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## A New Approach For Assessment Of Blood Coagulation

Tech ID: 28771 / UC Case 2016-273-0

### BRIEF DESCRIPTION

OCE (Optical Coherence Elastography) and ARF (Acoustic Radiation Force) for blood coagulation assessment.

Diagnostic tool for assessing the clot formation/dissolution kinetics and strength.

### FULL DESCRIPTION

Most commonly, routine laboratory based coagulations tests (prothrombin time/activated partial thromboplastin time, fibrinogen levels and platelet numbers) are used to assess the patient's current coagulation status. The tests are of limited value in perioperative and acutely ill patients because of delay in transportation and centrifugation. Turnaround time is often too long for the tests to be reliable. This invention uses an optical approach and an acoustic radiation force based optical coherence elastography to rapidly assess the dynamic whole blood coagulation by measuring the elastic properties of blood during coagulation. The potential applications of this invention include diagnosis and treatment management for bleeding patients in a variety of clinical situations in real-time at point of care.

### SUGGESTED USES

- » Provide a visual assessment of clot formation and subsequent analysis of whole blood under static and flowing conditions.
- » Allows the process of clot initiation, propagation, stabilization and dissolution of whole blood to be evaluated separately under static and flowing conditions.
- » Provide information on the interactions of coagulation factors, inhibitors, red blood cells, platelets, and anticoagulants during clot formation and subsequent fibrinolysis of whole blood under static and flowing conditions.

### ADVANTAGES

- » The potential applications of this invention include diagnosis and treatment management for bleeding patients in a variety of clinical situations in real-time at the point of care, assessment of hypo and hyper-coagulable states and monitoring of pharmacological treatment with anti- and procoagulant drugs.
- » Advantage: Invention provides rapid, dynamic, visual assessment that creates the unique opportunity for evaluating a patient's coagulation status in real-time at the point of care.

### PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,365,254	07/30/2019	2016-273

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### OTHER INFORMATION

#### CATEGORIZED AS

- » **Imaging**
  - » Medical
- » **Medical**
  - » Diagnostics
  - » Disease: Blood and Lymphatic System
  - » Imaging

#### RELATED CASES

2016-273-0

## STATE OF DEVELOPMENT

Experimental stage.

**UCI** Beall  
Applied Innovation

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