



Title **Optical Devices for Adults with Low Vision:
A Systematic Review of Published Studies of Effectiveness**

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Aim

To evaluate the effectiveness of optical low vision aids for visually impaired veterans.

Conclusions and results

Eleven peer-reviewed articles met the inclusion criteria. These studies compared the performance of optical low vision devices primarily used for reading. The results indicate that reading performance with either stand-mounted or handheld closed circuit TV (CCTV) was superior to prescribed optical devices (eg, stand magnifiers, coil stand magnifiers, and microscopic lenses) for patients with age-related macular degeneration. Compared to standard rehabilitation alone, the addition of Fresnel prisms in standard rehabilitation resulted in better performance on visual perception tests, but not on activities of daily living, in post-stroke patients with homonymous hemianopia or visual neglect. CCTV was preferred to spectacle reading glasses and illuminated stand magnifiers. Prototype magnifiers were preferred to conventional devices. Sustained use of these devices in the subject's life setting, the costs and training associated with each alternative, and the link between device use and health related quality of life were unknown. The peer-reviewed literature does not yield evidence to support clinical choices about providing optical low vision devices to visually impaired patients.

Recommendations

Clinicians must use their best judgment in concert with patients' needs to determine appropriate provision of low vision devices to patients.

Methods

Comprehensive literature searches were conducted using MEDLINE, HealthSTAR, EMBASE, Current Contents, and the Cochrane Library from 1970 through 2002. Additional citations were obtained from INAHTA and evidence based medicine communities, including VA. Search strategies used terms describing low vision rehabilitation, eye diseases rehabilitation, spatial and

visual perception disorders, and adult dyslexia treatment and rehabilitation. Low vision devices, tinted or filtered lenses, sensory aids, low vision enhancement systems, low vision self-help devices, ocular accommodation devices, and prisms were also researched. Devices used for reading and driving were considered. Primary studies published in English with outcome measures using commercially available devices were included.

Further research/reviews required

Future research is needed to determine the appropriate candidacy for low vision devices, suitable prescription of these devices, and outcome measures that define the quality of life in subjects with age-related visual impairment along the continuum of visual impairment and disability.