Respond, Intervene and Escalate:
Acute Stroke Events in the Post Anesthesia Care Unit

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Background

In the post-anesthesia care unit (PACU) setting there can be challenges in differentiating between anesthesia-related versus thrombolytic neurologic deficits. The ability to accurately assess, differentiate and escalate care is imperative to improve outcomes.

The occurrence of acute stroke events in the peri-operative setting at a comprehensive cancer center emphasized the need for an evidence-based approach to assessment, communication and documentation of risk factors for thrombotic complications.
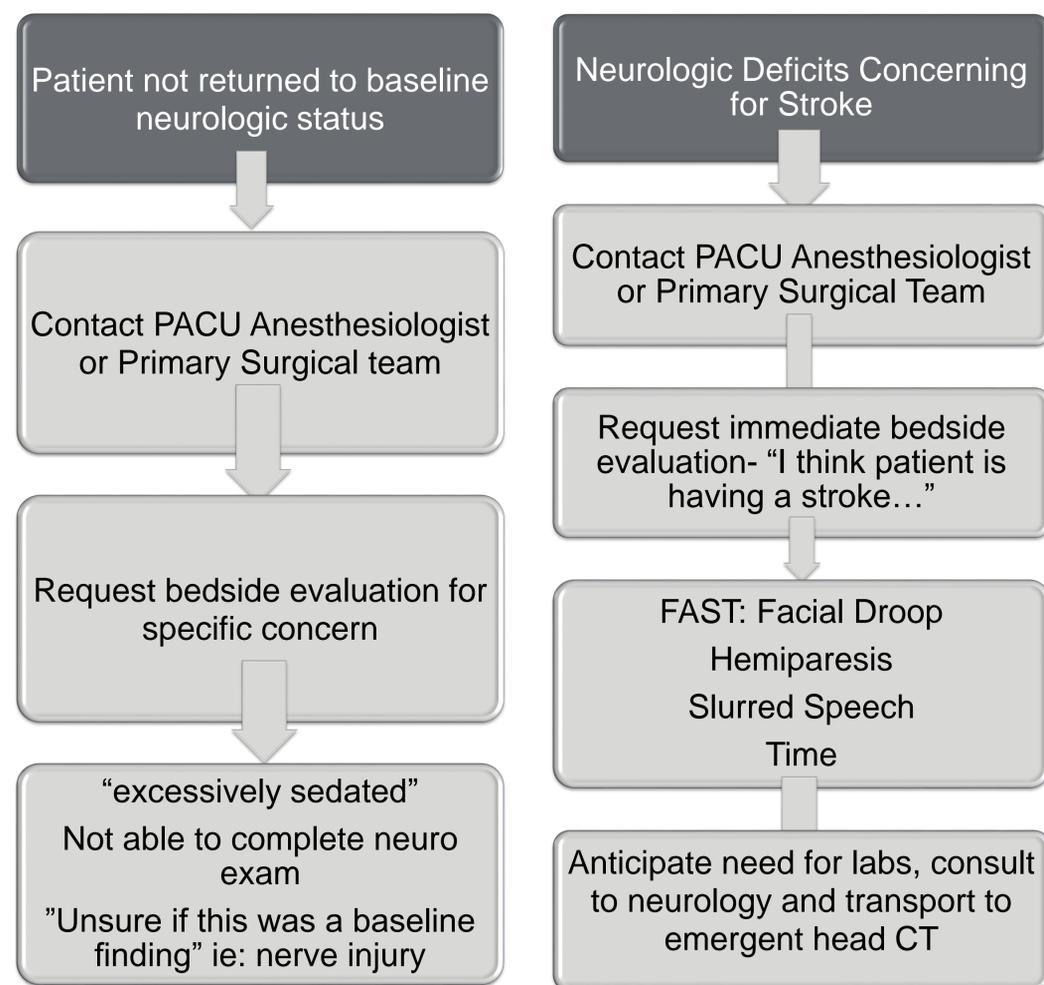
Objectives

This project aimed to improve the knowledge of nurses related to assessment, management, and escalation of stroke symptoms, and improve patient outcomes in the PACU.
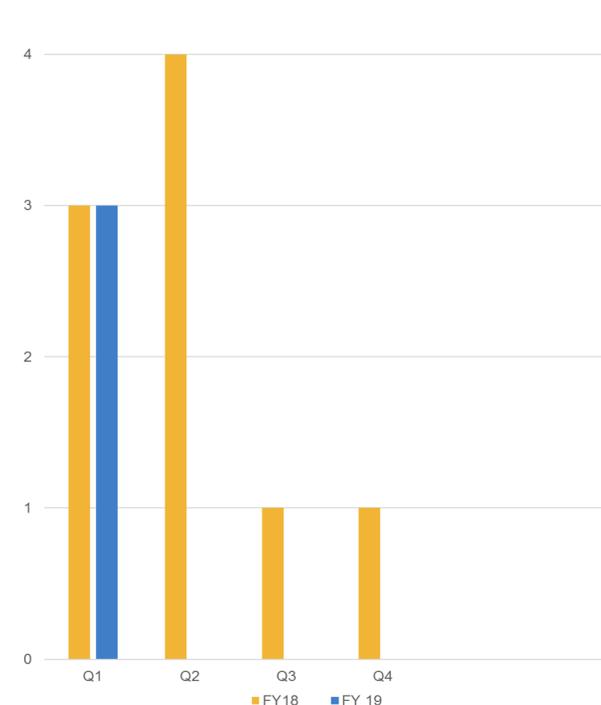
Implementation

❑ An 8 question assessment evaluating knowledge of institutional resources about and the process of stroke assessment and management was created.

❑ The survey was administered to 152 PACU & Intervention radiology (IR) nurses prior to and following an educational intervention.

❑ Results informed a multimodal educational intervention which included: a power point presentation, evidence-based standards for neurological assessment, and assessment-focused case studies.

❑ Inter-professional discussion reinforced available institutional resources and standards for assessment, management, and escalation of stroke symptoms.

❑ Quarterly mock stroke and escalation education events are conducted in collaboration with anesthesiologists to maintain clinical competencies.

❑ These sessions included an algorithm-based clinical decision aid to guide escalation of care based on assessment findings that is also now used in clinical practice.

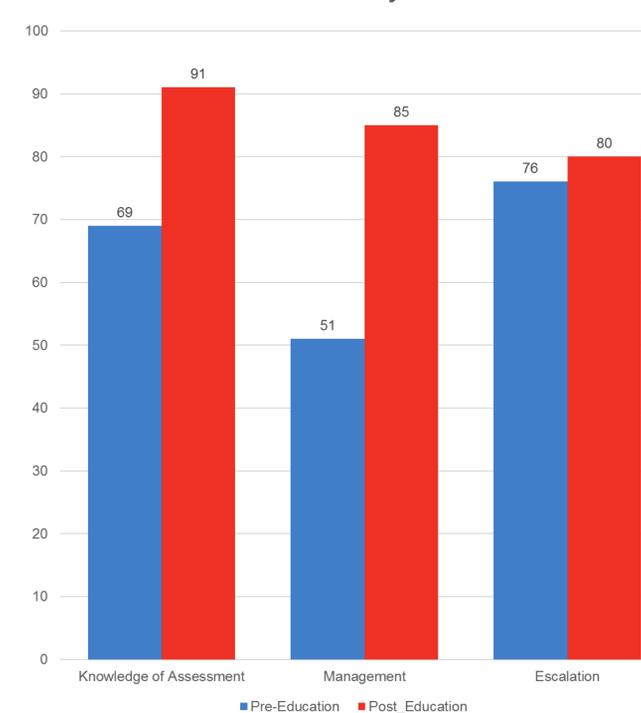❑ The electronic health record was enhanced to include defined documentation fields for stroke indicators.

Communication & Escalation Process

Patient not returned to baseline neurologic status
↓
Contact PACU Anesthesiologist or Primary Surgical team
↓
Request bedside evaluation for specific concern
↓
"excessively sedated"
Not able to complete neuro exam
"Unsure if this was a baseline finding" ie: nerve injury

Neurologic Deficits Concerning for Stroke
↓
Contact PACU Anesthesiologist or Primary Surgical Team
↓
Request immediate bedside evaluation- "I think patient is having a stroke…"
↓
FAST: Facial Droop
Hemiparesis
Slurred Speech
Time
↓
Anticipate need for labs, consult to neurology and transport to emergent head CT

PACU Recorded Stroke Events

Legend: ■ FY18 ■ FY 19

Education Survey Results

Knowledge of Assessment: Pre-Education 69, Post_Education 91
Management: Pre-Education 51, Post_Education 85
Escalation: Pre-Education 76, Post_Education 80

Legend: ■ Pre-Education ■ Post_Education

Statement of Successful Practice

Survey results suggest an improvement in overall knowledge of assessment, management, and escalation of stroke symptoms from a mean score of 68% at baseline to 85% post-intervention; with knowledge of acute stroke interventions improved from 69% to 91%.

Since the introduction of the educational intervention patients demonstrating neurologic deficits have been identified and escalated more quickly, resulting in no sentinel events over the past two quarters.

Implications for Peri-anesthesia Nursing

Early recognition of acute stroke symptoms in the peri-operative setting is crucial to the safety and wellness of our patients. PACU staff benefit from multi-modal educational interventions to improve knowledge regarding assessment, management and escalation of acute events.

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