Digital External Ventricular Drain with Data Analytics Integration

AWARD AMOUNT: $81,804

THE TEAM

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THE PROBLEM

Using an external ventricular drain to monitor intracranial pressure (ICP) after TBI can help improve survival, yet current archaic systems are not able to take real-time digital measurements and require manual adjustments by caregivers.

- Not suitable in challenging environments
- No integrated alarm systems
- Prone to user error
- No digital readouts

The DEVD automatically quantifies, monitors, and regulates ICP and CSF drainage in real-time. It also streams data, which can be utilized in predictive modeling for advanced TBI diagnosis and treatment.

- Automatically adjusts to patient position/condition
- Alerts caregivers in real-time
- Stores patient data across all phases of care
- Integrates into current workflows

THE SOLUTION

Automated monitoring device integrates with data analytics to diagnose and treat TBI.

- A flow meter and pressure sensor is used to continuously monitor CSF flow rate and total volume output, allowing caregivers to dial the target pressure/flow based on patient needs.
- The device will report data and graphs wirelessly to portable devices, allowing control of the DEVD remotely.

THE TECHNOLOGY

DEVD data visualized and stored

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