

INTRODUCTION

Dysphagia is a common complication following intubation and can lead to serious complications including aspiration pneumonia or pneumonitis, malnutrition, and increased mortality.^{1,2} The risk for post-extubation dysphagia (PED) is increased when known medical history factors or physical exam findings exist.¹⁻³ Additional factors such as duration of intubation can increase this risk.^{3,4} Multiple methods exist to effectively evaluate for PED. These methods differ by cost and time required.⁵ In low risk patients, nurses can accurately and safely evaluate for dysphagia using a 3-oz water swallow challenge.^{4,6} Vidant Medical Center (VMC) does not have a policy that guides clinicians to the most appropriate evaluation for PED.

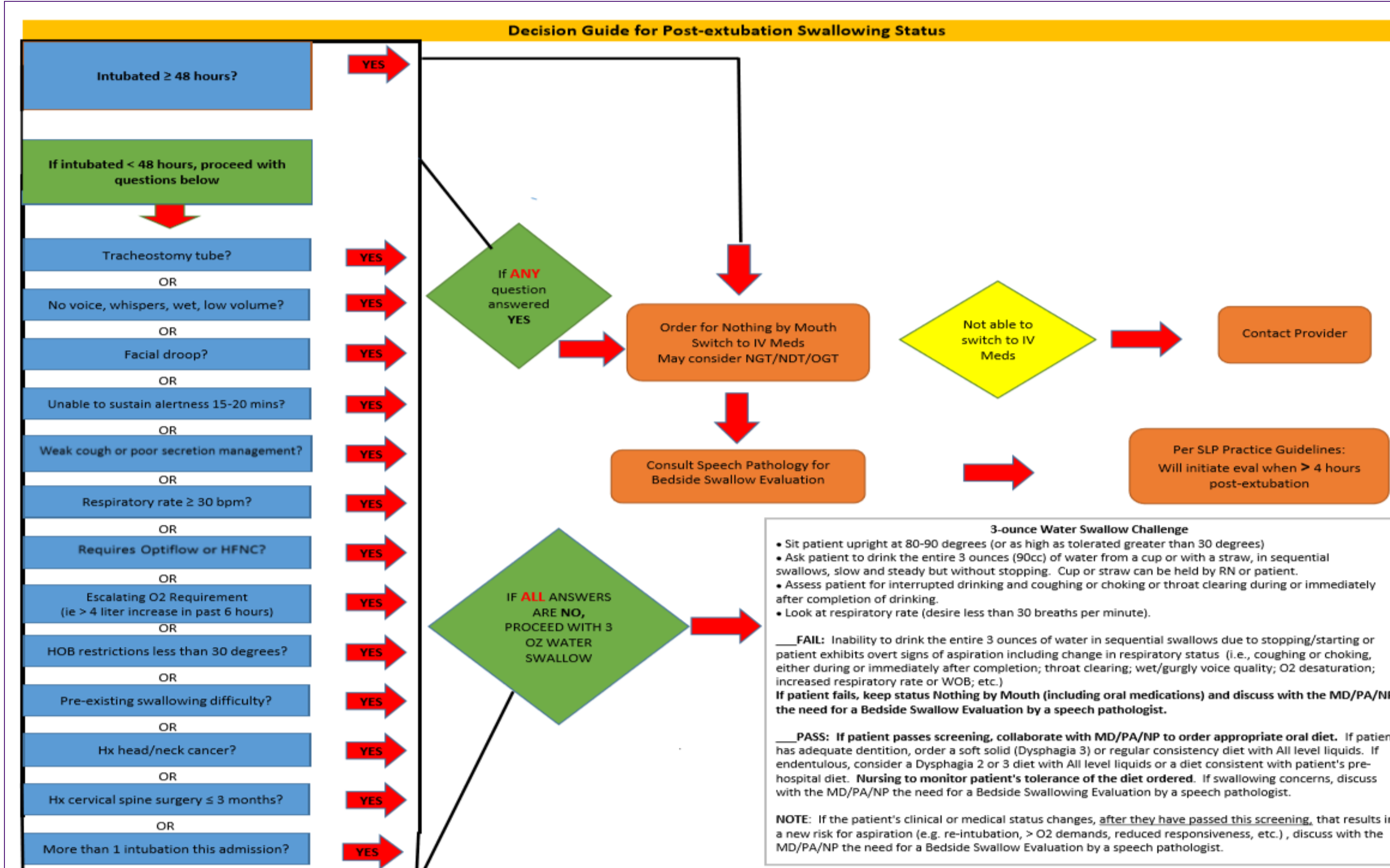
OBJECTIVES

- Develop a decision guide to help determine which patients should receive a clinical swallow evaluation post-extubation

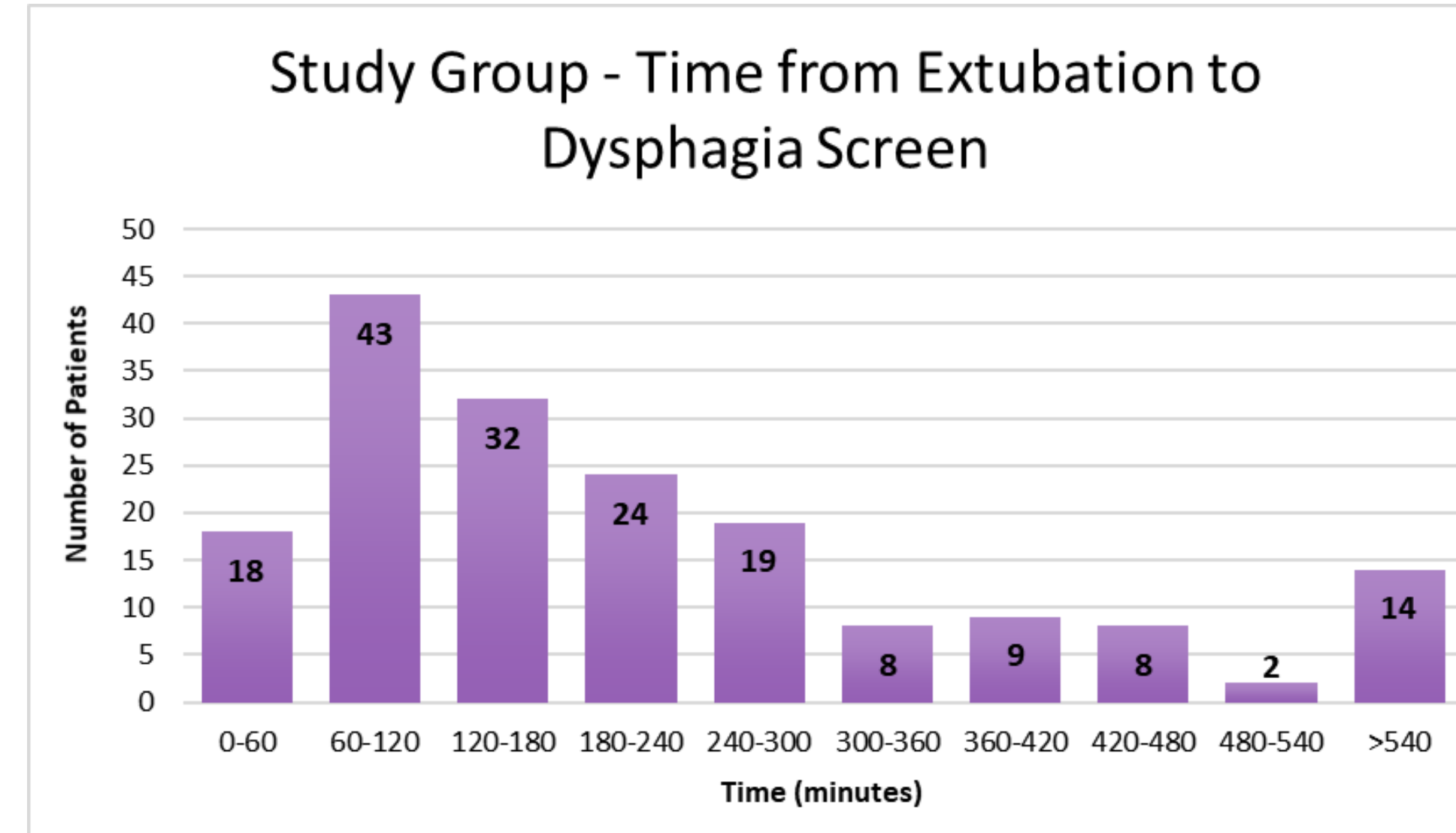
METHODS

- Multidisciplinary team constructed a two-step PED evaluation policy with a 14-question PED risk screening before a 3-oz water swallow challenge
- Inclusion criteria was any patient intubated for <48 hours in the VMC medical intensive care unit (MICU)
- The policy was instituted and the study ran from 9/1/17 through 8/31/18
- Study data was compared against a control group of unscreened qualifying patients using a one-way ANOVA
- The EHR was utilized to demonstrate the number of Speech-Language Pathology (SLP) clinical swallow evaluations during our study period as well as the 12 months prior

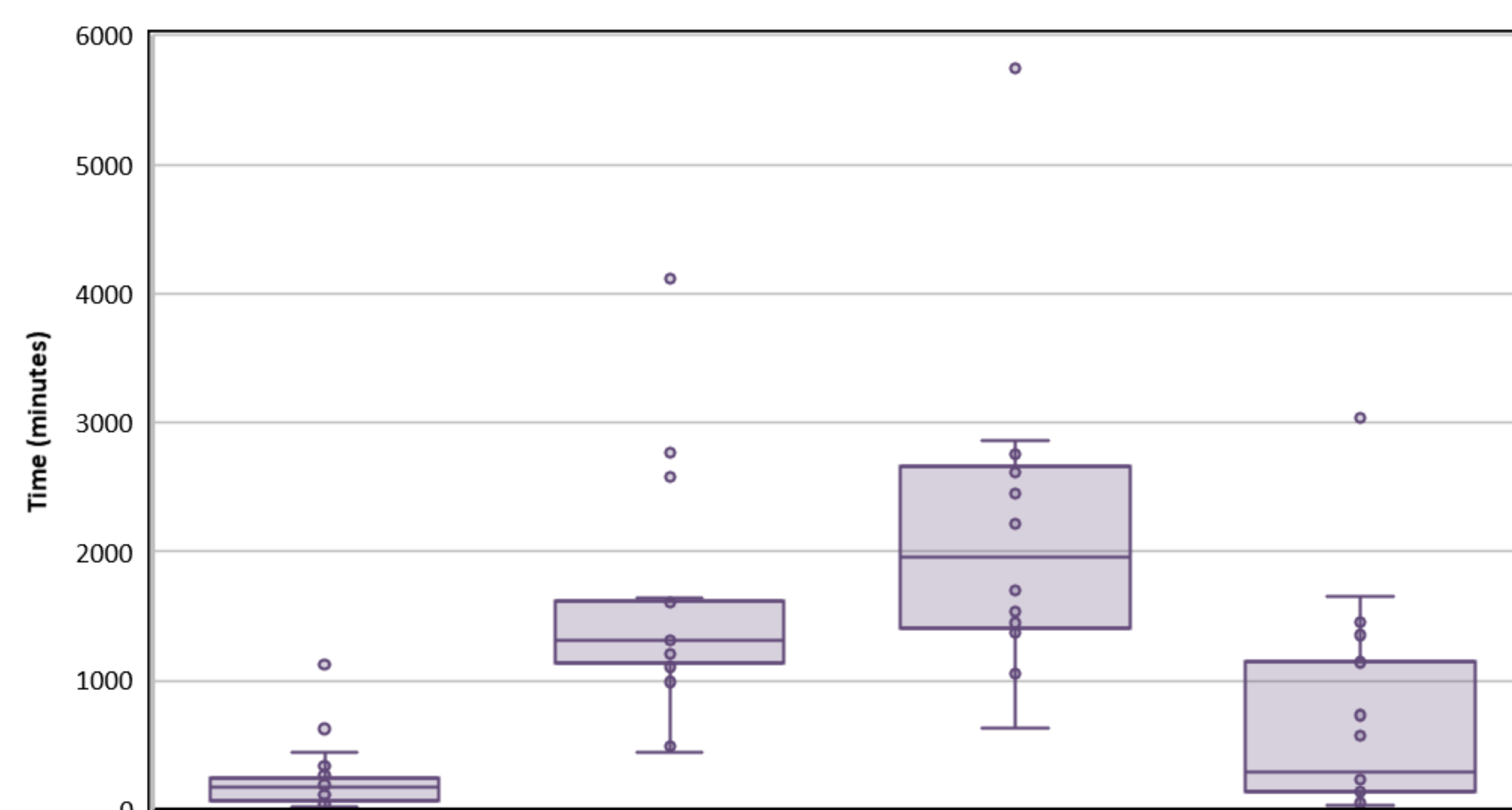
RESULTS



- 216 minutes – average time from extubation to screening
- 902 minutes – average time from clinical swallow evaluation order to completion
- Decreased SLP clinical swallow evaluations by 16.4%



Study vs Control - Time from Extubation to Dysphagia Evaluation



- 1 – Study Group; Passed study PED evaluation
- 2 – Study Group; Failed study PED evaluation then received SLP clinical swallow evaluation
- 3 – Control Group; Did not receive study PED evaluation but did receive SLP clinical swallow evaluation
- 4 – Control Group; Did not receive study PED evaluation and was cleared by physician

REFERENCES

- Macht M, Wimbish T, Clark BJ, et al. Postextubation dysphagia is persistent and associated with poor outcomes in survivors of critical illness. *Critical care (London, England)*. 2011;15(5):R231. <http://www.ncbi.nlm.nih.gov/pubmed/21958475>. doi: 10.1186/cc10472.
- Skoretz SA, Flowers HL, Martino R. The incidence of dysphagia following endotracheal intubation: A systematic review. *Chest*. 2010;137(3):665-673. <http://www.sciencedirect.com/journal/ijroxy.lib.ecu.edu/science/article/pii/S0012369210601468>. doi: //doi.org.proxy.lib.ecu.edu/10.1378/chest.09-1823.
- Suiter D, Sloggy J, Leder S. Validation of the yale swallow protocol: A prospective double-blinded videofluoroscopic study. *Dysphagia*. 2014;29(2):199-203. <http://www.ncbi.nlm.nih.gov/pubmed/24026519>. doi: 10.1007/s00455-013-9488-3.
- Christensen M, Trapl M. Development of a modified swallowing screening tool to manage post-extubation dysphagia. *Nursing in Critical Care*. 2018;23(2):102-107. <https://onlinelibrary.wiley.com/doi/abs/10.1111/nicc.12333>. doi: 10.1111/nicc.12333.
- R S Ambika, Badani Datta, B V Manjula, Umesh V Warawantkar, Anita Mariel Thomas. Fiberoptic endoscopic evaluation of swallow (FEES) in intensive care unit patients post extubation. *Indian Journal of Otolaryngology & Head and Neck Surgery*. 2018;1-5. <https://search.proquest.com/docview/201061782Z>. doi: 10.1007/s12070-018-1275-x.
- Warner HL, Sulter DM, Nystrom KV, Poskus K, Leder SB. Comparing accuracy of the Yale swallow protocol when administered by registered nurses and speech-language pathologists. *Journal of Clinical Nursing*. 2014;23(13-14):1908-1915. <https://onlinelibrary.wiley.com/doi/abs/10.1111/jocn.12340>. doi: 10.1111/jocn.12340.

DISCUSSION

- In this subset of patients, the policy allows providers to safely restart diets in a more timely manner
- The separation into lower and higher risk groups by use of the PED screening provides a clinically supported reason to request an SLP clinical swallow evaluation
- The addition of an SLP clinical swallow evaluation for PED is linked to significantly increased time before clearance to a diet
- A reduction of SLP consults on patients at low risk for PED allows for more efficient use of resources

FUTURE SUGGESTIONS

- Institute the policy across all VMC ICUs with the exception of the Neurosurgical ICU
- Create a flowsheet in the EHR to increase ease of use for nursing staff
- Evaluate the throughput of the units to monitor for changes to length of stay after introduction of the policy
- Examine the financial implications of decreased SLP clinical swallow evaluations

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