

# Digital Monitoring and Electronic Patient-Reported Outcomes Collection Following Atrial Fibrillation Ablation.

João Almeida<sup>1</sup>, Rafael Teixeira<sup>1</sup>, Paulo Fonseca<sup>1</sup>, Marco Oliveira<sup>1</sup>, Helena Gonçalves<sup>1</sup>, João Primo<sup>1</sup>, Ricardo Fontes-Carvalho<sup>1</sup>, Sérgio Barra<sup>2</sup>, Juan-Pablo Martínez<sup>3</sup>, and Rute Almeida<sup>4</sup>

<sup>1</sup>Unidade Local de Saude de Vila Nova de Gaia/Espinho

<sup>2</sup>Royal Papworth Hospital NHS Foundation Trust

<sup>3</sup>University of Zaragoza

<sup>4</sup>Universidade do Porto Faculdade de Medicina

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## Abstract

**Introduction:** Atrial fibrillation (AF) remains a challenging condition to manage traditionally in clinical practice, and despite improvements in digital health, its impact on clinical outcomes remains uncertain. This study aims to assess the feasibility of a structured digital-blended follow-up for AF ablation patients, incorporating electronic patient-reported outcomes measures (PROM) while evaluating its impact on one-year clinical outcomes. **Methods:** In this retrospective observational study, we included patients enrolled in a structured two-year digital program starting in January 2021. This featured a web platform for physicians to record clinical variables and a patient-centred mobile application to report PROM (AFEQT and PROMIS). Clinical outcomes were compared with those from a retrospective conventionally managed cohort (2017-2020) after propensity score matching (n=363 per group). **Results:** Until May 2024, 421 patients were enrolled (mean age: 60.9 years; 33.0% female). Over a median follow-up of 546 days, 64% of patients used the app monthly, and completeness rates for AFEQT and PROMIS questionnaires were 80 and 50%, respectively. At 12 months, significant improvements were observed for AFEQT and PROMIS scores (Cognitive and Physical Function, Anxiety, and Depression). Arrhythmia recurrence significantly influenced the rates of changes for AFEQT, Depression, and Physical Function ( $p < 0.05$  for interactions). One-year clinical outcomes were similar between matched groups, although the median time to anti-arrhythmic intervention after AF recurrence was significantly lower in the digital group (-126 days,  $p < 0.001$ ). **Conclusion:** Systematic electronic PROM collection after AF ablation is feasible in clinical practice. Structured digital-blended integrated care guarantees continuity of AF management, facilitating earlier interventions.

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