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Clinical study observations published in JACC show Medtronic Reveal LINQ Insertable Cardiac Monitors identify high incidence of arrhythmias in heart failure patients

Newly published insights from the ALLEVIATE-HF clinical trial found a high rate of actionable arrhythmias in heart failure patients, leading to therapeutic intervention

More than three in four heart failure patients (77%) implanted with a Reveal LINQ™ insertable cardiac monitor (ICM) experienced arrhythmias within two years, leading to a high rate of guideline-recommended therapies, according to a new analysis published online today in the [Journal of American College of Cardiology \(JACC\)](#).

Insights from more than 700 patients with heart failure enrolled in the ALLEVIATE-HF clinical study showed that arrhythmia incidence at two years – detected through continuous, long-term monitoring with the Reveal LINQ ICM – was overall high for common arrhythmias such as atrial fibrillation (AF) (65%), bradycardia/pause (42%), and ventricular tachycardia/ventricular fibrillation (VT/VF) (12%), leading to significantly higher treatment rates. In the study, one in four patients (23%) received a cardiac implantable electronic device (CIED) – such as a pacemaker or implantable cardioverter defibrillator (ICD) – within three years, while 26% received an AF ablation within two years.

“These insights from the ALLEVIATE-HF clinical trial have brought to light a striking burden of clinically meaningful arrhythmias in a broad group of symptomatic heart failure patients, which until this point, had been underappreciated,” said Rami Kahwash, M.D., director of the Heart and Vascular Research Organization at The Ohio State University Wexner Medical Center in Columbus, Ohio, and member of the ALLEVIATE-HF Steering Committee. “Findings from this study demonstrate, for the first time, that heart failure patients benefit from long-term, continuous arrhythmia monitoring with Reveal LINQ ICMs, which could lead to timely access to proven therapies that can help alleviate symptoms and improve outcomes.”

Heart failure affects more than 6 million U.S. adults and more than 48 million outside the U.S.ⁱ Cardiac arrhythmias are common comorbidities seen in patients with heart failure and are associated with an increase in morbidity and mortality.ⁱⁱ Heart failure increases the risk of arrhythmias due to structural and electrical remodeling, elevated filling pressures, and myocardial fibrosis, while cardiac arrhythmias can also worsen heart failure.ⁱⁱⁱ

The prospective, randomized ALLEVIATE-HF clinical study evaluated 711 patients across 52 sites in the United States and followed them out to three years. Patients in the study had symptomatic heart failure (NYHA Class II/III) and had experienced a heart failure event within the past year. Patients were not eligible if they had an existing CIED, which resulted in a predominantly HFpEF (heart failure with preserved ejection fraction) population. HFpEF patients often have more heterogeneous risk factors, have been understudied, and are often not indicated for a CIED, which puts them at risk of arrhythmia-related outcomes such as stroke, sudden cardiac death, and syncope (fainting).

“Observations from this rigorous clinical trial uncovered the true burden of disease that will open the door for more patients who may benefit from long-term continuous cardiac monitoring with the LINQ family of ICMs,” said Alan Cheng, M.D., vice president and chief medical officer of the Cardiac Rhythm Management operating unit at Medtronic. “The need for devices such as the LINQ ICM – with its high sensitivity and specificity – is especially important in these situations, enabling clinicians to detect arrhythmias earlier and advance care to deliver better outcomes.”

Medtronic developed the first insertable cardiac monitor nearly 30 years ago with the release of Reveal™ Insertable Loop Recorder (ILR). ICMs are indicated for patients experiencing syncope, palpitations, dizziness, shortness of breath, or other infrequent symptoms that may be caused by an underlying heart rhythm condition, and those at risk of cardiac arrhythmia. New iterations have brought improvements in both size, capabilities and refined the sensitivity and specificity to be best in class. The introduction of Reveal LINQ in 2014 revolutionized the ICM space given its significantly smaller size profile than earlier ICMs, with advanced sensors to detect AF and other arrhythmias more accurately. The Reveal LINQ ICM and the newer generation LINQ II™ ICMs have served more than 2 million patients worldwide.

About Medtronic

Bold thinking. Bolder actions. We are Medtronic. Medtronic plc, headquartered in Galway, Ireland, is the leading global healthcare technology company that boldly attacks the most challenging health problems facing humanity by searching out and finding solutions. Our Mission – to alleviate pain, restore health, and extend life – unites a global team of 95,000+ passionate people across more than 150 countries. Our technologies and therapies treat 70 health conditions and include cardiac devices, surgical robotics, insulin pumps, surgical tools, patient monitoring systems, and more. Powered by our diverse knowledge, insatiable curiosity, and desire to help all those who need it, we deliver innovative technologies that transform the lives of two people every second, every hour, every day. Expect more from us as we empower insight-driven care, experiences that put people first, and better outcomes for our world. In everything we do, we are engineering the extraordinary. For more information on Medtronic, visit www.Medtronic.com and follow Medtronic on [LinkedIn](https://www.linkedin.com/company/medtronic).

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ⁱ Fonarow, G. et al. HF STATS 2025: Heart Failure Epidemiology and Statistics An Updated 2025 Report from the Heart Failure Society of America. Journal of Cardiac Failure Vol. 00 No. 00 2025. Pg 1-60.

ⁱⁱ Kahwash, R. et al. Incidence and clinical impact of insertable cardiac monitor-detected arrhythmias in symptomatic heart failure: Expanded insights from the ALLEVIATE-HF trial. Global CVCT Forum; December 9, 2025

ⁱⁱⁱ Masarone D, et a. Management of Arrhythmias in Heart Failure. J Cardiovasc Dev Dis. 2017 Feb 28;4(1):3

<https://news.medtronic.com/Clinical-study-observations-published-in-JACC-show-Medtronic-Reveal-LINQ-Insertable-Cardiac-Monitors-identify-high-incidence-of-arrhythmias-in-heart-failure-patients>