Title:	**Multifocal multi-channel objective perimetry (MMOP) for the diagnosis of visual field defects, August 2004**
Agency:	Medical Services Advisory Committee (MSAC) Australian Government Department of Health and Ageing GPO Box 9848 Canberra ACT 2601 Australia
Reference:	**MSAC application 1078, Assessment report, ISBN 0 642 82731 1, ISSN 1443-7120 http://www.msac.gov.au**

Aim

To assess the safety and effectiveness of multifocal multi-channel objective perimetry (MMOP) compared to static automated perimetry for the diagnosis of visual field defects and under what circumstances public funding should be supported.

Conclusions and results

Safety There was little published evidence of the safety of MMOP. However, as the test is non-invasive the risks to subjects should be minimal. Scalp electrodes used for MMOP may cause skin irritation or minor trauma although the frequency of such events is unknown.

Effectiveness Due to the limitations of the available evidence it is unclear whether MMOP is equivalent to static automated perimetry in terms of diagnostic accuracy in patients with undiagnosed visual field defects. Overall the diagnostic accuracy of MMOP could not be established as there were wide variations in the reported sensitivities (100-75%) and specificities (97-45%). Sensitivity was highly dependent on the MMOP thresholds of positivity used. Specificity was usually dependent on the population used, for example, specificity was highest in those studies using normal controls and lower in subjects with suspected glaucoma. The ability of MMOP to diagnose people with pre-perimetric disease (ie, ganglion cell damage prior to the development of visual field loss) was not adequately addressed in any of the studies. In order to determine the true predictive value of MMOP, longitudinal data would be necessary to determine if patients actually developed disease.

Cost-effectiveness As there was insufficient evidence to demonstrate the comparative effectiveness of MMOP, a cost effectiveness analysis could not be undertaken. An analysis of cost based on the applicant's model did not demonstrate cost savings for MMOP compared to the current alternative technology.

Recommendations

MSAC did not recommend public funding for multifocal multichannel objective perimetry for the diagnosis of visual field defects. Overall the MSAC concurred that although MMOP appeared to be safe there was insufficient evidence to demonstrate its' effectiveness compared to other alternative technologies. As a result, its cost-effectiveness could not be determined.

Method

In November 2002 the MSAC reviewed multifocal multichannel objective perimetry (MSAC Reference 13) recommending that since there was insufficient evidence pertaining to MMOP, public funding should not be supported for the procedure. In response to an application for funding of the MMOP, MSAC updated the review of the evidence, incorporating unpublished data from the applicant. MSAC conducted a systematic review of medical literature published from 2002 to 2004 via Medline, Medline in process and other non-indexed citations, EMBASE, Biological Abstracts, CINAHL and the Cochrane Library. Internet sources and health technology assessment sites were also searched. As there was insufficient evidence to assess the comparative cost-effectiveness of MMOP, a cost analysis based on the model presented in the application to MSAC was examined and discussed.