

CASE STUDY

Microstream® Capnography Used for Non-Intubated Patient with Severe Dyspnea

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Profile

An 88 year old man had his wife call 911 when he became short of breath. His wife reported that he had an extensive respiratory history for which he was taking numerous medications, and that he had two previous myocardial infarctions. She also stated that he was on continuous home oxygen at 2 liters per minute.

EtCO₂ monitor used

Microstream® Hand Held Capnograph with an Adult Nasal FilterLine®

Clinical situation

When the paramedics arrived, the patient was sitting upright in a tripod position. The home oxygen rate had been increased to 3 L/m and the patient could speak two to three words between breaths.

Clinical data: Upon EMS arrival

BP144/76
HR66 bpm
RR36 bpm
SpO₂69%
EtCO₂17 mmHg

Respiration was labored and shallow. His skin was cool and diaphoretic. Lung sounds indicated rales and rhonchi in the bases and apices bilaterally. Moderate pedal edema was also found. Initial SpO₂ reading was 69% and EtCO₂ was 17 mmHg with a RR of 36 per minute.

Clinical data: Upon transfer to ED

BP128/70
HR64 bpm
RR24-28 bpm
SpO₂99%
EtCO₂35 mmHg

Clinical situation

Paramedics placed a non-rebreather mask on the patient with 100% oxygen at a rate of 15 L/m. SpO₂ increased to 89% and EtCO₂ increased to 25 mmHg. Respiratory rate changed to 28 per minute, shallow and labored. The paramedics administered Nitroglycerin and Lasix and transported the patient to the nearest ED. When patient care was transferred to the ED staff, approximately 10 minutes after treatment, he could speak six words between breaths, his skin was warm and dry, SpO₂ was 95% and EtCO₂ was 35mmHg.

