

Best Practice for Anesthesia for ECT: Quality Improvement Review and Guideline Development for ADU SRNAs at Florida Hospital

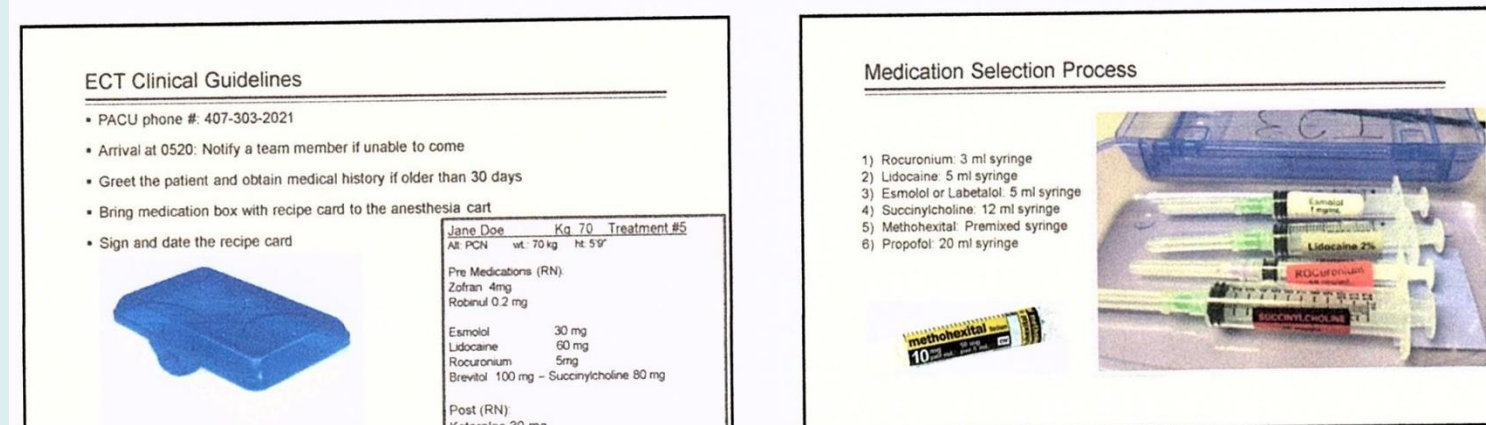
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Problem Statement

Electroconvulsive Therapy (ECT) is a safe and effective treatment for various psychiatric disorders. For patient safety and comfort, the anesthetic of choice is general anesthesia. Unlike other general anesthesia cases, the anesthetic goals for ECT are a rapid induction, deep muscle relaxation without interference with seizure quality and length, and a rapid emergence. Because of the fast pace, multiple providers, and a multitude of distractions during ECT procedures, new providers, such as Student Registered Nurse Anesthetists (SRNAs), are at an increased risk for committing a medication error. This lack of knowledge and understanding of the ECT procedure and clinical setting can potentially impact patient care.

Objective

Henceforth, the primary purpose of this project was to design a protocol intended to establish a safe process for preparing and labeling high-risk medications commonly used during ECT treatments by SRNAs.



Literature Review

Electroconvulsive Therapy (ECT) is considered to be effective as a sole treatment for psychiatric disorders or in combination with pharmacologic treatment (Freeman & Berger, 2016).

Nowadays, an ECT procedure is performed under General Anesthesia and anesthetic goals are to produce a rapid induction, deep muscle relaxation, and rapid emergence with spontaneous respirations (Kelly & Kelly, 2013).

Although there is no one specific hypnotic medication, Methohexital is considered the “gold standard” hypnotic for ECT treatments (MacPherson, 2015).

Medical errors are the third leading cause of death in the United States. According to the one prospective observational study, one in 20 operative medication administrations resulted in a medication error with up to one third of them leading to adverse drug events (Nanji, Patel, Shaikh, Seger, & Bates, 2016).

To assist with improvement of anesthesia practice, the Anesthesia Patient Safety Foundation created a standardization, technology, and prefilled or premixed medications (Brown, 2014).

Methods

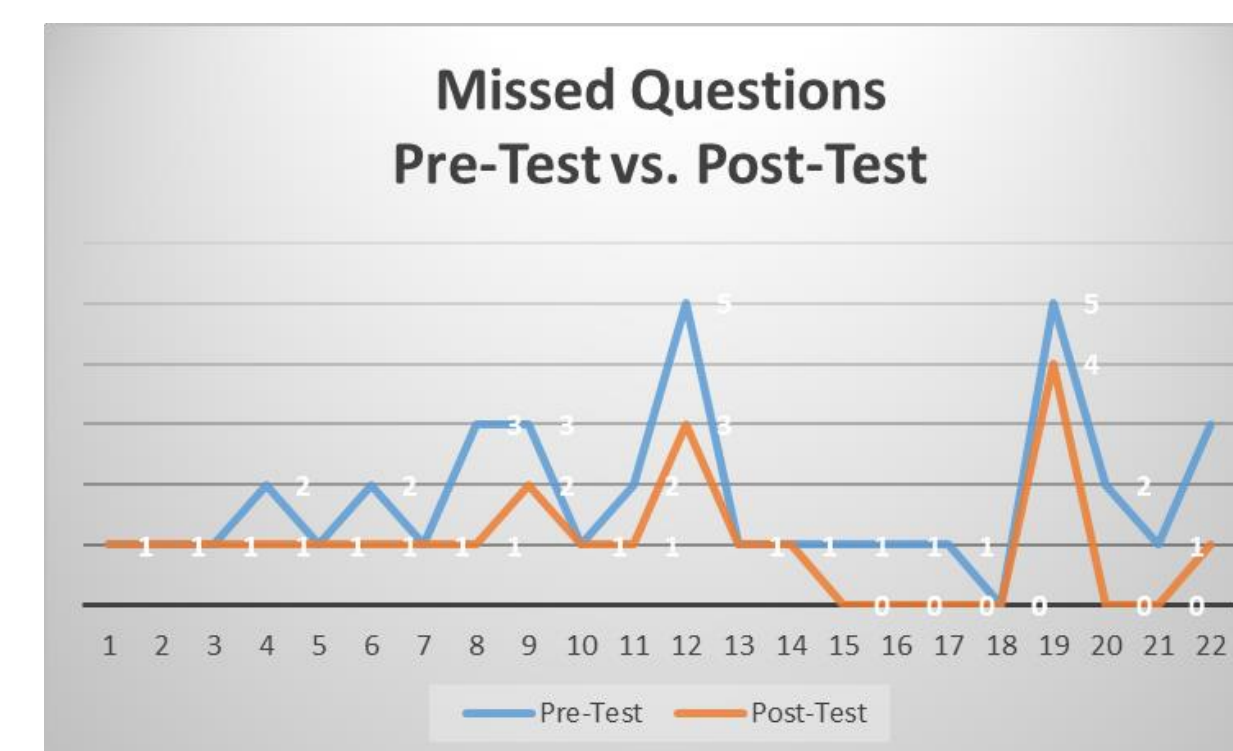
The sample population utilized in this project was the Adventist University of Health Sciences' Nurse Anesthetist Program SRNAs class of 2018. The intervention used to address the problem is through a pre-test, a 30 to 45 minute PowerPoint presentation, and a post-test.

Results

The ECT orientation package was presented to 22 SRNA in the Fall of 2016 during our clinical conference meeting. The pre- and post-tests were administered anonymously and no identifying information was collected. The results from the pre- and post-tests were analyzed via a paired t-test.

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 PreTest Scores	8.2273	22	1.30683	.27862
PostTest Scores	9.0000	22	.97590	.20806

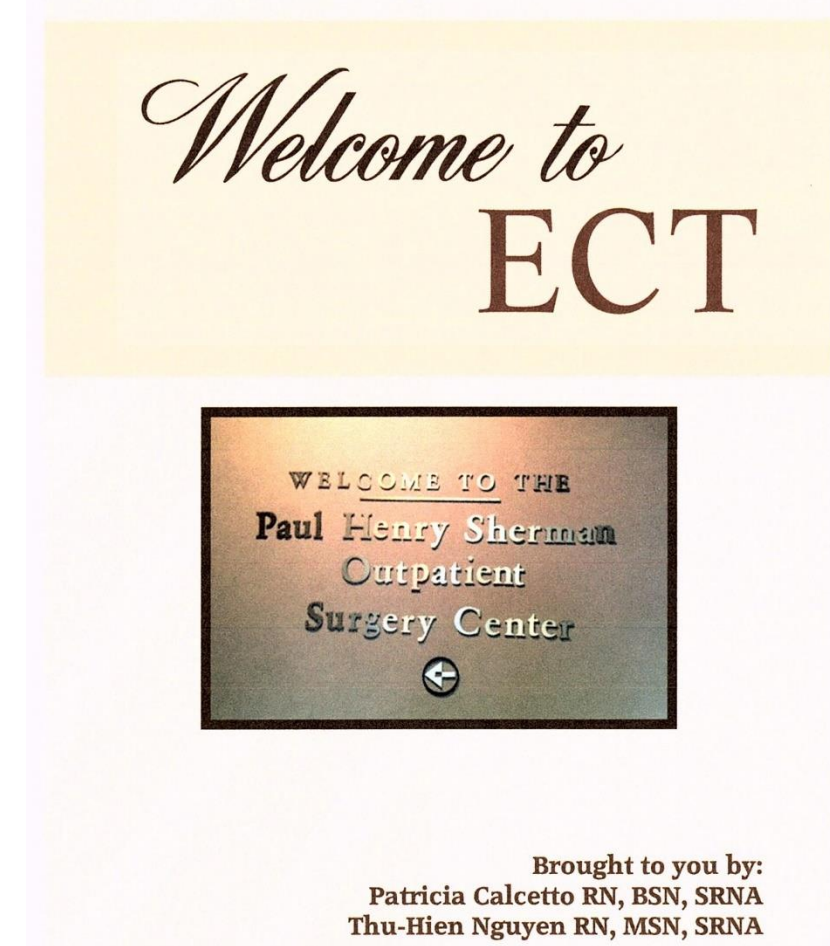
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Pair 1 PreTest Scores - PostTest Scores	-.77273	.75162	.16025	-1.10588	-.43948	-4.822	21	.000



Conclusion

On average, the post-test scores were 0.773 points higher than the pre-test scores (95% Confident Interval [1.105, 0.4394]). Based on statistical analysis and variance between the pre- and post-test after the 40 minute PowerPoint presentation, the results indicated a significant increase in the level of understanding of the participants.

We felt that our project had major implications to SRNAs clinical experience and patient safety during ECT treatment at Sherman. Our hope through this project is to create a sense of awareness and to increase the level of knowledge of SRNAs going through ECT rotation. Through our project, we also hope to enhance SRNAs clinical experience and eliminate medication errors through awareness.



Brought to you by:
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References

References available upon request.