Rapid Hemorrhagic and Ischemic Stroke Evaluator (RHISE)

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INTRODUCTION:
• Stroke: 5th leading cause of death and leading cause of long-term disability
• Current diagnosis to distinguish between hemorrhagic and ischemic stroke with CT and MRI takes up to 6 hours

SOLUTION CONCEPT:
• ELISA immunoassay tests for: GFAP and NMDA NR2A
  - GFAP: hemorrhagic stroke biomarker
  - NMDA NR2A: ischemic stroke biomarker

PROJECT GOAL
• Design, build, and test first prototype of RHISE to detect distinguishing proteins present in early stages of stroke
• Project completion date: May 10th, 2017

CURRENT STATUS:
• Design: Four designs of microprinting mask
• Fabrication: 1st chip prototypes of RHISE
• Testing: GFAP binding to respective antibody
• Testing: NMDA NR2A binding to respective antibody

REFERENCE:
[1] Property of Heart and Stroke Foundation of Canada
[2] Property of Center for Disease Control and Prevention

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