

A RANDOMIZED CROSSOVER STUDY TO ASSESS THE INTERCHANGEABILITY OF FREIBURG VISUAL ACUITY AND CONTRAST TEST (FRACT) AND BERKELEY RUDIMENTARY VISION TEST (BRVT) IN PATIENTS WITH LOW VISION

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Purpose: Visual acuity (VA) is a vital part of ophthalmic examination, but its role in assessing patients with very poor vision remains relatively unexplored. FrACT is a computer-based system for assessing visual acuity (VA), whereas BRVT is composed of hand-held cards, designed to be quickly applied in clinical settings. This study aimed to assess the interchangeability of these tests and to inform whether or not clinical trial endpoints of VA using FrACT, might be translated into the more user-friendly BRVT. Methods: Forty patients, with VA \leq 1.3 LogMAR in both eyes, were included. Participants had both vision tests on the same day in a randomized order. The results of the two tests were compared for each patient using Bland-Altman (BA) analysis. The difference in VA interval between tests was accounted for in the analysis. Results: A difference of 0.5 is equivalent to 5 lines on a LogMAR chart. The mean difference between the two tests for RE was -0.55 (95% CI: -1.77-0.67) and for LE -0.51 (95% CI: -1.95-0.93). Most (30 out of 40) patients scored better VA on FrACT. Conclusion: BRVT and FRACT are useful tests for assessment of low vision, however, they do not appear to be interchangeable. The difference in patient performance may be due to different levels of lighting, contrast and glare, as FrACT uses back screen illumination in dark surroundings and BRVT uses room light.