Improving Quality of Care for Heart Failure Patients at Nursing Homes

As a disease that strikes over 15% of our elderly population, Heart Failure is extremely prevalent among the 1.5 to 2 million residents of skilled nursing facilities (SNFs) in the United States. Heart failure is also a major reason why SNF residents get readmitted to hospitals, increasing costs for both patients and the healthcare system as a whole, while negatively impacting SNF quality ratings.

ReDS™ - Post-Discharge Monitoring

With the ReDS™ lung fluid measurement system, SNF staff can directly measure lung fluid in patients with Chronic Heart Failure in just 90 seconds, as part of their routine vitals assessment, and to make sure that patients are staying dry and avoiding recurrent volume overload. The ReDS™ system can also be used with residents complaining of shortness of breath to help assess what role lung fluid may be playing in their symptoms, and help refine diagnosis and treatment without a visit to the ER.

“The ReDS™ system has become our fourth vital sign for Heart Failure patients,” says Dan Bensimhon, MD, Medical Director of the Advanced Heart Failure and Mechanical Circulatory Support Program at Cone Health System in Greensboro, NC. “In just 90 seconds, we can rely on a nurse or nursing assistant to give us a clear assessment of the patient’s fluid status so we can target our care and improve outcomes and reduce readmissions. It is like having a Heart Failure doctor in every facility.”

ReDS™ - Striving to Lead a New Standard of Care in Heart Failure

The ReDS™ system measures lung fluid in Heart Failure patients. It is intended for the measurement of lung fluid in patients living with Heart Failure, patients taking diuretic medication or patients recovering from a coronary artery disease-related event. Adapted for medical use from the military’s ‘see-through-wall’ technology, ReDS™ is a miniature radar system employing low-power electromagnetic energy that provides accurate lung fluid measurements in just 90 seconds, using a noninvasive vest worn by the patient.

Technology Validation

ReDS™ medical radar technology has been validated in several bench, pre-clinical and clinical studies. When comparing the accuracy of ReDS™ technology to that of CT-assessed lung fluid quantification, based on commercially available software, the combined intra-class correlation between modalities is 0.94 (385 Data points). The bench test performed on a phantom model showed a correlation of 0.99. The pre-clinical study resulted in a correlation of 0.89 [0.86-0.93] over 294 points. The clinical study included 31 patients and demonstrated a correlation of 0.9 [0.8-0.95].

Contact us to learn more:
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2 O. Amir et al., Validation of remote dielectric sensing (ReDS™) technology for quantification of lung fluid status: Comparison to high resolution chest computed tomography in patients with and without acute heart failure, International Journal of Cardiology 221 (2016) 841–846