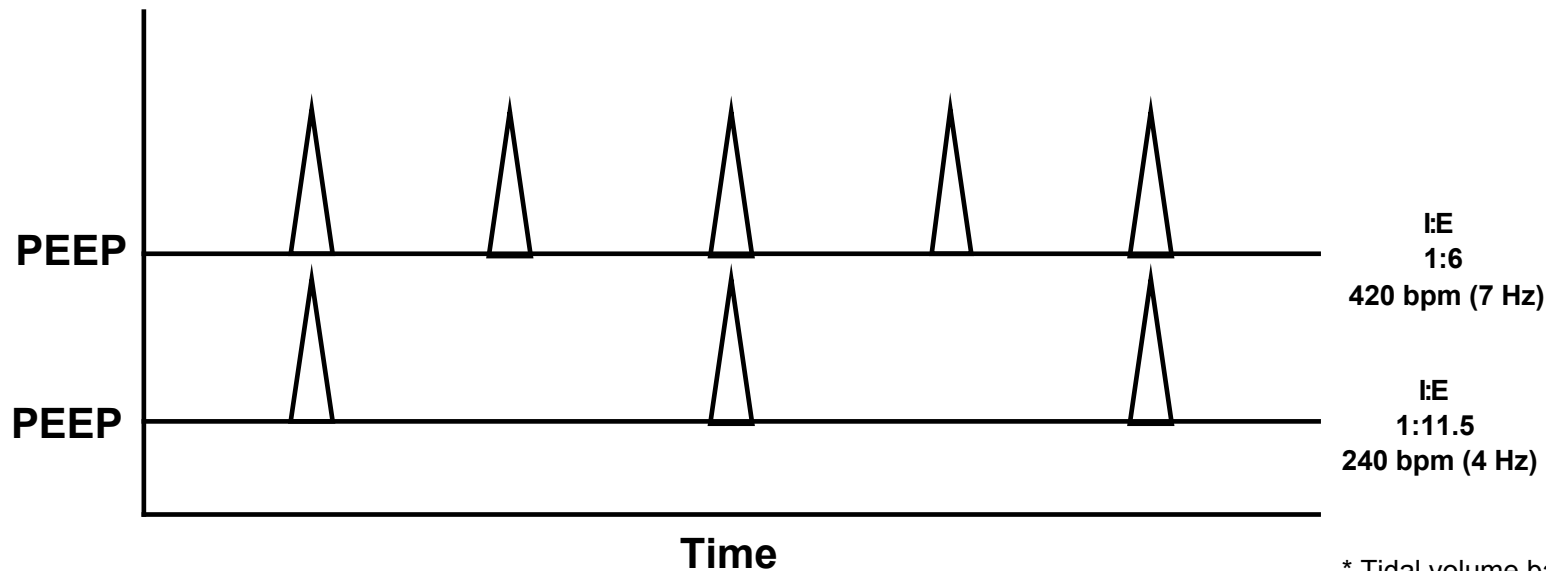


# Bunnell Life Pulse High Frequency Jet Ventilator

Use I.T. = 0.02 sec (20 milliseconds)

J.M. Klein  
University of Iowa



\* Tidal volume basically doesn't change with the frequency on the Jet ventilator.

Alveolar ventilation =  $(TV)^2$  (frequency)

TV  $\approx$  Delta P

Increased alveolar ventilation will increase CO<sub>2</sub> removal

To increase alveolar ventilation, increase the Delta P or increase the rate or frequency (up to 420 bpm or 7 Hz)

## Frequency Changes

1. Lower Freq allows increased expiratory time (longer I:E ratio) which minimizes air trapping (use to treat PIE, pneumothorax).
2. Lower Freq will decrease alveolar ventilation (to avoid hypocarbia).
3. A higher Freq > 7 Hz (420 bpm) may improve oxygenation by increasing lung volume from decreased expiratory time (shorter I:E ratio), but increases the risk of air leaks.