



[Understanding Vision](#) Oct 16, 2017

Different eye sight test results – how can this happen?

Or: When is the best time to go for an eye sight test?

We are often asked why the measuring results obtained in sight tests differ – even if two examinations are performed in short succession. Different results in subjective refraction may be attributable to various factors. We can tell you what exactly these factors are and what you can do to ensure an optimum result.

The state of your eyes

Some people may find it an unpleasant experience, but having your eyes examined on a regular basis is an absolute must. But why do the measurements performed by your optician on two different occasions often differ – even if the second measurement is made only a short time after the first? Who's to blame? You, your optician, or can your eyes really change within such a short time? This is not an uncommon phenomenon. Different results may be due to various reasons. The variance is generally a matter of only around 0.25 diopters, and your optician is well aware of these fluctuations and knows how to deal with them.

The visual performance of our eyes varies slightly in the course of the day. One of the factors influencing this is our biorhythm. We are not in the same physical condition the whole day long, and this is also reflected in the way our eyes perform. The levels of hormones and sugar in our blood all play a major role in determining the quality of our vision. Having your eyes tested before breakfast, for example, or insufficient fluid intake beforehand may well influence the result.

And maybe you've been working the whole day long at a computer before you go to your optician. This means that you blink less and your eyes are less moistened by tear fluid. This may lead to dry eyes and eye fatigue which, of course, also influence the result of the eye test.

Our tips:

- Try to be as rested and relaxed as possible when you go for your sight test.
- Never go on an empty stomach or when you're thirsty.
- Observe your own biorhythm, and make an appointment with your optometrist at a time when you feel that you are fit and rested.

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The conditions during the sight test

The conditions in which the sight test is performed also have an influence on the result. Needless to say, a test conducted quickly and superficially will not provide the same results as a test where both you and your optician take the time needed to obtain the required accuracy. This is known as a subjective sight test. Here, it is essential for you to collaborate and communicate with the optician. It is often the little things that can determine the visual quality provided by your new spectacles. Moreover, the quality of the measuring instruments and the optician's expertise and experience can decisively impact the result.

It may be surprising to hear that even the surroundings in which the test is performed can have an effect on the result. To ensure that the conditions remain constant, there should be no daylight in the examination room so that direct or indirect sunlight cannot influence the result. The size of your pupils also plays a key role. This is a phenomenon which hobby photographers will be very aware of: a different aperture setting on the camera changes the definition and brightness of the picture. Many people see differently with a contracted pupil in bright conditions than with a dilated pupil in the dark. If, for example, visual performance at night and in poor light is to be measured, this must be performed in dimmed surroundings.

Our tips:

- Always make an appointment with your optometrist for an sight test. Don't simply walk in and expect to be examined. You and your optician should have enough time for a thorough and detailed examination. ZEISS estimates around one hour for the complete vision analysis including the consultation.
- You must trust your optician and feel that he or she is the [right person to consult](#) to ensure better vision.
- Make a note of where the examination is performed. Is daylight entering the room?

Influences that can lead to incorrect results:

1. Contact lens wearers should wear their spectacles instead of their contact lenses for 24 hours before the test. Contact lenses modify the geometry of the cornea and therefore your visual performance during the sight test.
2. Fluctuations in visual performance are often the result of medication, e.g. the production of tear fluid may be impaired. Your eyes become dry, and you may experience eyestrain.
3. It is also well-known that diabetes can lead to fluctuations in visual performance during the course of the day. Diabetics are recommended to have their eyes tested at different times of the

day and to consult an ophthalmologist if necessary.

Our tips:

- If not directly asked by your optician, please tell him or her if you are currently taking any medication, or have a chronic condition such as diabetes.
- Take your current spectacles, contact lenses and, if you have one, your lens certificate with you to the sight test.
- If this is the first time you have been to an optician, tell them what you have found good and, in particular, not so good about your spectacles in the past. The more you tell your optician, the better your final spectacles will be.

Objective refraction

You may well be wondering if the traditional sight test, i.e. subjective refraction, is necessary at all, if it leads to inaccuracies. The answer is yes. The optician must be able to record your personal reaction to the various lenses he or she inserts in front of your eyes. Just as importantly, [subjective refraction](#) also tests how your eyes interact and how they will see with your new spectacles.

However, there are ophthalmic instruments such as the ZEISS i.Profiler^{®plus} which can be used to perform objective refraction beforehand. It uses wavefront technology to analyze the vision profile of each eye on the basis of 1,500 measuring points and generates a "map" of the eyes' retinas. No active collaboration of the patient is required. All he or she needs to do is look into the i.Profiler^{®plus} for a short time. This is a preparatory measurement, the results of which are then refined by the optician in the subsequent subjective refraction procedure.

And that is not all: as the i.Profile^{®plus} measures visual performance with a contracted pupil (in bright light) and a dilated pupil (in poor light or at night), it is possible to determine whether the patient's [night vision](#) is poorer than his or her daytime vision (And suddenly you see more). The optician can use this information to incorporate the appropriate optimisations in the lenses. A major benefit of this procedure is that the time required for the eye sight may be reduced.

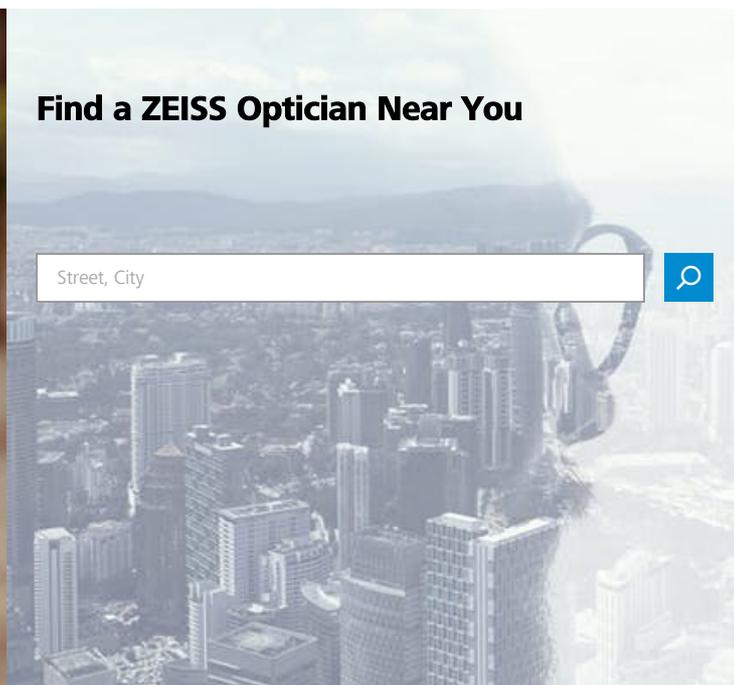
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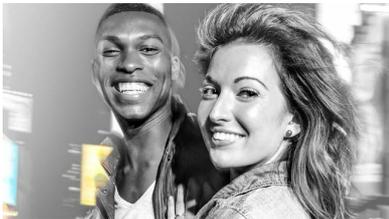


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