ESC 2026: KEY TAKE-HOME MESSAGES IN ELECTROPHYSIOLOGY

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ESC Congress 2026, held from 28–31 August in Munich, presented a broad range of new cardiovascular science. For the electrophysiology community, several late-breaking clinical trials challenged established concepts in atrial fibrillation, stroke prevention, sudden cardiac death and rhythm monitoring. At the same time, rapidly evolving technologies such as pulsed-field ablation and digital rhythm care remained important hot topic s throughout the scientific program. Here, we highlight four key take-home messages from ESC Congress 2026 that may have particular relevance to clinical electrophysiology.

1. Anticoagulation in AF: expanding the boundary of treatment

One of the most clinically relevant late-breaking trials was SINGLE-AF, which addressed an area where randomized evidence has remained surprisingly limited: anticoagulation in patients with atrial fibrillation (AF) at intermediate stroke risk.

SINGLE-AF was an open-label randomized trial conducted at 18 centers in South Korea. A total of 1,803 patients with AF and a CHA_2DS_2-VASc score of 1 in men or 2 in women were assigned to direct oral anticoagulant therapy with apixaban or rivaroxaban, or to no anticoagulation. At 24 months, the primary composite endpoint of stroke, systemic embolism, major bleeding or cardiovascular death occurred in 0.5% of patients receiving anticoagulation compared with 1.5% without anticoagulation, representing a 69% relative risk reduction. The difference was largely driven by a reduction in ischemic stroke, without an increase in major bleeding. The study was presented in Hot Line 1 and simultaneously published in the New England Journal of Medicine.

The importance of SINGLE-AF lies less in the absolute event rate, which was low, and more in the population studied. Current ESC guidelines already recommend that anticoagulation should be considered in patients at intermediate stroke risk, but until now this recommendation has lacked direct randomized evidence. SINGLE-AF therefore provides important support for anticoagulation in this group and may influence future guideline recommendations.

At the opposite end of the spectrum, **ENRICH-AF** highlighted the continuing difficulty of stroke prevention after intracranial hemorrhage. In patients with AF and previous intracranial hemorrhage, edoxaban did not significantly reduce stroke or systemic embolism compared with no anticoagulation but increased major bleeding.

Taken together, SINGLE-AF and ENRICH-AF illustrate an important theme in contemporary AF management: the decision is increasingly not simply whether anticoagulation works, but which individual patient has a favorable balance between thromboembolic protection and bleeding risk.

2. AF ablation: rhythm control is clear, but what about symptoms?

One of the most provocative late-breaking EP presentations at ESC 2026 was PVI-SHAM-AF, a sham-controlled trial examining the symptomatic benefit of AF ablation.

Patients with symptomatic paroxysmal or persistent AF were randomized to catheter ablation or a sham procedure. AF-related quality of life improved substantially in both groups, but ablation did not provide a statistically significant additional improvement compared with the sham intervention. In contrast, catheter ablation clearly reduced AF recurrence. The trial was presented during Hot Line 8 and simultaneously published in The Lancet.

The finding is provocative because symptomatic improvement is one of the major reasons that patients are referred for AF ablation. However, the results should not be interpreted as showing that ablation is ineffective. Rather, PVI-SHAM-AF separates two outcomes that are frequently assumed to move together: objective rhythm control and patient-perceived improvement in quality of life.

Part of the symptomatic benefit following an invasive procedure may arise from placebo effects, medication optimization, closer clinical follow-up or greater reassurance after treatment. From a practical perspective, the trial emphasizes the importance of careful patient counselling and objective rhythm monitoring when assessing treatment efficacy.

Meanwhile, **pulsed-field ablation (PFA)** remained one of the major hot topics in the broader ESC scientific program. Discussion has clearly moved beyond whether PFA can achieve effective pulmonary vein isolation. Sessions at ESC 2026 addressed comparisons with thermal ablation, its use in persistent AF, strategies beyond the pulmonary veins, and even the potential integration of artificial intelligence into ablation workflows.

The rapid evolution of PFA suggests that it is transitioning from a novel energy source to a mainstream platform for AF ablation. However, as the technology expands, questions regarding optimal lesion sets, durability and patient selection remain highly relevant.

3. Beyond LVEF for sudden cardiac death prevention

Another important late-breaking study was **CMR GUIDE**, which revisited one of the most persistent limitations in sudden cardiac death prevention: reliance on left ventricular ejection fraction for selection of patients for primary-prevention ICD therapy.

CMR GUIDE evaluated patients with ischemic or non-ischemic cardiomyopathy, an LVEF of 36–50%, and myocardial scar identified by cardiac magnetic resonance imaging. Patients were randomized to ICD implantation or monitoring with an implantable loop recorder. The study was presented in Hot Line 1 and simultaneously published in JAMA.

ICD therapy did not significantly reduce the primary endpoint overall. However, younger patients appeared to derive greater benefit, and the trial again highlighted the fact that clinically important ventricular arrhythmias and sudden cardiac death occur in patients whose LVEF lies above the conventional ⩽35% threshold.

CMR GUIDE therefore does not establish myocardial scar as a replacement for current ICD criteria. Nevertheless, it reinforces a direction that has become increasingly important in electrophysiology: LVEF alone is an imperfect marker of arrhythmic risk.

Future risk stratification will likely combine ventricular function with scar characteristics, clinical phenotype, genetics and other markers rather than relying on a single numerical threshold. CMR GUIDE should therefore be viewed less as a definitive change in ICD indications and more as another step toward more individualized sudden cardiac death risk assessment.

4. Digital rhythm monitoring moves closer to routine clinical care

Digital rhythm management was another major hot topic at ESC 2026, supported by several important late-breaking studies.

The **ASPIRED trial** investigated whether immediate prolonged ambulatory ECG monitoring could improve outcomes after unexplained syncope. Patients presenting to an emergency department with unexplained syncope were randomized to immediate 14-day wearable ECG monitoring or standard care. Early monitoring did not significantly reduce recurrent syncope, but it substantially increased the detection of clinically significant arrhythmias, shortened the time to diagnosis and resulted in more patients receiving appropriate rhythm-directed treatment. ASPIRED was presented during Hot Line 10 and simultaneously published in the New England Journal of Medicine.

The message is clinically intuitive but important. In patients with intermittent arrhythmias, the major limitation of conventional assessment is often not diagnostic accuracy but failure to capture the rhythm at the appropriate time. Earlier and longer ECG monitoring directly addresses this problem.

The **VIRTUES trials** examined another aspect of digital EP care: follow-up of patients with pacemakers and ICDs. A virtual e-health system incorporating remote device monitoring was shown to be as safe and effective as conventional in-clinic follow-up while reducing healthcare utilization and costs and maintaining high patient satisfaction.

Together, ASPIRED and VIRTUES reflect a broader transition within electrophysiology. Rhythm care is progressively moving beyond episodic hospital-based assessment toward continuous, remote and digitally integrated monitoring. Wearable ECGs, CIED remote monitoring and eventually AI-assisted interpretation are likely to become increasingly integrated into routine arrhythmia care.

Final thoughts

The major EP messages from ESC Congress 2026 did not revolve around a single breakthrough. Rather, the meeting highlighted several areas in which familiar clinical assumptions are being refined.

SINGLE-AF provided randomized evidence supporting anticoagulation in patients with AF at intermediate stroke risk, while ENRICH-AF reminded us that anticoagulation cannot be applied uniformly in patients at very high bleeding risk. PVI-SHAM-AF challenged the assumption that suppression of AF necessarily translates directly into symptomatic benefit. CMR GUIDE again questioned whether LVEF alone is sufficient for sudden cardiac death risk stratification. Finally, ASPIRED and VIRTUES demonstrated how digital monitoring may reshape both diagnosis and long-term follow-up.

At the same time, PFA continued its rapid evolution from an emerging ablation technology toward a routine component of contemporary EP practice.

Taken together, the presentations at ESC 2026 suggest that electrophysiology is moving toward more individualized patient selection, more objective assessment of treatment benefit, and increasingly technology-enabled care.