Results: The analytic cohort had a median age of 78.4 years (IQR: 71.0-84.1), with high symptom burden (75.5% NYHA class III-IV; mean KCCQ 46.2 ± 23.3). Symptomatic improvement was observed across all age groups following TTVR. Mean KCCQ improvement differed modestly: patients <80 improved by 16.0 ± 25.0 points vs. 9.1 ± 22.9 (octogenarians) and 12.3 ± 21.7 (nonagenarians) (ANOVA p=0.148). The proportion achieving a ≥10-point improvement was similar across age groups: 57.6% (<80), 41.8% (80-90), and 54.5% (≥90). NYHA functional class improved by approximately one class across ages, without between-group differences (ANOVA p=0.636).
Conclusion: In this multi-center cohort, TTVR with the EVOQUE system was associated with meaningful symptomatic improvement across elderly age strata, including nonagenarians. Although mean KCCQ gains were slightly lower in octogenarians, most patients achieved clinically important ≥10-point improvements, suggesting advanced age alone should not preclude symptomatic benefit.

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83361 | Software comparison of reproducibility and classification of aortic regurgitation using phase-contrast imaging on CMR

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Background: Aortic regurgitation (AR) quantified by phase-contrast cardiovascular magnetic resonance (CMR) is increasingly used for decision-making. However, the impact of post-processing software on AR estimation and grading remains unclear.
Methods: We analyzed phase-contrast CMR images in 169 subjects with mild to severe AR. Aortic (AO) segmentations were performed using 3 software packages: SuiteHeart (Neosoft, Inc.), CVI42 (Circle CVI), and Syngo.Via (Siemens). Flow parameters—forward, reverse, and total stroke volume (QS), & regurgitant fraction (RF)—were compared across platforms. Interclass correlation coefficients (ICCs) were calculated for three-way and pairwise reproducibility. AR severity (ASE criteria), were compared across software, with Cohen's Kappa used to assess agreement and reclassification.
Results: Of 169 subjects, 64% had mild AR (RF <30%), 22% moderate (RF 30–49%), and 14% severe (RF ≥50%). Overall reproducibility was excellent (ICCs: forward 0.98, reverse 0.98, QS 0.95, RF 0.97). Pairwise comparisons were also similar; however, SuiteHeart consistently yielded slightly higher flow values compared to the other platforms, leading to reclassification of AR grade in 6% of cases. In contrast, Syngo.Via vs. CVI42 comparisons resulted in only 3% reclassification. Results were similar after applying background correction.
Conclusion: CMR flow measures across commonly used software demonstrate excellent reproducibility, though small systematic differences may lead to occasional reclassification of AR severity. Further studies are warranted to determine the clinical significance of these discrepancies.

Flow variable	Comparison	Mean (1), mL	Mean (2), mL	Mean difference (1-2)	ICC (95% CL)
Forward	SuiteHeart (1) vs Syngo.via (2)	93.9 ± 36.7	86.4 ± 34.4	7.5 ± 8.7	0.95 (0.93 ,0.96)
	SuiteHeart (1) vs CVI42 (2)	93.9 ± 36.7	89.5 ± 35.6	4.4 ± 7.5	0.97 (0.96 ,0.98)
	Syngo.Via (1) vs CVI42 (2)	86.4 ± 34.4	89.5 ± 35.6	-3.1 ± 4.3	0.99 (0.99 ,0.99)
Reverse	SuiteHeart (1) vs Syngo.via (2)	25.4 ± 26.4	23.1 ± 23.8	2.3 ± 6.2	0.97 (0.96 ,0.97)
	SuiteHeart (1) vs CVI42 (2)	25.4 ± 26.4	24.2 ± 25.2	1.1 ± 5.9	0.97 (0.96 ,0.98)
	Syngo.Via (1) vs CVI42 (2)	23.1 ± 23.8	24.2 ± 25.2	-1.1 ± 2.3	0.99 (0.99 ,1.00)
Total (QS)	SuiteHeart (1) vs Syngo.via (2)	68.5 ± 26.5	63.3 ± 24.4	5.2 ± 10	0.90 (0.88 ,0.93)
	SuiteHeart (1) vs CVI42 (2)	68.5 ± 26.5	65.3 ± 25.4	3.2 ± 8.9	0.93 (0.91 ,0.95)
	Syngo.Via (1) vs CVI42 (2)	63.3 ± 24.4	65.3 ± 25.4	-2 ± 5.1	0.98 (0.97 ,0.98)
Regurgitant Fraction (%)	SuiteHeart (1) vs Syngo.via (2)	24.1 ± 20.8	23.8 ± 19.8	0.3 ± 7.3	0.94 (0.92 ,0.95)
	SuiteHeart (1) vs CVI42 (2)	24.1 ± 20.8	24.3 ± 20.6	-0.2 ± 7.2	0.94 (0.92 ,0.95)
	Syngo.Via (1) vs CVI42 (2)	23.8 ± 19.8	24.3 ± 20.6	-0.4 ± 2.8	0.99 (0.99 ,0.99)

	Cohen's Kappa (95% CL)	*# (%) reclassified*
SuiteHeart vs Syngo.via	0.90 (0.84, 0.96)	11 (7%)
SuiteHeart vs CVI42	0.88 (0.82, 0.94)	12 (7%)
Syngo.Via vs CVI42	0.96 (0.93, 0.99)	5 (3%)

ICC = Inter-class correlation; 95%CL = 95% Confidence limits

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83366 | Balloon-Expandable Valves Are Associated with Higher Prosthesis–Patient Mismatch in Medium and Large Annulus Transcatheter Aortic Valve Replacement

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Background: Platform-related hemodynamic differences after transcatheter aortic valve replacement (TAVR) are well established in small annuli, but whether these differences persist across the aortic annulus size spectrum is unclear.
Methods: From the STS/ACC TVT Registry, we identified 1,336 patients with an annulus area >430 mm^2 who underwent TAVR with BEV (n=541) or SEV (n=795) between 2019 and 2025. Propensity matching yielded 424 pairs. PPM was classified using BMI-adjusted indexed effective orifice area thresholds per VARC-3. We sought to compare prosthesis–patient mismatch (PPM), bioprosthetic valve dysfunction (BVD), conduction outcomes, and clinical outcomes following balloon-expandable valve (BEV) versus self-expandable valve (SEV) TAVR in patients with medium and large-sized annuli.
Results: BEV was associated with higher rates of moderate-or-severe PPM (44.9% vs 20.6%; adjusted OR 3.39, 95% CI 2.36–4.87; P<0.001), including severe PPM (10.7% vs 5.3%; P=0.049), elevated mean gradients (11.0 ± 5.1 vs 7.6 ± 3.8 mm Hg; P<0.001), and higher odds of mean gradient ≥20 mm Hg (adjusted OR 5.15, 95% CI 1.34–19.85; P=0.017). BVD was more frequent with BEV at 30 days (13.5% vs 4.5%; P<0.001) and 1 year (16.3% vs 6.6%; P=0.010). SEV was associated with higher rates of left bundle branch block (20.0% vs 9.2%; P<0.001) and permanent pacemaker implantation (14.9% vs 8.3%; P=0.003). Mortality, stroke, and MACE did not differ through 1 year.
Conclusion: In TAVR patients with medium or large aortic annuli, BEV is independently associated with higher PPM and valve dysfunction, whereas SEV carries greater conduction risk. These findings underscore the hemodynamic-conduction trade-off in valve selection that may inform individualized platform selection.

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83367 | Fitting index – An important concept to assess clinical outcomes after transcatheter aortic valve replacement

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Background: The fitting index (FI) determines the appropriate fitting of the transcatheter heart valve (THV) in the aortic annulus and may impact the clinical outcomes. This sub-analysis investigates the association between the FI and post-TAVR adverse clinical outcomes in balloon-expandable (BE) (Myval and Sapien) THV series.
Methods: A sub-analysis uses the LANDMARK trial data (n=768) in which participants were randomised (1:1) to receive either the Myval THV series or a contemporary THV (Sapien or Evolut) series. Since the technology of self-expandable Evolut series is different from the BE THVs, the current analysis excluded the Evolut series (n=192). Fitting index is defined as the ratio between the nominal THV diameter and the MSCT-derived aortic annulus diameter. Fitting index around 1.0 indicates a good fit of the THV.
Results: Most of the subjects (n=386) had good FI of between 1.00 (X) and 1.07 (Y), and a smaller proportion of subjects were outside the good fitting index (FI<X=86 and FI>Y=91). A higher proportion of patients in Myval arm had an appropriate FI compared to the Sapien arm (72.3% vs 52.4%). The comparison of 1-year clinical outcomes between different FI categories are summarised in Table 1. The 1-year clinical outcomes of ≥moderate paravalvular leak (PVL), bioprosthetic valve dysfunction (BVD), and bioprosthetic valve failure (BVF) rates were significantly lower in subjects with a good FI compared to those outside the good FI. Though there were no significant differences in mortality, clinical efficacy, bioprosthetic valve deterioration and permanent pacemaker implantation (PPI), their incidence was numerically lower in subjects with good FI.

Clinical Outcomes at 1-year	Fitting Index: <1.00 (n=86)	Fitting Index: 1.00-1.07 (n=386)	Fitting Index: >1.07 (n=91)	P value (log-rank)
Mortality, n (KM%)	6 (7.0 %)	24 (6.30%)	4 (4.40%)	0.7435
Clinical efficacy, n (KM%)	10 (11.60%)	48 (12.50%)	10 (11%)	0.9282
≥moderate PVL, n (KM %) (CEC adjudicated)	9 (10.70%)	12 (3.40%)	0	**0.0005**
≥moderate PVL, n (%) (corelab echo without carry forward of PVL event)	4 (4.65%)	5 (1.29%)	0	**0.0459**
≥moderate PVL, n (%) (corelab echo with carry forward of highest degree of PVL) (simple proportion)	6 (6.97%)	11 (2.84%)	0	**0.0195**
Bioprosthetic valve dysfunction, n (%) (simple proportion)	24 (27.90%)	35 (9.07%)	6 (6.60%)	**0.0001**
Bioprosthetic valve deterioration (stages 1-3), n (%) (simple proportion)	4 (4.65%)	8 (2.07%)	2 (2.19%)	0.3711
Bioprosthetic Valve Failure, n (KM%)	6 (7.20%)	2 (0.50%)	1 (1.10%)	**0.0001**
Permanent Pacemaker Implantation, n (KM%)	13 (15.30%)	66 (17.20%)	19 (20.90%)	0.5826

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83375 | Left Atrial Appendage Closure versus Direct Oral Anticoagulation for Non-Valvular Atrial Fibrillation: An Updated Meta-analysis of Randomized Control Trials

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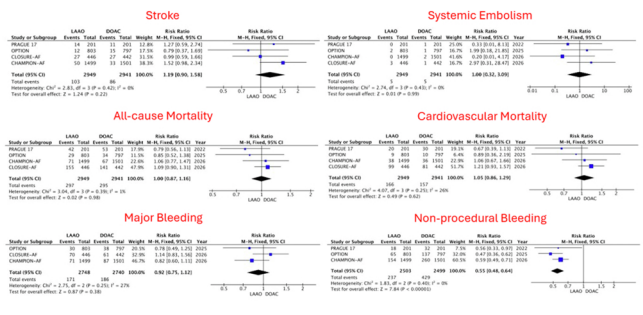
Background: Left atrial appendage closure (LAAC) has emerged as an alternative to direct oral anticoagulation (DOAC) for stroke prevention in atrial fibrillation (AF). Four RCTs (CHAMPION-AF, CLOSURE-AF, PRAGUE-17, and OPTION) compared LAAC with DOACs, but each was underpowered for key outcomes.
Methods: We systematically identified RCTs comparing catheter-based LAAC with DOACs through March 2026. Outcomes included stroke, systemic embolism, all-cause death, cardiovascular death, major bleeding, and non-procedural clinically relevant bleeding. Fixed-effect models were used to estimate pooled risk ratios (RRs) with 95% confidence intervals (CIs).
Results: A total of 5,890 patients (2,948 LAAC; 2,942 DOAC) were included. Mean age was 72.1 years, mean CHA2DS2-VASc score was 3.9, mean HAS-BLED score was 1.8, and follow-up ranged from 3.0 to 3.5 years. There were no significant differences in stroke (RR 1.19, 95% CI 0.90-1.58; p=0.22), systemic embolism (RR 1.00, 95% CI 0.32-3.09; p=0.99), all-cause mortality (RR 1.00, 95% CI 0.87-1.16; p=0.98), cardiovascular mortality (RR 1.05, 95% CI 0.86-1.29; p=0.62), or major bleeding (RR 0.92, 95% CI 0.75-1.12; p=0.38). LAAC was superior for non-procedural clinically relevant bleeding (RR 0.55, 95% CI 0.48-0.64; p<0.00001).
Conclusion: LAAC demonstrated efficacy comparable to DOACs for stroke, systemic embolism, mortality, and major bleeding, while significantly reducing non-procedural clinically relevant bleeding, suggesting a safety advantage without compromising thromboembolic protection.



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