In Patients With ARDS Exhibiting Intense Inspiratory Effort on Assisted Ventilation, Is High PEEP Capable of Reducing Self-Inflicted Lung Injury?

**STUDY DESIGN**

- 16 patients with \(\text{PaO}_2/\text{FiO}_2 \leq 200 \text{ mm Hg}\) and \(\Delta\text{Pes} \geq 10 \text{ cm H}_2\text{O}\)

- A randomized sequence of four ventilator settings: positive end-expiratory pressure (PEEP) 5 cm H\(_2\)O or PEEP 15 cm H\(_2\)O + synchronous (pressure support ventilation [PSV]) or asynchronous (pressure-controlled intermittent mandatory ventilation [PC-IMV]) inspiratory assistance

**RESULTS**

Regional changes of compliance of the respiratory system between high PEEP and low PEEP

High PEEP may mitigate the risk of self-inflicted lung injury solely if it improves respiratory system compliance in patients with ARDS with intense inspiratory effort.

High PEEP caused variable recruitment and systematic redistribution of tidal volume toward dorsal lung regions, thereby reducing dynamic strain in ventral areas.

\(\Delta\text{Pes}, \text{DP, TDP}\): surrogate of inspiratory pressure, DP: driving pressure, TDP: transpulmonary driving pressure