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Pediatrics
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The dynamic optotype (DYOP): a new visual acuity test for use in children.

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Purpose To evaluate the Dynamic Optotype (DYOP), a simple visual acuity test based on a dynamic target that requires minimal knowledge of symbols and letters. The visual acuity results obtained from children using the Dynamic Optotype (DYOP) visual acuity were compared with results obtained using the Early Treatment Diabetic Retinopathy Study (ETDRS) Lea numbers chart.

Methods One-hundred-sixty children ages 4 to 17 years were recruited consecutively from the Pediatric Ophthalmology Unit of Meir Medical Center. Monocular visual acuity was tested using the new eye chart and the ETDRS chart, alternating the order of administration between children. Testing was performed on the eyes with the poorest acuity. Outcome measures were monocular logarithm of the minimum angle of resolution (logMAR) visual acuity scores for each chart.

Results The acuities had a strong linear correlation (r =0.88) with a mean difference in acuity of -0.01 (95% confidence interval (CI), -0.02 to 0.01) logMAR, equivalent of approximately less than one letter, with the DYOP test underestimating vision as determined by the ETDRS chart. The 95% limits of agreement were±1.2 lines.

Conclusions This study supports the validity of the new DYOP eye chart as a measure of visual acuity among pediatric patients ages 4 to 17 years, with vision ranging from 20/16 to 20/200.