



Accuracy of Implantable Loop Recorders:

Multicenter, Multidevice Comparison¹

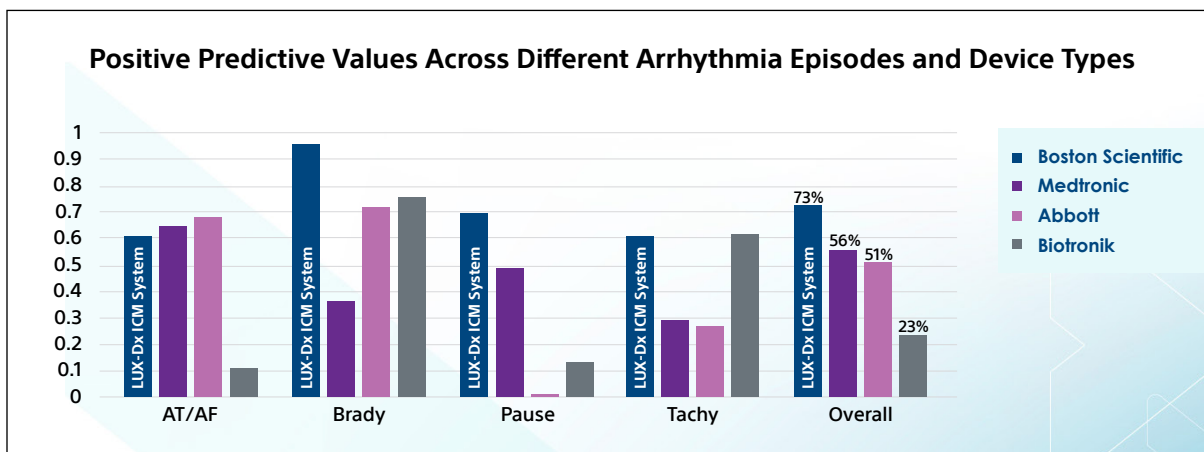
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Manuscript Overview

A recently published manuscript evaluated real-world arrhythmia detection accuracy across manufacturers, including the following ICMs:

- Boston Scientific's LUX-Dx™ with machine learning-based, dual stage algorithms
- Medtronic's LINQ II™ with AccuRhythm™ AI
- Biotronik's BIOMONITOR III™ with RhythmCheck
- Abbott's Confirm Rx™ with SharpSense™

25,826 alerts from 1140 randomly selected patients (285 patients per ICM vendor) at 25 centers were analyzed and rates of true and false positives transmissions were published.



The study found that Boston Scientific's first generation ICM, the LUX-Dx ICM System (M301), had the highest overall PPV of all the ICMs evaluated.

Read the full results
of the manuscript here



LUX-Dx II+™ ICM System: Algorithm Enhancements

Focused on what matters.

The LUX-Dx II+ ICM System builds upon the advanced dual-stage algorithms and unparalleled signal quality of the groundbreaking first generation LUX-Dx ICM device – adding enhanced detection algorithms and programming options to reduce false positives and prioritize clinically actionable events.

Algorithm enhancements to reduce false positives:

- The enhanced Pause Algorithm includes an additional verification step that further rejects false positives due to low signal-to-noise ratios.
 - This enhancement was found to reduce false positives by 49% while maintaining 100% relative sensitivity.^{2*}
- The enhanced AF Algorithm includes an additional verification step that identifies sequential heart rate patterns.
 - This enhancement demonstrated a 38% reduction in AF false positives while maintaining high relative sensitivity (>98%).^{3*}

Algorithm enhancements to improve clinic efficiency:

- The LUX-Dx II+ ICM System is the only ICM to offer nighttime programming for both the Brady and Pause Algorithms[†], allowing you to tailor detection parameters separately for daytime and nighttime (applied from 11:00 pm – 7:00 am).
 - Tailored settings for nocturnal episodes were found to reduce 75% of Brady and 57% of Pause S-ECG episodes for review.^{4*}
- The enhanced AF Algorithm merges adjacent AF episodes, reducing the number of episodes for review, which may improve clinic workflow and expedite clinical decision making.
 - Merging adjacent AF episodes was found to reduce 26% of AF S-ECG episodes for review.^{4*}

Sources

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2. Burke MC, Ravikumar V, Siejko K, Bohn D, Verdino RJ. Enhanced pause algorithm for insertable cardiac monitor reduces clinical review burden. Heart Rhythm. 2023;20(5):S723. Doi: 10.1016/j.hrthm.2023.03.1498
3. Richards M, Perschbacher D, Mahajan D, Saha S, Herrmann K, Frost K. Novel Algorithm for Improved AF Detection in Insertable Cardiac Monitors. Heart Rhythm. 2022;19(5):S289-S290. Doi: 10.1016/j.hrthm.2022.03.336
4. Rajan A, Perschbacher D, Mahajan D, et al. Improving Clinic Workflow and Diagnosis for the LUX-Dx Insertable Cardiac Monitor. Heart Rhythm. 2022;19(5):S235. Doi: 10.1016/j.hrthm.2022.03.206

*Simulated performance tested on real-world LUX-Dx ICM events

†As of 02/20/2026: REVEAL LINQ™ Clinician Manual, LINQ II™ Clinician Manual, BIOMONITOR III™ Technical Manual, BIOMONITOR III™ Technical Manual, BIOMONITOR IV™ Technical Manual, Merlin Patient Care System for SJM Confirm™ ICM, Confirm Rx™ and JOT Dx™ ICM Help Manual, Merlin Patient Care System Assert-IQ™ ICM Help Manual, Merlin Artificial Intelligence for Assert-IQ™ ICM User's Manual.

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LUX-Dx II and LUX-Dx II+ ICM
Indications, Safety, and Warnings