The Respiratory Therapist Said My Patient Has AutoPEEP... Now What Do I Do?

1) What Is AutoPEEP and Why Is It a Problem?
   Under normal circumstances, the entire delivered tidal volume is expired during exhalation. If expiratory time is insufficient (see below), some portion of the previously delivered breath may remain in the lungs at the time the next breath is delivered. If this happens on a repeated basis, the lungs become hyperinflated. This can lead to increased intrathoracic pressure which decreases venous return and impairs cardiac output. In severe cases, people become hypotensive and can even go into pulseless electrical activity.

2) When to Look For This?
   - Patients with obstructive lung disease (e.g., COPD, asthma)
   - Patients requiring a very high respiratory rate to compensate for severe metabolic acidosis
   - Patients who are spontaneously breathing at a very high rate
   - Unexplained hypotension or cardiac arrest while on mechanical ventilation

3) How to Recognize AutoPEEEP on The Ventilator?

4) Management

   Initial Steps:
   - Decrease minute ventilation by lowering rate and/or tidal volume (this is ineffective for patients breathing above the set rate on the ventilator)
   - Increase the inspiratory flow rate; change to a square wave flow pattern
   - Increase sedation
   - Initiate bronchodilators and consider steroids for patients with asthma and COPD

   Severe Cases:
   Call for help!
   Initiate neuromuscular blockade

   Hypotension and/or bradycardia progressing toward PEA arrest: disconnect from ventilator (the loss of cardiac output is a greater risk than a transient cessation of ventilation). Readjust ventilator settings using the above-noted steps with reconnection.