TEST

Visual acuity test

A visual acuity test measures how clearly you can see letters, symbols, or pictures at a set distance.

WHAT IT MEASURES
Sharpness of vision at a set distance

SAMPLE
None

FASTING NEEDED?
No

HOW LONG IT TAKES
About 5 to 10 minutes

RESULTS IN
Immediate; no laboratory processing

USED FOR
Screening and monitoring vision changes

MAIN LIMITATION
Measures sharpness only, not overall eye health or visual function

Overview

A visual acuity test checks how clearly you can see fine detail. It usually involves reading letters or identifying symbols on a chart from a fixed distance. Each eye is tested separately, with and without glasses or contact lenses when appropriate.

The familiar Snellen chart uses rows of letters that become smaller. Other charts use numbers, pictures, matching symbols, or letters arranged to give a more consistent measurement. Near vision may be checked using a handheld card.

Visual acuity is only one part of vision. A good result does not rule out glaucoma, retinal disease, reduced side vision, poor contrast vision, or other eye problems.

Why the test is ordered

The test can identify reduced clarity of vision and track changes over time. It is often included in routine eye examinations, vision screening, school or workplace checks, and driving

assessments.

It may also be used to:

The result shows how clearly you saw the chart. It does not, by itself, explain why vision is reduced.

- Check whether glasses or contact lenses are helping
- Investigate blurred or changed vision
- Monitor an eye condition or recovery after treatment
- Record vision before and after eye surgery
- Help decide whether a more detailed eye examination is needed

Who should have the test

Visual acuity testing can be used at any age. Children who cannot read letters may match pictures or symbols instead.

You may be offered testing during routine vision screening or an eye examination. It is also reasonable to have your vision checked if you notice persistent blur, difficulty reading, trouble seeing road signs, or a difference between your eyes.

People with known eye conditions, diabetes, previous eye surgery, or medicines that may affect vision may need repeated measurements. How often testing is appropriate varies with age, symptoms, eye history, family history, and local guidance.

How to prepare

You do not need to fast. You can eat, drink water, and take your usual medicines unless you were given different instructions for another part of the appointment.

Bring the glasses or contact lenses you normally use. If you have several pairs, such as reading and distance glasses, bring each pair. A current glasses prescription and a list of medicines can also be useful.

Wear contact lenses as usual unless the clinic asks you to remove them beforehand. This instruction may differ if you are also having contact lens measurements, eye drops, or surgery-related testing.

What happens during the test

You sit or stand at a measured distance from a chart. Some rooms use mirrors or projected charts to create the required viewing distance.

One eye is covered without pressing on it. You read the smallest letters you can see, working down the chart. Guessing is usually encouraged because it helps identify your true limit. The process is repeated for the other eye and sometimes with both eyes open.

Testing may be done:

A pinhole blocks some unfocused light. If vision improves through it, focusing error such as short-sightedness may be contributing. It does not replace a full glasses prescription test.

Near vision may be measured with a card held at a specified distance. Young children may point to or match symbols rather than name them.

- Without glasses or contact lenses
- With your usual correction
- With trial lenses to find the clearest prescription
- Through a small pinhole opening

Understanding your results

Results are often written as a fraction, such as 20/20 in feet or 6/6 in metres. The first number is the testing distance. The second represents the distance at which a reference observer could read the same line.

For example, 20/40 means you could read at 20 feet what the reference observer could read at 40 feet. A smaller second number generally represents sharper distance vision. A 20/20 or 6/6 result is often described as standard distance acuity, but it does not mean that every aspect of vision or eye health is normal.

Some clinics use decimal scores or a logMAR chart. On a logMAR scale, lower scores generally represent better acuity. These charts are often preferred when precise comparison over time is important.

Your record should show which eye was tested and whether you wore correction. "Uncorrected" means without glasses or contacts. "Presenting" means with whatever correction you arrived wearing. "Best-corrected" means the clearest result obtained using lenses.

Interpretation varies by chart, testing distance, laboratory or clinic method, age, sex,

pregnancy status, medicines, and clinical context. Licensing, school, and workplace standards may use specific thresholds that are separate from medical interpretation.

What affects the results

Visual acuity requires you to recognise and respond to what you see. Several factors can change the result even when the chart and equipment are working correctly:

Children's results are especially affected by age, attention, familiarity with the symbols, and whether letters are shown alone or surrounded by other letters.

Ordinary eating, coffee, and recent exercise usually have little direct effect on a standard acuity test. However, fatigue, dehydration, or dry contact lenses may make the chart harder to read.

- Incorrect, outdated, dirty, or scratched glasses
- Dry eyes, watering, blinking, or poorly fitting contact lenses
- Squinting, peeking around the cover, or pressing on the covered eye
- Chart distance, room lighting, screen brightness, or glare
- Tiredness, distraction, anxiety, language barriers, or misunderstanding
- Memorising letters on a repeatedly used chart
- Pupil-dilating drops, which may temporarily blur near vision
- Medicines that affect focusing, pupil size, alertness, or tear production
- Rapid blood sugar changes, which can temporarily alter focusing
- Pregnancy-related changes in focusing or the eye's surface

Accuracy and limitations

When distance, lighting, chart design, and instructions are standardised, visual acuity testing is useful and reasonably repeatable. Small differences can still occur between attempts. Traditional Snellen charts are less consistent because rows contain different numbers of letters and the spacing is uneven. LogMAR-style charts provide more uniform scoring.

The test can sometimes suggest reduced vision when the eye itself has not changed. This may happen because of poor lighting, an incorrect glasses prescription, dry eyes, tiredness, or difficulty understanding the task. Repeating the test under better conditions can clarify the

result.

It can also miss important problems. Central acuity may remain good despite early glaucoma, reduced side vision, problems seeing in dim light, poor contrast vision, or some retinal and neurological conditions.

Other tests may therefore be more appropriate for a particular question. Refraction measures the lens prescription. Visual field testing checks side vision. Slit-lamp and dilated examinations assess eye structures. Retinal imaging, contrast testing, or colour vision tests provide different information.

Risks and complications

The test is painless and does not touch the eye. It has no significant physical risks.

If pupil-dilating drops or contact procedures are included in a wider eye examination, those have separate effects and risks that should be explained to you.

What happens next

If your result is stable and meets the purpose of the test, you may only need routine follow-up. A reduced result may be repeated with your glasses, a pinhole, or different lenses. You may then be offered refraction or a fuller eye examination to look for the cause.

Arrange a prompt eye assessment for a new or persistent change in vision, even if it is not painful.

Seek urgent or emergency care for sudden loss of vision, a new curtain or shadow across your sight, many new flashes or floaters, severe eye pain, an eye injury, or vision changes with weakness, facial drooping, confusion, or difficulty speaking. These symptoms need assessment beyond a routine visual acuity test.

Common questions

Can I drink coffee before the test?

Yes. Coffee does not usually have a meaningful effect on visual acuity. If caffeine makes your eyes feel dry or makes it difficult to concentrate, your performance could be less consistent.

Does the time of day matter?

Usually not. Vision may seem less clear when you are tired, after prolonged screen use, or

when contact lenses become dry later in the day.

Can I exercise beforehand?

Yes. Ordinary exercise does not usually change the result. Allow time for your breathing and concentration to settle after intense activity.

Should I wear my glasses?

Bring them with you. The clinician may test you both with and without them, depending on why the test is being done.

Can I wear contact lenses?

Usually, unless you were told otherwise. Contact lens assessments and some surgery-related appointments may require the lenses to be removed beforehand.

Is 20/20 perfect vision?

No. It describes standard central sharpness at a set distance. It does not measure side vision, depth perception, colour vision, contrast, or overall eye health.

Sources

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