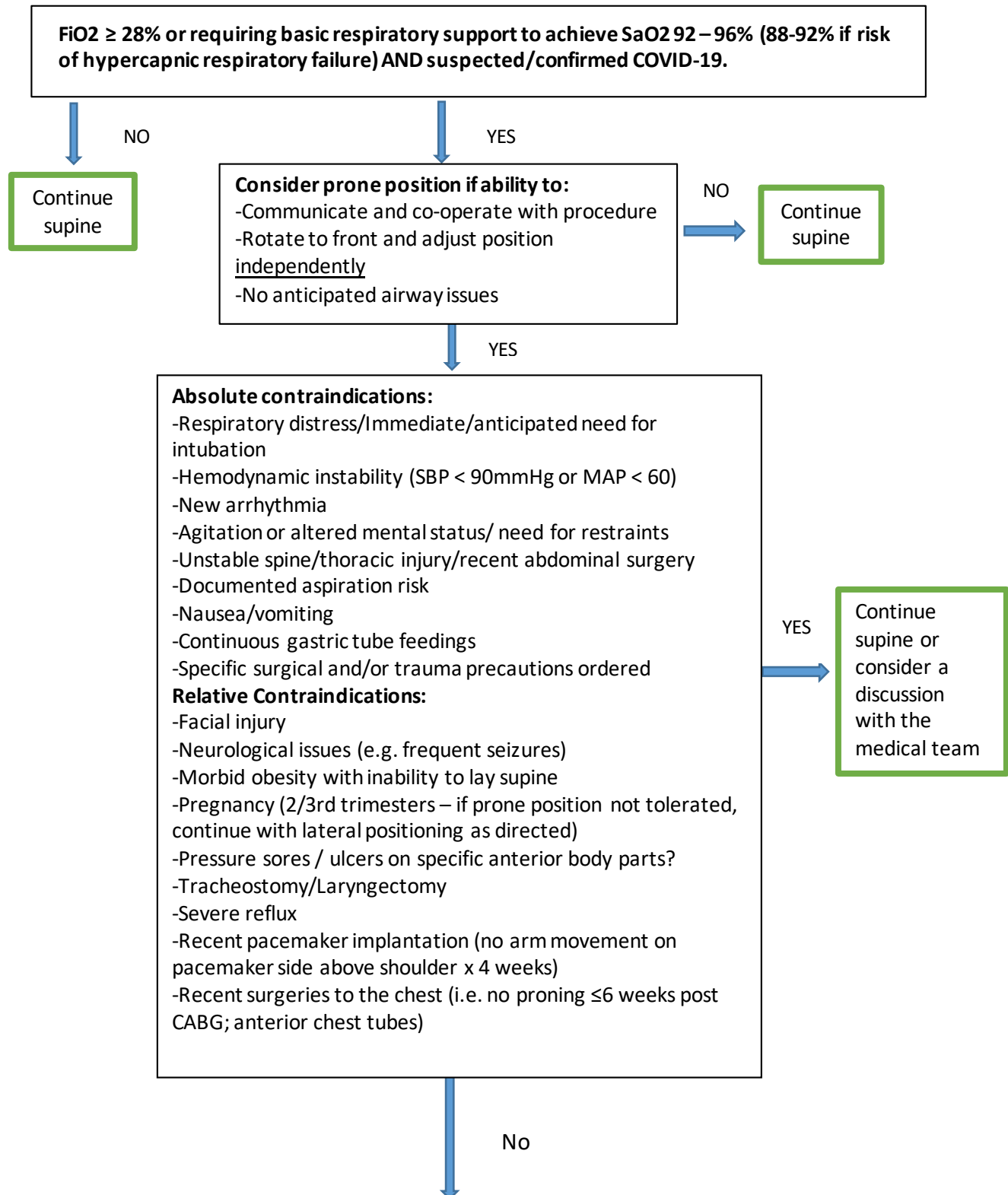


Guidance for Prone Positioning of the Conscious, Non-Ventilated COVID-19 Patient

Adapted from ICS Guidance – last updated 10/27/20



Assist patient to prone position (See Table 1)

- Explain procedure/benefit
- Ensure patient has not eaten in the last 30 minutes
- Ensure oxygen therapy and basic respiratory support (secure with adequate length on the tubing)
- Pillows may be required to support the chest
- Reverse trendelenberg position may aid comfort
- Monitor oxygen saturations (troubleshoot: if there is a drop, ensure O2 is connected and working)

**RN to monitor oxygen saturations for continuous 15 minutes:
SaO2 92-96% (88-92% if risk of hypercapnic respiratory failure) and no obvious distress**

YES

NO

Continue proning process (See Table 1):

- Change position every 1-2 hrs aiming to achieve a prone time as long as possible
- When not prone aim to be sat upright at a 30-60 degrees angle
- Monitor oxygen saturations after every position change
- Titrate down oxygen requirements as able

If deteriorating oxygen saturations:

- Ensure oxygen is connected to patient
- Increase inspired oxygen
- Change patients position/Consider a return to supine position (HOB elevated > 30 degrees unless contraindicated)
- Escalate to critical care if appropriate**
- Discontinue if:**
- No improvement with change of position
- Patient unable to tolerate position
- RR worsening, looks tired and/or using accessory muscles

Table 1: Timed Position Changes for Patients Undergoing Conscious Proning Process

If patient fulfills criteria for proning, ask the patient to switch positions as below. Monitor oxygen saturations for 15 minutes after each position change to ensure the oxygen saturation has not decreased. Continue to monitor oxygen saturations as per the National Early Warning Score (NEWS).

- 30 minutes to 2 hours lying fully prone (bed flat)
- 30 minutes to 2 hours lying on right side (bed flat)
- 30 minutes to 2 hours sitting up (30-60 degrees) by adjusting head of the bed
- 30 minutes to 2 hours lying on left side (bed flat)
- 30 minutes to 2 hours lying prone again
- Continue to repeat the cycle.....

Supplies

- 4 pillows and pillow cases
- 2 Flat sheets
- 2 Covidien pads
- Continuous or spot oximetry
- *Telemetry patients: 2 sets of EKG electrodes

Instructions

1. Assemble supplies before entering room.
2. Follow appropriate PPE precautions.
3. Explain to patient the purpose of prone positioning and planned length of time that patient will be prone. **Goal: minimum of 30 minutes to a maximum of 2 hours BID.**
4. Verify patient has not eaten within the last 30 minutes
5. Assess patient for skin break down or potential areas (bilateral shoulders, chest iliac crest and knees).
6. Evaluate patient's ability to turn head from side to side. (Reason: In prone position, instruct patient to turn head to best ROM side.)
7. Remove fitted sheet and place flat sheet under patient shoulders and Covidien pad at hips.
8. Obtain & document vitals including SpO2. **If on telemetry remove EKG electrodes from front and place on back.**
9. Remove stat lock from Foley, verify securement of: feeding tube, chest tube(s) and IV site (if applicable).
10. Correctly position all tubes, taking into account the direction of the position of the turn. (Tubes in the lower torso aligned with either leg and extended off the bed.) Adjust IV pump position close to head of bed-verify tubing has generous length for the turn.
11. Assess bone prominences with position changed to ensure there is no skin breakdown. Consult Wound Care if there is concern for skin breakdown. Follow appropriate Wound Care recommendations. If Mepilex is used to pad boney prominences peel back with every position change to ensure there is no skin breakdown. Mepilex dressing should be dated and needs to be changed every 3 days or if spoiled.

Procedure of manual pronation

1. Verify position of all tubes, taking into account the direction of the tubes.
2. Instruct patient to raise affected arm with IV overhead.
3. Have patient roll over to prone position and adjust gown and tubing.
4. Place patient in swimmer's pose (one side slightly off of the bed, adjust with pillows and position to avoid traction on the brachial plexus and lift diaphragm off bed). Assist patient to best position of comfort.
5. Place patient on continuous SpO2 monitoring if available. If not available, check SpO2 before proning, every 15 minutes after prone, every 1 hour while prone, and 15 minutes after returned to supine.
6. Place EKG leads back on telemetry patients.
7. *Assess patient's response first 15 minutes and at least every hour after, noting if patient is having trouble breathing or is not tolerating assist patient to supine position (HOB at least 30 degrees unless contraindicated). Use two flat sheets if the patient is unable to turn supine. Notify the provider.

Complications related to prone position

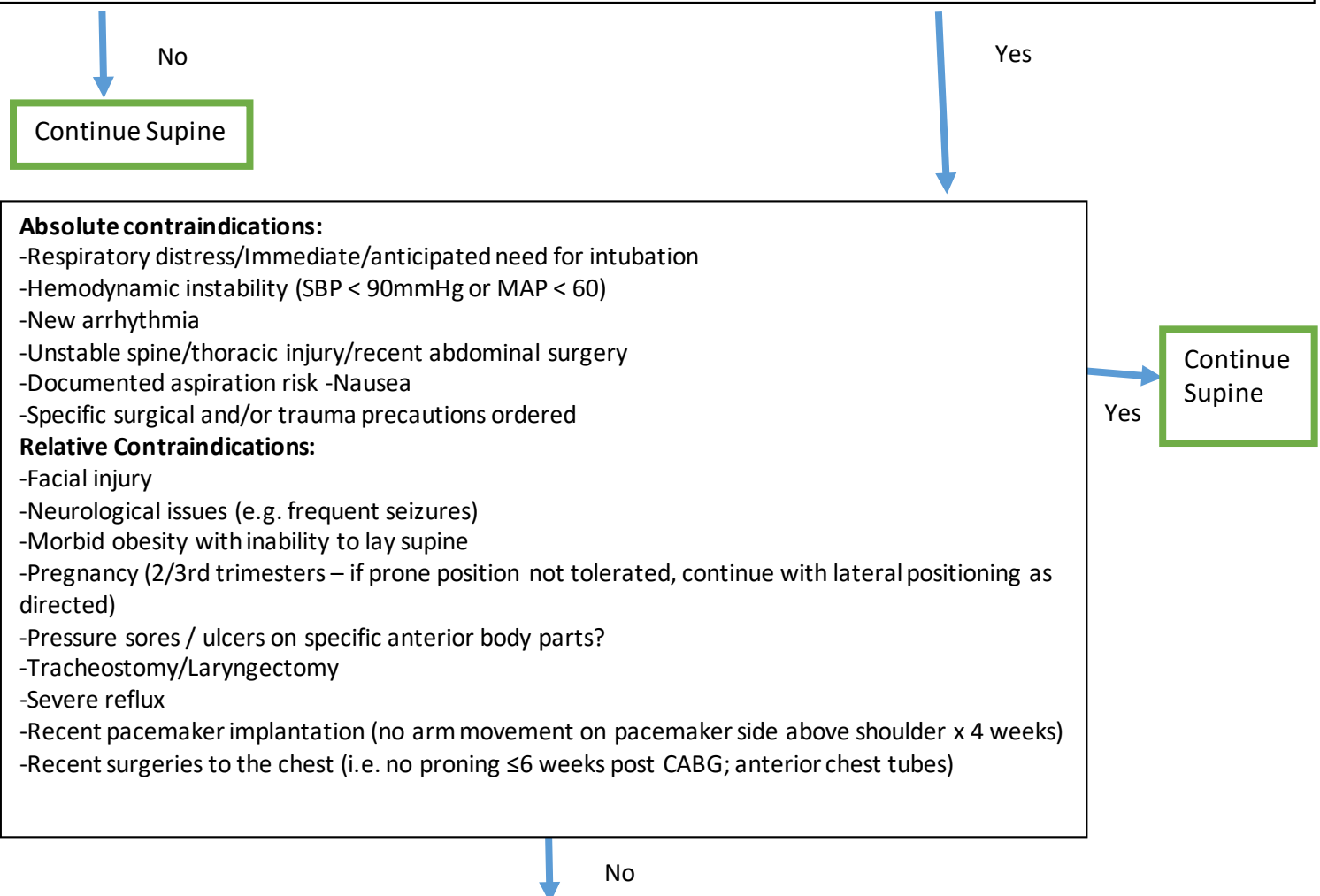
- Lines &/or tube kinked or dislodgment
- Respiratory or hemodynamically instability
- Aspiration
- Pressure ulcers in patients prone for > 2 hours

Guidance for Prone Position for an Unconscious, Ventilated COVID-19 Patient

When evaluating a patient, the RT/RN/Physician team will utilize the following criteria to determine if the patient is a candidate for prone positioning.

1. Prone positioning is utilized for patients who are in the early, acute phase of ARDS.
 - a. The presence of acute bilateral diffuse infiltrates on the chest x-ray.
 - b. Severe hypoxemia defined as a $\text{PaO}_2/\text{FiO}_2$ ratio of < 200 mm Hg with a PEEP level > 8 cm H₂O for more than 24 hours.
 - c. Oxygen Index > 14 .
2. Stable hemodynamic status: a systolic blood pressure > 90 mm Hg.
3. Review sedation. Effective management of sedation is essential to decrease agitation during and after the turning process.

To assess for hemodynamic stability during prone positioning, a brief trial may be performed prior to full prone positioning sessions. Slowly turn the patient to a 45 degree angle on his/her side and monitor the effect of the turn on the patient's comfort, SaO_2 , SvO_2 , blood pressure and heart rate. If the parameters do not change or return to supine baseline within 5 minutes, there is a high probability the patient will not tolerate prone positioning.



Prepare for prone position. It is essential the patient and family are aware of the purpose and procedure of prone position. It is important to forewarn the patient's visitors of what to expect (possible facial edema)

- Ensure that all lines/tubes are adjusted to avoid kinking, disconnection or contact with the patient's body during the turn or after the patient is prone. If there are lines that can be temporarily disconnected until after the turn is completed. (i.e. ECG leads, NG/feeding tube, IV antibiotics, etc) this will facilitate the turn.
- Ensure adequate sedation is given. Monitor the patient for signs/symptoms of pain/discomfort.
- Check and record vital signs. These will serve as a baseline to assess the patient's tolerance to the prone position.
- Pre-oxygenate, suction the airway and oropharynx. Ensure the airway is secure.
- Hold tube feeds 1 hour prior to position changes

Supplies

- 4 pillows and pillow cases
- 2 Flat sheets -2 Covidien pads

*Telemetry patients: 2 sets of EKG electrodes

Prone Positioning Checklist

- Ensure correct number of experienced staff (3–5) to assist in and monitor the turn (RT/CRNA has to be one of the staff and in charge of airway)
- Preoxygenate, empty stomach, suction endotracheal tube/oral cavity, remove ECG leads
- Identify adequate supplies to turn (pads for bed, sheet, protection for the patient or specialty bed)
- Secure the endotracheal tube and lines
- Position tubes inserted above the waist to the **top of the bed**
- Position tubes inserted below the waist to the **foot of the bed** (except chest tubes)
- Empty ileostomy/colostomy bags before the turn
- Immediately prior to turn, limit cables

Turning Procedure

- Place one (or more) people on both sides of the bed (to be responsible for the turning processes) and another at the head of the bed (to assure the central lines and the endotracheal tube do not become dislodged or kinked).
- Pull the patient to the edge of the bed furthest from whichever lateral decubitus position will be used while turning.
- Place a new draw sheet on the side of the bed that the patient will face when in this lateral decubitus position. Leave most of the sheet hanging.
- Turn the patient to the lateral decubitus position with the dependent arm tucked slightly under the thorax. As the turning progresses the nondependent arm can be raised in a cocked position over the patient's head. Alternatively, the turn can progress using a log-rolling procedure.
- Remove ECG leads and patches. Suction the airway, mouth, and nasal passages if necessary.
- Continue turning to the prone position.
- Reposition in the center of the bed using the new draw sheet.
- Assure that the airway is not kinked and has not migrated during the turning process. Suction the airway if necessary.

- Support the face and shoulders appropriately avoiding any contact of the supporting padding with the orbits or the eyes.
- Position the arms for patient comfort. If the patient cannot communicate, avoid any type of arm extension that might result in a brachial plexus injury. You can use the position one arm above the head and one arm at the side.
- Adjust all tubing and reassess connections and function.
- Reattach ECG patches and leads to the back.
- Repeat zeroing of hemodynamic transducers once prone
- Ensure the tongue is inside patient's mouth and eyes are closed
- Tilt the patient into reverse Trendelenburg. Slight, intermittent lateral repositioning (20 to 30°) should also be used, changing sides at least every two hours.
- Document a thorough skin assessment every shift, specifically inspecting weight bearing, ventral surfaces.

Complications related to prone position

- Lines &/or tube kinked or dislodgment
- Respiratory or hemodynamically instability
- Aspiration
- Pressure ulcers in patients proned for > 2 hours
- Facial/eyelid edema
- Increased eye pressure
- Corneal abrasions
- Ulnar nerve damage

Modification

- Reverse trendelenberg 10-20 degrees may be useful in reducing pressure on the thorax from the abdomen and improving venous return thus reducing facial/eyelid edema
- Body rotation: a 20-30 degree lateral rotation from prone achieved by placement of pillows or by rotating bed may be useful in reducing facial/eyelid edema and breakdown
- Foam cushions or partially-filled saline bags may be used for additional padding in areas as the face, sternal area, hips, knees etc.
- Eye protection may be used to help avoid corneal abrasions.

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