AMBLYOPIA *
 A COMPARISON BETWEEN DISTANCE AND NEAR VISION

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AN ANALYSIS has been made of fifty consecutive cases of amblyopia in young men presenting themselves as candidates for admission to the Royal Air Force. These subjects were all of National Service age and from various backgrounds. Some had been aware of eye weakness from early childhood but had not responded to treatment (glasses and/or occlusion); others had not been treated at all, or their disability had been discovered at routine school medical examinations at 10 or 15 years of age, and had not improved on refraction.

The purpose of this analysis was to assess whether any relationship exists between distance and near visual acuity using the distance Snellen type at 20 feet and the reduced Snellen type for near. On the R.A.F. near point rule (Neely, 1956) the distance Snellen type is reduced to one seventeenth of its size and is accurate at one-third of a metre.

These findings are of practical importance in estimating the value of one-eyed personnel to the armed forces, when there is the risk of injury to the good eye and a man's life may depend on the acuity derived from the amblyopic eye. At the same time information is gained as to a man's ocular fitness for a specific trade.

An arbitrary standard of reasonable near vision has been made of N 6/24 or better, which is approximately equivalent to N 12 or better. This standard ensures that the subject would be capable of reading average type (*i.e.* a typewritten sheet).

The type of refractive error was noted and also the side on which the amblyopic eye occurred; no significant predisposition was found in this series, except that myopic cases would appear to be twice as commonly affected with amblyopia in the right than in the left eye, and that hypermetropic amblyopia is five times more common than any other type (Table).

TABLE

Type of Refractive Error	No. of Cases	Range of Refractive Error (dioptries)	
		Sphere	Cylinder
Hypermetropia	35	+0.25 to +8.0	+0.25 to +4.0
Myopia	7	-0.5 to -10.0	-0.5 to -2.5
Mixed Astigmatism	7	+1.0 to -1.5	+3.5 to -6.0
Emmetropia	1	0	0

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There was no specific improvement of vision whether the refractive error was large or small.

In the comparison of distance and near acuity, corrected vision was used, the worst corrected vision being 6/60.

In Fig. 1 corrected distance vision is compared with corrected near vision. The percentages of cases with equal distance and near vision are seen on the diagonal lines; to the left of the diagonal lines are those with worse near than distance and to the right those with better near than distance.

FIG. 1.—Percentage comparison between near and distance vision (corrected) of fifty amblyopic eyes.

The findings in Fig. 1 are shown diagrammatically in Fig. 2. Fig. 3 shows that 54 per cent. (27 of the fifty cases) had reasonable near vision within the arbitrary standard set.

FIG. 2.—Comparison of near and distance vision (corrected) of amblyopic eye.

Fig. 3.—Reasonable near vision.

More cases of myopic amblyopia had reasonable near vision than did those with other types of amblyopia where the ratio was more nearly equal.

Just over half the cases applying for engagement in the armed forces have reasonable near vision in the amblyopic eye. They may be trained for certain trades with the knowledge that they are able to carry out the required work with the amblyopic eye, where previously they might have been rejected.

Summary

A comparison has been made of distance and near vision in the amblyopic eyes of fifty applicants for the R.A.F. The R.A.F. near point rule was used for assessing near vision; 54 per cent. were found to have near vision equivalent to N 12 or better.

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REFERENCE

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