

13.Effect of arterial PCO₂ on local HbO₂ and relative Hb concentration in the human brain--a study with the Erlangen micro-lightguide spectrophotometer (EMPHO).

Hoper J, Gaab MR.

Institut für Physiologie und Kardiologie, Friedrich-Alexander-Universität,
Erlangen, Germany.

Physiol Meas 1994 May;15(2):107-13

Intraoperative investigations of local intracapillary haemoglobin oxygenation have been performed in 5 patients during neurosurgical interventions using the Erlangen microlightguide spectrophotometer (EMPHO). As the measurements can be performed in a very short period of time (approximately 60 s) the EMPHO enables rapid monitoring of local haemoglobin oxygenation in the brain. All patients received thiopental anaesthesia and were mechanically ventilated. The local measurements were performed during normoventilation (arterial PCO₂--PaCO₂ 37.8 +/- 0.7 mm Hg) and hyperventilation (PaCO₂ 31 +/- 0.5 mm Hg). Hyperventilation caused a decrease in the mean SO₂ from 47.8% to 41.1%. The number of SO₂ values \geq 50% increased from 58% to 77.8%. The possible significance of the low local SO₂ values is discussed.

PMID: 8081189 [PubMed - indexed for MEDLINE]