

Name of research institute or organization:

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**Department of Anesthesiology  
University Hospital Salzburg, Paracelsus Medical University, Austria**

Title of project:

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Effects of remote preconditioning on severity and incidence of acute mountain sickness at 3450 m

Project leader and team:

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Project description:

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Remote ischemic preconditioning (RIPC) attracted great interest because it seems to protect an organ remote from the preconditioned site such as arm or leg from damage induced by subsequently prolonged hypoxia or ischemia. Protective effects of RIPC have been found for various organs, including the heart, brain, and lung. Acute mountain sickness (AMS) and high altitude pulmonary edema (HAPE) represent the cerebral and the pulmonary form of high altitude diseases. We hypothesized that RIPC protects the brain from AMS and the lung from an exaggerated rise in pulmonary artery pressure at 3450 m.

After approval by the institutional ethics committee, 40 healthy, non-acclimatized volunteers were randomized into 2 groups. At low altitude the RIPC group (n=20) underwent a standard preconditioning protocol of the extremities and the control group underwent a placebo manoeuvre. Thereafter, participants completed a passive ascent by railway over 2 h to the research station at Jungfraujoch (3450 m). Over the next 2 days at high altitude, AMS was evaluated by the Lake Louise score (LLS) and the AMS-C score, and pulmonary artery systolic pressure (PASP) was assessed by transthoracic echocardiography.

The data are currently under analyses and will be reported in future publications.

Key words:

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Remote ischemic preconditioning (RIPC), acute mountain sickness (AMS), hypoxia, high altitude, pulmonary hypertension

Collaborating partners/networks:

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Department of Sports Medicine, University Hospital Heidelberg, Germany

Scientific publications and public outreach 2015:

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Publications are in preparation

Address:

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