1) A patient with ARDS with difficult oxygenation on pressure-controlled ventilation with inspiratory pressure 22, PEEP 17, Respiratory rate 25, FiO2 80%. ABG with PaO2 62 mmhg, O2 sat 90%, PaCO2 70 and PH 7.23. Best next step is:

A) Increase FiO2 to 100%
B) Increase PEEP to 20
C) Place patient in prone position
D) Increase respiratory rate to 30

2) Patient with ARDS, placed on APRV for difficult oxygenation, setting P High 25 cmH2O, P Low 12 cmH2O, T High 1.5 second, T Low 1 second. Patient has spontaneous breaths of 35. Tidal volume during release is 240 ml and during spontaneous breaths 800 ml. ABG with PH 7.52, PaCO2 30mmgh, PaO2 80 mmhg, FiO2 94%. Best action is:

A) Do nothing as oxygenation is ok
B) Decrease P High to reduce minute ventilation
C) Increase P High
D) Decrease T High
E) Start paralytic agent for increased respiratory rate

3) A patient on spontaneous breathing trial with pressure-support ventilation 5/5, Tidal volume 180 ml and you notice the below figure. What is the diagnosis?
A) Double triggering
B) Auto triggering
C) Early cycling

4) How to fix this problem?

A) Increase pressure support
B) Increase expiratory sensitivity to 50% from 25%
C) Increase inspiratory trigger from 3 to 6
D) Extubate patient
E) Increase sedation

5) Patient with COPD on pressure-controlled ventilation, you notice the below figure. What is the yellow line pointing to the flow?

A) Hiccup
B) Missed trigger
C) Not an issue
D) Condensation in expiratory limb

6) How to fix this problem?

A) Suction the patient
B) Change the ventilator circuit
C) Increase respiratory rate and inspiratory pressure
D) Decrease respiratory rate and inspiratory pressure
7) Pressure-Volume curves of 3 patients displayed below. Which statement is correct?

A) A: Normal, B: COPD, C: ARDS
B) A: ARDS, B: Normal, C: ARDS
C) A: COPD, B: ARDS, C: Normal
D) A: Normal, B: ARDS, C: COPD

8) You were called to assess a patient on mechanical ventilation with pressure-controlled mode because of worsening hypoxia, low tidal volume alarm. Patient undergone a bronchoscopy with a biopsy 2 hours earlier for endobronchial mass. You should:

A) Switch to volume-controlled mode to improve tidal volume
B) Continue pressure-controlled ventilation but increase PEEP from 5 to 10
C) Give bronchodilators with DuoNeb’s
D) Obtain stat chest Xray

9) A patient with respiratory failure secondary to severe right sided PNA with low oxygen saturation. Best position for this patient is:

A) Turn patient to Left side down
B) Turn patient to Right side down
C) Sit patient up
D) Place patient flat on the back
10) Patient is intubated 2ry to traumatic brain injury and hemorrhage, his CXR is clear and good oxygenation, settings: SIMV volume-controlled, tidal volume 750 cc, PEEP 0 mmhg, respiratory rate of 15, and 40% Fio2. Next day, patient is becoming hypoxic requiring 100% fio2, mild fevers and CXR showing bibasilar worsening lung infiltrates. What is the most likely diagnosis?

A) Ventilator associated pneumonia  
B) Aspiration pneumonia  
C) Lung contusions  
D) Ventilator induced lung injury