Modified contact lens for electroretinography

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The presence of air bubbles under the contact lens during electroretinography is a source of annoyance. Not only may the electrical contact between cornea and electrode be broken by interposition of air, but the process of refilling the lens with saline or methyl cellulose by lifting the Karpe type lens is uncomfortable to the patient. Furthermore, the procedure of refilling must be frequently repeated.

During another study in our laboratory, a contact lens was fabricated with a large central opening, similar to a symblepharon ring, to allow a tonometer to be applied to the cornea through the contact lens. It occurred to the writer at that time, that a smaller opening in the standard Karpe electroretinographic lens would eliminate the difficulties mentioned above. A Karpe lens was then modified* by drilling a 3 mm. central opening.

This modified type of lens (Fig. 1) has now been used for electroretinography in our laboratory for over 2 years. It has proved to be extremely simple and convenient to use. Air bubbles are no problem, since they are easily displaced by merely injecting some fluid through the central lens opening. Once the lens is in place, it requires no further manipulation for refilling, because this is done easily through the opening as often as necessary. A small pocket of air may be present at the central opening, but this if of no significance, since the electrode is in contact with fluid.

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*By Parsons Optical Company, San Francisco, Calif.