

**Training compensatory viewing strategies:
feasibility and effect on practical fitness to drive in subjects with visual field defects.**

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Introduction. Can practical fitness to drive be improved by training compensatory viewing strategies in subjects with visual field defects?

Methods. Vision, viewing efficiency, visual attention and practical fitness to drive were assessed in 100 subjects with central or peripheral visual field defects caused by ocular pathology. Practical fitness to drive was assessed on the road as well as in a driving simulator. A driving examiner of the Dutch Driving License Authority evaluated whether the driver had passed or failed the on-road driving test. Fifty-one subjects who (almost) failed the on-road driving test were trained to use compensatory viewing strategies. Three training programs were compared: laboratory, mobility, and motor traffic training. Subjects were taught compensatory viewing strategies by means of tasks that did not have any direct relationship to a driving or traffic situation (laboratory training), while walking and cycling in a real traffic environment (mobility training), or while driving a car (motor traffic training).

Results. After training, compensatory viewing behavior as assessed by means of laboratory tasks and while driving improved. Likewise, the visual attention score improved, suggesting that subjects' field of view was enlarged. Training had a positive effect on practical fitness to drive: 42% of subjects passed the on-road driving test after training, as compared to 20% before training. The effect of training on practical fitness to drive was strongest for subjects in the motor traffic training. Training success was not related to the type of visual field defect.

Conclusion. Compensatory viewing strategies could be trained successfully and improved practical fitness to drive.