

Realheart Publishes Positive Blood Flow Data Using a Groundbreaking 4D Medical Imaging Method

Västerås, Sweden, September 17, 2025 – Scandinavian Real Heart AB (publ) announces today that the company and its academic partner at Linköping University has published results from a scientific study evaluating a 3D-printed MRI-compatible artificial heart with advanced medical imaging that shows three-dimensional blood flow changes in real time (4D). The results show that Realheart® TAH produces blood flow patterns comparable to those of the natural human heart, underscoring its potential as a safe and effective treatment for severe heart disease.

In the study, researchers used four dimensional (4D) flow MRI – an imaging approach that can capture three-dimensional flow patterns in a human heart – combined with a physical, 3D-printed model of Realheart® TAH to study its blood flow profile. This is the first time a 3D-printed pulsatile MRI-compatible artificial heart has been built and successfully evaluated with 4D flow MRI. Results from the study show that Realheart® TAH produces a blood flow profile comparable to the native human heart, further highlighting its potential as an effective treatment in cardiac disease.

“Our study demonstrates that the combination of 4D flow MRI with 3D printing is a powerful way to evaluate blood flow in artificial hearts. The levels of stagnant blood, energy loss, and turbulence that were found when evaluating Realheart® TAH were comparable to those observed in the native human heart. Further, by pairing 4D flow MRI with 3D printing, we add a valuable tool to complement computer simulations and blood testing in the design process of medical cardiac devices,” says Tino Ebbers, Professor in physiological measurements at Linköping University, Sweden.

In summary, the study results match earlier computer simulations, confirming low friction forces and little stagnant blood flow in Realheart® TAH. Overall, the blood flow showed a healthy profile – showing no greater risk of clots or other complications than in the human heart. Areas of slow flow, which can trigger clots, were similar to those in healthy human hearts, and turbulence levels – another clot and hemolysis risk – were even lower than in patients with valve disease.

“By combining cutting-edge imaging with precision engineering, we highlight, yet again, the great potential in our technology to address severe heart disease. The study results provide further validation of Realheart® TAH's performance and its capability to generate an adequate blood health profile. Collectively, these data strengthen our position and provide further support toward clinical studies,” says Ina Laura Perkins, CEO, Realheart.

Link to the paper: <https://rdcu.be/eGpzi>



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About Us

Scandinavian Real Heart AB (publ) is developing the first artificial heart that mimics the shape, function, and blood flow pattern of the human heart. These unique product features provide completely new opportunities to save lives and give patients a good quality of life while waiting for a heart transplant. In the future, artificial hearts may also become an alternative to transplantation for broader groups of patients with severe heart failure. Realheart® TAH (Total Artificial Heart) is now being evaluated in extensive preclinical trials ahead of a first clinical study in patients. The company's shares are traded on Nasdaq Stockholm First North Growth Market. For more information, visit www.realheart.se