FOR USE ONLY IN MECHANICALLY VENTILATED PATIENTS IN THE INTENSIVE CARE UNIT

**Indication (choose one):**
- Primary pulmonary hypertension
- \( \text{PaO}_2/\text{FiO}_2 \) ratios less than 100 despite maximum ventilator support and/or hemodynamic instability not tolerant of high PEEP
- Evidence of right ventricular failure
  - Category 1
    - Mean pulmonary artery pressure (mPAP) > 30 mmHg
    - ECHO evidence of moderate to severe right ventricular dysfunction
  - Category 2
    - Cardiac index less than 2.5 L/min/m²
    - Mixed venous oxygen saturation < 60%

**Initiation:**
- Delivered Flolan (epoprostenol) 20,000 ng/mL (1 mg in 50 mL glycine diluent) via syringe pump at 8 ml/hr into Aeroneb® vibrating mesh nebulizer
- Nebulize for 1 hour, then repeat ABG

**Titration:**
- After 4 hour stabilization period, wean epoprostenol to lowest therapeutic dose by decreasing epoprostenol concentration. Titrations can be performed as often as every 4 hours. Avoid rapid discontinuation to prevent rebound hypoxemia.
  - Reduce epoprostenol to 10,000 ng/mL (0.5 mg in 50 mL glycine diluent) via syringe pump at 8 mL/hr into Aeroneb® vibrating mesh nebulizer
  - Reduce epoprostenol to 5,000 ng/mL (0.25 mg in 50 mL glycine diluent) via syringe pump at 8 mL/hr into Aeroneb® vibrating mesh nebulizer
  - Reduce epoprostenol to 2,500 ng/mL (0.125 mg in 50 mL glycine diluent) via syringe pump at 8 mL/hr into Aeroneb® vibrating mesh nebulizer
- Wean to discontinuation. Reduce Flolan syringe concentration by 50% every 6 hrs. Discontinue after 2,500 ng/mL syringe is complete

**Lab Orders:**
- Repeat ABG in 1 hour
- Repeat ABG in 4 hours
Set Up Considerations:
• The nebulizer is connected to the inspiratory limb of the ventilator circuit
• If using a heat and moisture exchange filter, the nebulizer should be placed proximal to the patient to prevent filtering of the drug
• To match the FiO₂ being delivered via the ventilator and deliver the nebulized solution continuously, an air/oxygen blender should be used to deliver 2-3 L/min through the nebulizer
  o If solution is backing up into the nebulizer, first increase gas flow to the nebulizer
  o If increasing gas flow does not prevent back-up, the epoprostenol infusion rate should be reduced to 46 mL/hr
• The expiratory filter should be checked every 4 hours to identify clogging and inadvertent auto-PEEP due to the glycine diluent
• A heated wire circuit should be considered to maintain humidification of the ventilator circuit at approximately 34 - 36° C

Practice Points:
1. Measured success can include any of the following:
   a. 20% increase in cardiac output
   b. 20% increase in PaO₂/FiO₂ ratio
   c. 20% decrease in mean pulmonary artery pressure
   d. 20% decrease in pulmonary vascular resistance
2. Initial response may include a decrease in systemic arterial pressure. Consult physician for decreases greater than 10% of initial baseline.
3. Keep epoprostenol infusion pump and ventilator circuit away from other medication infusions by placing them on opposite sides of the patient
4. Each epoprostenol syringe has an 8 hour stability time and should be protected from light
5. Respiratory therapists will be responsible for set-up and syringe changes