Capnography is an objective monitoring tool for assessing respiratory status in the intubated and non-intubated patient.

2015 AHA and ERC Guidelines* recommend waveform capnography for the following:

- Confirming correct ET tube placement
- Monitoring ET tube placement
- An indication of compression effectiveness
- An indication of return of spontaneous circulation (ROSC)

**Normal Waveform:**

- A–B  Respiratory baseline
- B–C  Expiratory upslope
- C–D  Expiratory plateau
- D  End-tidal value—peak CO₂ concentration—at the end of exhalation
- D–E  Inspiratory downstroke
Applications on intubated patients include:

- Verify and monitor ET tube placement
- Demonstrate effectiveness of rescue efforts during CPR
- Detect early signs of ROSC

Examples:

**Sudden loss of waveform**
- ET tube disconnected, dislodged, kinked or obstructed
- Loss of circulatory function

**Decreasing EtCO₂**
- ET tube cuff leak
- ET tube in hypopharynx
- Partial obstruction

**CPR Assessment**
- Attempt to maintain minimum of 1.33 kPa

**Sudden increase in EtCO₂**
- Return of spontaneous circulation (ROSC)
Applications on non-intubated patients include:

- Detect obstructive lung diseases such as emphysema or asthma
- Detect hypoventilation during sedation, analgesia, alcohol or drug intoxication, or post-seizure
- Rapidly assess and triage patients; this can be particularly useful when assessing high volumes of critically ill patients

**Examples:**

**Bronchospasm (“Shark-fin” appearance)**

- Asthma
- COPD

**Hypoventilation**

**Hyperventilation**

**Decreased EtCO₂**

- Apnea
- Sedation


For further information please contact your local Physio-Control representative or visit our website at www.physio-control.com