




A Nurse-Led Weaning Protocol Using the ABCDE Bundle

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Background

- 300,000 patients require mechanical ventilation (MV) annually in the United States
- Weaning from MV accounts for 40% of the overall duration of intubation
- Prolonged MV can lead to increased:
 - Length of Stay
 - Healthcare Costs
 - Exposure to nosocomial infection
 - Morbidity
 - Mortality
 - Ventilation

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The Evidence

A nurse-led weaning protocol (NLWP) leads to shorter ventilation days, decreased Intensive Care Unit (ICU) length of stay (LOS), and costs savings of over \$40,000 per patient.

NLWP is a great example of nurses implementing evidence-based practices to improve patient and organizational outcomes

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Project Objectives

Project Aim:

Outcome evaluation of a NLWP using an ABCDE bundle on MV patients.

Outcomes measured:

- MV duration
- ICU Length Of Stay
- ICU diversion days

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Practice Assessment

Best Practice	Best Practice Strategies	How Your Practices Differ From Best Practice	Barriers to Best Practice Implementation	Will Implement Best Practice
	Weaning Protocol as part of the ABCDE bundle	Current status in ICU is physician-directed weaning with varied guidance and order sets as determined by	Lack of current evidence-based practice, communication and collaboration barriers	Yes
	Spontaneous awakening trial concurrent with spontaneous breathing	No formal guidance to implement SAT and SBT interventions together	Lack of current knowledge about best practice recommendations	Yes
	Nurse-Led Weaning Protocol	No protocol currently. No standardized protocol/checklists in EMR for weaning purposes	Communication and collaboration barriers	Yes
	Critical Care Unit as project leader for nurse-led initiative for better patient and organizational outcomes	Weaning currently led by nurse not leader for nurse-led initiatives in ICU to model nurse led projects for better patient and organizational outcomes	Lack of communication, best evidence incorporation, high turnover among nursing staff	Yes

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Implementation

- CNS-led education
- NLWP Policy Implementation
- Project socialization engagement with stakeholders
- Nurse Initiated Order (NIO) Sets
- Electronic Medical Record Documentation Implementation
- CNS-led data mining and analysis throughout project

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Algorithms

- A: Awake
- B: Breathing
- C: Coordination
- D: Delirium Assessment
- E: Early Mobility

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Findings

Descriptive, comparative data and independent samples t-test findings:

Intubation duration (3.8 days vs. 2.3 days)

ICU LOS (7.8 days vs. 6.8 days)

ICU diversion days (14 days vs. 9 days)

However, none of the differences achieved statistical significance ($p > 0.05$)

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Analysis

Comparative Descriptive Analysis Output of Pre-Implementation and NLWP Groups

	Condition	N	Mean	Std. Deviation	Std. Error Mean
Days Intubated	Pre	5	3.80	2.588	1.158
	Post	7	2.29	1.604	.606
Days ICU	Pre	5	6.80	3.899	1.744
	Post	7	7.86	5.872	2.219

Groups	Ventilator Days	Divert Days	ICU LOS	Patients
Sep-Dec 2016	19	14	34	5
Jan-Apr 2017	28	9	55	7

Ventilator Days, ICU Divert Days, ICU LOS & Number of Patients

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Implications

- Nursing is the frontline of patient care
- This NLWP demonstrated the impact nursing performance has on:
 - improved patient outcomes
 - decreased healthcare costs,
 - higher quality patient care

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Questions?

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