RANDOT Circles

This is a multiple-choice series which tests fine depth discrimination. Within each of eight targets are four potential circles. One of the circles has crossed disparity while the other three have equal uncrossed disparity. This will result in only one appearing forward of the surrounding and the other three behind. Ask the patient which one seems to float forward or is "different" from the others -- top, bottom, right or left. Continue until the patient gives up trying or makes two successive mistakes.

Scoring Key		Seconds of arc at 16 in.
1	T	400
2	B	200
3	R	100
4	T	70
5	L	50
6	R	40
7	B	30
8	T	20

The two suppression checks at each side of targets 4 and 5 are useful in analyzing the visual balance of the two eyes, the circle to the right for the right eye and the square to the left for the left eye. The relative stability of these can give clues of eye dominance, and of course gross fading or absence indicates a failure of that eye to function properly under binocular conditions. The change manifest in the appearance of the form when intermittently covering the opposite eye may indicate the nature and degree of malfusion present.

Care of the Stereotests and Viewer

Handle with reasonable care. Clean with a soft damp cloth and then wipe dry with a soft cloth. DO NOT use cleaning fluids or solvents.

WARNING: The dyes required for polarized printing will fade if exposed to heat and humidity. In areas of high humidity, especially at the hotter times of the year, the Stereotests should be stored in a cool, dry place when not in use.

RANDOT®
STEREOTESTS
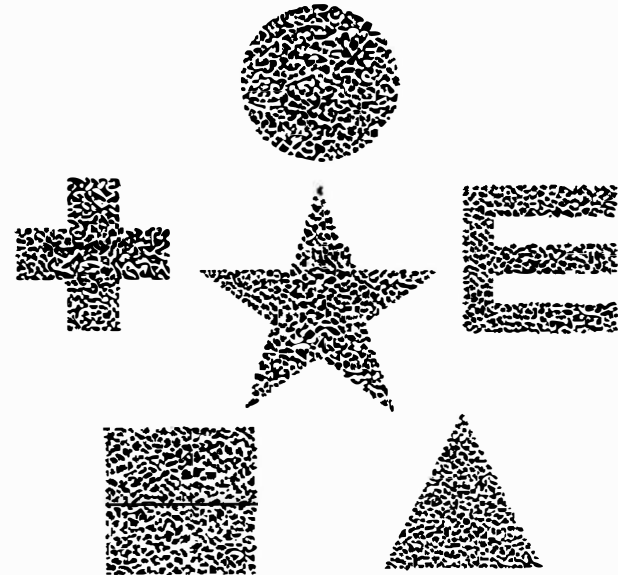
RANDOT STEREOTESTS

Stereopsis, as a discrete test of the ability to binocularly discern a difference in the distance from the observer of two static objects, has been attended by many variables that have made correlations of the various forms of the test by the measure of the binocular parallax inaccurate. Form (both figure and ground), size, contrast, and distance between objects also influence judgement, and some figure-ground configurations provide monocular clues that may invalidate the test.

The RANDOT Stereotests now provide the opportunity to achieve excellent validity and reliability. The random dot patterns made popular by computer technology require the binocular individual (impossible monocularly) to extract a form figure from ground in such immediate juxtaposition that any influence the distance between them might have on judgement is eliminated. As form is essential to meaning, there will be a concimitant test of form emergence associated with a graded test of stereopsis by the random dot method, but although the test prescribes a "form" response, it can still be valid if there is perceived only "something there" at the proper location. Further investigation could possibly demonstrate that because of difficulty near threshold levels in separating figure from ground far enough to permit form discrimination, it may be more useful with the random dot method to measure the sensing of *pure* stereopsis as being "present" or "absent" rather than by a gradient of disparity.

The RANDOT Stereotests provide three variations to facilitate testing of individuals at different levels of comprehension as well as the traditional gradient of disparity:

1. Six large areas contain basic forms having the same gross stereoscopic disparity, with one (star) also having a density differential, permitting the monocular individual to perceive this form, and to give those with a slow response, either visual or conceptual, some idea of what they are looking for.

2. Three lines of smaller areas repeat five forms in different sequences and decreasing disparity.

3. A series of eight patterns gradually approach the threshold of random dot stereoscopic form resolution, providing a multiple choice selection by a unique requirement of judging which one of four forms stands forward from groung while the other three are recessed.

TO ADMINISTER, hold the test upright before the patient to maintain the proper axis of polarization; also, do not allow the head to tilt to the side. Provide adequate light, avoiding reflections from the surfaces of the test -- a dark area or curtain behind the patient helps. Although the tests are graded at 16 inches, some variation in distance will have little effect on the score. Polarized viewers must always be worn -- over prescription glasses, if used. For the bifocal wearer, position the test properly for near-point viewing.

RANDOT Forms -- Gross

Simple geometric forms and the familiar E are central in each area, with one (star) acting as a control so even the monocular individual can make some response. Ask if any familiar form is seen in each. If the first response is the "star," ask "do you see any others not as dark as the star?" If there is no quick response with the remaining five forms, do not conclude too rapidly that there is no stereoscopic fusion. Some binocular individuals rely heavily on monocular clues of stereopsis such as motion parallax, overlap, size, perspective, shading, and when binocular retinal disparity is the only one present, as in this test, the perceptual response may develop slowly. So let the patient study it for a while, giving encouragement and suggestion. Wobbling the folder, inducing apparent motion parallax may help, which in this artificial test is an exclusively binocular phenomenon.

Presenting the test upside down will reverse the polarity of the images, making the form appear behind ground instead of forward, but it is easier to perceive the form if it is forward of ground.

Use the forms printed on the front of these instructions to help the non-verbal person match the form he sees.
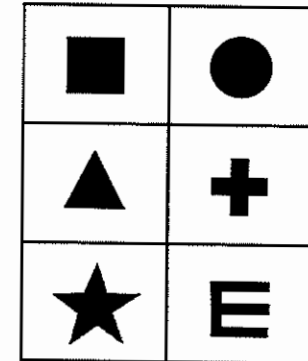
600 seconds of arc at 16 in.

RANDOT Forms -- Graded

Five of the forms are randomly repeated with increasing difficulty on each of three lines.

	SCORING KEY	Seconds of arc at 16 in.
A	▲ ● ✚ E ■	400
B	✚ ▲ ■ ● E	200
C	● E ✚ ■ ▲	100