

YNHHS Adult Inpatient Non-Intensive Care Unit (ICU) COVID-19 Prone Positioning Guidelines

Scope: Adult inpatients in YNHHS diagnosed with COVID-19. See further inclusion/exclusion criteria below

Leadership and Decision Making:

YNHHS Adult Inpatient Non-Intensive Care Units (ICU) COVID-19 Prone Positioning Guidelines arrived at jointly with leaders representing Infectious Disease, Hospital Medicine, Pulmonary & Critical Care, and Nursing.

Benefits:

The use of prone positioning in critically ill patients who have a diagnosis of adult respiratory distress syndrome (ARDS) has been shown to improve oxygenation and decrease lung injury and mortality. Early evidence suggests that prone positioning for select patients hospitalized on non-ICU inpatient medical/surgical units may provide similar benefits, and potentially delay or eliminate the need for intubation.

Indications and Patient Population:

Patients diagnosed with COVID-19 who are hospitalized on non-ICU inpatient medical/surgical units

- 1) 18 years of age or older
- 2) Non-ICU inpatient floor level of care on any medical/surgical unit
- 3) Requires more than 2 liters per minute (LPM) of oxygen and not meeting oxygen saturation goals
OR
Escalating oxygen needs over 24 hours from known baseline oxygen requirement

Inclusion Criteria:

- Alert and oriented x 3, cooperative and able to follow commands
- Confusion Assessment Method (CAM) score negative
- Independent, or assist of one, with bed mobility
- Able to monitor SpO₂ continuously; or assess SpO₂ every 2 hours if continuous monitoring not available
- Able to tolerate laying in prone position for a minimum of 2 hours consecutively

Exclusion Criteria:

- Respiratory rate (RR) of 24 or greater
- Use of accessory muscles for breathing
- Concern for impending need for intubation or any acute change in respiratory status
- Hemodynamic instability (Systolic blood pressure < 90mmHg, Heart rate <50 or >160)
- Any orthopedic injury limiting bed mobility
- Recent cardiac pacemaker placement
- Recent thoracic injury or abdominal surgery
- Tube feeding dependent
- Presence of nausea and vomiting
- Tracheostomy
- Body mass index (BMI) greater than 35 kg/m² (*relative contraindication*, should be able to easily return to supine position)
- Advanced Pregnancy (greater than 24 weeks)
- Chest tube
- Physical restraints
- Need for sedating medication to maintain prone positioning

Procedure for Prone Treatment:

- 1) Medical team or nursing team may suggest prone positioning treatment
- 2) Patient's RN and medical team should review appropriateness based on inclusion/exclusion criteria
- 3) Patient is informed of the plan to utilize prone positioning for treatment, and is in agreement

Physician/Advanced practice provider (APP) responsibilities

- a. Places Epic order for "non-ICU prone positioning"
- b. Communicates with RN for continuation or termination of prone positioning per criteria below

Nursing responsibilities

- a. Verify continuous SpO2 monitoring order, or every 2 hour SpO2 assessment if continuous SpO2 is not available; and apply monitor to patient
- b. Re-assess patients mental status and mobility prior to placing in prone position
- c. Prior to prone positioning, increase oxygen
 - i. If patient is on nasal cannula, increase to 6LPM
 - ii. If patient is on a non-rebreather mask, increase to 100% FiO2 prior to prone positioning.
Discuss with medical team prior to prone positioning to ensure appropriateness and safety. Consider ICU evaluation if within goals of care.
- d. Assist patient in getting into prone positioning as needed.
- e. Titrate oxygen down to SpO2 of greater than 93% after 15 minutes in prone position
 - i. **If unable to achieve goal SpO2, patient is uncomfortable, or there are concerns about respiratory status, terminate proning.**
- f. Assess comfort, respiratory rate, and SpO2 again 30 minutes after initial prone positioning
- g. RN or PCA provides reminders to patient every 2 hours to adjust positioning. Utilize phone, call bell, or tele medicine carts if available
- h. RN or PCA documents patient position and respiratory rate every 4 hours, and SpO2 every 2 hours
- i. RN assesses comfort and ability to remain prone every 4 hours
- j. Head to toe skin assessment should occur every 24 hours while proning, with specific attention to anterior body surface areas

Continuation of prone positioning:

- Patients who demonstrate stability or improvement (increased oxygen saturation, decreased oxygen requirement, increased respiratory comfort, decreased respiratory rate) with proning may have their treatment duration extended. Each extension will be an additional 4 hours prone, as tolerated, up to a maximum of 16 hours (4 consecutive 4 hour prone intervals) total.
- RN, MD/APP, and patient must all agree with continuation for each additional 4h treatment interval

Termination of prone positioning:

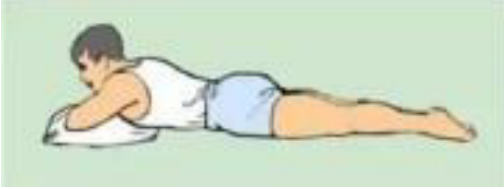
- Consider termination of proning when patient has demonstrated stable or improving oxygen saturation/oxygen requirements over a 24 hour period
- Proning treatment is terminated immediately if patient shows signs of worsening oxygenation (<88%), respiratory rate (>24), or otherwise appears in distress.
- Proning treatment may be terminated by the patient if they are unable to tolerate prone positioning for any reason.

Appendix A: Nursing Tips for Prone Positioning

To minimize interruptions during prone positioning, consider various comfort strategies, including:

- Using the bathroom prior to prone position
- Having call bell or other communication devices within reach
- Utilizing television or music for distraction
- Encourage nocturnal prone position when pt is able to tolerate

Full prone position is preferred, if the patient can tolerate



Utilize pillows and bed positioning to facilitate patient comfort

If the patient is unable to tolerate prone positioning, trial lying on left or right side.



Utilize pillows and bed positioning to facilitate patient comfort

Algorithm for Prone Positioning in the Non-ICU COVID-19 Positive Patient

Patient is 18 years of age or older AND requires $\text{FiO}_2 \geq 28\%$ (at least 2L/min supplemental O₂) to maintain SpO_2 saturation $> 93\%$ and is COVID-19 +

No ↓

Positioning per patient preference/tolerance

- Not a candidate for prone positioning
- Reposition patient
- Secure/replace oxygen equipment
- Determine cause of obstruction

No

- Not a candidate for prone positioning
- Alert medical team for *italicized items*

Yes

Yes ↓

Assess patient for prone positioning:

- Alert & oriented x 3, cooperative, and able to follow commands
- Independent, or assist of 1, with bed mobility
- Confusion Assessment Method (CAM) score negative
- Oxygen tubing is patent
- Placement of N/C or mask is secure
- Airway is unobstructed

Yes ↓

Determine contraindications:

- Respiratory rate (RR) of 24 or greater, or use of accessory muscles for breathing
- Concern for impending need for intubation or any acute change in respiratory status
- Hemodynamic instability (Systolic blood pressure $< 90\text{mmHg}$, Heart rate < 50 or > 160)
- Any orthopedic injury limiting bed mobility
- Recent cardiac pacemaker placement, thoracic injury, or abdominal surgery
- Tube feeding dependent
- Presence of nausea and vomiting
- Tracheostomy; Chest tube
- Body mass index (BMI) greater than 35 kg/m^2 (*relative contraindication, should be able to easily return to supine position*)
- Advanced Pregnancy (*greater than 24 weeks*)
- Physical restraints or need sedating medication to maintain prone positioning

No ↓

Place patient in prone position

- Verify continuous SpO_2 monitoring order, or every 2 hour SpO_2 assessment if continuous SpO_2 is not available; and apply monitor to patient
- Prior to prone positioning, increase oxygen
 - If patient is on nasal cannula, increase to 6LPM
 - If patient is on a non-rebreather mask, increase to 100% FiO_2 prior to prone positioning. **Discuss with medical team prior to prone positioning to ensure appropriateness and safety. Consider ICU evaluation if within goals of care.**
- Titrate oxygen down to SpO_2 of greater than 93% after 15 minutes in prone position
 - If unable to achieve goal SpO_2 , patient is uncomfortable, or there are concerns about respiratory status, terminate proning.**
- Assess comfort, respiratory rate, and SpO_2 again 30 minutes after initial prone positioning
- Document patient position and respiratory rate every 4 hours, and SpO_2 every 2 hours
- RN assesses comfort and ability to remain prone every 4 hours
- Head to toe skin assessment should occur every 24 hours while proning, with specific attention to anterior body surface areas

Encourage patient to remain prone for 4 hours

Terminate Self-proning:

- Improved SpO_2 and respiratory status in non-prone position
- Terminate immediately with any sign of worsening $\text{SpO}_2 < 88\%$, $\text{RR} > 24$, or otherwise appears in distress. Alert medical team
- Patient may self-terminate if unable to tolerate for any reason

Continue Self-proning:

- Patient remains comfortable, with stable or improved SpO_2 , oxygen requirement, respiratory rate
- Repeat for additional 4 hours, for up to 16 hours consecutively