

Standard Operating Procedure

Title	Use of the SenTec Transcutaneous CO2 monitoring in Neonatal Transfers
Version	1.0
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Review	

Aim

To ensure appropriate use of the SenTec CO2 monitoring during Neonatal Transfers.

Product and Equipment

SenTec Digital Transcutaneous Monitor for tcPCO2 monitoring.

The SenTec Digital Monitor (SDM) is an easy-to-use bedside monitor with an integrated calibration chamber for virtually all situations where continuous ventilation matters.

V-Sign Sensor 2

Multi-site attachment ring

Contact gel

Indications for use on NTS

Monitoring adequacy of arterial oxygenation and PACO₂

Reduced in number of blood gas measurements

Immediate recognition of need for ventilation adjustments

Excluded

Neonates with tissue viability concerns i.e fragile skin, constant agitation from equipment.

Procedure

Ensure current SDM settings/SDM profiles are appropriate for the patient, for the selected site and the skin condition/ skin perfusion at the selected site.

Verify system readiness (message '**Ready for use**') and check the '**Available Monitoring Time**'.

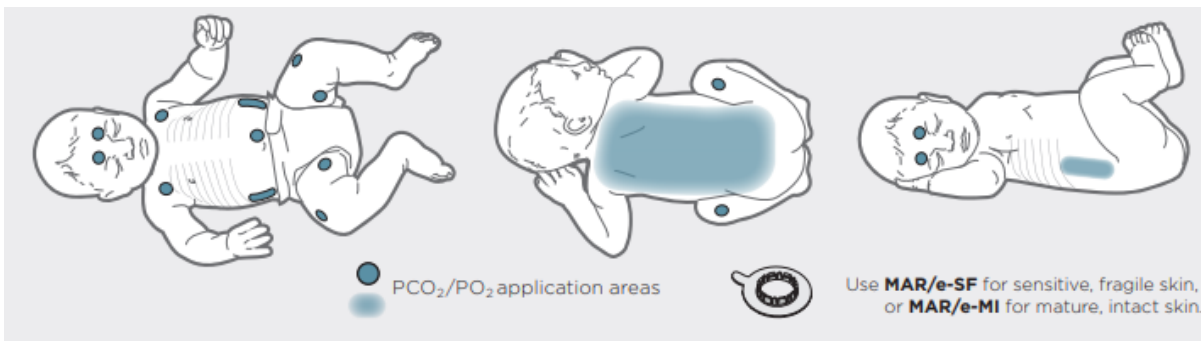
When removing the sensor from the docking station check the condition of its membrane and its integrity before applying it to the patient.

- i) Clean the site and let it dry.
- ii) Attach the ring to the measurement site. Verify that's the skin under the adhesive is not wrinkled.
- iii) Apply one small drop of contact gel to the sensor.
- iv) Holding the sensor at its neck, approach the multi-site attachment ring from the flap side and first insert the nose of the sensor into the ring. Click in the sensor by applying slight downward pressure on its neck. Rotate the sensor in the ring into the best position and press the sensor gently against the skin to spread the contact liquid. Verify that air gaps between the skin and the sensor are eliminated and that the sensor can easily be rotated
- v) Tape the cable to the skin and secure it with a clothing clip on to the bed linen. Ensure that the sensor cable to loose enough for not to be stretched during monitoring.

After sensor application verify that the SDM detects '**Sensor-on-patient**' initiates monitoring and the enabled parameters stabilize. PCO₂ stabilized value should be achieved within 2 to 10 minutes.

Blood Gas Sampling

Selection of Measurement site and Sensor Attachment Accessory



Blood Gas Sampling

Take blood gas 20 minutes after commencing transcutaneous monitoring to allow comparison between transcutaneous values and arterial/ capillary CO₂ levels.

If transcutaneous monitoring values change suddenly, check contact is in place before making ventilator changes.

Changing Measurement Site

- i) Neonates <32 weeks: change 2 hourly
- ii) Neonates >32 weeks: change 4 hourly

Sensor Removal

When monitoring is completed or monitoring time has elapsed remove the sensor from patient and clean/inspect the skin.

Clean the sensor with isopropanol 70%

Check the condition of membrane and integrity of sensor prior/after use.

To maintain monitor readiness and minimize PCO₂ drift potential keep SDM switched **ON** and store sensor in docking station in between monitoring.

Sensor Calibration

If a sensor calibration is **mandatory** the message '**calibrate sensor**' displays and PCO₂ values are replaced by '---'.

Calibration intervals for SenTec sensor can last up to 12 hours. Once elapsed, calibration is **recommended** and monitoring possible for another 4 to 6 hours.

Changing Sensor Membrane

If the **'Membrane Change Interval'** has elapsed, the SDM displays the message **'Change sensor membrane'** and marks PCO₂ values as invalid ('---').

Membrane Change Interval is every 28 days.

