

# Remote Monitoring in the Management of Heart Failure

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## INTRODUCTION

Remote monitoring (RM) is increasingly being integrated in the management of patients with heart failure (HF) with cardiac implantable electronic devices (CIEDs).<sup>1</sup>

## AIM

To assess the contribution of pulmonary fluid status RM in patients with HF

## METHOD

- A data collection sheet was developed and validated by an expert panel.
- Following ethics approval, all patients diagnosed with HF and with a CIED incorporating the pulmonary fluid status monitoring feature OptiVol™ 2.0 during the period January 2015 to December 2021 were identified. OptiVol™ 2.0 tracks intrathoracic impedance changes over time and has the possibility to be monitored remotely.
- Outcomes including RM alerts and actions taken were assessed over one-year post-CIED implantation using hospital records.

## RESULTS

- 45 patients were assessed (35 male, 37 aged  $\geq 61$  years, mean left ventricular ejection fraction 29%, 23 classified as New York Heart Association Class II).
- Most common comorbidities: hypertension (n=37), hyperlipidaemia (n=23), diabetes mellitus (n=22).
- Pharmacotherapy for HF: beta-blocker (n=39), loop diuretic (n=25), ACE inhibitor (n=24), spironolactone (n=22), ARB (n=6), ivabradine (n=6), empagliflozin (n=3), sacubitril/valsartan (n=3), digoxin (n=1).
- 21 patients had the RM feature switched on. Alerts and actions taken following RM alerts are presented in Tables 1 and 2.

Table 1: RM alerts and action taken (n=21)

Outcome of RM	Number of Patients
Alerts recorded	19
No action deemed necessary by cardiologist	12
Action taken by cardiologist	7

Table 2: Action taken following RM alerts (n=7)

Action taken	Number of Patients
Increase diuretic dose	5
Hospital admission	3
Limit fluid intake	1
Increase dose of disease modifying drug	1

## CONCLUSION

Pulmonary fluid status RM helped in the assessment of congestion and identified patients requiring therapy optimisation in the outpatient setting or hospital admission. More than half the patients opted to have RM switched off, indicating a need for more patient awareness on the benefits of RM. A limitation of the study was that since data was collected from hospital records, patients opting to have RM switched off were not interviewed to identify reasons. Further study could explore these reasons, as well as patient expectations and experiences of RM.

## REFERENCE

1. Vandenberg B, Raj S. Remote patient monitoring: What have we learned and Where are we going?. *Curr Cardiovasc Risk Rep.* 2023;17(6):103-115. Doi: 10.1007/s12170-023-00720-7.