

INSIGHTS FROM AMBULATORY ECG MONITORING IN OVER 1 MILLION PATIENTS

ZIO[®]
BY iRHYTHM

STUDY OVERVIEW

A new publication in *Heart Rhythm* examines the relationship of symptom frequency and symptom-rhythm correlation to arrhythmia type and detection.

Why short-term (24–48 hour) monitoring, such as with Holter monitoring, may miss clinically actionable events — even in patients with frequent or daily symptoms.

OUTCOMES EVALUATED



Arrhythmia Yield*

Total and actionable arrhythmias[†]
≤ 14 days and within 48 hours



Time to First Episode

Median (days)



Symptom-Rhythm Correlation*

≥ 1 rhythm-correlated button press
+/- 45 second window of an arrhythmia

STUDY DESIGN

1,100,377

Total patients analyzed

229,005

Daily symptoms

≥ 1 symptom per day

871,332

Non-daily symptoms

< 1 symptom per day

*Total arrhythmia yield is the proportion of patients with AF or Aflutter of ≥ 30 seconds, SVT of ≥ 90 bpm & ≥ 4 beats, sustained SVT of ≥ 90 bpm and ≥ 30 seconds, VT of ≥ 100 bpm and ≥ 4 beats, any VF, pause of ≥ 3 seconds, and AVB (any second-degree or complete heart block).

†Actionable arrhythmia yield: same criteria as above, except excludes SVT < 30 s

*The Zio ECG monitor is intended to capture symptomatic and asymptomatic cardiac events in a continuous electrocardiogram record for (up to 14 days of) long term monitoring. Preliminary findings in the Zio report are intended to be used by clinicians as an aid in arrhythmia diagnosis and management. The prescribing healthcare professional is responsible for determining the clinical relevance of any symptoms in relation to arrhythmia findings.

STUDY TAKEAWAYS

Among > 1M patients undergoing 14-day monitoring with Zio LTCM:



Nearly

2 out of 3

actionable arrhythmias were detected after the first 48 hours in patients with **daily symptoms**.



Nearly

1 out of 5

patients had a documented symptom-rhythm correlation, despite **frequent button presses**.

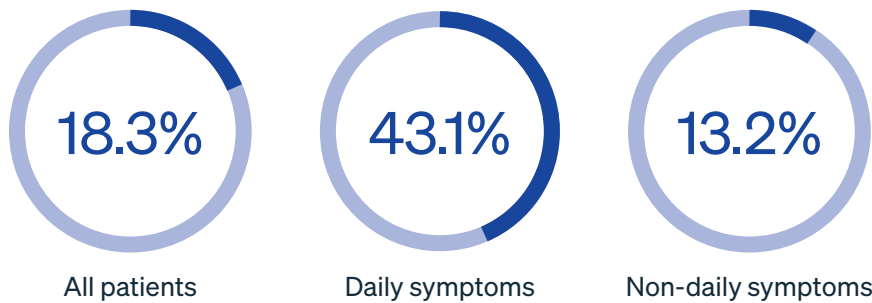


Symptom frequency alone does not predict when arrhythmias will be detected.



14-day objective monitoring enables accurate linkage of symptoms to arrhythmias.

Symptom-rhythm correlation was low, occurring in less than 20% of patients with arrhythmias



SYMPTOMS CAN BE MISLEADING

Palpitations, dizziness, and fainting are common but often **unpredictable and transient**.

CONDITIONS THAT MIMIC ARRHYTHMIAS²⁻⁷

- Anxiety / panic attacks
- Hypoglycemia
- GERD
- Thyroid disorders
- Hypotension
- Pulmonary or other chest pain

Arrhythmia yield and time to first episode

The majority of actionable arrhythmias were detected after 48 hours.

ARRHYTHMIA YIELD

35.8% of patients had an actionable arrhythmia detected within the ≤ 14 -day wear period.

TIME TO FIRST EPISODE

Daily Symptoms

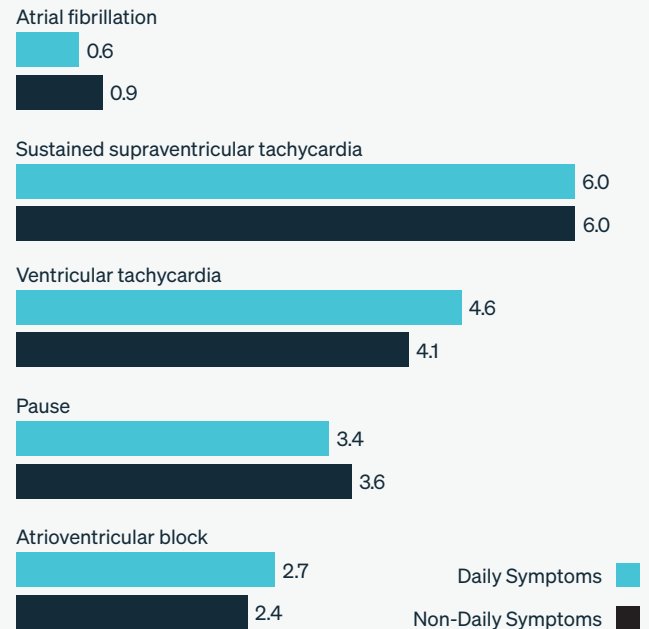
3.5 Days

Median time to actionable arrhythmia detection

Non-Daily Symptoms

3.0 Days

TIME TO FIRST SPECIFIC ARRHYTHMIA (MEDIAN DAYS)



$P < 0.05$ across all arrhythmias except for VT ($P = 0.2872$)

References: 1. Battisti et al. Relationship of Symptom Frequency and Symptom-Rhythm Correlation to Arrhythmia Type and Time to Detection: Insights from Ambulatory ECG Monitoring in Over 1 Million Patients. *Heart Rhythm*. 2025;S1547-5271(25)03049-8. doi:10.1016/j.hrthm.2025.11.007. Epub ahead of print. PMID: 41205886. 2. Frommeyer G, et al. Panic attacks and supraventricular tachycardias: the chicken or the egg? *Neth Heart J*. 2013 Feb;21(2):74-7. 3. Fass R, et al. Noncardiac chest pain: epidemiology, natural course and pathogenesis. *J Neurogastroenterol Motil*. 2011 Apr;17(2):110-23. 4. Biondi B, et al. Effects of subclinical thyroid dysfunction on the heart. *Ann Intern Med*. 2002 Dec 3;137(11):904-14. 5. Web MD Website "Conditions that look like Afib". <https://www.webmd.com/heart-disease/atrial-fibrillation/conditions-that-look-like-afib>. Accessed Feb 19, 2026. 6. American Diabetes Association. "Signs, Symptoms and Treatment for Hypoglycemia (low blood glucose)". <https://diabetes.org/living-with-diabetes/hypoglycemia-low-blood-glucose/symptoms-treatment>. Accessed February 19, 2026. 7. Michigan University Health. "When chest pain isn't a heart attack." <https://www.michiganmedicine.org/health-lab/when-chest-pain-isnt-heart-attack>. Accessed Feb 19, 2026.