Normal Capnogram

The normal capnogram is a waveform which represents the varying CO₂ level throughout the breath cycle.

Waveform Characteristics:
A-B: Baseline
B-C: Expiratory Upstroke
C-D: Expiratory Plateau
D: End-Tidal Concentration
D-E: Inspiration

Other Possible Causes:
- Bronchospasm/COPD
- Obstruction in the expiratory limb of the breathing circuit
- Presence of a foreign body in the upper airway
- Partially kinked or occluded artificial airway

Increasing etCO₂ (Hypoventilation)

Other Possible Causes:
- Decrease in respiratory rate
- Decrease in tidal volume
- Increase in metabolic rate
- Rapid rise in body temperature (malignant hyperthermia)

Decreasing etCO₂ (Hyperventilation)

Other Possible Causes:
- Increase in respiratory rate
- Increase in tidal volume
- Metabolic acidosis
- Fall in body temperature

Assumes adequate circulation and alveolar gas exchange.
**NOMRAL AND ABNORMAL**

**etCO₂/CAPNOGRAPH WAVEFORMS**

**Rebreathing CO₂**

- Other Possible Causes:
  - Faulty expiratory valve
  - Inadequate inspiratory flow
  - Partial rebreathing
  - Insufficient expiratory time

**Curare Cleft**

- Other Possible Causes:
  - Patient is mechanically ventilated
  - Depth of cleft is inversely proportional to degree of muscle relaxants

**Cardiac Arrest**

- Other Possible Causes:
  - Decreased or absent cardiac output
  - Decreased or absent pulmonary blood flow
  - Sudden decrease in CO₂ values

**Return of Spontaneous Circulation**

- Other Possible Causes:
  - Increase in cardiac output
  - Increase in pulmonary blood flow
  - Gradual increase in CO₂ production

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6135 Gunbarrel Avenue
Boulder, CO 80301  800.635.5267  medtronic.com/covidien