

CASE STUDY

Microstream® Capnography Used Resuscitation of a Near Drowning and Hypothermia Patient

Submitted by
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Profile

The Volunteer Fire Company received a report of a cardiac arrest at a local quarry where scuba diving classes are conducted. A medic unit and a heavy rescue responded and were on scene within five minutes of dispatch.

The crew found bystanders performing CPR on a 57-year-old male. The patient had been diving at a depth of 30 feet and had been down in the cold water quarry 22 minutes. He had been found floating face down in the water and was pulled to a floating dock. The patient weighed about 180 pounds and had a history of multiple sclerosis.

EtCO₂ monitor used

Microstream® Capnograph with FilterLine® Set on Medtronic Physio-Control LIFEPAK® 12.

Clinical situation

The crew initiated ventilations with a Bag Valve Mask (BVM) and applied the AED. Upon being placed in the ambulance, the patient had regained a spontaneous pulse. Endotracheal intubation was attempted due to a respiratory rate of 4 breaths per minute (bpm). During the intubation attempt, the patient's respiratory rate increased to 8 to 10 bpm. Attempts to visualize the vocal cords were unsuccessful, so the patient was nasally intubated with a #6.0 Endotrol™ tube using a BAAM™ device.

Clinical data

Bilateral breath sounds were present after intubation but the patient was extremely difficult to ventilate with the BVM. End tidal CO₂ monitoring was initiated to confirm tube placement. The initial EtCO₂ reading was



36mmHg, confirming tracheal tube placement. Subsequent EtCO₂ readings during the 47-minute transport time to the Level 1 trauma facility ranged from 39 to 46 with a good waveform. The oxygen saturation ranged from 86% to 92%. The patient required suctioning multiple times and sedation with diazepam enroute to the hospital. Ventilations were adjusted per the EtCO₂ reading to keep the EtCO₂ level below 45.

