



## European Grant funding - 2.6 million Euros 'ReDVA' project to combat failure of kidney dialysis vascular access

**The ReDVA (Development of hemodynamic solutions in Renal Dialysis Venous Access) project brings together the University's Medical School with the Queen Elizabeth Hospital in Birmingham (QEHB), and industrial partners. It has been awarded funding from the European Union's Marie Curie IAPP (Industry-Academia Partnership & Pathways) programme to develop technology that will improve dialysis delivery.**

More than 250,000 patients across Europe require kidney dialysis, and this figure is increasing at 4-6 per cent annually. Haemodialysis, the commonest form of treatment, sees blood taken from a vascular access site in the arm, passed through a dialysis machine and returned to the patient three times a week.

The problem is that these vascular access sites fail in at least half of patients within the first year, leading to increased infections, hospital stays and operations. The ReDVA consortium will examine the problems that occur during long-term haemodialysis and look to improve the performance of vascular access that underpins the life-supporting dialysis techniques.

The academic members of the consortium will work with work with biotechnology experts at the University of Limerick (Ireland), Guerbet (France) and Dundee-based Vascular Flow Technologies to investigate venous access and develop new clinical technologies, methodologies and devices to improve their performance.

Professor Graeme Houston, of the Medical Research Institute at Dundee, is leading the project. He said, 'The problem with vascular access for dialysis is that the vessel or implanted graft narrows leading to poor and prolonged dialysis and blockage.

'As the patient needs dialysis every couple of days, a temporary access must be created but this commonly leads to infection, prolonged stay in hospital and more operations. The underlying reason the access fails is recognised to be due to increased turbulence and tissue build up in the vessel.

'New techniques in imaging the vessel with ultrasound and MRI before it blocks, combined with improved surgical technique and vascular devices offers a real prospect of improving the lives of kidney failure patients. The research group offers an unparalleled range of expertise in surgery, imaging, and engineering to tackle this problem.'

Renal Transplant Surgeon Mr Nick Inston at QEHB added, 'This is the largest vascular access research project in the world tackling a major issue for patients who require dialysis.'

Vascular Flow Technologies (VFT) has a clear mission to help clinicians improve patient outcomes in vascular interventions through the development of devices that restore blood flow. Following extensive haemodynamic research, VFT has developed a range of Vascular Grafts with a unique and patented design which restores normal blood flow beyond the implant. So far, over 2500 grafts have been implanted in the USA, Europe and Asia with excellent clinical results.

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CEO Bill Allan says 'VFT has focussed attention on the haemodialysis access graft and is looking forward to participating with academic and commercial partners in this project to push the boundaries of understanding and product development in this area.'

Guerbet is a global imaging contrast company with a workforce of 1400 employees and 80 years' experience of making the dyes for CT and MRI imaging. In patients with kidney failure this is particularly challenging. Eric Lancelot, the company's European Medical and Regulatory Affairs Manager, said, 'Guerbet is committed to producing imaging contrast which is safe and effective for patients with kidney failure. We are looking forward to joining ReDVA partners in improving the lives of patients with kidney failure'.

**The four-year project will see staff seconded between the universities and the industry partners as well as creating five new research posts.**

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