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# Acute Intermittent Hypoxia Does Not Impact Vascular Function in Young, Healthy Individuals

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Cardiovascular disease is a culmination of vascular dysfunction, oxidative stress, and chronic inflammation. Acutely induced inflammation negatively affects conduit artery and microvascular function even in young, healthy adults. Acute intermittent hypoxia induces acute inflammation and increases sympathetic activity and blood pressure; however, the impacts of acute intermittent hypoxia on conduit artery and microvascular function are unknown. **PURPOSE:** To evaluate vascular (conduit artery and microvascular) function before and after acute intermittent hypoxia. **METHODS**: In a study of 13 young, healthy participants (10M/3F; 23 ± 4y)**,** blood pressure, conduit artery vascular function (flow-mediated dilation [FMD]), and microvascular function (reactive hyperemia area under the curve [RH AUC] and venous occlusion plethysmography forearm blood flow [VOP FBF]) were measured before (BL) and 30 minutes (30P) after acute intermittent hypoxia. Acute intermittent hypoxia consisted of 16 cycles of 25 seconds (s) of low oxygen air followed by 90s of room air (30 minutes total). **RESULTS:** During acute intermittent hypoxia, participants achieved an average nadir blood oxygen saturation ($SpO_2$) of 92%. Following acute intermittent hypoxia, brachial systolic (bSBP) and diastolic blood pressures (bDBP) increased from baseline (bSBP BL: 116 ± 6 mmHg, 30P: 120 ± 7 mmHg, p=0.02; bDBP BL: 65 ± 8 mmHg, 30P: 71 ± 7 mmHg, p=0.002). However, conduit artery vascular function and microvascular function were unchanged following acute intermittent hypoxia (p>0.05 for all; FMD BL: 4.8 ± 3.4 %, 30P: 4.6 ± 3.2 %; RH AUC BL: 37,132 ± 18,124 AU, 30P: 30,683 ± 13,471 AU; VOP FBF BL: 74.7 ± 22.2 ml/min, 30P: 79.5 ± 28.6 ml/min). **CONCLUSION:** Conduit artery and microvascular function are unaffected by acute intermittent hypoxia in young, healthy participants.

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