



Development of a point-of-care ultrasound (POCUS) training platform with remote guidance and decision-making support

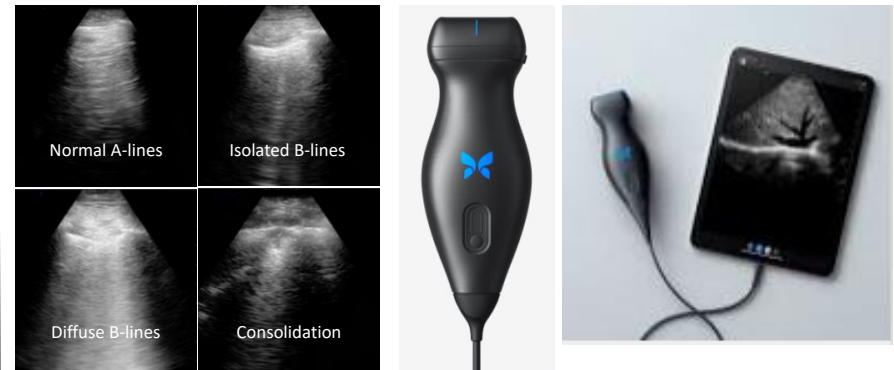
RESTORAL FY21

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Problem, Hypothesis and Military Relevance

- POCUS is vital for trauma triage in prolonged casualty care settings on the future battlespace. Acquiring and sustaining these skills in frontline medical providers is challenging, expensive, and resource-intensive
- We hypothesize that delivering POCUS training and remote guidance via Butterfly iQ hand-carried device will provide effective emergency triage of cardiopulmonary instability warfighters.
- Effective remote guidance and decision support will reduce cognitive burdens and facilitate expedited combat triage in future conflicts or large-scale combat operations.



Representative images from Butterfly iQ device (L), the Butterfly iQ device (C), and the device with iOS platform.

Proposed Solution

- Our proposed objectives for this two (2) year study are:
 - Evaluate the ability of POCUS training and remote guidance support to allow users to obtain key images for cardiopulmonary instability triage
 - Assess distinct user group capacities to correctly identify normal and abnormal images using a digital library
- We will develop a training platform and evaluate the ability of three (3) distinct user groups (advanced, low-volume, unexperienced) to obtain (with / without remote guidance) and interpret key imagery in a simulated field environment

Timeline and Total Cost (direct and indirect)

Activities	Yr01	Yr02
Develop POCUS training platform, digital library, and decision support SME network	█	
Evaluate imagery obtained w/ or w/o remote guidance in simulated field environment		█
Refine training platform and decision support / remote guidance capabilities		█
Data analysis and publication of manuscript		█
Estimated Total Budget (\$490K)	\$262K	\$227K

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