7.15.22 Capnography Monitoring for Intubated Patients of the Blocker Burn Unit Formulated: 11/30/2023	Reformatted: N/A Revised: N/A

I. Title

Capnography (End-Tidal CO2) Monitoring for Intubated Patients of the Blocker Burn Unit.

II. Policy

Monitors will be considered for use on all intubated patients, patients who are undergoing moderate sedation procedures, and post-procedural sedation patients.

Only Registered Nurses (RN) and Respiratory Therapists (RT) who have been trained in usage of capnography monitoring will care for ETCO2 monitor. Training is to be provided at hire and as needed.

1. Nursing services will notify RT when an order for ETCO2 monitoring is received; if possible, prior to the patient arriving on the unit. If the patient arrives to the unit before RT has set up the equipment, nursing will remain with the patient until ETCO2 monitoring is implemented.
2. RT will gather equipment, review the order, and implement monitoring.

Notify the practitioner about a malfunction of the ventilator, ETCO2 value of 50 mm Hg or greater, or an ETCO2 change of 10 mm Hg or greater.

III. Procedures

End-Tidal Alarm Setting Guidelines, adjust for physician order:

ETCO2 High	ETCO2 Low	FiCO2 High	RR Low	No Breath Seconds	SPO2 High	SPO2 Low	Heart Rate high	Heart Rate Low	Sat Sec
60	8	5	9	30	100	90%	140	50	30

Assessment

Capnography monitoring evaluates trends of the respiratory rate (RR) and ETCO2 value, and they should be assessed together. Therefore, if the RR and ETCO2 values are both changing, the patient should be assessed, and interventions initiated as needed. If the RR is stable while the ETCO2 monitor is alarming, then the situation can be observed for one minute for a possible equipment malfunction or transient reading, and then the patient is assessed if the alarms continue to be abnormal.

Normal ETCO2 is 35-45mm Hg. Alarm values for ETCO2 monitoring are:

1. Default alarm limits for ETCO2 should be set at 10 and 60; may need to increase if patient is a CO2 retainer.
2. Default alarm limits for RR should be set at 9 and 30.
3. Apnea period should default to 30 seconds.

Patient Management

Include ETCO2 assessments with vital signs at the frequency directed by the physician orders, or as indicated by patient status.

Documentation

Documentation of ETCO2 data will be done by both nursing and Respiratory Therapy.

1. Respiratory Therapy will document the initial setup, Q4 checks and discontinuation of the monitor in the ETCO2 monitoring RT assessment.
2. Nursing service will document ETCO2 data in the Vital Signs assessment. Capnography monitoring documentation includes RR, SpO2, and heart rate. Any interventions will be documented in the Clinical Notes.

Cardiopulmonary Resuscitation (CPR)

During a CPR event, the CO2 sensor connected to the ventilator will be exchanged with the CO2 sensor connected to the defibrillator. Please note, the CO2 sensors are interchangeable, the connection ports are not.

IV. Definitions

Capnography: non-invasive method for monitoring the level of CO2 in exhaled breath (ETCO2) to assess a patient's ventilatory status. It's the combination of the numeric measurement (capnometry) with the waveform (capnography).

ETCO2/End-tidal CO2: Measurement of CO2 concentration at the very end of expiration is termed end-tidal CO2.

V. Related UTMB Policies and Procedures

Policy 09.13.01, Cardiopulmonary Resuscitation (CPR)
Policy 09.13.05, Procedural Sedation (Moderate and Deep Sedation)

VI. Additional References

Elsevier. 2023. *Capnometry and capnography – CE*. https://point-of-care.elsevierperformancemanager.com/skills/167/extended-text?skillId=EN_026&virtualname=univtexasmedbranch-txgalveston#scrollToTop

Elsevier. 2023. *End-tidal carbon dioxide monitoring – CE.* https://point-of-care.elsevierperformancemanager.com/skills/30/extended-text?skillId=CC_013&virtualname=univtexasmedbranch-txgalveston#scrollToTop

Wiegand, D. (2016). *Procedure manual for high acuity, progressive, and critical care* (7th ed.). Elsevier.

VII. Dates Approved or Amended

Include origination date, dates of major or minor revisions and dates reviewed without changes.

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Reviewed with Changes	*Reviewed without Changes*

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