HEALTH BASICS

Choroid

The choroid is the blood-vessel-rich layer that supports the retina inside the eye.

WHAT IT IS
A blood-vessel-rich layer behind the retina

WHERE IT COMES UP
Dilated eye exams, scans, and reports about eye conditions

WHY IT MATTERS
Nourishes the outer retina and absorbs scattered light

WHAT IT IS NOT
Not a disease or diagnosis

WHO TO ASK
An optometrist, ophthalmologist, or retina specialist

HOW IT IS CHECKED
Dilated examination and eye imaging, especially OCT

Overview

The choroid is a thin layer of tissue inside the eye. It sits between the retina, which senses light, and the sclera, the tough white outer wall of the eye.

The choroid contains many blood vessels. These vessels supply oxygen and nutrients to the outer part of the retina, including the light-sensing cells called photoreceptors. The choroid also contains pigment that helps absorb scattered light inside the eye.

The choroid is part of the uvea , the eye's middle layer. The other parts of the uvea are the iris, which is the coloured part of the eye, and the ciliary body, which helps the eye focus and makes fluid inside the eye.

"Choroid" on an examination or scan report is an anatomical term. It is not a disease or a diagnosis. A report may describe its thickness, blood vessels, colour, or a finding located within it.

How it works

Blood reaches the choroid mainly through branches of the arteries at the back of the eye. It

then passes through networks of progressively smaller vessels.

The innermost network is called the choriocapillaris . It contains tiny blood vessels positioned close to the retina. Oxygen and nutrients move from these vessels across a thin supporting structure called Bruch's membrane and through the retinal pigment epithelium, or RPE, to reach the photoreceptors.

The inner retina has its own blood vessels. The outer retina relies mainly on the choroidal circulation. This arrangement helps support the photoreceptors, which use a large amount of energy.

The choroid contains melanin, the same type of pigment involved in skin and eye colour. Here, melanin absorbs light that has passed through the retina. This limits internal reflections that could blur the image reaching the retina.

Several layers make up the choroid. These include larger blood vessels near the sclera, medium-sized vessels, and the choriocapillaris beside the retina. A loose tissue space called the suprachoroidal space separates most of the choroid from the sclera.

Choroidal thickness differs between people and across different parts of the same eye. Age, the length and shape of the eye, and the time of measurement can affect it. A thick or thin measurement does not provide a diagnosis by itself.

Why it matters for your health

Because the choroid supports the outer retina, changes in its blood flow, vessels, or structure can affect vision. Some retinal conditions begin in or involve the choroid.

The choroid cannot usually be assessed fully with an ordinary look at the eye. During a dilated examination, an eye professional can examine the retina and may see some choroidal features through it. Dilating drops temporarily widen the pupil.

Optical coherence tomography , usually called OCT, uses light waves to make detailed cross-sectional images of the retina and choroid. Enhanced or swept-source OCT methods can show deeper structures more clearly.

Other tests may be used for a specific finding:

Not every person needs these tests. The choice is based on what was found, whether vision has changed, and whether comparison with earlier images is needed.

- Fundus photographs record the appearance of the retina and visible choroidal features
- OCT angiography maps blood flow without injecting dye

- Fluorescein or indocyanine green angiography uses injected dye to study blood vessels
- Eye ultrasound examines structures that are difficult to see directly
- CT or MRI may be used when a mass, injury, or problem outside the eyeball is being assessed

What can go wrong

Several different conditions can involve the choroid. They are not all related and do not have the same significance.

Choroidal neovascularisation means that abnormal new blood vessels have grown from the choroid toward or beneath the retina. These fragile vessels can leak fluid or blood. This may occur with age-related macular degeneration, severe short-sightedness, inflammation, injury, or some inherited retinal conditions.

Choroiditis is inflammation within the choroid. It is usually grouped with posterior uveitis, meaning inflammation toward the back of the eye. Inflammation may also involve the nearby retina. Possible causes include immune-related disease and certain infections, although no cause is found in some cases.

A choroidal detachment occurs when fluid or blood collects between the choroid and sclera, lifting the choroid away from the eye wall. It can occur after eye surgery, injury, inflammation, or unusually low pressure inside the eye. This is different from a retinal detachment.

A choroidal nevus is a pigmented spot, similar in principle to a mole. Many are found by chance and are monitored with examinations or photographs. A nevus is not the same as melanoma.

Uveal melanoma is a cancer that may arise in the choroid. Other cancers can also spread to the choroid from elsewhere in the body. A suspicious mass needs specialist assessment, but a choroidal spot or shadow on a scan does not automatically mean cancer.

Some disorders are associated with an unusually thick choroid, including conditions in the pachychoroid group. Others, such as severe short-sightedness, may be associated with thinning. Thickness must be interpreted alongside the retina's appearance, your eye measurements, and any change over time.

What you can do

If "choroid" appears in your report, first find out what the report is describing. Useful questions include:

Keep copies of eye reports and images when possible. Comparison over time is often more useful than a single measurement, especially for a nevus or an unexpected area of thickening.

Attend planned follow-up even when your vision feels unchanged. Routine monitoring may be used to confirm that a finding remains stable. If no abnormality was found and no follow-up was advised, there is usually nothing specific you need to do for the choroid.

Arrange urgent, same-day eye assessment for:

These symptoms are not specific to the choroid. They can occur with retinal detachment, bleeding, inflammation, or other eye conditions that should be assessed promptly.

Seek emergency help after a severe eye injury, or if sudden visual loss occurs with weakness, facial drooping, severe imbalance, or difficulty speaking. Those additional symptoms can indicate a medical emergency outside the eye.

- Was the finding seen during an examination, on OCT, or on another scan?
- Does it affect the retina or explain any change in vision?
- Is it a normal anatomical description or a specific abnormality?
- Are baseline photographs or repeat scans needed?
- What changes should prompt an earlier assessment?
- A sudden increase in floaters or flashing lights
- A curtain, shadow, or missing area in your vision
- Sudden or rapidly worsening vision
- New visual distortion or a dark central patch
- Eye pain, redness, or light sensitivity with reduced vision

Common questions

Is the choroid the same as the retina?

No. The retina is the light-sensing layer. The choroid lies behind it and provides much of the blood supply for the retina's outer portion.

Can you feel a problem in the choroid?

The choroid itself is not something you can feel or check at home. Conditions involving it may alter vision, but some findings cause no noticeable change and are discovered during an eye examination.

Does a thick choroid mean something is wrong?

Not necessarily. Choroidal thickness differs naturally and is affected by eye shape, age, location, and imaging method. A clinician interprets the measurement together with the rest of the examination.

Does a choroidal nevus need treatment?

Many nevi are monitored rather than treated. The follow-up plan is based on their appearance, size, location, and whether they change. A retina or ocular oncology specialist may assess features that are uncertain or concerning.

Can an ordinary eye test examine the choroid?

Parts of it may be assessed during a dilated eye examination. OCT, photography, angiography, or ultrasound may be needed for a clearer view or to investigate a particular finding.

Sources

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