Beth Israel Lahey Health
Beth Israel Deaconess Medical Center

Use of Prone Positioning in Awake, Non-Mechanically Ventilated Patients with COVID-19

Bridgid Joseph, DNP, CCNS, RN, Lynn G. Mackinson, MS, ACS-BC, RN, Lauge Sokol-Hessner, MD Anica C. Law, MD, MS, Susan DeSanto-Madeya, PhD, CNS, RN, FAAN

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Introduction/Problem

- In April 2020, Massachusetts was a “hot spot” of COVID-19 pandemic and was third in United States for overall COVID-19-related deaths (Center for Disease Control and Prevention, 2020).
- From March through June 2020, COVID-19 admissions peaked in Boston
- BIDMC reached a peak intensive care unit (ICU) census of 135 patients and 346 Medical-Surgical (Med/Surg) patients.
- The influx of patients who were COVID positive and COVID suspect significantly impacted bed availability, throughput and staffing at BIDMC.
- To avoid further strain on hospital resources, clinicians searched for ways to support oxygen-dependent patients so that they might recover faster and avoid deterioration and subsequent ICU transfer.

Aim/Goal

Based on research supporting use of prone positioning with intubated patients in critical care but limited evidence in spontaneously breathing patients, we aimed to create a process and protocol to place awake, spontaneously breathing patients with COVID-19 in a prone position in an effort to:

*Facilitate the patient’s recovery

*Prevent further respiratory decline

*Preserve ICU beds for the most critically ill patients

The Team

Bridgid Joseph, DNP, CCNS, RN

Lauge Sokol-Hessner, MD

Susan DeSanto-Madeya, PhD, CNS, RN, FAAN
Hospital Incident Command

Lynn G. Mackinson, MS, ACS-BC, RN

Anica C. Law, MD, MS

All In-Patient Leaders

The Interventions

- Process and protocol to guide nurses on Med/Surg units developed and implemented in April, 2020
- Targeted patients required supplemental oxygen via low flow nasal cannula or face mask, with difficulty weaning or increased oxygen requirements
- Rolled-out to inpatient leaders during a Hospital Incident Command daily huddle
- Email sent to all staff with information about protocol and roll-out
- RNs educated locally during daily huddles
- Infographic created and sent to PCS inpatient leaders to educate Med/Surg staff. Included:

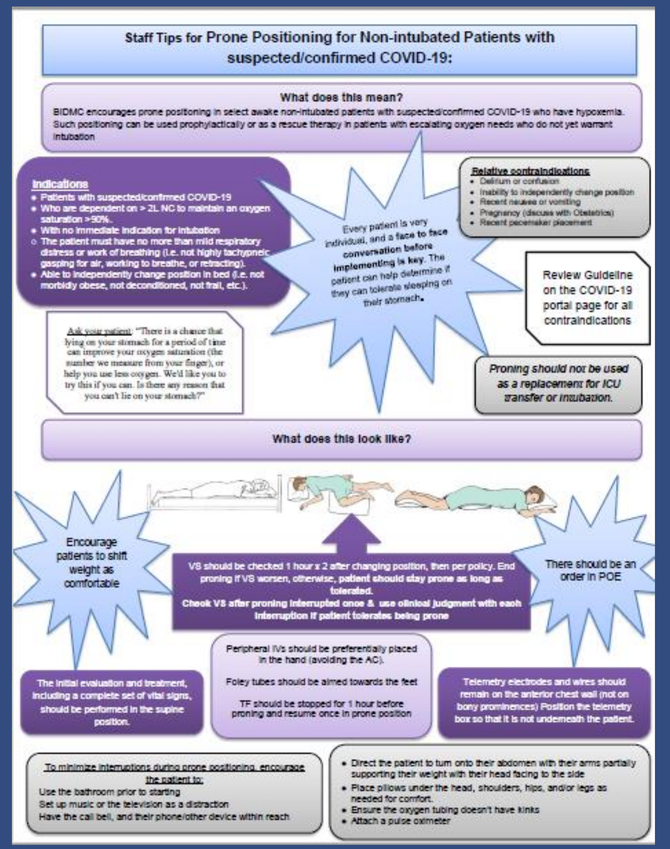
  *Appropriate patients to pronate

  *Contraindications

  *Talking points for patients

  *Tips for positioning

- Critically ill patients were sent to the ICU
- Prone positioning was used to prevent COVID-related respiratory decompensation and not as rescue therapy



For more information, contact:

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More Results/Progress to Date

Indications

- Suspected/confirmed COVID-19
- Dependent on > 2L NC to maintain an oxygen saturation >90%.
- No immediate indication for intubation
- Patient must have no more than mild respiratory distress or work of breathing (i.e. not highly tachypneic, gasping for air, working to breathe, or retracting).
- Able to independently change position in bed (i.e. not morbidly obese, not deconditioned, not frail, etc.).

Contraindications

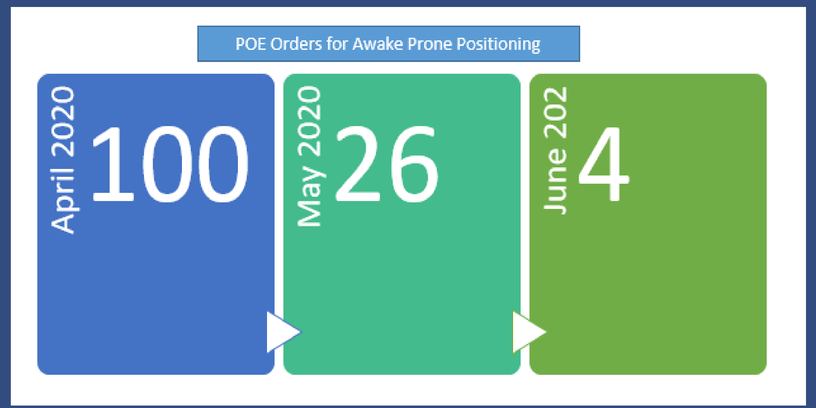
- Hemodynamic instability or shock
- Spinal instability
- Facial, pelvic, or femur fractures
- Open chest or unstable chest wall
- Ventricular assist device (VAD)
- Recent tracheal surgery
- Raised intracranial pressure
- Recent abdominal surgery or other anterior wounds

Relative contraindications

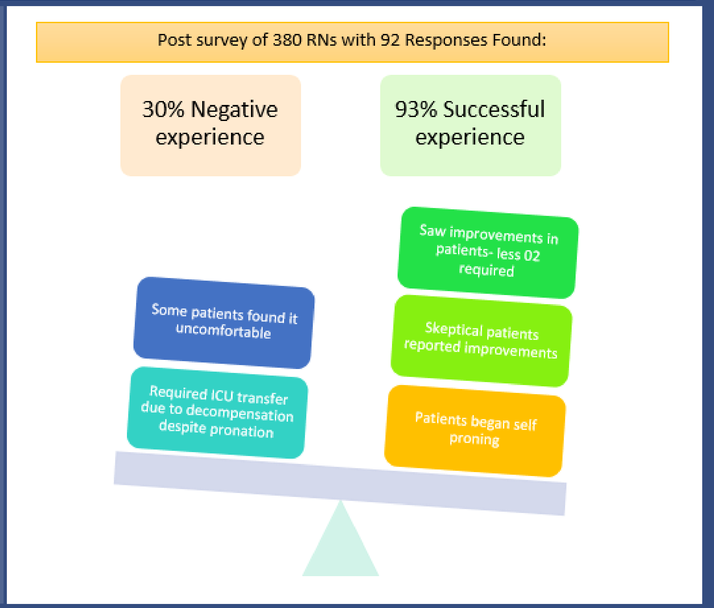
- Delirium or confusion
- Inability to independently change position
- Recent nausea or vomiting
- Pregnancy (discuss with Obstetrics)
- Recent pacemaker placement

Supplemental information sent to staff regarding appropriate patient choice for awake prone positioning

*The protocol required a written order under the "General Orders" in POE. However, prone positioning was often implemented after conversations among team members and patients. As staff became more comfortable with the protocol, it was implemented more informally without a written order.



Post surge #1 Med Surg Staff Survey



Lessons Learned

- Implementation of prone positioning protocol required a multi-disciplinary approach to ensure a comprehensive educational plan that would maintain safety and consistency
- The HICS team provided a structured communication network that facilitated smooth implementation of the intervention
- Creation of 1-page infographic expedited educational process for clinicians and patients
- Infographic provided a quick reference for front-line nurses, who were ultimately the end users of prone positioning protocol
- Intervention was implemented following team rounds
- Order for prone positioning was not always reflected in POE, thereby limiting ability to capture and track patient outcomes

Next Steps

- Creation of a POE Awake Prone Positioning order set would help sustain this multi-disciplinary intervention, allow for more accurate tracking of patients and improved ability to collect data
- Document and collect data on patient outcomes and the patient experience
- Gather additional information on nurses' experiences to further evaluate the success of the self-prone positioning protocol

For more information, contact:
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