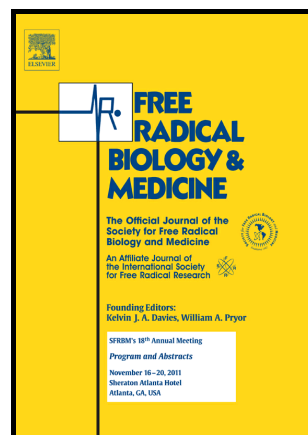


## Author's Accepted Manuscript

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www.elsevier.com

PII: S0891-5849(18)30951-1  
DOI: <https://doi.org/10.1016/j.freeradbiomed.2018.05.090>  
Reference: FRB13792

To appear in: *Free Radical Biology and Medicine*

Received date: 4 April 2018  
Revised date: 19 May 2018  
Accepted date: 29 May 2018

Cite this article as: Damian M. Bailey, Peter Rasmussen, Kevin A. Evans, Aske M. Bohm, Morten Zaar, Henning B. Nielsen, Patrice Brassard, Nikolai B. Nordsborg, Pernille H. Homann, Peter B. Raven, Jane McEneny, Ian S. Young, Joe M. McCord and Niels H. Secher, Hypoxia compounds exercise-induced free radical formation in humans; partitioning contributions from the cerebral and femoral circulation, *Free Radical Biology and Medicine*, <https://doi.org/10.1016/j.freeradbiomed.2018.05.090>

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**Hypoxia compounds exercise-induced free radical formation in humans; partitioning contributions from the cerebral and femoral circulation**

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**ABSTRACT**

This study examined to what extent the human cerebral and femoral circulation contribute to free radical formation during basal and exercise-induced responses to hypoxia. Healthy participants (5♂, 5♀) were randomly assigned single-blinded to normoxic (21% O<sub>2</sub>) and hypoxic (10% O<sub>2</sub>) trials with measurements taken at rest and 30 min after cycling at 70% of maximal power output in hypoxia and equivalent relative and absolute intensities in normoxia. Blood was sampled from the brachial artery (a), internal jugular and femoral veins (v) for non-enzymatic antioxidants (HPLC), ascorbate radical (A<sup>•-</sup>, electron paramagnetic resonance spectroscopy), lipid hydroperoxides (LOOH) and low density lipoprotein (LDL) oxidation (spectrophotometry). Cerebral and femoral venous blood flow was evaluated by transcranial Doppler ultrasound (CBF) and constant infusion thermodilution (FBF). With 3 participants lost to follow up (final *n*

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