

Wounds of the transverse colon are more apt to be multiple than those of the other parts.

Considering the extent of the injury, the wounds of the great gut are much more fatal than those of the small gut—no doubt due to the greater toxicity of the great gut contents.

Liver.—Most of the injuries were explored on account of hæmorrhage or doubt as to the involvement of hollow viscera. Hæmorrhage usually ceases in a few hours unless a vein in the liver substance has been opened, when the bleeding is continuous and dangerous. A good many cases might have got well without operation.

Spleen.—There is good reason to think that a good many spleen cases get well of themselves, and that it is only when the vessels are torn that the bleeding is excessive.

The kidney and spleen seem to be not uncommonly injured together, while the stomach which lies so near escapes.

TESTS FOR SIMULATED DEFECTIVE VISION OR FOR BLINDNESS OF ONE EYE.

BY TEMPORARY LIEUTENANT-COLONEL SIR JOHN COLLIE, M.D.

THESE instructions are intended for the use of medical examiners, other than ophthalmic experts.

It is hoped that by a selection from the experiments here suggested the less skilful attempts at deception may forthwith be frustrated, and the recruit be induced to read up to the required standard, otherwise he should be referred for the ophthalmic examination of the expert, because what appears to be an attempted fraud may only be an exaggeration of genuine defective vision.

Many men who complain of defective vision do not persist in their complaint when they appreciate that they are being examined in a way which will probably lead to detection, and it is believed that in many cases only one of the following tests may be necessary.

The experiments are arranged in the order of their simplicity and their applicability to the examination of recruits.

The apparatus required for the various tests is of a very simple and inexpensive nature. A list of the things required for the tests is subjoined.

It is assumed in all these experiments that care is taken that the patient does not succeed under any pretext in closing either eye momentarily.

Recruits sometimes get to know before examination what the letters in the different lines of Snellen's test cards are. Those who have defective vision and wish to pass sometimes affect to read the first

three lines when they do not in fact see them. A fixed transposition of the lines becomes known. A useful plan is to have each line of Snellen's test types printed on a separate slip of cardboard: these can be arranged in various positions on a frame by a simple arrangement of slots.

TESTS FOR SIMULATED PARTIAL BLINDNESS.

(1) This test may be used for the discovery of a fraudulent allegation of defective vision in one eye, short of simulated blindness.

It depends upon two facts: First, if both eyes are open, it is impossible to tell with which one sees an object, and second, anything coloured red cannot be distinguished as red if seen through a red glass by *reflected* light. If, for instance, half of the letter W is printed in red and half in black, it will be read as V through a red glass.

The following procedure is suggested:—

The recruit should first be tested in the ordinary way by Snellen's test types, and the visual acuity noted. Suppose he reads $\frac{6}{6}$ with the left and $\frac{6}{36}$ with the right eye. He should then be brought two feet nearer the test type, his back momentarily turned, and the card with particular letters substituted for that of Snellen. This test should not be applied in a very bright light (either day or artificial). He is fitted with a trial spectacle frame with a red glass for one eye and green glass for the other, the green glass in this case being placed in front of the right eye and the red glass in front of the sound (left) eye. He is *then* told to turn round and read with both eyes off-hand as far down the card as he can, commencing at the largest letter. If he now reads the red portions of letters of any line below $\frac{6}{36}$ he is, of course, doing so with the eye he alleged to be defective, and the lower down he reads the better he proves the vision in his right eye to be. For instance, if he reads 40 as 40 and not as 1 C, and L as L and not as I (see letters on next page), he must have read these with his right eye, as the red portions of these letters were invisible to the left eye.

When the card has been once seen by the recruit he must *never* be allowed to look at it again without the coloured lenses in front of his eyes. If this is permitted, even momentarily, the whole procedure will be unsuccessful. When made to face the card it should be insisted that he reads the table at once, otherwise he may observe a lustre in the red portions, which would arouse his suspicion. (Haselberg.)

(2) If it is suspected that an alleged inability to read anything but the large letters of Snellen's test types is not genuine, the following experiment is helpful:—

The recruit is placed twenty feet away from a looking-glass, in front of which is placed a card with Snellen's test types. He is instructed to indicate the line beyond which he can no longer read the letters.

1 O I

4 H B

8 R Q

4 M K O

The card is removed from the mirror, and he is told to stand ten feet nearer the mirror. A test-type card with letters of the same size, but printed *backwards*, is placed in his hands and held in front of his chest as he faces the glass. He is now told to read the letters which he sees reflected on the mirror. As he is now standing at half the distance from the mirror that he was in the first place (should he be ignorant of the laws of reflection) he may be induced to read double the number of lines he read in the first instance.

(3) Simulated defective vision may be demonstrated as follows:—

Render the sound eye artificially myopic by placing in front of it a convex glass of 5D. Assuming the eye is emmetropic, its far point is now about twenty centimetres (eight inches) distant, and with this eye he cannot read fine print farther away. He is asked at first to read with both eyes at quite a short distance, and now if the print is gradually withdrawn considerably farther than twenty centimetres, and he continues to read aloud, it is apparent that he is now reading with the alleged defective eye, which he brought into use when the artificially myopic one was put out of range by the withdrawal of the book. (Duane.)

(4) The same test may be applied for distant vision, as follows:—

The patient is placed twenty feet from Snellen's test-types. A trial frame is used containing a plain glass in front of the eye said to be blind or defective, and a convex 8D. in front of the sound eye. He is at once urged to read with both eyes. If he succeeds in doing so it is with the eye which has been declared to be defective.

Before putting the strong convex lens in front of the sound eye it is well first to disarm suspicion by placing a series of very weak concave lenses in front of the eye.

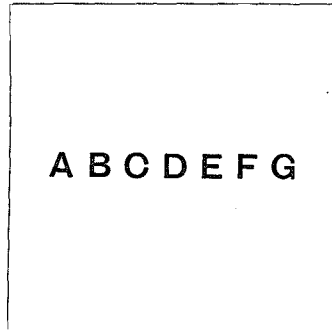
(5) Whilst the recruit is reading aloud, a prism of 4° with its base downwards is placed in front of the alleged defective eye. If the vision in that eye is really poor, the presence of the prism will make little or no difference, and he will read on as before. On the other hand, if he sees fairly well with this eye, the presence of the prism will produce superimposed double images, consequent confusion, and an involuntary pause in his reading. (Duane.)

(6) Bishop Harman's Diaphragm Test consists of a flat ruler eighteen inches long. At one end is a piece of wood called the carrier, set at right angles, on which is placed a small card with letters or numbers. Five inches from the carrier there is a small vertical screen, which is pierced by a hole three-quarters of an inch in diameter. The apparatus is used by placing the end opposite the carrier immediately below the nose, on the upper lip, asking the recruit to read the letters through the hole in the screen. The application of the test depends on two facts:—

(a) That one cannot perceive with which of his two eyes he is seeing if both eyes are kept open.

(b) That objects on the right-hand side are seen by the left eye, and those on the left by the right eye.

A small card with the following letters or numbers



is placed upon the carrier, and the recruit is instructed to read through the hole. If the recruit only reads D E F G, it is obvious that his right eye is defective; whereas if he only reads A B C D, it is equally clear that he is only using his right eye, and his left eye is defective, for, as is well known, the visual axes cross. It is impossible for a malingerer, if he does not understand the instrument, to succeed in pitting his wits against those of the medical examiner.

The visual acuity may be tested by letters of different sizes.

The possibility of the fraudulent use of atropine has to be borne in mind. Where the pupil is widely dilated and fixed and conjunctival injection is present, the condition is suggestive of the recent use of a mydriatic. The astute malingerer, however, applies atropine a day or two before the examination, when the pupil will be sluggish and only partially dilated.

TESTS FOR SIMULATED TOTAL BLINDNESS OF ONE EYE.

Alleged Blind Eyes.—An eye which deviates on fixation of the other eye is generally blind. A fixed dilated pupil (apart from the use of atropine) suggests organic rather than functional blindness. A pupil which remains motionless when exposed to bright light, but contracts under the influence of convergence and accommodation, points to the probability of unilateral blindness.

(7) Haselberg's test (No. 1) may be used for demonstrating simulation of total blindness.

(8) The recruit's name should be incorrectly spelt with a red crayon on white paper, the pencil being pressed lightly on the paper. A trial spectacle frame is put on the face; it should have a green eye-piece in front of the alleged blind eye and a red eye-piece in front of the sound eye.

The recruit is then asked if his name has been spelt correctly. If he says anything but that he can see no writing it is obvious that he is attempting to deceive, because red letters on a white opaque ground when viewed by *reflected* light cannot be seen through a red glass, since they offer no contrast to the background.

(9) Print on a piece of ordinary notepaper the letters R E S O R T. The letters should be made alternately with a very soft red crayon and a soft black pencil. If it is alleged that the right eye is blind, a piece of red glass is placed in front of the left eye and the patient is asked, not to read the word, but to *spell* the letters in front of him. If he spells R E S O R T then he sees with the right or alleged blind eye. The red glass prevents the red letters being seen with the left eye, and as he *has* read the red letters, he must have done so with the right eye. It is important not to mark the letters heavily, or the impression of the letters, apart from colour, will be left on the paper and can be read; hence the recommendation to use a soft pencil; red ink is not suitable.

(10) A recruit is asked to read simple small printed words from a book. Suddenly, whilst he reads, a pencil is placed vertically in the middle of the page of print, or three or four inches in front of it. If he sees with both eyes, he can read straight on, for he can see round the pencil as it were—he really reads on each side of it. If one eye is blind he stops, for one or two words are hidden by the pencil. (Javal—Cuignet.)

(11) Alleged total blindness of one eye is readily demonstrated by directing the recruit to read by *transmitted* light the letters of the word T H E O R Y made of transparent glass on an opaque ground. The letters are of red and green glass, and placed alternately. Assuming that the right eye is stated to be blind, before being asked to *spell* out the word a spectacle frame is placed on the face, with a red glass in front of the left eye and a green glass in front of the right eye. By *transmitted* light through the red glass of the spectacles the red letters only are seen, and through the green glass the green letters only are seen. If, therefore, the recruit reads the whole word he has read the green letters with his right eye which he stated was blind.

(12) With monocular vision stereoscopic vision is lost. By means of an ordinary stereoscope it may be demonstrated whether a patient is using one or both eyes. Most of the ordinary double photographs prepared for the stereoscope have a description of the subject printed at the bottom of one photo only—generally that opposite the right eye. This printed matter, when looked at through the stereoscope, is seen with the right only, and if, therefore, it is read, it proves that the right eye is not blind.

Now, if the printed matter is covered over by means of a strip of paper, and the same or other words are written at the bottom of the photograph which is opposite the left eye, and the patient again reads the description, he sees also with his left eye.

A special stereoscopic picture has been prepared. Opposite the right eye there is a picture of a boy, and opposite the left that of a man. These viewed through the stereoscope are seen separately if the eyes are closed alternately, but if looked at with both eyes the boy is seen on the man's back. The opportunity of catching out a malingerer with this device is obvious.

(13) Tests for binocular vision in alleged monocular blindness :—

(a) Place a lighted candle in front of the subject; hold an 8° prism base outwards before one eye. If both eyes see, the one behind the prism will move inwards, and on removing the prism will move outwards; the other eye remains fixed. (Welz.)

(b) A lighted candle is placed twenty feet from the subject; an 8° prism is put before the sound eye. If the superimposed double images are admitted, the fraud is apparent. In obtaining the admission it should not be asked if he sees two images, which gives an opportunity for a negative reply, but he should be requested to state at once if the two images are placed one above the other or side by side, and which is the brighter.

In neither (a) nor (b) need the room be darkened, although artificial light is being used.

APPARATUS REQUIRED FOR THE TESTS.

Trial spectacle frame with: A plain glass; a red glass; a green glass; two convex lenses, one 5D. and the other 8D.; two prisms, one 4° and the other 8°. Snellen's test-types reversed. Soft red crayon. Bishop Harman's diaphragm test. Mirror. Haselberg's parti-coloured test-card.

CASE OF ACUTE YELLOW ATROPHY OF THE LIVER TREATED BY INJECTIONS OF SODIUM BICARBONATE; RECOVERY.

BY TEMPORARY CAPTAIN C. NEPEAN LONGRIDGE.

Royal Army Medical Corps.

E. P., AGED 25, reported sick on October 1, his symptoms at that time being headache, pains in the legs, occasional slight attacks of diarrhoea, and a pain described as neuralgic in character in the gums. These symptoms were accompanied by fever. He was sent from Gallipoli and admitted to the Giza Hospital, Egypt, on October 10, 1915. Inquiry into his previous history revealed nothing of any interest except an attack of synovitis of the knee some years previously. On admission he complained of feeling sick, loss of appetite and feeling weak, the pains in his legs being much better. He was a healthy-looking, fresh-complexioned young man and well nourished. The tongue was