

# Diagnostic Performance of Visual Screening Tests in the Elderly

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## ABSTRACT

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This study aimed to determine and evaluate the diagnostic accuracy of visual screening tests for detecting vision loss in elderly. This study is defined as study of diagnostic performance. The diagnostic accuracy of 5 visual tests -near convergence point, near accommodation point, stereopsis, contrast sensibility and amsler grid—was evaluated by means of the ROC method (receiver operating characteristics curves), sensitivity, specificity, positive and negative likelihood ratios ( $LR^+/LR^-$ ). Visual acuity was used as the reference standard. A sample of 44 elderly aged 76.7 years ( $\pm 9.32$ ), who were institutionalized, was collected. The curves of contrast sensitivity and stereopsis are the most accurate (area under the curves were 0.814– $p = 0.001$ , C.I.<sub>95%</sub>[0.653;0.975]—and 0.713– $p = 0.027$ , C.I.<sub>95%</sub>[0.540;0.887], respectively). The scores with the best diagnostic validity for the stereopsis test were 0.605 (sensitivity 0.87, specificity 0.54;  $LR^+ 1.89$ ,  $LR^- 0.24$ ) and 0.610 (sensitivity 0.81, specificity 0.54;  $LR^+ 1.75$ ,  $LR^- 0.36$ ). The scores with higher diagnostic validity for the contrast sensibility test were 0.530 (sensitivity 0.94, specificity 0.69;  $LR^+ 3.04$ ,  $LR^- 0.09$ ). The contrast sensitivity and stereopsis test's proved to be clinically useful in detecting vision loss in the elderly.  
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## Keywords

[vision](#), [vision defects](#), [visual perception](#), [information use](#)

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