

# Post-Cryptogenic Stroke Pathway Clinical publications

Peer-reviewed published clinical studies validating the efficacy and value of Philips BioTel Heart MCOT® (Mobile Cardiac Outpatient Telemetry) to monitor post-cryptogenic stroke patients

## Original Research

### Mobile Cardiac Outpatient Telemetry patch vs Implantable Loop Recorder in cryptogenic stroke patients in the US – cost-minimization model

#### Authors

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#### Source

Med Devices (Auckl). 2021;14:445-458  
<https://doi.org/10.2147/MDER.S337142>

#### Study results

- An initial strategy of 30-day electrocardiogram (ECG) monitoring with MCOT in diagnosis of AF in cryptogenic stroke patients realizes significant cost-savings compared to proceeding directly to ILR only.
- In the base case modeling, the MCOT arm detected 4.6 more patients with AFs compared to the ILR alone arm in a cohort of 1,000 patients (209 vs 45 patients with detected AFs, respectively).
- Using MCOT followed by ILR in half of the patients initially undiagnosed with AF leads to significant cost savings of \$4,083,214 compared to ILR alone in a cohort of 1000 patients.
- Cost per patient with detected AF was significantly lower in the MCOT arm \$29,598 vs \$228,507 in the ILR only arm.
- Almost eight times lower costs were achieved with improved detection rates and reduction of secondary stroke risk due to new anticoagulant use in subjects with MCOT detected AF.
- These results strengthen emerging recommendations for prolonged ECG monitoring in secondary stroke prevention.

## MCOT

# Atrial fibrillation detected by Mobile Cardiac Outpatient Telemetry (MCOT) in cryptogenic TIA or stroke

### Authors

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### Source

Neurology®  
Volume 71, Number 21, November 2008

### Study results

- 68 patients in a single center study —retrospective analysis of patients who underwent a 21 day MCOT.
- AF was detected in 13/56 patients = 23%.
  - 5.3% of patients had runs of AF >30 seconds in duration.
  - 85% of patients had runs of AF <30 seconds in duration.

## Atrial fibrillation In cryptogenic stroke

# Outpatient cardiac telemetry detects a high rate of atrial fibrillation in cryptogenic stroke

### Authors

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### Source

Journal of the Neurological Sciences  
324 (2013), p. 57-61  
[https://www.ahajournals.org/doi/10.1161/str.43.suppl\\_1.A150](https://www.ahajournals.org/doi/10.1161/str.43.suppl_1.A150)

### Study results

- Retrospective analysis of all MCOT records for a period of 18 months (June 2009-January 2011) prescribed by Neurologists at a single Stroke Center.
- AF detected in 27 of 156 patients = 17.3%.
  - Two-thirds (n=18) developed episodes of PAF lasting less than 30 seconds.
  - 26% (n=7) lasting equal to or greater than 30 seconds.
  - 7% (n=2) had persistent AF.
- Mean time to first occurrence of AF was 8.8 days.
- Rate of PAF detection significantly increased from:
  - 3.9% in the initial 48 hours to
  - 9.2% at 7 days,
  - 15.1% at 14 days, and
  - 19.5% by 21 days
- MCOT provides a high rate of detection of AF in patients with cryptogenic stroke or TIA, and length of monitoring time is strongly associated with an increase in detection rate.

## University of Pennsylvania study

# Predictors of finding occult atrial fibrillation after cryptogenic stroke

### Authors

Christopher G. Favilla, MD\*; Erin Ingala, MD\*; Jenny Jara, BA; Emily Fessler, BA; Brett Cucchiara, MD; Steven R. Messé, MD; Michael T. Mullen, MD; Allyson Prasad, CRNP; James Siegler, MD; Mathew D. Hutchinson, MD; Scott E. Kasner, MD. From the Department of Neurology and Division of Cardiology at University of Pennsylvania

\*Drs. Favilla and Ingala contributed equally.

### Source

Stroke. 2015;46:1210-1215.  
DOI:10.1161/STROKEAHA.114.007763.  
<https://www.ahajournals.org/doi/10.1161/STROKEAHA.114.007763>

## Case-control study

# Paroxysmal atrial fibrillation in cryptogenic stroke

### Authors

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### Source

Journal of Stroke and Cerebrovascular Diseases, 2013

### Study results

- 28-day MCOT detected AF in a substantial proportion (14%) of cryptogenic stroke patients.
- 250 patients in a single center study - retrospective analysis of patients who underwent a 28 day MCOT.
- 84% (26 patients) were anticoagulated regardless of AF episode duration. All patients without bleeding history were offered anticoagulation regardless of duration of AF.

### Study results

- 128 patients enrolled within 3 months of suffering first stroke.
- Paroxysmal Atrial Fibrillation (PAF) of any duration detected in 25% of total patients with MCOT monitoring.
- ALL episodes were asymptomatic.
- Nearly 20% of all patients (1 in 5) had AF detected in < 30 second episodes.

