-edge research," says **Kwan Seung Lee, MD, FACC**, ACC Asia conference co-chair.

In addition to clinical education, the ACC welcomed more than 20 new FACCs from throughout the region during the Convocation and closing ceremony.

"The FACC designation reflects a strong commitment to improving patient care," says ACC President **Roxana Mehran, MD, FACC**. "As cardiovascular disease remains the world's leading cause of death, we are proud to recognize these individuals for advancing the ACC's mission and congratulate our newest FACCs on this achievement." ■

Scan the QR code to learn more about the upcoming ACC Middle East and ACC Latin America conferences taking place this fall. Plus, save the date for ACC Asia in Hong Kong in 2027.

Scan the QR code to see the full list of new FACCs.

Scan this QR code to read about one of the abstracts presented at the meeting, looking at sex-specific differences in cardiovascular disease risk factors in South Korea.

Participants in the ACC Foundation's Clinical Trials Research Program

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