[A new objective test for random-dot stereopsis in preverbal children]

Armin Breyer, Xiaoyi Jiang, Adrian Rütsche & Daniel Mojon

BACKGROUND: The Lang-Stereotest is at best half-objective in testing stereovision in preverbal children. We developed a new method which might objectively measure random-dot stereopsis in preverbal children. PATIENTS AND METHODS: We project two separate random-dot images into the left and right eye using a 3D-monitor. If both eyes are perfectly aligned and random stereopsis is present, the child perceives a stimulus. Four different stimulus positions are shown at random. An infrared oculography system objectively detects whether the stimuli are seen. By using a specific baby examination unit, testing is already feasible in infants. RESULTS: We present the plots of two children with a positive (normal) and two with a negative (pathologic) response to random-dot stimuli. CONCLUSIONS: This new examination technique allows an objective assessment of random-dot stereopsis in non-verbal children. It permits us for the first time to study the development of stereovision under natural conditions. In future, the method may also be used to screen preverbal children for visual abnormalities. Larger studies are required to determine the positive and negative predictive values of this new test.

type: journal paper/review

date of publishing: 3-2003

journal title: Klinische Monatsblätter für Augenheilkunde (220/3)

ISSN print: 0023-2165

pages: 96-8