Improving the Safety of ICU Ventriculostomy Placement

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The Problem

Placement of external ventricular drains (EVDs) is a potentially lifesaving method of measuring intracranial pressure (ICP) and relieving this pressure by draining cerebrospinal fluid (CSF). Yet, this complicated and potentially dangerous procedure is often conducted in an ad hoc manner, with no uniform checklist or timeout procedure to ensure safe performance.

Project Goal

For our project, we aimed to standardize the performance and documentation of time-out procedures according to a systematic checklist prior to bedside EVD insertions. We aimed to achieve 90% compliance in 9 out of 12 months for the performance of time outs, their documentation, and adherence to the EVD checklist.

Project Plan

All residents were educated on the importance and usage of an EVD-specific checklist to be used in timeout procedures. The checklist was based on the Universal Protocol timeout checklist, with the addition of few modifications specific to EVDs. The checklist was electronic, using a smart phrase template built into the procedure note.

Results / Progress to Date

- The EVD checklist was well-received by the residents, and almost uniformly adopted.
- These timeout procedures are now required by the Joint Commission, helping us maintain compliance with national regulations.
- Surveys of whether residents found their surgical plans changed after conducting a timeout are ongoing.
- Post hoc analyses of EVD complications, to determine the benefit of the checklist, are ongoing.

Lessons Learned / Moving Forward