



Press Release

London 24th September 2025

TOB1 Consulting Ltd today announced the launch of its website highlighting OFIS® iv fluid management computer simulation technology

Currently methods for fluid volume management in surgery can be improved. The lack of standard criteria for fluid therapy results in significant clinical variability. Hidden overhydration and underhydration states continue to be factors that can negatively impact patient outcomes. Better understanding of the physiology of iv fluid redistribution and elimination (pharmacokinetics) has led to the development of a mathematical model of the impact of iv fluid on the circulatory blood volume*.

Fluid pharmacokinetic modelling provides a powerful tool for education about current practice in iv fluid management and has highlighted areas where improvements might be made*. OFIS® stands for Optimising Fluids In Surgery. OFIS® Trainer is the name of the technology for simulation of the impact of iv fluid administration that TOB1 are developing, for both educational and ultimately clinical use.

The first clinical application will be aimed at enhancing understanding and practice for a commonly performed procedure - the fluid challenge test for fluid responsiveness. OFIS® Trainer+ adds a Frank-Starling model of the circulatory impact of blood volume changes when performing this standard procedure. This new combined circulatory and hemodynamic analysis has great potential to improve the precision of the fluid challenge test, identify the position on the Frank-Starling curve and quantify the fluid dependent blood volume range of the patient.

Dr Terry O'Brien CEO TOB1 *"OFIS® is a new approach first aimed at improving education on the underlying physiology of iv fluid management of patients under anesthesia. Going forward, the integration of blood volume parameter computer simulation with existing fluid response and hemodynamic parameters has great potential to allow much finer understanding and control of administered iv fluids to provide better care and reduce fluid related complications."*

* Hahn, R.G., O'Brien, T. Attenuation of the plasma volume response to crystalloid fluid used for goal-directed fluid therapy. Ann. Intensive Care 15, 83 (2025). <https://doi.org/10.1186/s13613-025-01495-3>

Visit www.tob1.co.uk to learn more about company and its OFIS®Trainer technology

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For further information, please contact:

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About TOB1 Consulting

Fluids are by far the most administered intravenous treatment in patient care. During surgery fluids are administered to maintain or increase blood flow and pressure to ensure tissues are perfused with oxygen. Until recently, fluids were not considered “medications”. However, it is now understood that intravenous (i.v.) fluids should be considered pharmaceuticals. Administering the wrong iv dose can compromise the performance of the cardiovascular, renal, gastrointestinal and immune systems. Fluid administration should therefore always be accompanied by careful consideration for the risk/benefit ratio, for the additional volume being administered.

How to judge the “correct” volume is still not fully resolved. Continuous hemodynamic and fluid response parameters were introduced 25 years ago. However, their interpretation has several limitations, particularly when interpreted without information regarding the underlying blood volume changes.

Drawing on prior expertise in developing, patenting, and commercializing innovative medical products in the hemodynamic monitoring market. TOB1 is developing the OFIS® platform technology, which pharmacokinetic modelling of blood volume changes following provides i.v. fluid administration. This new approach is aimed at taking the education, understanding and management of fluid administration to the next level (OFIS® Trainer & Trainer⁺). Following on our ambition is to integrate our advanced computer simulation technology with existing fluid response and perfusion parameters (OFIS® Monitor) to allow much finer fluid administration control that will enhance care.

At least 310 million patients undergo major surgery worldwide. The global hemodynamic monitoring systems market has robust growth of 6.7% per annum and is valued at \$1.67 Billion in 2023 and will reach \$2.63 Billion by 2030. Perioperative anesthetic monitoring is the main driver of this market growth and is the first target for application of the OFIS® Platform technology.