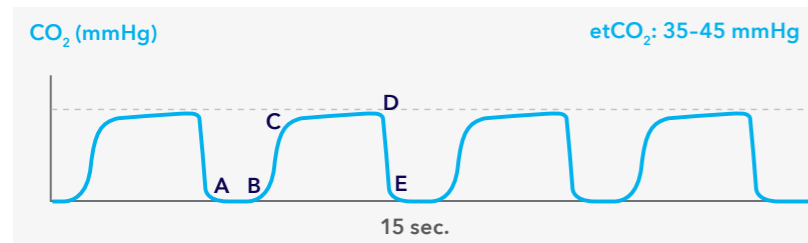


Normal and abnormal etCO₂ / Capnograph waveforms

Normal capnogram

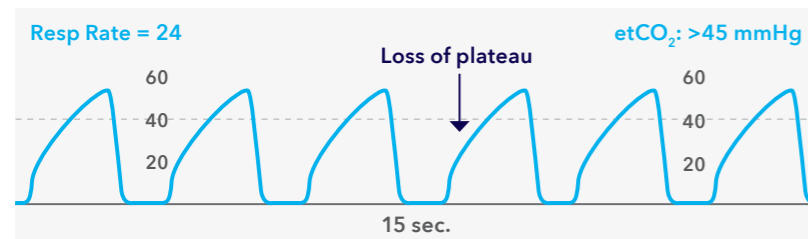


The normal capnogram is a waveform which represents the varying CO₂ level throughout the breath cycle.

Waveform characteristics

- A-B Baseline
- B-C Expiratory upstroke
- C-D Expiratory Plateau
- D End-tidal concentration
- DE Inspiration

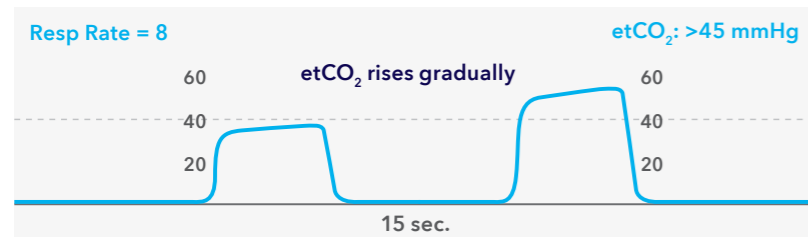
Bronchospasm / Asthma



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

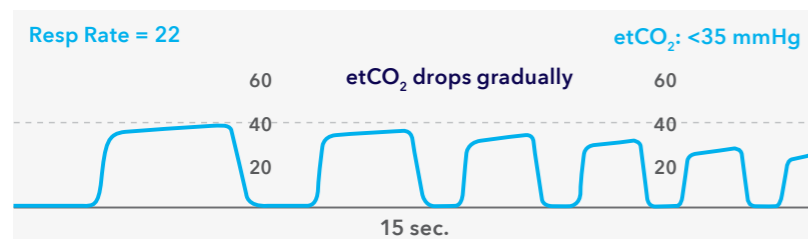
* Increasing etCO₂ (Hypoventilation)



Other possible causes

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

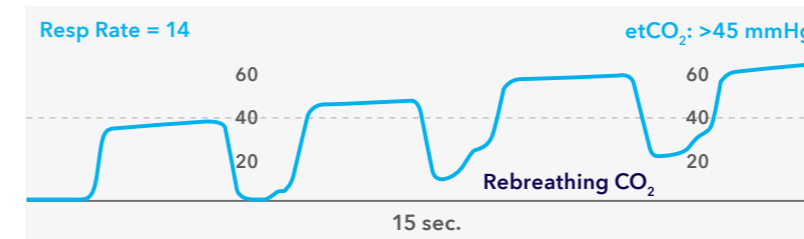
* Decreasing etCO₂ (Hyperventilation)



Other possible causes

- Increase in respiratory rate
- Increase in tidal volume
- Metabolic acidosis
- Fall in body temperature

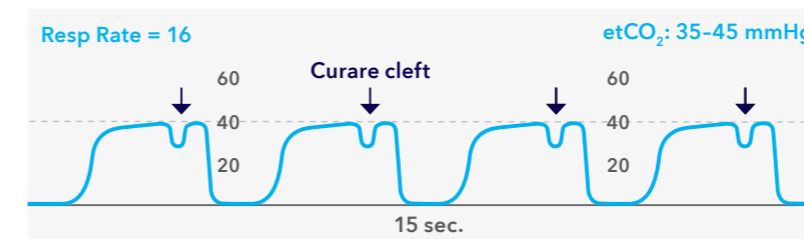
Rebreathing CO₂



Other possible causes

- Faulty expiratory valve
- Inadequate inspiratory flow
- Partial rebreathing
- Insufficient expiratory time

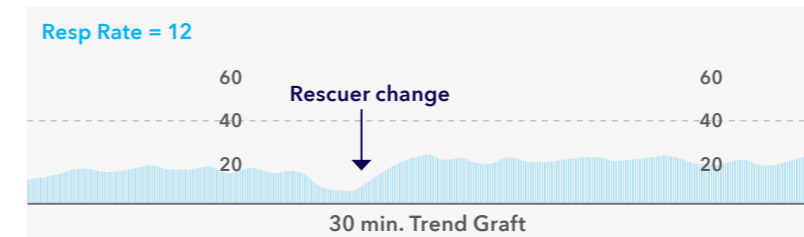
Curare cleft



Other possible causes

- Patient is mechanically ventilated
- Depth of cleft is inversely proportional to degree of muscle relaxants

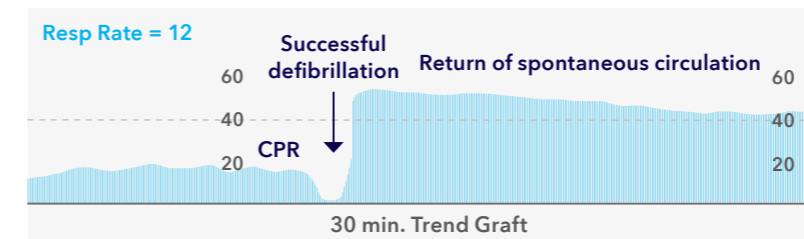
Cardiac arrest



Other possible causes

- Decreased or absent cardiac output
- Decreased or absent pulmonary blood flow
- Sudden decrease in CO₂ values

Return of spontaneous circulation



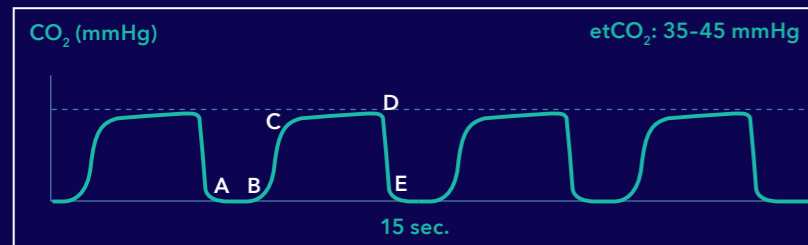
Other possible causes

- Increase in cardiac output
- Increase in pulmonary blood flow
- Gradual increase in CO₂ production

* Assumes adequate circulation and alveolar gas exchange.

Normal and abnormal etCO₂ / Capnograph waveforms

Normal capnogram

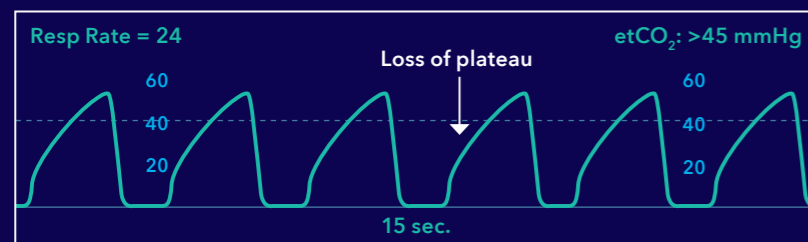


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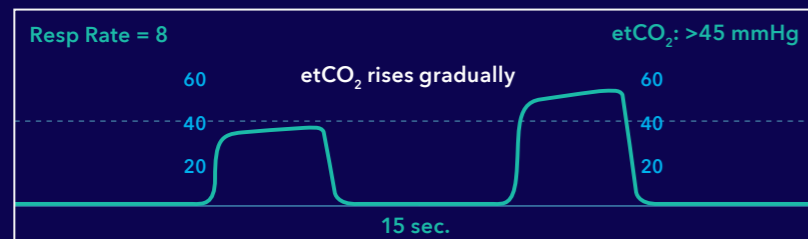
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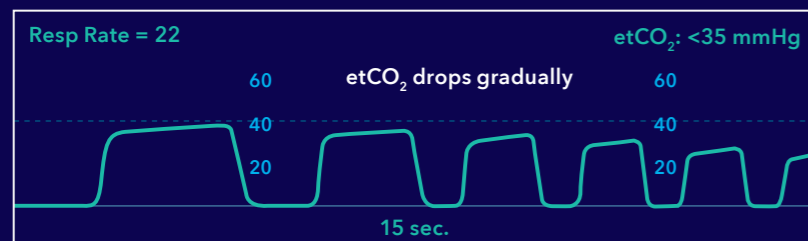
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- Decrease in tidal volume
- Increase in metabolic rate
- Rapid rise in body temperature (malignant hyperthermia)

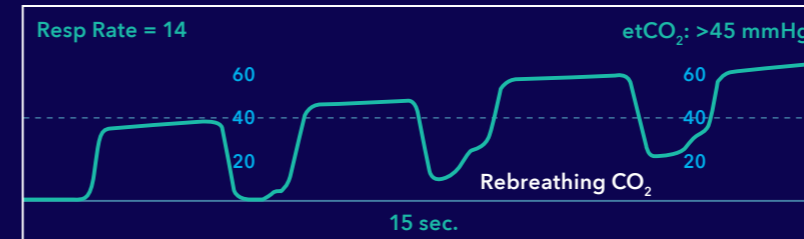
* Decreasing etCO₂ (Hyperventilation)



Other possible causes

- Increase in respiratory rate
- Increase in tidal volume
- Metabolic acidosis
- Fall in body temperature

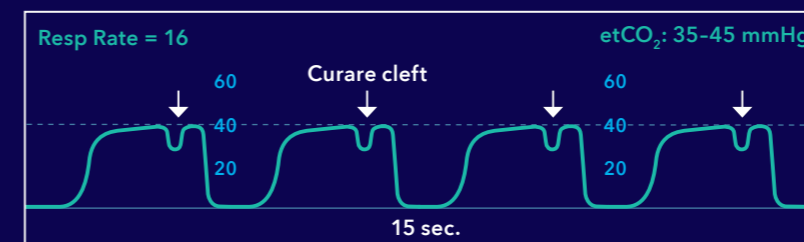
Rebreathing CO₂



Other possible causes

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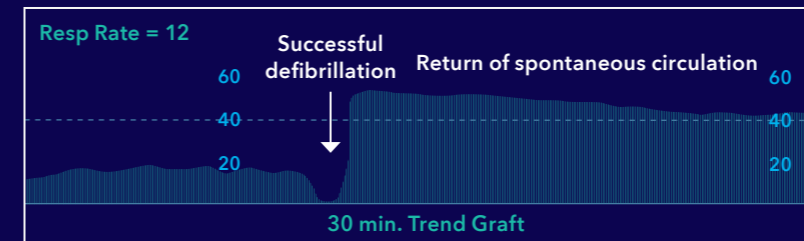
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