Philips Transcutaneous Gas Module is designed for use in neonatal intensive care environments. Skin surface tcpO₂/tcpCO₂ measurements correlate with changes in arterial partial pressure of oxygen and carbon dioxide, offering a non-invasive means of continuous monitoring. Individual and trend data provided by transcutaneous gas monitoring are a significant complement to arterial blood gas measurements in monitoring neonates on ventilators.

**Designed for ease of use and comfort**
To protect neonates’ delicate skin, two independent temperature control circuits guard against transducer overheating, and configurable site alarms alert caregivers when the monitoring site should be changed. The Philips transducer’s fixation ring is designed for quick and easy attachment by simply peeling off the protective film and pressing the ring onto clean, dry skin.

**Continuous measurements for the most fragile patients**
The continuous real-time data provided by transcutaneous monitoring is a valuable supplement to arterial blood gas testing. It allows tighter controls over oxygenation and helps reduce the risks associated with neurologic damage or retinopathy of prematurity (ROP).

Transcutaneous gas monitoring is used for ventilation management in neonates that are hemodynamically stable.
Monitoring \( \text{tcpO}_2 \) and \( \text{tcpCO}_2 \)

- This measurement is useful in cases requiring monitoring to assess the adequacy of continuous oxygenation and/or ventilation.
- Transcutaneous blood gas monitoring is appropriate for continuous and prolonged monitoring during ventilation.
- Transcutaneous monitoring can be used to detect episodes of hypoxia, hyperoxia, hypercapnia, and hypocapnia, as well as the ability to supply the tissues with oxygen.

Transducers, accessories, and calibration supplies

Philips offers all necessary supplies:
- Calibration unit and gases
- Combined \( \text{pO}_2 \) and \( \text{pCO}_2 \) transducer
- 12x tc Accessory Kit (O-ring, remover, absorbent paper, electrolyte solution, replacement membrane)
- tc Application Kit (4x25 disposable fixation rings, 4x20ml contact fluid)

References


Hess D. Detection and monitoring of hypoxemia and oxygen therapy. Respir Care. 2000 Jan; 45(1): 65-80


tcpO\(_2\)/tcpCO\(_2\) is one of many Philips technologies for neonatal intensive care.