



PREDICTION OF VENOUS THROMBOEMBOLISM UTILIZING MACHINE LEARNING MODELS

Unmet Need: Exposure to trauma, whether on the battlefield or in a major accident, creates an elevated risk of venous thromboembolism, particularly during recovery. Early identification of patients most at risk can allow caregivers to provide prophylactic measures in a timely fashion, and decision support tools to provide this diagnostic support are currently unavailable.

Solution: The US Navy, through the Naval Medical Research Command (NMRC) has developed a diagnostic support technology for identifying patients at risk of venous thromboembolism. The invention employs an advanced and trained machine learning model that utilizes multiple factors. This model is typically pre-trained by generating a training database, storing values of the clinical parameters from a first set of subjects having venous thromboembolism, executing a selection algorithm, inputting the subset of predictive features for venous thromboembolism, generating the model, and calculating a performance metric associated with the machine learning model that can be used to predict venous thromboembolism.

Stage of Development: The technology is in the early stages of development.

IP or IP Status: This technology is embodied in US Patent Application US2023019900 ([US Patent Application 2023019900](#)).

- **Command:** NMRC
- **Categories:** Software, Diagnostic Support
- **License Status:** Available for exclusive or non-exclusive licensing and collaborations
- **Date Published:** May 30, 2024
- **Date Updated:** N/A
- **Invention No.:** 112203US02
- **Contact:**
usn.detrick.nmrc.mbx.technology-transfer@health.mil