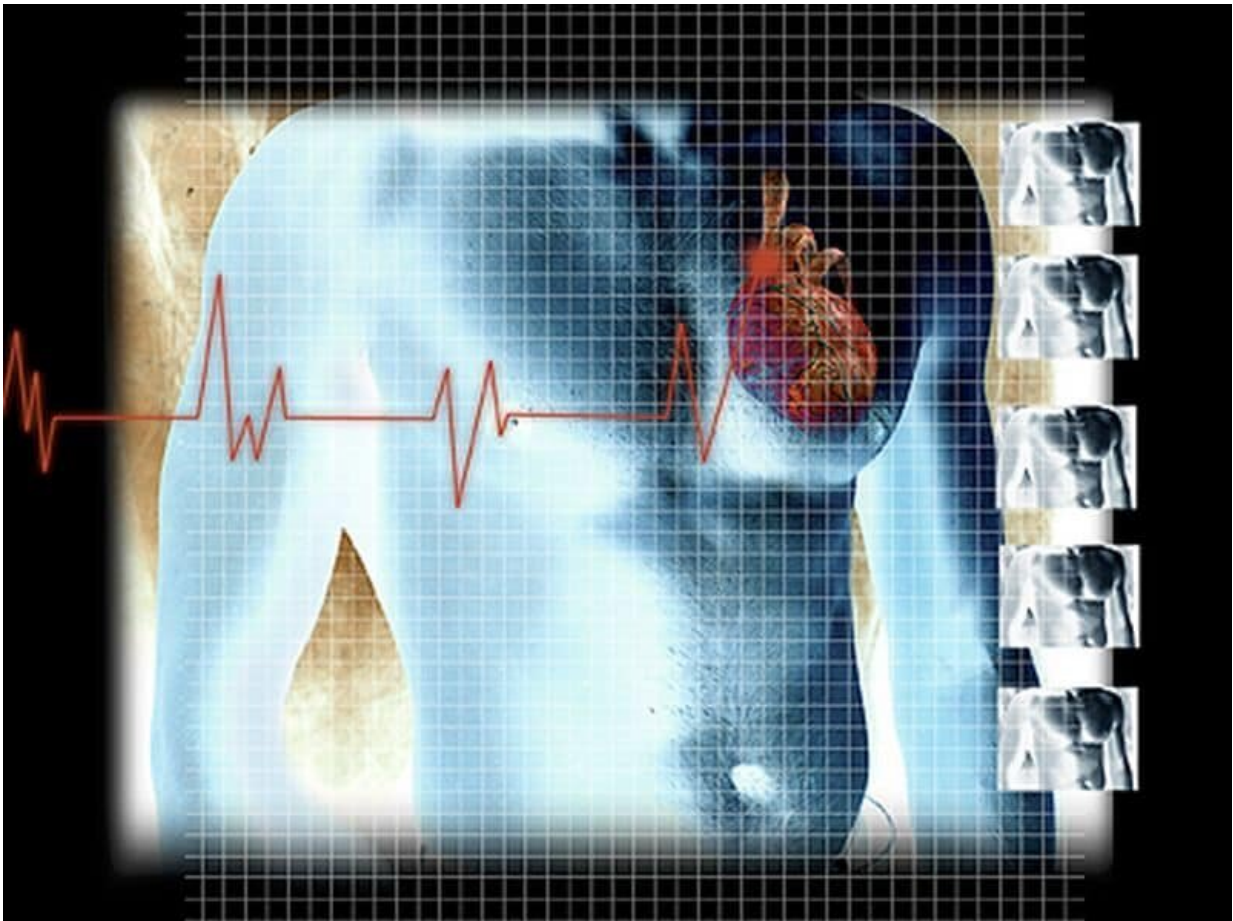


# Smartphone-operated one-lead ECG detects A-fib, flutter

October 2 2019

---



(HealthDay)—A smartphone-operated one-lead electrocardiography (1L-

ECG) device with an integral algorithm can diagnose atrial fibrillation (AF) and atrial flutter (AFL), according to a study published in the September/October issue of the *Annals of Family Medicine*.

Jelle C.L. Himmelreich, M.D., from the University of Amsterdam, and colleagues recruited consecutive patients who underwent 12-lead ECG (12L-ECG) for any nonacute indication to validate a [smartphone](#)-operated device with an integrated algorithm for AF. Patients held a smartphone with connected 1L-ECG while the 12L-ECG was being performed. Blinded cardiologists assessed all 1L-ECG recordings and the 12L-ECG recordings in random order. A total of 214 patients were included from 10 general practices.

The researchers found that in 23, 44, and 28 patients, the 12L-ECG diagnosed AF/AFL, any rhythm abnormality, and any conduction abnormality, respectively. The sensitivity and specificity for AF/AFL were both 100 percent with the 1L-ECG as assessed by cardiologists. The AF detection algorithm had 87.0 and 97.9 percent sensitivity and specificity, respectively. The 1L-ECG as assessed by cardiologists had 90.9 and 93.5 percent sensitivity and specificity, respectively, for any rhythm abnormality and 46.4 and 100 percent, respectively, for any conduction abnormality.

"A smartphone-operated, 1L-ECG [device](#) is a reliable instrument for detecting AF when assessed by the internal detection algorithm, and even more so when assessed by cardiologists," the authors write.

**More information:** [Abstract/Full Text](#)

Copyright © 2019 [HealthDay](#). All rights reserved.

Citation: Smartphone-operated one-lead ECG detects A-fib, flutter (2019, October 2) retrieved 6

May 2024 from <https://medicalxpress.com/news/2019-10-smartphone-operated-one-lead-ecg-a-fib-flutter.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.