In reply

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tified in this clinical situation. Justification for a randomized clinical trial usually includes the following[8]*: (1) evidence of a significant public health problem, (2) a scientifically plausible intervention, (3) preliminary information that warrants the trial, and (4) the ability to enroll a significant number of patients, with an outcome obtained within a reasonable time frame. Regarding the criteria above, we believe a randomized clinical trial is not justifiable because (1) while intravitreal injections are common, endophthalmitis following injections may not be, (2) the intervention has not previously been proven to be scientifically plausible, (3) there is not sufficient preliminary information from endophthalmitis rates following this intervention or even other interventions such as those that occur during cataract surgery (and risks of endophthalmitis following cataract surgery would not be expected to be the same as risks following an intravitreal injection of a drug using a 30 gauge needle), and (4) enrollment for between 1.5 million and 15 million injections, depending on outcome assumptions, could take so many years that the antibiotic and intravitreal procedure being tested may no longer be relevant.*

We agree that it is important to determine the risk of endophthalmitis after an intravitreal drug injection when topical antibiotics are not required either before, during, or after the injection because there is little scientific rationale to support topical antibiotic use in this situation. As Drs Ziemssen and Bartz-Schmidt state, omitting its use would avoid the cost, potential toxicity, and burden to patients following millions of intravitreal injections each year. To address this situation in the absence of randomized clinical trials, which may not be justified, we hope to continue to provide information that is of potential value related to the millions of intravitreal injections currently provided around the world for common retinal conditions.

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Group Information: A published list of the Diabetic Retinopathy Clinical Research (DRCR) Network investigators and staff who participated in this protocol can be found in *Ophthalmology*. 2008;115(9):1447-1449, with a current list available at www.drcr.net.
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Role of the Sponsors: The funding organization participated in oversight of the conduct of the study and review of the manuscript but not directly in the design of the study, the conduct of the study, data collection, data management, data analysis, interpretation of the data, or preparation of the manuscript.
Trial Registration: clinicaltrials.gov Identifier: NCT00444600 and NCT00445003

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Corneal Thickness Changes in Very-High-Altitude Mountaineers

Bosch and colleagues[1] performed a very nice study of corneal thickness at high altitude. However, some statements may benefit from clarification. Specifically, "Besides AMS [acute mountain sickness], corneal changes during high-altitude climbs may also be a dangerous hazard owing to a potential significant decrease in visual acuity. The often-quoted experience of Dr Beck Weathers, a Mount Everest climber who had undergone radial keratotomy prior to ascent and incurred severe vision loss during the climb, is such an example." The authors correctly imply that corneal thickening plays a major role in radial keratotomy visual changes at high altitude. However, the mechanism of these changes is a bit more complicated and warrants a more precise explanation.

It is well known that any cornea thickens with exposure to hypoxia.[2,3] However, when the normal corneal architecture is weakened by radial incisions, the hy-

poxic cornea remains clear but the incisions may allow swelling to occur in an anterior direction. This anterior elevation in the midperiphery causes central corneal flattening and a resultant hyperopic shift.[2,3] Thus, alterations in corneal structure caused by radial keratotomy incisions, combined with increased corneal thickness, account for the induced refractive changes. Although plus lenses were required for clear vision, a climber with bilateral radial keratotomy successfully ascended Mount Everest (8 850 m).[4] Similarly, owing to structural change from flap creation, corneas that receive Lasik and are exposed to hypoxia are thought to have a preferential central expansion, causing a slight myopic shift.[5] This contrasts with normal and photorefractive keratectomy corneas that do not undergo refractive change with hypoxia because they thicken uniformly, thus preserving the shape of the anterior corneal surface.

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1. Bosch MM, Barthelmes D, Merz TM, et al. New insights into changes in corneal thickness in healthy mountaineers during a very-high-altitude climb to Mount Muztagh Ata. *Arch Ophthalmol*. 2010;128(2):184-189.
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In reply

We welcome the comments regarding our article[1] from Drs Mader and White, who have published several articles on refractive changes induced by hypoxia in subjects after refractive surgery. We value their additional account of the mechanism of the corneal changes in Dr Beck Weathers' eyes during his climb on Mount Everest that led to severe vision loss. This is an interesting amendment to our manuscript, which focuses primarily on mountaineers with healthy corneas.

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1. Bosch MM, Barthelmes D, Merz TM, et al. New insights into changes in corneal thickness in healthy mountaineers during a very-high-altitude climb to Mount Muztagh Ata. *Arch Ophthalmol*. 2010;128(2):184-189.

Correction

Error in Table. In the Clinical Sciences article titled "Clinical Classification of Childhood Glaucomas" by Yeung and Walton, published in the June issue of the *Archives* (2010;128[6]:680-684), the Table was formatted incorrectly. In the right column, the subheading "Trabecular Meshwork Endothelialization" should not have been a subheading. It should be aligned below "Iris bombe with pupillary block" under "Angle-blockage mechanisms," and there should have been no line above it. The only two column subheadings should have been "Primary (Developmental) Glaucomas" and "Secondary (Acquired) Glaucomas."