



|                  |   |
|------------------|---|
| <b>Title</b>     | <b>Visual Field Testing in VA Compensation and Pension Examinations</b>   |
| <b>Agency</b>    | <b>VATAP, VA Technology Assessment Program</b><br>Office of Patient Care Services (IT), Room D4-142, 150 South Huntington Ave, Boston, MA 02130, USA;<br>Tel: +1 857 364 4469, Fax: +1 857 364 6587; www.va.gov/vatap |
| <b>Reference</b> | VA Technology Assessment Program Short Report, March 2003, Number 6   |

## **Aim**

To determine the effectiveness of the Goldmann perimeter and Humphrey Field Analyzer and their role in assessing disability or handicap, and as a result, eligibility for benefits from the Veterans Benefit Association.

## **Conclusions and results**

The review included 91 full-text articles. Two of these articles compared the Goldmann and Humphrey perimeters for visual field defects in glaucoma. Both studies found that 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 such as 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 suggests a complementary role for each perimeter, depending on the location of the visual field of interest. The American Medical Association (AMA) recommends the use of functional residual field indices, eg, 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. Areas of additional research are discussed in the report.