

# Research finds retinal vessel leakage during high altitude exposure

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"Exposure to high altitude can cause [acute mountain sickness](#) (AMS) and, in severe cases, cerebral or [pulmonary edema](#). Capillary leakage has been hypothesized to play a role in the [pathogenesis](#) of AMS, although the mechanism of altitude-related illnesses remains largely unknown," writes Gabriel Willmann, M.D., of the University of Tübingen, Germany, and colleagues. "Vessel leakage in the retinal periphery has not been investigated. Our objective was to assess retinal vessel integrity at high altitude using fluorescein angiography."

As reported in a Researcher Letter, the study included 14 healthy, unacclimatized volunteers (7 male and 7 female participants, average age, 35 years) who were studied at baseline (1,119 feet), after ascent to 14,957 feet within 24 hours, and more than 14 days after return by fluorescein angiography. Photographs were independently graded in random order by 4 [ophthalmologists](#) for presence and location of leakage.

Retinal abnormalities were not noted at baseline in any of the participants. At high altitude, marked bilateral leakage of peripheral retinal vessels was observed in 7 of 14 participants (50 percent). All

findings completely reversed after descent. "Retinal capillary leakage should be considered a part of the spectrum of high-altitude retinopathy," the authors write.

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