

Optec[®]PLUS



SUMMARY OF TESTS (C86002)

Test List:

Model C86002 (General Pretesting)

1. Acuity - Allen
2. Acuity - E of Snellen*
3. Acuity - HOTV
4. Acuity - Landolt*
5. Acuity - Letters
6. Acuity - Letters/Numbers
7. Acuity - Numbers/Letters
8. Acuity - Tumbling E*
9. Acuity - Tumbling E Child
10. Ametropia - Red/Green
11. Astigmatism - Dial of Parent
12. Colors - Discs
13. Colors - Ishihara
14. Colors - Tumbling E*
15. Contrasts - Three levels
16. Depth Perception - Rings (400" to 20")*
17. Depth Perception - Traffic signs
18. Fusion - Boxes
19. Fusion - Cross
20. Phoria - Music (Vertical)
21. Phoria - Notes (lateral)
22. Phoria - Point & Rectangle (3d-3d)
23. Release of the accommodation - Landscape
24. Visual field - Horizontal and vertical field of vision
25. Visual field - Horizontal peripheral field*

*Also can be set up to run in the automatic mode

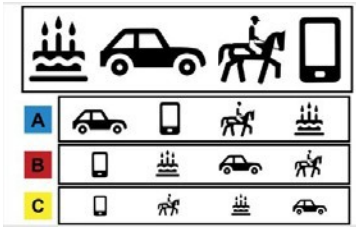
TEST DETAILS

1. Acuity - Allen

The Preschool Test is a valid index of visual acuity recorded in terms of a 30-foot denominator. It is intended for pre-school children and has given reliable results from the age of two years and up.

Question

“Can you recognize these drawings?”



Answers

Acuity is good if the subject reads the four lines correctly.
Test subject must answer all four correctly per line to pass that acuity.

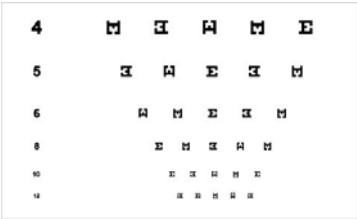
The Random button enables random display of the optotypes.

2. Acuity - E of Snellen

The chart shows 11 rows of capital letter E that are progressively smaller.

Questions

“Can you give the direction of the opening of the E? Above, below, towards the left or the right-hand side?
You can guess if you are not sure of your answer.”



People who are not used to reading letters (or figures) will have less difficulty with the letters E as long as they are lateralized well.



Use the “Raskin E” test rather than the “Snellen E” test.



Encourage hesitant people to take a guess.

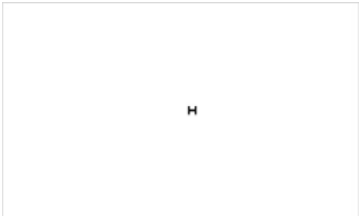
If in doubt, ask them to point in the direction of the lines.

3. Acuity - HOTV

A set of four optotypes, sans-serif versions of the letter H, O, T, and V, are used. A child is first taught the four symbols using the flash cards and then tested. HOTV chart is an accurate screener for testing acuity in preliterate patients such as preschool and kindergarten children.


Question

“What letter can you read?”



Answer

The test is successful if the patient reads the letters correctly.

Press  Random for a random display of the optotypes.

Press:



to display the group of characters of your choice via the screen below:

Press:



to display the line of optotypes corresponding to the acuity of your choice:



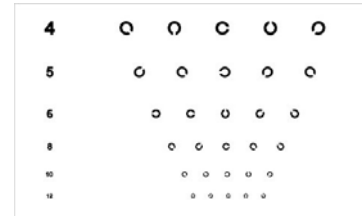
4. Acuity - Landolt

The Landolt C consists of a ring that has a gap, thus looking similar to the letter C. A Landolt ring or Landolt broken ring, is an optotype, i.e., a standardized symbol used for testing vision.

Question

“Can you give the direction of the opening to the broken ring: at the top, below, on the left, or on the right, or then in which oblique direction?”

You can guess if you are not sure of your answer.”



In case of doubt, ask the subject to point in the direction of the opening. Encourage hesitant people to take a guess.

The subjects who are not accustomed to reading the letters (or the figures) will have less difficulty with the Landolt rings or “broken rings” in so far as they are quite lateralized.

5-7. Acuity - Letters, Letters / Numbers, Numbers / Letters

Question

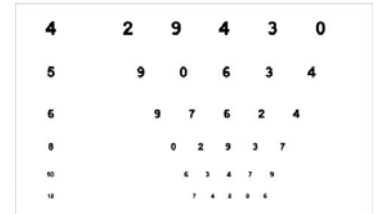
"You have already been able to read this."

> Then insert the ancillary lens in the upper part of the device and ask:

>

"With this, what is the smallest line which you can read?"

Is this more blurred than before?"



The range of acuities selected by default runs from 4 to 12/10:

Acuity
4-12

If the patient cannot read anything, press on:

Acuity
1-3

to call the acuities of 1 with 3/10° and ask the question again:

"What are the smallest letters you can read? You can guess if you are not sure of your answer."

Answers

The answer is valid when 4/5 letters (or figures) are read correctly.

If the operator has the impression that the patient reads figures better than letters (for example: results from a previous test on figures or bad knowledge of the alphabet: illiteracy), press on:

TEST DETAILS

1 2 3
Numbers


figures. Press:



A b c
Letters

to return to the optotype table with the letters.



Press  Random for a random display of the optotypes.

You can configure the acuities display, for that refer to the section: Set up the monitoring software > Set up the tests



Press a second time on:

Acuity
1-3

or

Acuity
4-12

to display the line of optotypes corresponding to the acuity of your choice.

Choose the line to be displayed via the screen below:

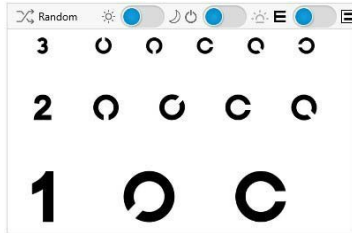
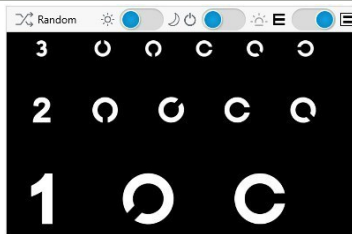
Acuity 1-3	Acuity 1	Acuity 2	
	Acuity 3	Acuity 1-3	
Acuity 4-12	Acuity 4	Acuity 5	Acuity 6
	Acuity 8	Acuity 10	Acuity 12
			Acuity 4-12



Make hesitant people take a guess.



The button  allows the test to be displayed:

Black on white background	
White on black background	



This button is available only if the option was bought and activated.

TEST DETAILS

Latent farsightedness

For far vision, if the patient sees as well or better with the ancillary lens, he/she is farsighted which needs more frequent periodic check-ups to screen for eventual early presbyopia.

This test can also be used as confirmation if there is doubt about the red/green test, but it only detects mid -or considerable farsightedness.



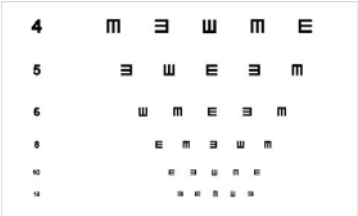
You must use an ancillary lens +1.75 or 2.25 to carry out this test. Go back to the part: To insert an ancillary lens

8. Acuity - Tumbling E

A stylized E, in various orientations to test visual acuity, This has become standard for testing populations not familiar with the Roman alphabet.

Question

“Can you give the direction of the opening of the E? Above, below, towards the left or the right-hand side?
You can guess if you are not sure of your answer.”



People who are not used to reading letters (or figures) will have less difficulty with the letters E as long as they are lateralized well.



Use the “Raskin E” test rather than the “Snellen E” test.

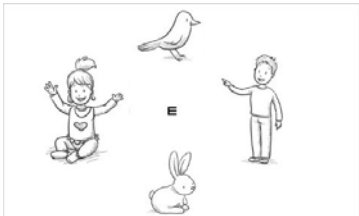



Encourage hesitant people to take a guess.
If in doubt, ask them to point in the direction of the lines.



9. Acuity - Tumbling E Child

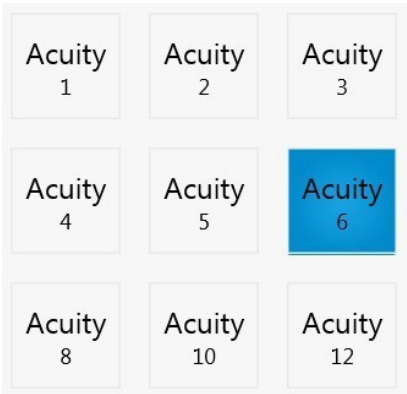
Question



“The branches of the E are pointing towards which drawing?”

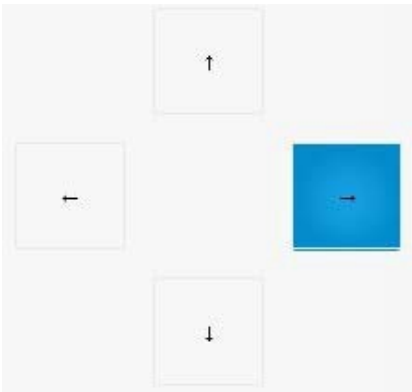


Press  Random for a random display of the optotypes.

Press:   to display the line of optotypes corresponding to the acuity of your choice:



Press:   to modify the direction of the branches of the “E”



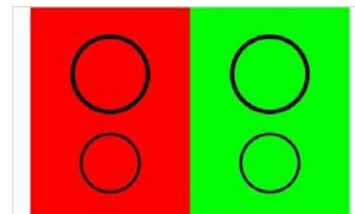
10. Ametropia - Red/Green



The ametropia test must be carried out after the acuity tests in order to remain in far vision.

Question

“Are the circles clearer with the red background (on the left), on the green background (on the right), or as clear on both sides?”



Answers

- If the result is clearer in red: myopic tendency (images in front of the retina).
- If the result is as clear on both sides: emmetropic (images on the retina).
- If the result is clearer in green: hypermetropic tendency (image behind the retina).
In this case, automatically carry out the test for latent farsightedness (ancillary lens).



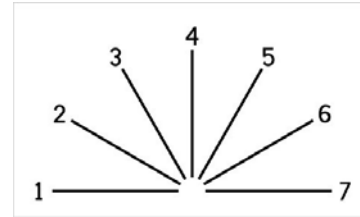
If the patient sees three series of circles instead of two, ask him to look away from the device and start the test again. Very often, the subject will see no more than two of them.

> Input in notes: “Difficulty of fusion on the Red/Green test”.

11. Astigmatism - Dial of Parent

Question

“Are one or more lines clearer or less clear than the others, or are they as clear as the others?”



Results

- If all the lines are as clear as the others, there is no astigmatism^(p.94).
 - If one or more lines are seen clearer, less clear, or duplicated, there is astigmatism.
 - If the patient sees some lines longer than the others but as clear, there is no astigmatism.
- In this case: check that the patient understood correctly that the lines can be as clear **or** that there can be a difference.



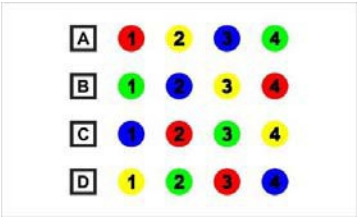
The line no. is not important for screening.

The subjects which have a very good acuity ($>12/10$) can be more constrained than the others by a small astigmatism. Be particularly attentive if there is a complaint which was noted during the anamnesis.

12. Colors - Discs



Question

“For each line, from left to right, which colors can you see?”



Answer

The patient passes the test if all the lines are read correctly.
Indicate the colors seen in the *Answers* section.

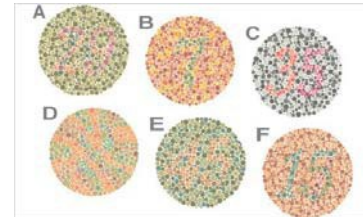
 Press  Random for a random display of the optotypes.

13. Colors – Ishihara

The original Ishihara color blindness test is the most well known color vision deficiency test all around the world.

Question


“Can you read the numbers at the top from left to right then in bottom from left to right?”



Answer

A patient with good color perception will see the reproduced figures clearly. Input the figures the patient reads out in the *Answers* part.



Press  Random for a random display of the optotypes.




If the subject has a low acuity, display larger optotypes by pressing on:





By pressing:

- a letter (A, B, C, D, E or F), only one test is displayed,

-  the six tests are displayed simultaneously.



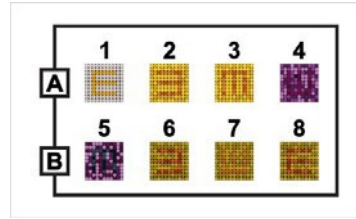
By pressing:

-  , all the correct answers are displayed
-  , nor e of the answers are displayed

14. Colors - Tumbling E

Question

"Can you tell me the direction of the letters E?"



Answer

A patient with a good perception of the colors identifies the direction of the "E" in each of the 8 blocks.




If the patient identifies 5 blocks out of 8, his perception of the colors can be considered acceptable.


Blocks 2 and 3 being most difficult to identify, it is recommended to test block 1 then 4, 5, 6, 7, 8 and then return to blocks 2 and 3.

If the patient does not identify the direction of the "E" in blocks 1, 2 or 3, then he will have to take the test again at another time. It is common for the patient to pass the test on his second attempt.



By pressing:

 , all the correct answers are displayed

 , none of the answers are displayed

15. Contrasts: Three levels

Question

“Can you read the line in the middle?”

> If all of the middle line has been read:

“Can you read the line at the bottom?”

Each block represents a different acuity: 4.6 and 8 /10. Each line has a different shade of gray: 60%,40% and 20%.



The darkest line is at 60% and the clearest at 20%.



Answers

Sensitivity to contrasts is correct when the patient reads the 4 letters at 6/10 with 40% of gray.



Refer to the conversion table to match the various acuity scales and the types of notation. This table is available on the USB key.



Press  Random for a random display of theoptotypes.

16. Depth Perception - Rings (400" - 20")

Question

"Can you see that in the drawing number 1, the point on the left is closer to you? What is in the other drawings?"



It is possible to modify the angles of relief by clicking on:

400"
50"

or

40"
20"



By selecting:

40"
20"

the reliefs will be more difficult to locate.

Answer


The answer is correct when the dot is seen nearer or at the same level as the rest of the drawing. It is wrong when the dot is seen on the sides.

It should be checked systematically whether the dot is seen correctly in depth.



Sometimes some people have difficulty understanding the test. In this case, one can "sacrifice" the first answer: say which point is in relief and ask the subject if he sees that it is closer to him than the rest of the drawing or if he sees this point shifted on the sides.



Press  Random for a random display of the points.



By pressing:



, all the correct answers are displayed



, none of the answers are displayed



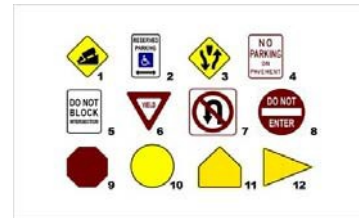
By clicking on the button on the right of visual, you indicate that the patient does not see the point in relief but that it moves.



17. Depth Perception - Traffic signs

Question

"On each line, a road sign is displayed in 3D, which one can you see?"



Answer

The answer is correct if the patient answers:

Line 1: panel no. 3

Line 2: panel no. 6

Line 3: panel no. 11



The values between brackets indicate the angles of relief. Here:

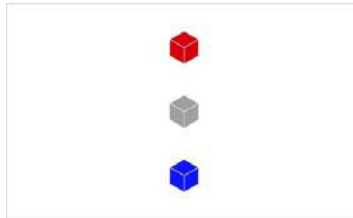
- The panel no. 3 has an angle of relief of 581"
- The panel no. 6 has an angle of relief of 323"
- The panel no. 11 has an angle of relief of 145"

TEST DETAILS

18. Fusion - Boxes

Question

"How much boxes do you see?"



Answer

Fusion is good if the patient sees three boxes.



The test can be carried out only in binocular vision.

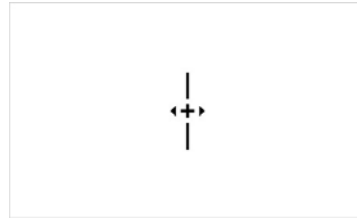
19. Fusion - Cross

Question

"Can you see the line at the top?"

"Is it on the left, on the right, or does it continue on the lower line?"

"How many crosses can you see?"



Answers

Fusion is good if the patient only sees one image of the line at the top, the line in the lower part, only one cross and two triangles. The subject can say that the two lines are almost aligned, but with a very slight offset while seeing only one cross. If in doubt, fusion can be considered acceptable: microstrabism.



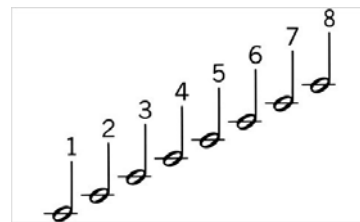
Do not carry out this test if the patient is monophthalme or amblyopic (important difference in acuity between the two eyes due to a so-called "lazy" eye).

TEST DETAILS

20. Phoria - Music(Vertical)

Question

“What musical note does the horizontal dotted line point to?”



Answer

The test is regarded as successful if the line is seen between notes 2 and 6.



If the subject sees the line moving, ask him where the line was initially seen.

Each note of music number represents half of a diopter of the power prisms:

- 1 to 4 indicating a left hyperphoria 4 to 7
- indicating a right hyperphoria

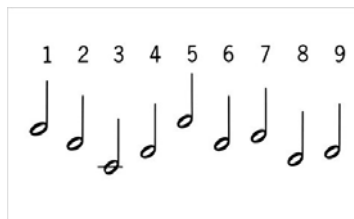


The test can be carried out only in binocular vision.

21. Phoria - Notes (lateral)

Question

"On which note of music does the arrow point?"



Answer

The test is successful if the patient sees the arrow mark on the note of music no. 4. However, the acceptable values are located between 1 and 7.

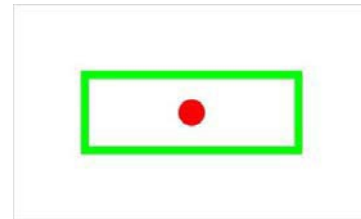


The test can be carried out only in binocular vision.

22. Phoria - Point & Rectangle (3d-3d)

Question

"You can see a rectangle and a ball. When the ball comes to a standstill, tell me where it is compared to the rectangle."



It is necessary to allow some time for the circle to stabilize itself. In 85% of the cases, the circle will not be stabilized exactly in the middle of the rectangle.

Note where the circle is stabilized.

23. Release of the accommodation – Landscape

Question

“Can you see this landscape?”



Check that the patient is looking at the image in the distance.

It is necessary to begin all the series of tests by asking the patient being tested to look in the distance in order to ascertain that the eye does not focus (does not adjust to near vision) during the following tests.

The far vision acuity tests must always follow the presentation of this board.



Not presenting this board is likely to induce unreliable results during the first far vision tests.

24. Visual Field - horizontal and vertical peripheralfield (Optional)



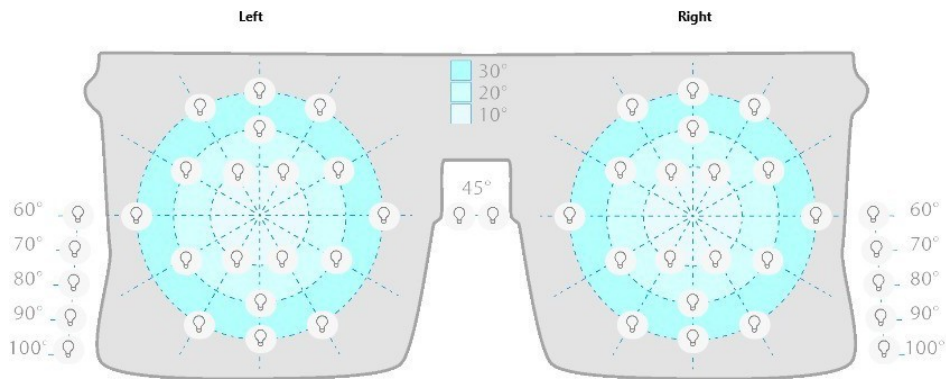
Before starting this test:

1. Use the LED peripheral mask, available in a special kit.
2. Turn off the machine.
3. Plug the peripheral mask into the product, in the plug designed for this purpose.
4. Magnetize the mask below the forehead rest, in the notches.
5. Turn on the machine.

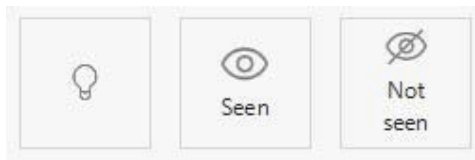
Question

“Look at the displayed point. While keeping your eyes fixed on this point, you see lights blinking in the periphery of your vision. Where can you see them?”


Check that the patient keeps their eyes fixed on the black dot. Choose the lights that should be blinking by using the diagram displayed on your screen.




By clicking on one of the bulbs, the following pop-up window is displayed:

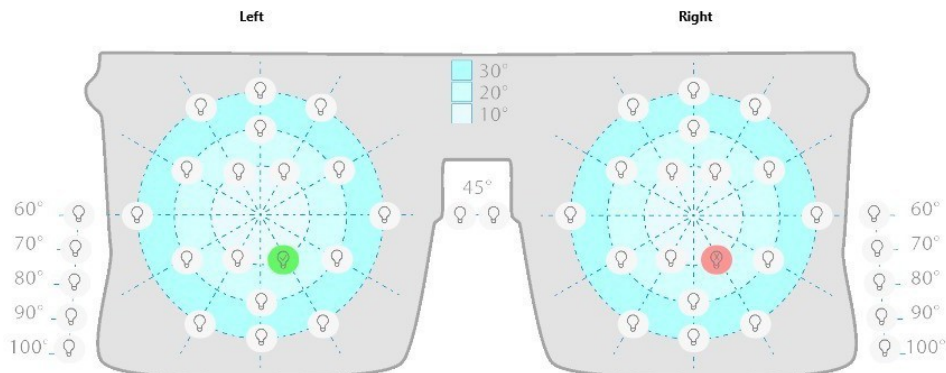


By clicking on:

 , the bulb briefly lights up then goes out. If the technician is not sure that the patient saw the bulb, it is possible to relight it by clicking on this button.

 , the lit LED is seen by the patient. It is displayed in green on the screen.

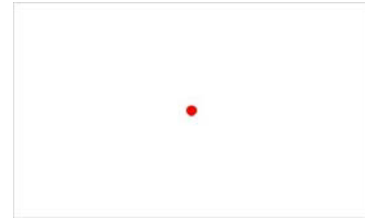
 , the lit LED is not seen by the patient. It is displayed in red on the screen.



25. Visual field - Horizontal peripheralfield

Question

“Look at the displayed point. Keeping your eyes fixed on this point, do you see lights flickering laterally? Where can you see them?”



Check that the patient keeps their eyes fixed on the black dot. Choose the lights that will flicker in a random way by mixing both eyes.



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