PRONE POSITIONING FOR A PREGNANT PATIENT

Indications

- ❑ Requiring supplemental oxygen to achieve SpO2 ≥95% (postpartum SpO2 >92%)
- ❑ Inability to wean O_2 requirement
- ❑ Failed pre-discharge ambulatory oxygenation test
- ❑ Suspected or confirmed COVID-19 (may consider for other etiologies of ARDS)

YES

NO

Absolute Contraindications

- ❑ Hemodynamic instability (requiring vasopressors) or life-threatening arrythmia
- ❑ Non-reassuring fetal status
- ❑ Spinal instability
- ❑ Increased intracranial pressure
- ❑ Recent tracheal, thoracoabdominal surgery or trauma, or Cesarean delivery within last 48 hours
- ❑ Severe respiratory distress (respiratory rate >30/min, $PaCO_2$ >50, pH <7.35, accessory muscle use) ***(*awake only)***
- ❑ Anticipated airway issues or need for intubation ***(*awake only)***
- ❑ Unable to communicate or cooperate with the procedure (agitation, AMS) ***(*awake only)***

Relative Contraindications

- ❑ Facial injury, chest tubes, massive hemoptysis, cardiac pacemaker, ventricular assist device
- ❑ Estimated gestational age ≥34 weeks

YES → **Continue supine**

NO

AWAKE | **INTUBATED**

Before Prone Positioning

- ❑ NPO at least 1 hour
- ❑ Explain procedure/benefits, obtain patient assent
- ❑ Introduce team (minimum 2 people, 1 per side)
- ❑ Secure lines (Foley, arterial, peripheral and central lines, drains, chest tubes)
- ❑ Confirm O_2 delivery device well connected and increase O_2 to max setting (6L for low flow NC)
- ❑ Move ECG leads to back (mirror image)

Prone Positioning Procedure

- ❑ Have patient lie on her side *facing* the O_2 delivery device while placing padding
- ❑ Place pillows and/or blankets to support head/neck and offload the breasts and uterus (e.g. 3 pillows at head, 2 chest, 2 pelvis, 2 under lower legs)
- ❑ Have the patient turn over onto the pillows (recommend position on knees then lay down)
- ❑ Adjust pillows for patient comfort (consider possible engorgement of breasts postpartum)
- ❑ Position arms overhead or to the side, or 1 of each "swimmer's position" (change every 2 hours)
- ❑ Place bed in "reverse Trendelenburg" (~10°)
- ❑ Adjust fetal monitors as needed
- ❑ Confirm all lines/tubing not pressing against skin
- ❑ Readjust O_2 settings to pre-prone settings

Before Prone Positioning

- ❑ Stop enteral feeds at least 1 hour
- ❑ Assemble the team (minimum 5 people, 2 per side, 1 at head for airway, plus one for directing and for feet, if available)
- ❑ Sedate to RASS-4, give neuromuscular blockers, obtain ABG to optimize settings before positioning; monitor with BIS or nerve stimulator; neuromuscular blockade precautions
- ❑ Secure lines (Foley, arterial, peripheral and central lines, drains, chest tubes), remove ECG electrodes

Prone Positioning Procedure

- ❑ Place clean sheet under patient
- ❑ Arm closest to ventilator is tucked underneath buttocks with palm facing up
- ❑ Place padding onto the patient (e.g. 2 pillows at the chest, pelvis and under lower legs)
- ❑ Clean bed sheet should be placed on top of pillows
- ❑ Roll sides of bed sheets together encasing the patient (cocoon)
- ❑ Slide patient horizontally to lie on the edge of bed *away* from ventilator
- ❑ The person at the head holds ETT tube, counts, and directs move of patient 90° to lie on their side, *facing* the ventilator
- ❑ Staff will change hand positions to hold the opposite side of the sheet and turn patient to prone position
- ❑ Person at the head of bed ensures patient head/neck position, position of ETT and that CO_2 present on capnography
- ❑ Note the depth of the ETT at the teeth and review ventilator settings
- ❑ Reattach the ECG electrodes to the back (mirror image)
- ❑ Re-establish all monitoring (maternal and fetal)
- ❑ Place pad under patient's head to absorb secretions
- ❑ Position arms in the "swimmer's position" (change head and arm positions every 2 hours)
- ❑ Place bed in "reverse Trendelenburg" (~10°)
- ❑ Confirm all lines/tubing not pressing against skin
- ❑ ABG after 30 minutes, then after 2 hours

Monitor O_2 saturation for 15 minutes

- ❑ SpO2 ≥95% (postpartum SpO2 >92%)
- ❑ No signs of obvious distress/discomfort

YES

NO

Continue

- ❑ Goal prone time 2 hours (awake patients) or variable (intubated patients--discuss with MICU), may modify to shorter duration or lateral positions as needed
- ❑ When not prone, aim to elevate head of bed 30°
- ❑ Monitor O_2 saturations after *every* position change
- ❑ Wean O_2 requirements as able

If deteriorating oxygen saturations

- ❑ Ensure O_2 is connected to patient
- ❑ Increase inspired O_2
- ❑ Change patient's position, consider return to supine

Discontinue prone positioning

- ❑ No improvement with change of position
- ❑ Cardiac arrest impending or occurring
- ❑ Patient unable to tolerate position
- ❑ Respiratory rate ≥ 30, fatigued, using accessory muscles **(*awake only)**