TEST TYPE

BY

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HOVE

It has always appeared to me that there must be something wrong with the expression $6/5$ or $6/4$ in making a note of a patient's vision. It cannot be right that, when a patient is placed 6 metres from the test type, that he should be able to read what he ought to read at 4 metres or even at five. It is obvious that the test type is at fault, and not that the patient has abnormally good sight. I have made various trials, and I have found that many test types do not conform to Snellen's, and even when they apparently do so (I use the word apparently for a reason which will appear later) a patient with full visual power will read more than $6/6$, or will read it too easily.

First let us consider what is the true Snellen's type. A letter or pattern is built up with 25 black and white squares, each of which subtends an angle of one minute at 6 metres. Does any of the so-called Snellen's type in fact do so? No. As the letters are printed in black on white paper, we have about 13 black squares on what is equivalent to several hundreds of white. It is for this reason that a patient can read the type too easily.

I have tried to make a true Snellen's type, and my method is as follows. I have taken 25 black and white squares, arranged in the form of letters, and placed them on a card of a neutral tint of grey. We thus have 12 or 13 white squares and a corresponding number of black and no more, for the background is neither black

NOTE.—As reproduced here the Test Type is reduced in size and the grey background is not of the true tint. To reproduce the type satisfactorily two "blocks" would have to be made, which is impracticable in War-time.

nor white. With this arrangement I have found that only those, who truly have 6/6 vision can read the letters, and I maintain that this is the solution of the problem. Two further points should be noted. The first is that it is immaterial whether the letters are formed with the white or the black squares, in fact it appears in practice that it is better to have some letters in white and some in black. The second is that some letters are not suitable to be included in the type. As far as possible the letters should be made up with twelve or thirteen squares; it is obvious that we cannot have half squares, for then the angle subtended would not be one minute. The following letters are the most suitable, and I suggest that these only are used, E F Z N L and T. This does not seem very many from which to choose, but if they are used more than once in a line, and the letters are sometimes white and sometimes black, it will be found that they are quite sufficient. In practice I do not think that it is necessary to print more than the 6/6 and the 6/9 lines in this special way. The type for 6/60, 6/36, 6/24, 6/18, and 6/12 can be printed in the usual way on a white background, so long as they are formed in the proper Snellen manner. In most types only one letter is given for 6/60, and two for 6/36, but in my opinion there should never be less than three letters of any one size.

My next objection to the existing type is that, when a patient cannot see 6/60, he is brought nearer to the type, and so we get records such as 3/60, 5/60, and the like. This is most inaccurate. It is convenient to do this in many cases, and in a great number of such cases it is sufficient for our needs. There are, however, many occasions when greater accuracy is wanted. For these cases I have made type as follows: 6/90, 6/120, 6/150, and 6/180. The results obtained are most interesting, and prove the inaccuracy of the method where the patient is brought nearer to the type. The tables of comparisons, I think, explain my point without further words of mine.

In examining the tables it will be noticed that there is perhaps more discrepancy amongst the cases with 3/60 vision than amongst the others. This may prove to be helpful in assessing the vision of those patients who are on the borderline of "blindness within the meaning of the act," and placing them in their proper category. The following cases are striking, J.N. right eye 3/60 6/150, left eye 3/60 6/90, P.G. right eye 3/60 6/180, left eye 3/60 6/90, and D. right eye 1/60 6/180, left eye 1/60 6/150.

The explanation of the inaccuracy of the usual practice is that, when the patient is brought nearer to the test type, the image does not fall entirely on the macula, but partly outside it. This shows why one patient, who reads say 3/60, sees less than another who also sees 3/60. One patient may have poor macular vision, and the

TABLE I

	Vision		Remarks
D. E.	5/60	6/90	Congenital Cataract. Aphakia (R. E.)
H.	5/60	6/90	Myope
O. N.	5/60	6/90	Congenital cataract
H. R.	5/60	6/120	Albino
K. H.	5/60	6/120	Choroiditis
B. P.	5/60	6/90	Myope
C.	4/60	6/90	Myope
D. E.	4/60	6/150	Congenital cataract. (L. E.)
D.	4/60	6/90	
A. E.	4/60	6/90	R. E. Optic atrophy
	4/60	6/90	L. E. Optic atrophy
R. J. N.	4/60	6/90	Old ophthalmia neonatorum. Optical iridectomy
P. B.	4/60	6/120	Nystagmus
J. deW.	3/60	6/90	Congenital cataract. Aphakia
H. G.	3/60	6/120	Albino
J. McC.	3/60	6/120	Retinitis
J. N.	3/60	6/150	R. E. Myope with corneal nebulae
	3/60	6/90	L.E. Myope with corneal nebulae
P. G.	3/60	6/180	R.E. Congenital cataract both eyes
	3/60	6/90	L.E.
E. Q.	3/60	6/150	Corneal leucoma
H.	3/60	6/150	Hypermetrope, nystagmus
McK.	3/60	6/90	
E. J.	3/60	6/150	Albino myope
H. G.	2/60	6/120	Albino
K. G.	2/60	6/150	Old ophthalmia neonatorum. Central leucoma
J. McC.	2/60	6/120	Retinitis. L.E.
A. P.	2/60	6/150	Macular degeneration
R. J.	1/60	6/180	Myope -20.0 DSph. Vision really 6/180 partly
D.	1/60	6/180	R.E.
	1/60	6/150	L.E.
G. M.	1/60	less than 6/180	

other may not, but the only way of differentiating between them is by using the proper type at 6 metres. Another factor which no doubt plays an important part is accommodation.

I have found that to print the letters for 6/90 etcetera, requires a card 25 by 20 inches, in order to get three letters for the various types except 6/180, when only two letters for this type can be placed on a card of this size. I have no doubt that the letters could be printed on a roller blind of white material, which would be more convenient, but anyhow the type is needed only in certain cases.

TABLE II

1	6/90	5/60	11	6/120	3/60
2	6/90	5/60	12	6/120	3/60
3	6/90	5/60	11	6/120	2/60
	6/90	5/60	12	6/120	2/60
5	6/90	4/60	13	6/150	3/60
6	6/90	4/60	14	6/150	3/60
7	6/90	4/60	15	6/150	3/60
8	6/90	4/60	17	6/150	2/60
10	6/90	3/60	18	6/150	2/60
13	6/90	3/60	20	6/150	1/60
16	6/90	3/60	19	6/180	2/60
4	6/120	5/60	20	6/180	1/60
9	6/120	4/60	22	6/180	1/60

As regards the occasions when this type for more than 6/60 will be needed each oculist must decide for himself, but I suggest that it should always be used in schools for the partially-sighted, whether myopes or not, also in such cases as those which require an accurate report of their vision. I hope that possibly this suggestion may be of some use in helping to solve the difficult problem of deciding if a patient is "blind." At present the definition of blindness is vague, and perhaps the addition of an accurate record of vision together with the usual "so blind as to be unable to perform any work for which eyesight is essential" may be of assistance.

ANNOTATION

Quis Custodiet Ipsos Custodes

When a patient begins to cross-examine one about some part of his ophthalmic anatomy, before one has mentioned it, it is a sure sign that he has been told something by somebody else and wishes to have a second opinion without disclosing the fact that he has already had a previous one. If one realises at the time what he is at, it is best to tell the patient to put all his cards on the table. But many patients love being secretive; they do not necessarily wittingly mislead one but they like to keep facts back. The writer was taken in in this way some years ago and the story may be worth telling. A young man was sent to see us by a doctor who had been our contemporary as a student. He complained of his right eye which had become misty about 4 days before. The eye was only