

# Recent Advances in Application of Cerebral Oximetry in Adult Cardiovascular Surgery

Gregory W. Fischer, MD

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Cerebral oximetry is a noninvasive technology that continuously monitors cerebral tissue oxygen saturation, which is a sensitive index of global cerebral hypoperfusion. On the basis of near-infrared spectroscopy technology, information is provided on the availability of oxygen in brain tissue at risk during numerous pathological conditions. Complementary to the arterial oxygen saturation measured by pulse oximetry, cerebral tissue oxygen saturation reflects regional cerebral metabolism and the balance of local cerebral oxygen supply/demand. Recently, patient management with the guidance of cerebral oximetry has resulted in improved patient outcomes. This review will briefly describe the physics behind cerebral oximetry and will provide an overview of the literature focusing primarily on articles published within the past 5 years.

**Key Words:** NIRS, cardiac surgery, cerebral oximetry