

Estimating AF burden from wrist-measured PPG

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PURPOSE

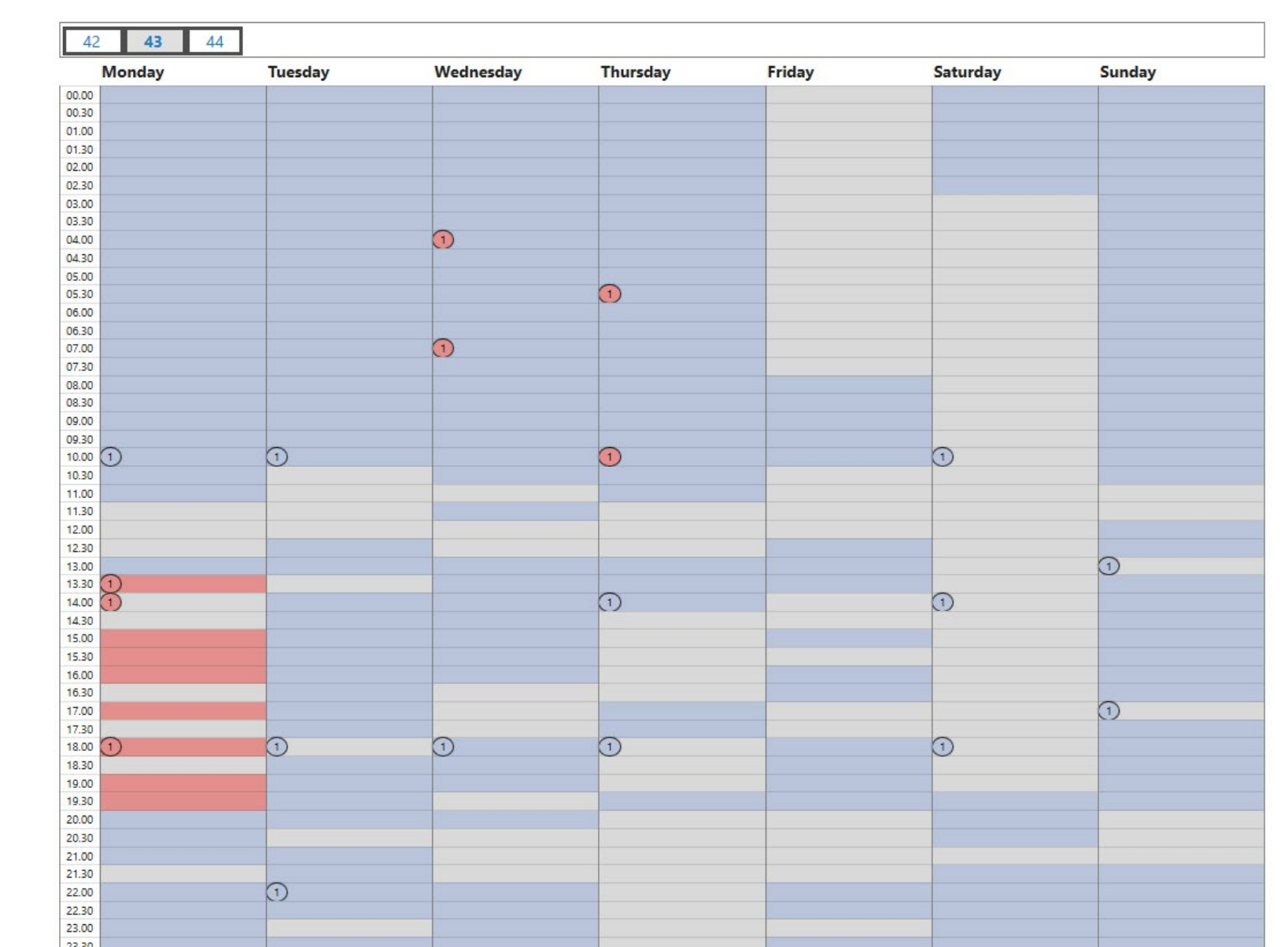
- To evaluate the accuracy of atrial fibrillation (AF) burden estimation from photoplethysmography (PPG) data measured in an ambulatory setting.

METHOD

- 30 subjects (average age: 63, range: 32 – 83) wore the PulseOn Arrhythmia Monitor wrist device and a Holter ECG for two days.
- PPG was analysed in 1-minute windows for rhythm regularity. The windows were labelled as either AF, SR or undetermined.
- AF burden was estimated assuming that AF probability is uniform between determined and undetermined windows.

RESULTS

- 16 subjects were estimated to have AF.
 - 13 subjects had actual AF during the period.
 - The 3 false positive cases had estimated AF burdens of 1-2%.
- 1 AF subject had an actual AF burden of 2% but estimated burden of 7%.
- For the 12 other AF subjects, the estimation achieved on average 88% accuracy.
 - 9 had over 90%.
 - 5 had over 99%.



CONCLUSION

- AF burden can be estimated reliably from wrist-measured PPG for subjects who have more than occasional periods of AF.

DECLARATION OF INTEREST

TH, KK, JH and AV are employees of PulseOn Oy. KK and JH are also shareholders of PulseOn Oy.

