

## Reduced Time of Redo AF Ablation With PURE EP Recording System: A Randomized Study.

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**Objective:** To determine the difference in procedural times of redo atrial fibrillation (AF) ablations guided via two different systems for ECG/EGM visualization: the PURE EP system (BioSig Technologies) versus the commercially available CardioLab (GE).

**Materials and Methods:** Consecutive non-paroxysmal AF patients with post-ablation arrhythmia recurrence were enrolled. Baseline and redo procedures were performed by the same electrophysiologist. At first procedure, all patients had received the same lesion set (pulmonary vein plus posterior wall isolation). At redo procedure, patients were randomly assigned (1:1) to a PURE EP- or CardioLab-guided procedure; only tracings from the system randomly allocated to the procedure were displayed. Procedural time was calculated from first to final EGM recorded.

**Results:** Twenty patients (mean age: 67+/-11) were randomized to CardioLab (n = 10) and PURE EP (n = 10). Rhythm at presentation was sinus/junctional (36.9%) or AF/flu/AF (63.1%). Overall, 6 (30%) patients had at least one reconnected vein, with no differences between groups (p=0.33). Mean ablation time was 14+/-9min with PURE EP and 18+/-10min with CardioLab (p=ns). The mean procedural time in the PURE EP and CardioLab groups were 54.8±25.2min and 66.1±26.2min, respectively.

Given an average EP lab cost is \$37/min in the USA, PURE EP led to a mean procedure time reduction of 11.3 minutes, which corresponds to \$418.10 saved per case compared to a commercially available system.

**Conclusion:** PURE EP might promote shorter procedural times, resulting in cost savings. Further studies are warranted.