

POINT-OF-CARE MONITORING FOR BLEEDING DISORDERS

To learn more

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BACKGROUND: Information on the level of a person's coagulation (clotting" factor(s) is needed to care for patients with bleeding or those at-risk for bleeding. In the case of patients with bleeding disorders, treatment dosing and timing is directly informed by the patient's coagulation factor activity level. However, the laboratory assays used to determine factor activity levels are time consuming, technically challenging, require special blood sample handling, and can only be performed in highly specialized clinical laboratories. Due to these limitations, treatment of patients with bleeding disorders is often based upon previously obtained activity levels, rather than real-time measures. Treatment decisions based on historical factor activity levels, which may not accurately reflect the actual coagulation factor activity of the patient, puts them at risk for under- or over-treating, which can be both expensive and potentially life threatening.

SOLUTION: Dr. Johnsen and Dr. Konkle recognized that measuring factor activity level is not necessary for the purposes of treatment decisions in a well-characterized patient. Instead, their invention measures coagulation factor protein levels in a way that can be readily adopted for use in general health care or POC settings to individualize patient care in real time.

This method and tool consists of (1) measuring factor protein levels from a patient blood sample in real-time, and (2) calculating factor activity levels using information about the patient's disorder and drug exposure(s).

This calculated factor activity level provides timely information to the provider and patient to inform treatment decisions and enable individualized therapy algorithms to deliver the most effective drug dosing for each situation, based upon standard clinical practice.

ADVANTAGES: Point-of-Care Hemostasis Testing is a first-of-its-kind innovation that allows patients and providers to rapidly obtain a near-bedside or point-of-care calculation of factor activity level to inform medical decisions, treatment dosing, and disease monitoring for both inherited and acquired bleeding disorders.

This innovation can:

- greatly enhance safety and efficacy of both inpatient and outpatient treatment.
- improve quality of life for bleeding disorder patients and their caregivers.
 - reduce anxiety around bleeding risks.
 - enable patients to use factor more effectively during normal activities, as well as self-administer appropriate doses during higher risk activities.
- be adapted to accommodate a wide variety of bleeding disorders and their various treatments.

PARTNERSHIP OPPORTUNITIES:

- Collaborative research and development opportunities
- Prototype development and licensing agreements



Patent Pending - US 15/301,943 - Routine laboratory and point-of-care (POC) testing for hemostasis