

May 22nd, 4:30 PM - 6:00 PM

Can a detailed neurological exam improve prediction of extubation success in neurocritically ill patients?

Sanam Baghshomali

University of Massachusetts Medical School

Nathanael Slater

University of Massachusetts Medical School

Raphael A. Carandang

University of Massachusetts Medical School

See next page for additional authors

Follow this and additional works at: http://escholarship.umassmed.edu/cts_retreat



Part of the [Anesthesiology Commons](#), [Neurology Commons](#), and the [Surgery Commons](#)

Baghshomali, Sanam; Slater, Nathanael; Carandang, Raphael A.; Ouillette, Cynthia; Hall, Wiley R.; and Muehlschlegel, Susanne, "Can a detailed neurological exam improve prediction of extubation success in neurocritically ill patients?" (2012). *UMass Center for Clinical and Translational Science Research Retreat*. 3.

http://escholarship.umassmed.edu/cts_retreat/2012/posters/3

This material is brought to you by eScholarship@UMMS. It has been accepted for inclusion in UMass Center for Clinical and Translational Science Research Retreat by an authorized administrator of eScholarship@UMMS. For more information, please contact Lisa.Palmer@umassmed.edu.

Presenter Information

Sanam Baghshomali, Nathanael Slater, Raphael A. Carandang, Cynthia Ouillette, Wiley R. Hall, and Susanne Muehlschlegel

Creative Commons License

This work is licensed under a [Creative Commons Attribution-Noncommercial-Share Alike 3.0 License](https://creativecommons.org/licenses/by-nc-sa/3.0/).

CAN A DETAILED NEUROLOGICAL EXAM IMPROVE PREDICTION OF EXTUBATION SUCCESS IN NEUROCRITICALLY ILL PATIENTS?

Sanam Baghshomali, MD¹; Nathanael Slater, DO²; Raphael Carandang, MD^{1,3}; Cynthia Ouillette, RN¹; Wiley Hall, MD^{1,3}; Susanne Muehlschlegel, MD, MPH^{1,2,3}

Departments of ¹Neurology (Division of Neurocritical Care), ²Anesthesia/Critical Care and ³Surgery

Contact information:

Sanam Baghshomali, MD

Email: sanam.baghshomali@umassmemorial.org

Phone: (508) 856-3008

Predictors of extubation success in neurocritically ill patients differ from those in the medical or surgical ICU without acute neurological injury. Presence of a cough and a higher Glasgow Coma Scale has previously been associated with extubation success. A recent study in neurocritically ill patients at Harvard Medical School has suggested that a detailed neurological exam may identify important additional signs of extubation success. This cohort, however, included predominantly stroke patients. We aimed to validate these findings in our mixed patient cohort including neurotrauma, stroke and status epilepticus.

In this ongoing prospective observational cohort study, we have enrolled 61 neurocritically ill patients who have required intubation and followed them through their hospital course. Routine care included daily evaluation for extubation readiness, including spontaneous breathing trials, arterial blood gases and weaning according to an institutional weaning protocol. Prior to a planned extubation, patients underwent a simple neurological exam by the bedside nurse according to study protocol. After extubation, patients were followed for extubation failure, defined as re-intubation within 72 hours of extubation.

Additional data on possible confounders is collected, including chest X-ray appearance, infectious complications, and other comorbid conditions. Mean age of the sample was 59 years and 64% were male, Mean GCS was 12. Extubation failure was seen in 6.5 %, diagnosis of pneumonia 72 hours prior to extubation 24%, after an average number of 3 intubation days. Enrollment will continue until July 2012. A planned analysis includes the identification of predictors of extubation success, focusing on aspects of the neurological examination while controlling for key confounders. We also plan to combine our cohort with the Harvard cohort to improve the power of our analysis.

We hope to identify important predictors of extubation success in a broad neurocritical care cohort in order to build a more generalizable model that may improve the prediction of extubation success in neurocritically ill patients.