

# Pediatric Tissue Oximetry Reference Guide

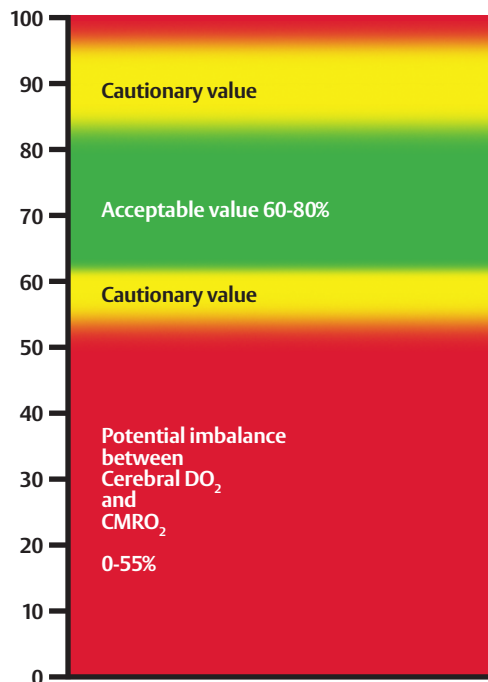
## Threshold considerations for pediatric patients

There are no universally accepted guidelines for use of tissue oximetry in pediatric patients. Interventions should be based on the patient's condition and the clinician's experience, and assessment in the context of SctO<sub>2</sub> measurements and other monitoring.

Normal ranges of cerebral SctO<sub>2</sub> values can be seen in congenital heart disease children with adequately compensated chronic hypoxemia. A low cerebral SctO<sub>2</sub> baseline in the setting of chronic hypoxemia should not be interpreted as a "normal" baseline for that patient, and a cause for the low cerebral SctO<sub>2</sub> value should be investigated.

Elevated hemoglobin levels are a physiologic compensatory mechanism to increase oxygen carrying capacity in the patient with chronic hypoxemia. Bleeding, especially associated with a decrease in cardiac output, can lead to a fall in cerebral SctO<sub>2</sub> and should be addressed to mitigate potential brain damage.

### Cerebral tissue oxygen saturation consensus thresholds\*



### Flank StO<sub>2</sub> measurement considerations

- During hemodynamic stability, the flank StO<sub>2</sub> is typically 10-20 percentage points higher than the cerebral SctO<sub>2</sub>
- Increase vigilance if flank StO<sub>2</sub> is equal to or falls below cerebral SctO<sub>2</sub>

\* Monitor default alarm ranges may vary from physiologic ranges shown in graphic. Ensure they are set appropriately for your patient.

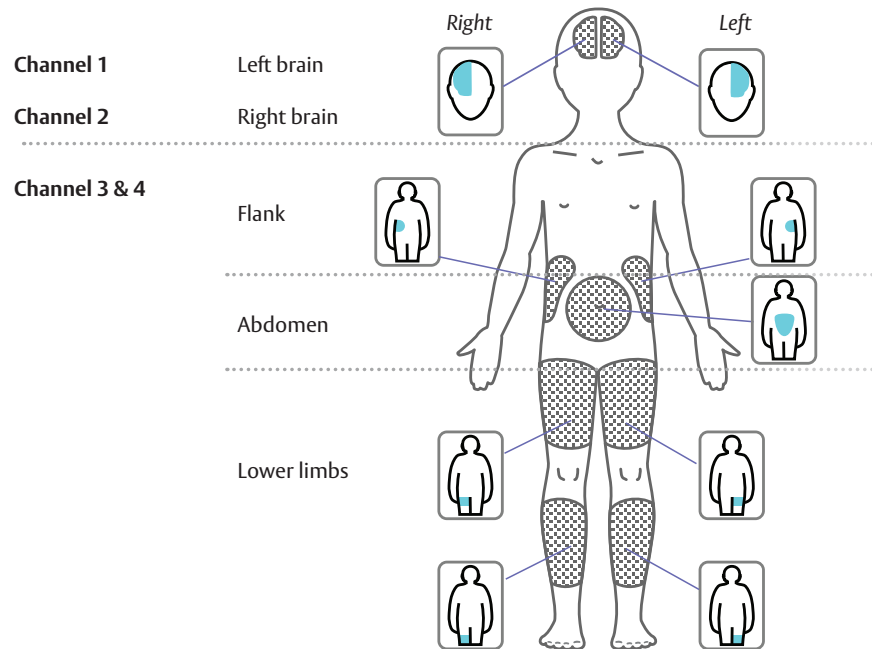


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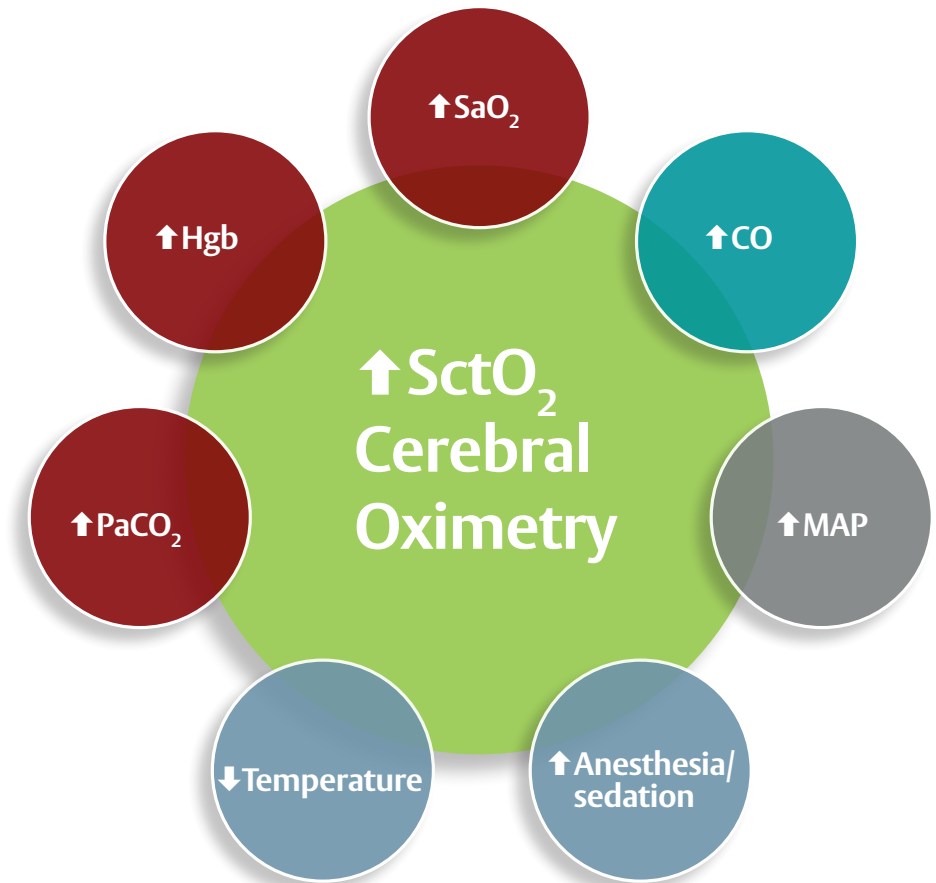
## Recommended sensor locations for pediatric and neonatal patients

If there is enough space in the forehead, consider bilateral brain monitoring along with at least one non-cerebral location. Use the largest sensors, within the Indications for Use, for the corresponding patient weight and ensure that the sensors are firmly adhered to the patient's skin.

### Sensor body location



## Considerations to increase cerebral SctO<sub>2</sub>



† Unless specific institutional guidelines exist for management of  $\text{SpO}_2/\text{PaO}_2$  to avoid retinopathy of prematurity.

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