"If you build it, they will come." A Sengstaken-Blakemore Tube Quality Improvement Initiative.

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INTRODUCTION

Sengstaken-Blakemore Tube (SBT) can be a lifesaving temporizing measure in patients with massive esophageal variceal bleeding (EVB). Several key components are not provided in the SBT box which can be a barrier to timely and successful deployment of SBT. We created a Self-Sustainable Novel Blakemore Kit (SSNBK) that has all the components for placement of SBT along with easy-to-follow instruction cards. Our goal was to maintain a SSNBK in all critical care locations as a departmental stand of practice.

METHODS

The SSNBK with all the components is shown in picture 1. We conceptualized that the use of SSNBK would reduce time and increase accuracy of SBT placement. As proof of concept, we conducted a pilot project in a simulated environment for the GI fellows. SSNBK was then deployed in GI lab, Emergency Department, Medical and Surgical ICU. Charge nurses at each location were tasked with restocking and logging the use of SSNBK. Monthly audits of the SSNBK were performed by investigators. Investigators served an advisory role and offered feedback related to the proper stocking and use of the SSNBK. Results from the monthly audits triggered plan-do-study-act (PDSA) cycles when the standard maintenance was not met. Root cause analysis (RCA) and process mapping were done by investigators to identify areas of improvement.

RESULTS

Fellows who utilized SNBKK were more likely to place Blakemore tube accurately in under 5 minutes compared to the fellows who did not utilize the kit. Monthly audit results are shown in Table 1. RCA of third month audit results revealed a lack of knowledge on obtaining certain components of the kit. This was addressed by educating charge nurses at all locations on specifics of attaining all the components from supply storage. At the end of the six-month audit there were 4 fully stocked SNBKK at all locations that were maintained by respective departments.

1. Sengktaken Blakemore Kit with all the component.

PILOT	Fellow 1 (NSBKK)	Fellow 2 (NSBKK)	Fellow 3 (No Kit)	Fellow 4 (No Kit)
Time to SBT (Minutes:Seconds)	4.53	4.20	8.45	10.43
Completion of all the steps (Yes/No)	Yes	Yes	Yes	Yes
Needed help from Internet search engines	No	No	No	Yes

Table 1 –describe table here

MONTHLY AUDITS	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
Number of sites with fully stocked SSNBK (%), n=4	100	100	75	100	100	100
Number of times kits were utilized	0	1	1	0	2	1

Table 2 –describe table here

CONCLUSIONS

With our QI initiative based on a PDSA model we were able to successfully deploy a SSNBK in all critical care locations of our hospital. GI fellow speed and accuracy with simulated SBT placement was improved with use of the SSNBK. SSNBK is an easily implemented intervention that can reduce time–to-SBT placement. We also noticed increased utilization of SBT placement for massive variceal bleeding after creation and deployment of SSNBK. Further multicenter long-term studies are required to validate the SSNBK reduction in time to SBT placement, increased use of SBT, and its effect on patient outcomes