Good Air In, Bad Air Out – Pre-hospital Capnography

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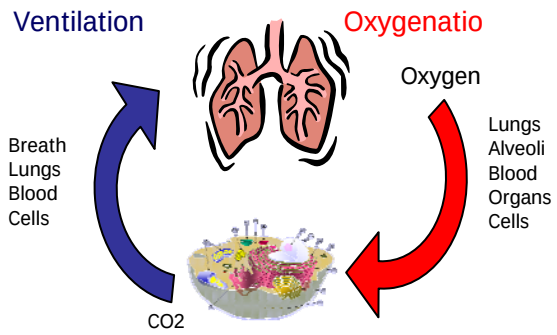
Objectives

- Move from detection to diagnosis
- Move from static to dynamic monitoring
- Move from subjective to objective data
- Review respiratory physiology
- Review findings of disease processes

Terminology

- Caprose
- Capnography
- Capnometer
- Capnograph

Ventilation vs. Oxygenation



Capnography vs Pulse Oximetry

Normal CO_2 waveform

Systematic Approach

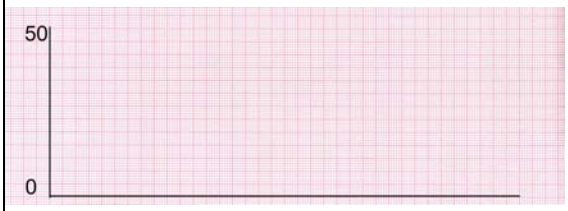
Is CO2 present?
Look at the baseline
Expiratory upslope
Expiratory plateau
Inspiratory downslope
Read the ETCO2

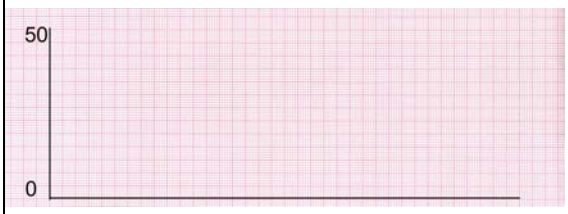
Arterial CO_2 ($PaCO_2$) vs. $ETCO_2$

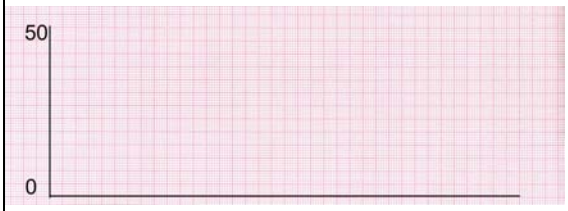
How Does it Work?

- Colormetric Devices
- Infrared Absorption
- Quantitative vs Qualitative

Mainstream and Sidestream



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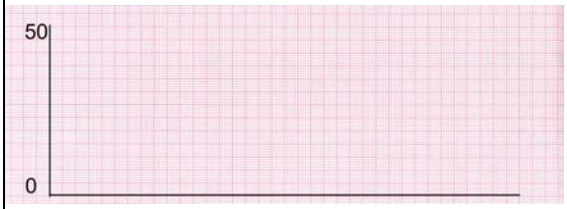
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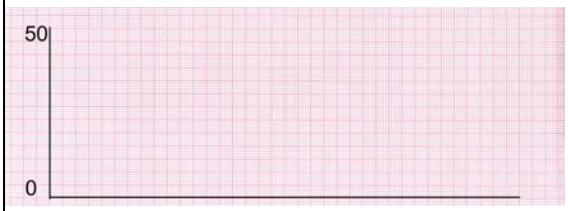
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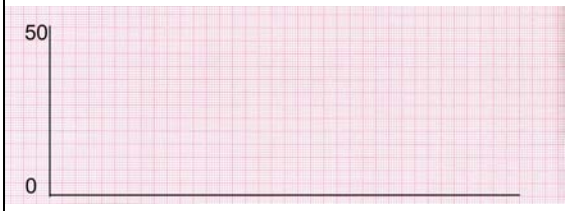
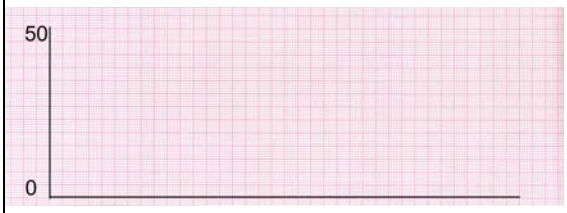
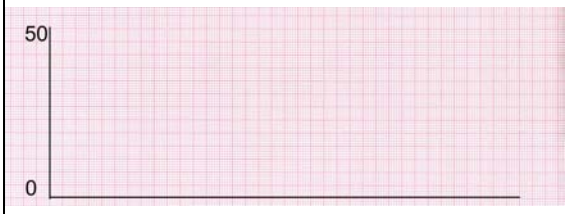
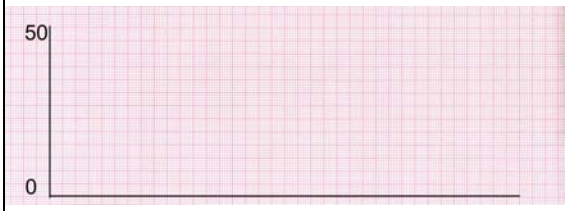


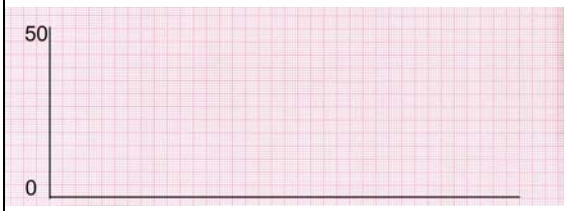


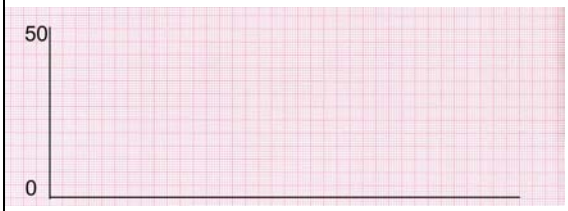
Applications for Intubated Patients

- Confirmation of ET Tube Placement
- Assess resuscitative efforts
- Identify ROSC
- Titrate $ETCO_2$ levels

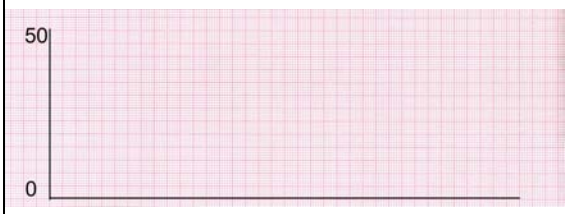








Titration of $ETCO_2$ Levels
- Colormetric devices
- Range vs number
- Malfunctions



Summary

- Capnography is the standard of care
- Capnography has multiple uses
- Provides quantitative, objective data
- Can detect effects of treatment
- Provider can better guide respiratory support