min) compared with subjects not having AMS ($74.30\% \pm 5.48\%$ and 79.80 ± 9.9 beats/min, respectively), but no correlation with IOP was noted in regard to AMS.

Conclusions.—No significant change of IOP was noted during high altitude exposure over 4 days spent at high altitude compared with baseline. However, a tendency for a decreased IOP during high altitude exposure was noted. No correlation between IOP and AMS scores or clinical parameters was observed.

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Hypoxia in the Eye—Retinal Changes in Correlation to Acute Mountain Sickness

Background.—The visual system undergoes profound changes when exposed to hypoxia or high altitude. Although some of these changes, such as increased blood flow and increased tortuosity of blood vessels, present physiological adaptive mechanisms to high altitude exposure, others present potentially pathological changes due to hypoxia, for example, optic disc swelling or retinal hemorrhages, which in part have previously been correlated with AMS.

Objective.—These visual system changes are of special interest or study as the retina is a directly visible part of the central nervous system, and thus may be able to give insight into a possible underlying pathologic mechanism of AMS.

Methods.—With a long history of high altitude research focusing on ocular changes during mountaineering expeditions, the Tübingen High Altitude Ophthalmology study investigated retinal changes in 14 healthy subjects during acute high altitude exposure in a controlled study setting at the Capanna Margherita (Italy) at 4559 m using state-of-the-art equipment to study morphological and functional changes of the retina in regard to AMS. Retinal function was assessed in psychophysical tests and in objective measurements such as microperimetry (MP1, Nidek, Japan). Morphological changes using spectral domain optical coherence tomography, fluorescein angiography, and Heidelberg retinal angiography (Spectralis optical coherence tomography plus Heidelberg retinal angiograph and Heidelberg retinal tomograph, Heidelberg Engineering, Heidelberg, Germany) during acute high altitude exposure were tested for the first time.

Results.—Fluorescein angiography showed considerable dye leakage in the periphery of the retina and increased vessel diameters. Optical coherence tomography and Heidelberg retinal tomograph measurements demonstrated swelling of the optic disc as well as distinct foveal changes with perifoveal thickening of the retinal nerve fiber layer and vascular arcades.

Conclusions.—No correlation between these changes and central retinal function and AMS was found.

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Burning Man 2011: Mass Gathering Medical Care in a Hostile and Austere Environment

Background.—Burning Man is a weeklong outdoor arts festival held annually on a dry Pleistocene lakebed in the rugged and austere Black Rock Desert Wilderness Area in northern Nevada. The 2011 event presented numerous challenges in the provision of emergency medical services and medical care owing to attendance size, the hostile environment, and distance to definitive medical care.

Objective.—Our purpose was to describe the planning and implementation of medical care at a mass gathering event in a harsh and austere wilderness environment. This was a retrospective, observational review of the preparation, management, and implementation of medical care.

Methods.—Total attendance was 53 375, with a total of 2307 patients. Emergency medical services operations included 6 ambulances, 3 quick response vehicles, 2 first aid stations, and a physician staffed mobile hospital. The hospital had limited diagnostic capabilities and a limited formulary. Most conditions treated were minor, the most common being soft tissue injuries, dehydration, eye problems, and urinary tract infections. Most patients were treated and released. A total of 33 patients was transferred out. Several significant cases were seen, including a patient with a spontaneous subarachnoid hemorrhage who later died; there were several cases of trauma, a traumatic pneumothorax, and a thoracic aortic dissection. The latter patient sustained a cardiac arrest at the event, was resuscitated, flown to Reno, underwent emergency surgery, and survived to discharge. A unique phenomenon called “playa foot,” due to an alkali burn of the feet from constant exposure to the dry lake bed dust, was frequently encountered.

Results.—Overall, Burning Man 2011 was successful. The goal of providing the highest level of care possible in an austere environment and allowing as many patients as possible to remain at the event was achieved.

Conclusions.—Our experience can help guide others planning for similar events under similar austere conditions in the future.

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