

Bedside Teaching Script for RNs

1. Venting Wisely is a care pathway to improve the quality of care for mechanically ventilated patients through screening for early recognition and evidence-informed therapies. It is a pathway, not a protocol, and provides us with guidance based on the patient's PF ratio.
2. The main concept is that there is a primary injury to our patients' lungs that we cannot prevent, so their COVID or urosepsis that developed into ARDs. However, there is a secondary injury to our patients' lungs that we can prevent, and this pathway provides us with guidance to do this.
3. The pathway was developed to standardize care and minimize secondary injury from mechanical ventilation. We do this through recognition of patients with hypoxemic respiratory failure and ARDS, along with management and monitoring based on the PF ratio. With this, we can carry out interventions to prevent the progression of respiratory failure and minimize damage to the lungs.
4. The interventions that are primarily nurse lead include sedation, fluid balance, NMBA, and proning but behind all of this is the work we do to ADVOCATE for our patients.
 - a. This is a multidisciplinary pathway, so it really encourages the discussions between RTs, RNs, and MDs to optimize care and outcomes for patients with hypoxemic respiratory failure and ARDS.
 - b. Hypoxemic Respiratory Failure is a broad diagnosis that includes any patient with hypoxemia with a PF ratio, of less than or equal to 300.
 - c. ARDS is a subgroup of HRF and is due to non-cardiogenic pulmonary edema.
5. In the same way that we routinely support patients with sepsis by: getting blood cultures, giving antibiotics, and supporting blood pressure with fluids or pressors. We can be proactive with the care for mechanically ventilated patients.
6. So, let's quickly go through the pathway. Down the left side you can see how we measure, screen, manage, monitor, and intervene. You can also see how these steps are sub-grouped into "*all patients, HRF and ARDS, and just ARDS*". The steps and interventions are added on in a stepwise manner as the PF ratio decreases and are likewise peeled back as the PF ratio increases.
7. Starting from the top, RTs will **measure** the height for all patients to get their predicted body weight. This is important because lung size doesn't change with actual weight, but height and sex so it helps the RTs to set safe ventilation targets. (or lung protective ventilation). RN's can help by inputting the patient's height into the health record.
8. Next, **screening**: we get an ABG to monitor our PF ratio and a CXR. The PF ratio gives us an objective way of measuring the patient's hypoxemia. If the $PF \leq 300$, then you know they have Hypoxemic Respiratory Failure or HRF and the physician can confirm bilateral

infiltrates from non-cardiogenic pulmonary edema with the Xray. This gives us an ARDS diagnosis.

9. NEXT, the RTs **manage** lung protective ventilation on a controlled mode. They clarify and set daily oxygenation and ventilation goals on rounds just as we clarify a neutral or negative fluid balance goal.
10. Then RTs **monitor** lung protective ventilation and may try adjunctive therapies. The main idea behind these therapies is: can we open up the alveoli safely to participate in and improve gas exchange?
11. For **Basic Interventions** we can support a controlled mode and lung protective ventilation by starting sedation for a RASS goal of ≤ -3 . We're used to minimizing sedation to manage risk of delirium, however, when we have patients who have ARDS, sedation facilitates lung protective ventilation to improve compliance $\rightarrow V_t \rightarrow PO_2$. etc. Discussion is important with the team to identify these goals, keeping the risk of VILI in the back of our minds. We can use the PF ratio as a guide to understand where the patient is in their illness progression, probably focusing more on the risk of VILI as the PF ratio decreases and considering the risk of delirium as the patient improves and the PF ratio increases.
12. **Advanced Interventions** include the consideration of paralysis and proning for a PF ratio that is <150 and for proning the additional parameter of an FiO_2 of .6 or 60%. These two interventions are strongly recommended once the PF ratio is <100 .
13. **An ECLS referral** is considered if the PF ratio is <100 , despite the other interventions and without contraindications. It's really important that for these patients we've optimized lung protective ventilation, paralytics and prone positioning.
14. Inhaled vasodilators (we know them as Flolan or Caripul) may transiently improve oxygen saturations and our comfort, but we don't see improve outcomes.

Take Home Messages:

How can you include PF ratio in respiratory assessment at handover? Anticipate which treatment might be next? How do you recognize ARDS? How familiar are you with the PF ratio and what it means (degree of respiratory failure/gas exchange/oxygenation)?

1. We can prevent the progression of HRF by providing the right treatment at the right time (according to PF ratio).
2. Collaborate with RTs and the team to support and protect the patients' lungs (and improve patient outcomes).
3. Incorporate PF into your routine or handover. Other suggestions or take-home messages.