

Sir,  
**Correlation of visual recovery with macular height in macular-off retinal detachment**

I read with interest the article by Mowatt *et al*<sup>1</sup> describing the correlation of visual recovery with macular height in macular-off retinal detachments. The authors concluded that the shallower the macular detachment, the greater the likelihood of a good visual outcome, and that assessment of pre-operative macular height with B-scan ultrasound can be useful as a predictive factor of final visual outcome for macular-off retinal detachments. Although the study is simple and concise, I have the following comments and questions.

For an objective measurement of the height of macular detachment, I think that the authors should have presented a more detailed method for their ultrasound study. First, the authors did not describe the method used for measuring the height of the movable detached retina after position change (sitting or supine position). Second, the authors should present a reliable and definite check point instead of a vague point, which was described by the authors as 'a single point on the retinal pigment epithelium, 4 mm temporal from the center of the optic nerve'. In addition, standardization of positions of the ultrasound probe and the examined eyeball is needed for a precise study.

As cited by the authors, Ross *et al*<sup>2</sup> showed that the height of macular detachment is the most important preoperative variable influencing recovery of good central vision in macular-off detachments of  $\leq 7$  days' duration. However, Ross *et al* used three-dimensional B-scan ultrasonography to define the full extent of the detachment and to accurately locate the centre of the optic nerve and macular region. I am wondering how to make an accurate measurement of the height of the macular detachment using only two-dimensional B-scan ultrasonography.

I agree that assessment of pre-operative macular height using B-scan ultrasonography is a predictive factor of the final visual outcome for macular-off retinal detachments, and B-scan ultrasonography, the standard equipment used in most ophthalmic departments, could be used for assessment of the height of the macular detachment. However, the authors need to present a simpler and more reliable method for clinical application of their suggestion.

**Conflict of interest**

The author declares no conflict of interest.

**References**

- 1 Mowatt L, Tarin S, Nair RG, Menon J, Price NJ. Correlation of visual recovery with macular height in macular-off retinal detachments. *Eye* 2010; **24**: 323–327.
- 2 Ross W, Lavina A, Russell M, Maberley D. The correlation between height of macular detachment and visual outcome in macular-off retinal detachments of  $\leq 7$  days' duration. *Ophthalmology* 2005; **112**: 1213–1217.

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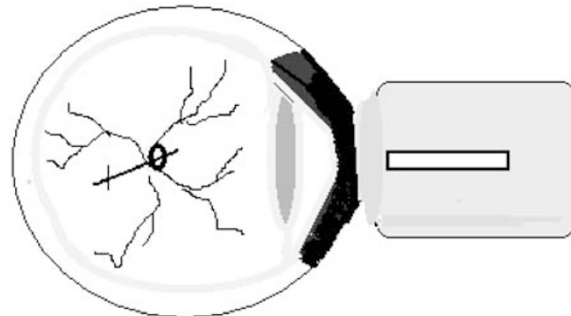
Sir,  
**Reply to Young-Hoon Park**

We thank Young-Hoon Park<sup>1</sup> for his interest in our article entitled 'Correlation of visual recovery with macular height in macular-off retinal detachments'. In reply to his first point, the retina was measured after it ceased to move after postural change in both supine and sitting position respectively. We agree that standardization of positions of ultrasound probes should be done for studies and this was the case in our study protocol.

Our ultrasonic measurements were done using the CineScan 10 MHz probe. For accurate localization the probe was placed directly on the cornea after topical anaesthesia. The axial scan was done with the white line on the probe, placed in the direction of the macula so that both macula and optic nerve were visible in the axial scan (Figure 1). Measurements were taken when the correct disc configuration was obtained, ie, when the disc did not appear oblique or tilted on ultrasound. This method gives a fairly accurate reference point (disc and macula) within the scope of two-dimensional B-scan ultrasound.

We further standardized our measurements using markers to measure at a distance 4 mm from the centre of the disc temporally. From that point a digital caliper was used to measure the perpendicular distance between the retinal pigment epithelium and the outer neurosensory detached retina.

Although the mean macular height was higher in the sitting group (2.42 + 1.2 mm) than in the supine group (2.39 + 1.0 mm), in our study there was no significant difference according to posture (*t* test,  $P=0.9$ ).<sup>2</sup> There are limitations to the accuracy of measurements with two-dimensional B-scan ultrasonography; however, standardization of measurements for studies improves the validity of the results.



**Figure 1** Diagrammatic representation of the position of the probe on the eye in order to visualize the macular area.