APPLIANCE

THE R.A.F. NEAR-POINT RULE *

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IT HAS been stated that 66 per cent. of all cases of uniocular visual loss in young adult men is due to amblyopia (Duke-Elder, 1949).

Under the present conditions of National Service, many men with amblyopic eyes are called up each year.

In the ordinary routine of civilian life, the risk of ocular inefficiency is small, but under service conditions, particularly those encountered overseas, the recruit with an amblyopic eye often presents an embarrassing problem to the unit medical officer.

In the desert war of the 1940s a number of men reported sick complaining of deterioration of vision. In many cases their medical documents were not available, and, confronted with the story that the glare of the sun had "ruined their eyesight" and finding that the visual acuity in one eye was indeed poor, the medical officer would send these men back to the base with a diagnosis of "eclipse" blindness, optic neuritis, or merely defective visual acuity.

Often these cases proved to be nothing more serious than amblyopia ex-anopsia. Nevertheless they constituted a charge on public funds, and in consequence an endeavour is now being made to provide enough information for the suitable employment of men with amblyopia should they sustain an injury to or an infection in their better eye.

Regarding technicians and office workers there appeared to be two questions which called for an answer. First, in the case of amblyopia, what correlation, if any, exists between the visual acuity for distance and that needed for reading. Secondly, how can the ability to carry out routine clerical duties be measured and recorded.

The R.A.F. near-point rule has been devised, not only to provide the answer to these questions but also to carry out the routine measurement of convergence power, and uniocular and binocular accommodation.

The instrument is made of metal and plastic; it is 50 cm. long and is marked on the top in centimetres, and on the two sides in dioptries and the corresponding age groups (Figure).

On a metal slide is carried a quadrilateral which can be rotated to present on each of its four washable white plastic faces the following optical tests:

- (a) Reduced Snellen test type which subtends the same angle at the eye at 35 cm. as the test type subtends at 6 metres.
- (b) "Times Roman" type face recommended by the Faculty of Ophthalmologists (Law, 1951) presented in four lines: N.5, N.8, N.10, and N.12.

- (c) Photographic reproduction of a section of the G.P.O. Telephone Directory.
- (d) Vertical line and central dot for convergence fixation.

The new rule was made 50 cm. in length for two reasons:

- (1) Many presbyopes with an indifferent power of convergence prefer to read at a distance of some 40 cm.
- (2) The angle of 25° from the eye can be easily determined, by a point at the end of a rule 23.3 cm. long ($\tan 25^\circ \times 50$) held at right angles to the end of the rod.

FIGURE.—Two views of the near-point rule, showing test cards.

This has been found a useful angle for the measurement of the ocular muscle defects most marked in the oblique positions of gaze.

An investigation was undertaken at the R.A.F. Central Medical Establishment to assess the degree of visual inefficiency resulting from amblyopia. The results are given in the previous paper in this issue (Catford, 1956).

REFERENCES

- CATFORD, G. V. (1956). *British Journal of Ophthalmology*, **40**, 633.
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 LAW, F. W. (1951). *British Journal of Ophthalmology*, **35**, 765.