

IMPEDANCE-HF trial

Non-invasive Lung IMPEDANCE-Guided Preemptive Treatment in Chronic Heart Failure Patients: a Randomized Controlled Trial



Purpose: To determine if long-term outcomes improve for chronic heart failure (HF) patients when a non-invasive approach – lung impedance - is used to assess pulmonary congestion for treatment direction.

Trial Design: n=256 HF patients with LVEF <35%. NYHA II-IV. Randomized, single-blinded trial. Clinical assessment with or without LI with the Edema Guard Monitor. Anti-congestion treatment was administered when the decrease in LI (Δ LI) from the baseline measure was > -18%. F/U average = 48 months. Average age = 67.

Primary Endpoint: Acute HF hospitalization @ 12 months and over the trial f/u period

Trial Results	Clinical assessment with LI.	Clinical assessment without LI.	P value
AHF @ 12 months	67	158	<0.0001
AHF over the trial period	211	386	<0.0001
Deaths	42	59	0.002
HF Deaths	13	31	<0.001

Conclusions: A non-invasive approach using lung impedance to guide therapy of pulmonary congestion, compared to standard therapy, reduced HF hospitalizations and all-cause and HF mortality in this trial.