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Evaluation of Intra-Musclar Oxygenation During Exercise in Humans

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ABSTRACT

Near infrared spectroscopy (NIRS) has been frequently used to assess intra-muscular oxygenation past few decades. In recent years, refinement of NIRS hardware and algorithms used to convert changes in optical absorption to changes in concentration improved the validity of oxygenated haemoglobin (HbO₂), deoxyhaemoglobin (Hb), myoglobin (Mb) and the oxidised copper compound of cytochrome aa₃ (cyt aa₃) measurements. Subsequently, the use of NIRS to study the muscle oxygenation profiles during various types of exercise and to monitor differences in oxygenation levels in patients under various pathological conditions is being increased. It would be thought-provoking to combine future muscle studies with MRS and/or electromyography techniques to improve the understanding of intramuscular oxygenation.

Key words: Near infrared spectroscopy, muscle oxygenation

Key Points

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