

## UNIOCCULAR CENTRAL FIELD LOSS: A CASE STUDY

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### Abstract

*A sixty year old male is presented with unilateral central field loss and severely reduced stereoacuity who was taught to view eccentrically in an attempt to improve his stereoacuity. Although stereoacuity was improved by this treatment it also resulted in a loss of binocular visual acuity.*

**Key words:** Eccentric viewing, stereoacuity, stereopsis.

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Stereopsis is the result of the stimulation by dissimilar images of slightly disparate retinal images. The two images appear as one and are appreciated with depth. The ability to fuse the images is dependent upon the retinal points being located within Panum's area, where each retinal area has correspondence with a similar area in the contralateral retina. It is a complex entity which will vary with the distance of the object to the observer, and with the length of exposure to the stimulus. Monocular cues may also be used to imply depth perception.

The phenomenon of stereopsis is often associated with the central retina and is assumed to be absent with the absence of central retinal function. Recently a dual stereoscopic system has been suggested with a means of assessment which will distinguish between 'global' or peripheral, fusion with stereopsis; an entity which has been clinically observed, and central fusion, with high grade stereoacuity.<sup>1</sup>

If stereoacuity, as with visual acuity, is most

sensitive within the central retina, then unilateral central field loss could be expected to severely reduce stereoacuity, with binocular visual acuity remaining at the level of the unaffected eye. As stereopsis can be demonstrated from both central and peripheral areas, it is reasonable to suggest that, if such a person could be taught to view eccentrically, then some level of stereopsis could be restored.

### CASE STUDY

A.D., a sixty year old male, presented with a juxta foveolar macular hole in the left eye.

The condition was not considered to be progressive. Functionally he was not concerned with the area of field loss except for the marked loss of stereoacuity. The nature of his employment required very fine levels of stereoacuity, and he was now unable to perform many work tasks.

His visual acuity in the right eye was 6/6, central acuity in the left eye was 6/60, however

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