

FloBio LLC

Company Overview

FloBio is pioneering a novel point of care (POC) diagnostic blood platform that assesses blood biology and clotting status under physiologic, dynamic flow. Our proprietary microfluidic technology is designed to set a new standard for monitoring blood function in emergency, critical care settings. Rapid and real-time measurements precisely identify the clotting defects, enabling clinicians to personalize management of bleeding and thrombotic risk. The result is fewer patient complications, improved clinical outcomes, and reduced healthcare costs.

Problem

Early identification and corrective treatment of clotting defects is necessary for effective management of bleeding and thrombotic risk in emergency, critical care settings. Bleeding and clotting deficiencies are major contributing factors to the 5 million trauma injury fatalities worldwide. In addition, with over 5 million DOAC patients in the US, there are a growing number of patients finding themselves in emergent situations and at risk for or experiencing major bleeds. Current tests such as lab based clotting tests and emerging point of care viscoelastic tests are time consuming and provide limited information to physicians who need to quickly make treatment decisions based on clotting function. As a result, clinicians often rely on treatment protocols and empiric transfusions, which can cause a delay in personalized treatment and correction of the specific clotting defect. This can often lead to increased patient risk, greater exposure to transfusion or blood products, complications, long-term disability and mortality.

Solution

FloBio offers a point-of-care diagnostic blood platform to evaluate patients in emergent, critical care settings. Our microfluidics-based technology is built on innovations in device manufacturing and multiplex analysis of blood hemodynamics and clotting metrics (e.g. platelet accumulation, thrombin generation, and fibrin formation). Unlike static diagnostic tests [which have longer turnaround times and do not directly measure clotting metrics], the FloBio diagnostic system utilizes dynamic blood flow to rapidly identify clotting deficiencies. Interrogating blood under dynamic flow, enhances the ability for sensitive and accurate detection of blood clotting metrics. The final product consists of a small table-top analyzer and a disposable test cartridge which is loaded with a small volume of a patient's blood (<250 uL). Within 10 minutes, physicians receive comprehensive and actionable information about a patient's clotting status and can personalize a patient's treatment strategy.

FloBio's lead diagnostic test will monitor Direct Oral Anticoagulant (DOAC) levels in patients in high-risk situations, including traumatic injuries and major bleeds requiring reversal therapy. Future products will include a comprehensive Emergency Hemostasis Panel for trauma patients and a Platelet Function Panel for neonates undergoing cardiac surgery.

Team Information

Jerri Ann Thatcher, CEO, has over 25 years of executive-level Life Sciences leadership experience with a diverse background in Strategic Planning/Business Development, New Product Planning, and Commercialization.

Scott L. Diamond, Ph.D., Founder, is the Arthur E. Humphrey Professor for Chemical and Biomolecular Engineering at the University of Pennsylvania. Dr. Diamond is an expert in blood and vascular biology, and microfluidics.

Megan J. Farrell, Ph.D., Director of Research & Development, brings deep training and experience in biomaterials, mechanoregulation of disease pathology, and in-vitro organ models and microfluidics.