WashU

Office of Technology Management

AN ULTRASOUND-BASED MODEL FOR DAILY ASSESSMENT OF FLUID STATUS IN HEART FAILURE

Davis, John

Maland, Brett

T-021381

Published date: 3/3/2026

Value Proposition: *New process that can track fluid status changes daily in patients with heart failure.*

Technology Description

Researchers at Washington University in St. Louis have developed method of using a nurse-acquired point of care ultrasound to determine the fluid status of a patient. Fluid status, or the dynamic balance between intake and output of volume, is an important component in managing heart failure. However, fluid status is difficult to assess with high fidelity daily without invasive monitoring. Current methods for measuring fluid status can cause complications including but not limited to bleeding, arrythmias, and serious infections.

This invention uses AI to identify key structures to accurately measure jugular venous pressure, inferior vena cava collapse, and a 4-field lung ultrasound, allowing for a more accurate assessment of dynamic fluid status in patients with heart failure.

Stage of Research

Funded for a pilot

Applications

- Tracking fluid status in heart failure

Key Advantages

- Provides an accurate and non-invasive measure of fluid status to manage diuretic dosage
- Upgrades GE's Vscan Air SL

Patents

Patent application filed

Related Web Links – John Davis Profile