1070 CAPNOGRAPHY

EMR	EMT	EMT-IV	AEMT	INTERMEDIATE	PARAMEDIC

Indications:

A. When available, capnography is MANDATORY and shall be used any time patient is being ventilated
B. To identify endotracheal tube dislodgement
C. To monitor ventilation and perfusion in any ill or injured patient

Contraindications:

A. None

Technique:

A. Normal range EtCO2 value 35-45mmHg
B. Patients without ETT or advanced airway in place: place ETCO2 detector in-line between ambu bag and face mask
C. In patient with ETT or advanced airway: place $ETCO_2$ detector in-line between airway adaptor and BVM after airway positioned and secured
D. Patients without ETT or advanced airway in place: place $ETCO_2$ cannula on patient. May be placed under CPAP or NRB facemask
E. Assess and document both capnography waveform and $ETCO_2$ value

Precautions:

A. To understand and interpret capnography, remember the 3 determinants of $ETCO_2$:
    1. Alveolar ventilation
    2. Pulmonary perfusion
    3. Metabolism
B. Sudden loss of $ETCO_2$:
    1. Tube dislodged
    2. Circuit disconnected
    3. Cardiac arrest
C. High $ETCO_2$ (> 45)
    1. Hypoventilation/CO_2 retention
D. Low $ETCO_2$ (< 25)
    1. Hyperventilation
    2. Low perfusion: shock, PE, sepsis
E. Cardiac Arrest:
    1. In low-pulmonary blood flow states, such as cardiac arrest, the primary determinant of $ETCO_2$ is blood flow, so $ETCO_2$ is a good indicator of quality of CPR
    2. If $ETCO_2$ is dropping, change out person doing chest compressions
    3. In cardiac arrest, if $ETCO_2$ not > 10 mmHg after 20 minutes of good CPR, this likely reflects very low CO_2 production and is associated with poor outcome
    4. Sudden rise in $EtCO_2$ may be an indicator of ROSC