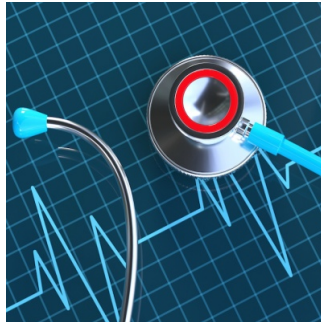

FAST TRACK CABG - First Successful Human Trial of CABG guided by CCTA



A groundbreaking approach to guiding, planning, and executing heart bypass surgery has been successfully trialled on patients for the first time by a research team at the University of Galway. The FAST TRACK CABG trial was overseen by the University's CORRIB Research Centre for Advanced Imaging and Core Lab. The study implemented a method where heart surgeons planned and performed coronary artery bypass grafting (CABG) based on non-invasive cardiac-CT scan images, aided by HeartFlow's AI-powered blood flow analysis of the patient's coronary arteries. Findings of the study are published in the European Heart Journal.

The trial's key discovery is the 99.1% feasibility rate, indicating that bypass surgery without invasive diagnostic catheterisation is both possible and safe. This is driven by the accurate diagnostic capabilities of cardiac CT scans and AI-powered blood flow analysis.

Sponsored by the University of Galway and funded by GE Healthcare (Chicago, USA) and HeartFlow, Inc. (Redwood City, California, USA), the trial compared the safety and effectiveness of heart bypass surgery to conventional methods involving invasive angiogram investigations. The results showed similar outcomes to recent surgical groups, suggesting that the less invasive approach offers comparable safety and efficacy.

Patrick W Serruys, the trial's chairman and Prof of Interventional Medicine and Innovation at the University of Galway, emphasised the potential of these findings to simplify the planning process for patients undergoing heart bypass surgery. He noted that the trial positions the University of Galway at the forefront of cardiovascular diagnosis, planning, and treatment of coronary artery disease.

The trial involved 114 patients with severe blockages in multiple vessels across leading cardiac care hospitals in Europe and the U.S. The cardiac CT utilised in the study offered high-resolution images comparable to or even better than those obtained through traditional contrast dye injection methods.

The HeartFlowTM Analysis, which provides AI-powered blood flow analysis called Fractional Flow Reserve derived from CT (FFRCT), assisted surgeons in identifying which vessels of the patient should receive a bypass graft.

Dr Yoshi Onuma, Prof of Interventional Cardiology at the University of Galway and medical director of CORRIB Research Centre, highlighted the potential of minimising diagnostic catheterisation procedures, emphasising the benefits for patients in terms of invasiveness, discomfort, and cost.

Dr Saima Mushtaq, Director of Cardiovascular CT in Centro Cardiologico Monzino, Milan, Italy, hailed the trial as a historical milestone that could potentially alter the approach to CABG revascularisation.

Dr John Puskas, from Mount Sinai Morningside, New York and Emory University Hospital Midtown, Atlanta, Georgia, emphasised that the new imaging modality does not compromise diagnostic precision or surgical planning quality, suggesting it may surpass historical methods.

Prof Fidelma Dunne, Director of the Institute for Clinical Trials at the University of Galway, highlighted the promising outcomes of the trial and indicated plans for a large-scale randomised trial involving over 2,500 patients from 80 hospitals across Europe to further explore the advantages of this non-invasive methodology.

Source: [University of Galway](#)
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