



Transcutaneous Monitoring for Protective, Proactive Neonatal Care

Transcutaneous
CO₂ monitoring
can help clinicians:



Protect
the brain & lungs



Prevent
pain & blood loss



Preserve
skin integrity
& touch times



Proactively
manage patients





Transcutaneous Monitoring for Protective, Proactive Neonatal Care

Transcutaneous
CO₂ monitoring
can help clinicians:

Sentec digital transcutaneous CO₂ monitoring provides continuous visibility to accurate CO₂ levels regardless of ventilation modality.



Protect
the brain & lungs

- Continuously-monitored CO₂ levels are integral in the NICU for both protecting the brain from intraventricular hemorrhage as well as properly implementing lung protective ventilatory strategies¹.



Prevent
pain & blood loss

- tcpCO₂ has been shown to reduce blood draws on ventilated neonates, while arterial blood gases and capillary heel sticks – the accepted standard for accurate PaCO₂ information – present important issues in the NICU such as blood loss², infection³, and pain.^{4,5}



Preserve
skin integrity
& touch times

- Sentec's low-temperature digital sensor technology enables long site times as long as 8 hours in the NICU to support clustered care, and has been shown to be safe for fragile neonatal skin.⁶



Proactively
manage patients

- Digital transcutaneous technology monitors CO₂ accurately, regardless of ventilation strategy or lung compromise, enabling enhanced assessment during transitions in care or support.

Reliable Monitor

Intuitive interface enables customized care with familiar parameters displayed as values, trends, and deltas alongside baselines with the ability to set preferred alarm limits.



Digital Sensor

The Sentec digital sensor enables noninvasive and continuous measurement of tcPCO₂, pulse oximetry (SpO₂, PR), and relative heating power (RHP). Signals are processed directly in the sensor head, and low operating temperature enables site times as long as 8 hours with membrane life of ~28 days.*

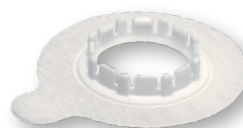
**tcPO₂ capabilities available in select models.*



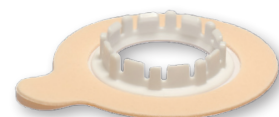
Patient-friendly Disposables

Variety of disposable options designed to accommodate the unique challenges of the NICU:

- High humidity environments
- Patient motion conditions
- Skin integrity issues
- Infection



Multi-Site Attachment Ring:
Mature, intact



Multi-Site Attachment Ring:
Sensitive, fragile



Staysite™ Adhesive



Single Dose
Contact Gel



sentec.

Noninvasive monitoring should enable less invasive care.

In the NICU, Sentec digital transcutaneous technology overcomes limits of previous devices to offer safe, comfortable respiratory monitoring with accurate CO₂ values regardless of ventilation method or V/Q mismatch, all while supporting neuroprotective efforts to deliver clustered care, protect skin integrity, and reduce the frequency of painful blood draws in neonatal patients.

[sentec.com](https://www.sentec.com)

Care with
Confidence

The use of [tcpCO₂] monitoring statistically decreased blood gas frequency among ventilated neonates without impacting the duration of mechanical ventilation or clinical outcomes.

— *RESPIRATORY CARE*, 2016⁵

[tcpCO₂] is indicated in patients who either lack arterial access or have the need for continuous monitoring of oxygen and carbon dioxide with minimal blood draws.

— *AARC CLINICAL PRACTICE GUIDELINES*, 2012⁷

We adopted the use of transcutaneous CO₂ monitors at our NICU to further reduce the frequency of blood gases.

— *MATERNAL-FETAL & NEONATAL MEDICINE*, 2019²

References

1. Hochwald et al. *Pediatrics*. 2019 Jul;144(1):e20183640
2. Counsilman et al. *J Matern Fetal Neonatal Med*. 2019 Oct 6:1-6.
3. Goudie et al. *Pediatrics*. 2014 Jun;133(6): e1525-32.
4. Hall et al. *Clin Perinatol*. 2014 Dec;41(4): 895-924
5. Mukhopadhyay et al. *Respir Care*. 2016 Jan;61(1):90-7.
6. Aly et al. *Am J Perinatol*. 2017 Apr;34(5):480-485.
7. Restrepo et al. *Respir Care*. 2012 Nov;57(11):1955-62.