

◆ **Recognition of low-contrast characters by subjects with cerebral visual-field defects**

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Cerebral visual-field defects following brain injuries are as a rule diagnosed by automatic perimetry, where low-contrast-stimulus detection is the criterion of visibility.

To extend perimetric testing, we compared, in patients and normals, contrast thresholds for the recognition of characters (digits, size 2.4 deg) to those for detection of Gabor patterns (1 cycle deg^{-1} , $\sigma = 1.5^\circ$) in the intact and defective visual field at 32 visual field positions. Foveal testing was done for three stimulus sizes (1, 2, and 4 deg). Subjects were ten homonymous hemianopic patients and ten healthy volunteers. The results were compared with the visual field obtained on a Tübingen Automatic Perimeter and with qualitative high-resolution perimetry. Foveally we revealed a significant loss of recognition sensitivity, but not of detection sensitivity, in the patient group. In the zone of transition from the intact to the defective field there was a gradual sensitivity decrease in both recognition and Gabor detection. Most interestingly, recognition sensitivity in some patients was impaired within the intact visual field itself.

The results indicate that visual-field defects following cortex lesions lead to decreased performance in recognition tasks not only along the border of the field defect but also in the intact parts of the visual field.