



**Title**      **Visual Field Testing in VA Compensation and Pension Examinations**

**Agency**      **VATAP, VA Technology Assessment Program**

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**Reference**      VA Technology Assessment Program Short Report March, 2003 Number 6.  
www4.va.gov/VATAP/docs/VisualFieldTestingVAExaminations2003t90m.pdf

## **Aim**

To determine the effectiveness of the Goldmann perimeter and Humphrey Field Analyzer and their role in assessing disability or handicap.

## **Conclusions and results**

The review included 91 full-text articles, 2 of which compared the Goldmann and Humphrey perimeters for visual field defects in glaucoma. Both studies found the automated Humphrey perimeter identified visual field defects earlier in the disease compared to the manual Goldmann perimeter. Tracking the literature from the 1970s to the present suggests that automated perimeters are replacing manual perimeters. This is not related to the functionality of either perimeter. The literature suggests complementary roles for each perimeter since each measures different proportions of the entire volume of the normal visual field. For this reason, the location within the field that is of interest in a particular patient should guide the selection of the perimeter. Since anatomy-based visual field testing assesses impairment and not disability or handicap, functional visual field indices, eg, the Esterman function index, can be used with either manual or automated perimeters.

## **Recommendations**

Evidence on the effectiveness of the Goldmann perimeter and Humphrey Field Analyzer suggest a complementary role for each perimeter, depending on the location of the visual field of interest. The AMA recommends the use of functional residual field indices such as the Esterman function index to assess visual field disability.

## **Methods**

Comprehensive literature searches were conducted using Dialog OneSearches of MEDLINE, EMBASE, Current Contents, Biosis, and SciSearch from 1980 to February 2002. Search strategies aimed to retrieve full-text articles on perimetry (Goldmann and Humphrey) and diagnosis of visual field defects.

Citations were also obtained from colleague agencies in the INAHTA community.

## **Further research/reviews required**

Additional studies are required to determine the use of visual field testing in evaluating visual disability. The report discusses areas for additional research.