

Table 7: Protocol for Reduction of PEEP in Patients with ARDS

- 1) Patient should meet the following criteria for reducing PEEP:
 - a) Hemodynamic stability and no changes in PEEP for at least 6-12 hours
 - b) No clinical signs of sepsis^(a)
 - c) Oxygenation acceptable on acceptable FIO₂ (e.g. arterial PO₂ 80 mm Hg or higher on FIO₂ 0.40 or less)
 - 2) Obtain baseline respiratory and hemodynamic data, including arterial blood gases,^(b) as described in Figure 11.13, as clinically indicated
 - 3) Reduce PEEP level by 5 cm H₂O.^(c)
 - 4) After 3 minutes, obtain a second specimen for arterial blood gas analysis^(b) and return PEEP to previous level while awaiting results.
 - 5) Compare pre-reduction and 3-minute PO₂ values:
 - a) A substantial fall in PO₂ (e.g. more than 20%) suggests that the patient's oxygenation may deteriorate and/or be slow to recover if PEEP is reduced at this point; the PEEP level should be maintained at the higher level for another 6-12 hrs before a repeat PEEP wean is considered.
 - b) Satisfactory oxygenation (e.g. no change, or less than a 20% drop in PO₂) on the 3-minute specimen indicates that the PEEP may be decreased by 5 cm H₂O, with repeat assessment, as in 2 above, as clinically indicated during the next several hours.
- (a) Features suggesting sepsis include tachycardia, fever or hypothermia, leukocytosis or leukopenia, high cardiac output, and low systemic vascular resistance, with or without positive blood cultures.
- (b) Arterial saturation as measured by pulse oximetry is a poor estimate of the change in arterial oxygenation with PEEP reduction unless the PO₂ falls below 65-70 mm Hg. However, pulse oximetry may afford an additional element of safety during PEEP weaning if the initial PO₂ is about 80 mm Hg or less.
- (c) Smaller decrements, e.g. 2.5 cm H₂O, may be appropriate in pediatric patients or in unstable adults, although this will slow the PEEP reduction process unnecessarily for the majority of patients.

The criteria and protocol shown here are intended to prevent inadvertent premature reduction in PEEP, with subsequent clinical deterioration, as occurs frequently when these or similar procedures are not used.