Airway driving pressure is associated with clinical outcomes in ARDS, post-surgical, and normal-lung patients, and is a measure of the strain applied to the respiratory system and the risk of ventilator-induced lung injuries. Evidence suggests we should keep driving pressure below 14 cmH2O. But how can we measure it?

**Driving pressure = Plateau pressure - Total PEEP**

On a Hamilton Medical ventilator you can measure driving pressure in any ventilation mode, provided the patient is relaxed and making no inspiratory or expiratory effort, and there is no leakage from the ventilation circuit.

All you have to do is perform an end-inspiratory hold maneuver and then an end-expiratory hold for 3-5 seconds to measure the plateau pressure and total PEEP respectively.

**End-inspiratory hold:** Press the **Tools** button to open the **Tools -> Hold** window and select **Insp hold**, wait for 3 to 5 seconds, then select **Insp hold** or press the P&T knob again to deactivate the hold maneuver and close the window. The waveforms will freeze so you can check that plateau pressure is stable, then measure pressure at the end of the plateau using the cursor.
End-expiratory hold in ASV mode

End-expiratory hold: As above, but select Exp hold. Check that plateau pressure is stable, then measure pressure at the end of the plateau using the cursor.

End-expiratory hold in volume-control mode

End-expiratory hold in ASV mode
So driving pressure = inspiratory hold pressure (plateau pressure) - expiratory hold pressure (total PEEP).

References


