

AN AUTOMATIC CAP ARRANGEMENT SCORING DEVICE

Poor color vision can be inherited (an estimated 8% of men and .5% of women have a congenital color vision defect) or acquired as the result of disease, certain medications, trauma, aging, or exposure to particular chemicals and other environmental factors. Cap arrangement tests (e.g. Farnsworth-Munsell 100 Hue, Farnsworth D-15, L'Anthony D-15 Desaturated, etc.) are among the most valid and reliable color vision tests to quantify color deficits currently available. However, these tests, particularly the FM 100, are time consuming to score and are highly susceptible to transcription errors.

Researchers at the University of Missouri-St. Louis have developed the Automatic Cap Arrangement Scoring Device (ACASD) to significantly reduce testing time and improve measurement reliability of cap arrangement tests by electronically automating scoring and data entry. Once the patient places the caps in the test tray, the rest will be automatic -- scoring, data entry and printing of results. Upgrading existing cap arrangement devices is easy by transferring existing test papers to the new cap.

POTENTIAL AREAS OF APPLICATIONS:

- Standard cap arrangement color vision tests given not only by optometrists and ophthalmologists as part of a visual examination, but employers filling positions with color vision requirements
- Other applications where specific sequences of small items are necessary

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