

A Multi-sensor Algorithm Predicts Heart Failure Events in Patients with Implanted Devices: Results from the MultiSENSE Study

Purpose: To evaluate whether an algorithm using data from sensors from implanted devices can detect changes in HF status in patients with HF and reduced EF (HFrEF).

Trial Design: 1-year f/u. Data combined Heart Sounds, Respiration, Thoracic Impedance, Heart Rate and Activity.

Primary Endpoint: 1. Sensitivity performance goal (PG) of $> 40\%$ - to determine HF events; 2. Unexplained alert rate (UAR) PG of < 2 alerts per patient year.

Trial Results @ 1 year	PG	UAR
Development set	70%	1.47

Conclusions: The multi-sensor algorithm detected indicators of worsening HF with a high sensitivity and a low rate of unexplained alerts.