

R1 R2 R3 PG0 PG1 Estagiário Tecnólogo
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Computerized Method for Visual Acuity Screening of School Age Children.

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Purpose: To elaborate and to validate a computerized test for visual acuity screening of school age children (7 years). Methods: We developed a program using the flash format to generate a logarithmic E table for visual acuity assessment. It presents 11 lines with 5 E optotypes in each, in a logarithmic progression, from 0,7 log MAR to -0,3 log MAR (height from 21,81mm to 2,18 mm approximately) which guarantee a visual angle of 5' of arc at 3 meters. We have tested 90 seven years old children during school time using the computerized test and the Gold Standard (logarithmic tumble E chart), both eyes separately, at the same visit, after parental consent. The order of presentation and the first eye to be tested was previously determined by the examiner to ensure randomization. The methodology for both tests was the same: it began with 2 optotypes presentation per line, from the first to the last one, until a mistake in identifying the letter position was made. Then this process was stopped and the anterior line was totally presented. The visual acuity score was obtained when, at least, three letters were correctly identified in a line. Results: All results were given in a logarithmic notation and interpolated for best analysis. There was a systematical error of $p=0,040$ for right eye and $p=0,009$ for left eye on the results of the computerized method but this difference was statistically not significant. The Intraclass Correlation Coefficient was excellent (0,8211 for the right eye and 0,8807 for the left eye); Agreement (Kappa) of 0,332 – fair correlation. Conclusion: The computerized program for visual acuity assessment provides slightly higher visual acuity results when compared with the Gold Standard but the correlation between the two methods is excellent. As an automatic method, it releases the examiner from interpretation of the answers during the test and seems to be more attractive for children than the conventional chart tests.