Infant Star High Frequency Ventilator

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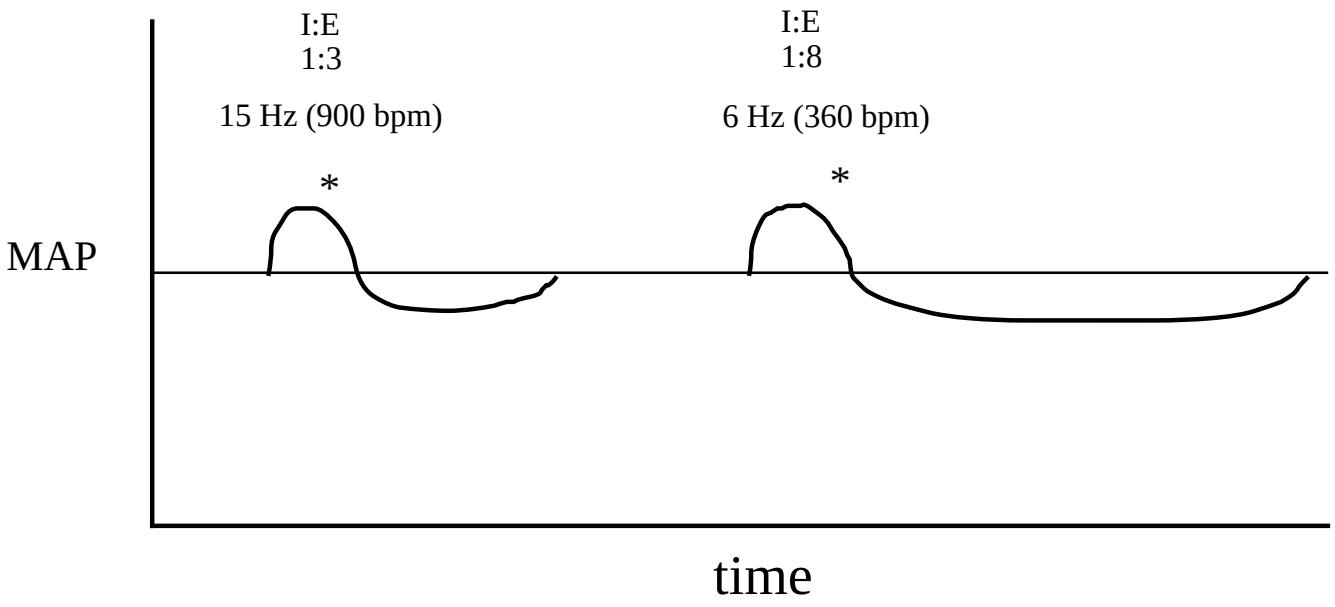
Fixed I.T. = 0.018 sec (18 milliseconds)



* Tidal volume basically doesn't change with the frequency on the Infant Star ventilator.

Alveolar ventilation = $(TV)^2$frequency

TV is represented by Amplitude

Increased alveolar ventilation will increase CO_2 removal

To increase alveolar ventilation, either increase the amplitude or increase the frequency (up to 15 Hz)

<u>Frequency Changes</u>

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 up to 15 Hz will improve oxygenation by increasing lung volume from decreased expiratory time (shorter I:E ratio)