RESPIRATORY REFERENCE

Mechanical Ventilation (MV) Waveform.

Overview

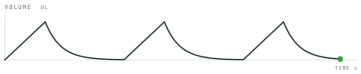
Ventilator waveforms are graphical displays of pressure, flow, and volume over time, used to assess patient-ventilator interaction, identify problems, and guide appropriate management.

Three Main Waveforms

Pressure-Time
Airway pressure over time.



Flow-Time
Inspiratory and expiratory airflow.



Volume-Time
Changes in delivered and expired volume.

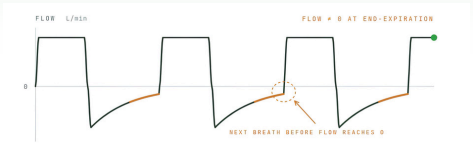


Waveform Troubleshooting

Auto - PEEP

FINDING
Expiratory flow does not return to zero.

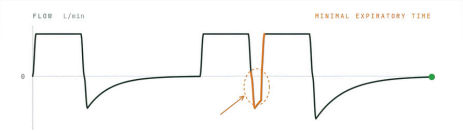
MANAGEMENT
- Increase expiratory time and address airway obstruction.



Double Triggering

FINDING
Two consecutive breaths with minimal expiratory time.

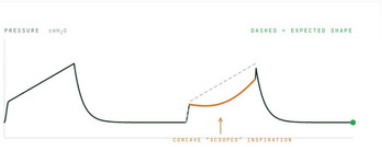
MANAGEMENT
- Optimize inspiratory time and flow.



Flow Starvation

FINDING
Concave pressure waveform during inspiration.

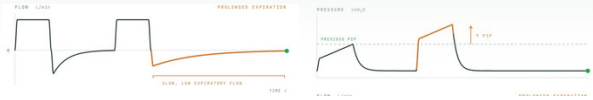
MANAGEMENT
- Increase inspiratory flow when appropriate.



Airway Obstruction

FINDING
Increased PIP and prolonged expiration.

MANAGEMENT
- Check ETT patency and treat the underlying obstruction.



Airway Obstruction

FINDING
Difference between inspired and expired tidal volume.

MANAGEMENT
- Check ETT cuff and circuit connections.

