Back to Belly: A Prone Positioning Protocol Among Non-Intubated Patients

I. Introduction:

A. Expanded use of prone positioning during COVID-19

1. Originally, prone positioning was to treat intubated patients with ARDS in intensive care units

2. In 2021, during covid-19 prone positioning was implemented for all patients with severe ARDS on medical surgical units.

B. ARDS and hospitalizations

1. 10% of admissions to the ICU and 25% of patients on ventilators

2. 46%-60% mortality rate for patients with severe ARDS

C. The *plan* stage of the plan-do-study- act was put into practice

1. Development of the prone positioning protocol-

2. Reports that 3 hours a day of prone positioning can have a major impact on ARDS was examined.

3. At least 1 hour of prone positioning three times a day

F. The *do* phase of the plan-do-study-act was put into practice

1. Education provided to staff about prone positioning, the project and the goals

2. Training was critical as physical harm can occur if not appropriately placing a patient in prone position.

G. Met threshold for improvement: date used by the centers for Medicare and Medicaid services

1. 17 patients met improvement

2. Of those patients 64.7% were discharged on, or before their discharge date

3. In pre-implementation comparison group- 333% met their discharge dates

4. Of the 64.7% that met the threshold for improvement, 47.1% were discharge homes with increased oxygen needs (2 liters or less)

II. Purpose: The purpose of this article is to evaluate that “prone positioning is an effective treatment for non-intubated patients with risk factors associated with acute respiratory distress syndrome (ARDS)”

III. Method:

A. A quality improvement project using qualitative and quantitative data

B. The study was divided into a plan phase, a do phase, a study phase, and an act phase

C. Inclusion

1. Adult patients (18 years of age or older)
2. ARDS diagnoses found to be appropriate for prone positioning
    1. Pneumonia
    2. Aspiration pneumonia
    3. Sepsis related to pneumonia
    4. Post covid ARDS

D. Plan Phase

1. Objective was to have the unit-based research council meet with unit leaders and shared governance members to develop the prone positioning protocol

2. Explores the effect that prone positioning has on COVID-19 patients as well as non-COVID-19 patients with respiratory illness while comparing a group of 30 compromised patients

E. Do Phase

1. Staff were educated about prone positioning, the project, its goals as well as project resource tools being designed

2. Data collected from March 2021 to November 2021 with a gap from June-July due to the unit being closed for construction

F. Study Phase

1. The unit-based research council accomplished a health records audit for employees to document the amount of time, the patient is in prone positioning, length of stay (LOS), and oxygen needs at admission and discharge

G. Act Phase

1. Occurred because of improved patient outcomes with the prone positioning

2. Led to this specific implementation being practiced beyond all medicine units

IV. Results:

A. Study Participation
    1. 64 patients were eligible; 84% received education, and 52% agreed to participate.
    2. Many had short hospital stays or were discharged early; others declined to discomfort.

B. Patients Outcomes
    1. Improvement was seen when patients prone positioned > 3 hours /day for 66% of their stay.
    2. Patients meeting this threshold had an average LOS of 5.67 days vs. 11.23 days pre-protocol.
    3. 64.7% met target discharge dates, compared to 33% in the comparison group.
    4. 47.1% of prone-positioned patients were discharged with increased oxygen needs vs. 23.3% in the comparison group.
    5. ICU transfer was required for one patient in both the prone and comparison groups.

C. Limitations

1. 2-month study disruption due to hospital remodeling.

2. COVID-19 documentation changes led to incomplete data on prone positioning duration.

3. Patients who are independently prone positioned may not have reported their hours accurately.

V. Conclusion:

A. Prone positioning was successfully implemented on an internal medicine unit for patients with acute respiratory illness.
B. Patients who prone positioned > 3 hours/day for 66% of their stay had a 6-day reduction in LOS, benefitting both COVID-19 and non-COVID-19 ARDs patients.
C. Faster discharge increased the likelihood of patients going home with oxygen needs, but often at lower settings, allowing for weaning post-discharge.

D. Proactive prone positioning is an effective nurse-driven protocol for non-intubated ARDs patients, improving respiratory status and preventing deterioration.

Reference: Wier, A., & Kraus, E. (2024). Back to belly: A prone positioning protocol among non-intubated patients. *MEDSURG Nursing, 33*(4), 183-188. https//doi.org/10.62116/MSJ.2024.33.4.183