



[Home](#) → [Medical Encyclopedia](#) → Eye and orbit ultrasound

URL of this page: //medlineplus.gov/ency/article/003797.htm

Eye and orbit ultrasound

An eye and orbit ultrasound is a test to look at the eye area. It also measures the size and structures of the eye.

How the Test is Performed

The test is most often done in the ophthalmologist's office or the ophthalmology department of a hospital or clinic.

Your eye is numbed with anesthetic drops. The ultrasound wand (transducer) is placed against the front surface of the eye.

The ultrasound uses high-frequency sound waves that travel through the eye. Reflections (echoes) of the sound waves form a picture of the structure of the eye. The test takes about 15 minutes.

There are two types of scans: A-scan and B-scan.

For the A-scan:

- You will most often sit in a chair and place your chin on a chin rest. You will look straight ahead.
- A small probe is placed against the front of your eye.
- The test may also be done with you lying back. With this method, a fluid-filled cup is placed against your eye to do the test.

For the B-scan:

- You will be seated and you may be asked to look in many directions. The test is most often done with your eyes closed.
- A gel is placed on the skin of your eyelids. The B-scan probe is gently placed against your eyelids to do the test.

How to Prepare for the Test

No special preparation is needed for this test.

How the Test will Feel

Your eye is numbed, so you should not have any discomfort. You may be asked to look in different directions to improve the ultrasound image or so it can view different areas of your eye.

The gel used with the B-scan may run down your cheek, but you will not feel any discomfort or pain.

Why the Test is Performed

You may need this test if you have cataracts or other eye problems.

An A-scan ultrasound measures the eye to determine the right power of a lens implant before cataract surgery.

A B-scan is done to look at the inside part of the eye or the space around and behind the eye (orbit) that cannot be seen directly. This may occur when you have cataracts or other conditions that make it hard for the doctor to see into the back of your eye. The test may help diagnose retinal detachment, tumors, or other disorders.

Normal Results

For an A-scan, measurements of the eye are in the normal range.

For a B-scan, the structures of the eye and orbit appear normal.

What Abnormal Results Mean

A B-scan may show:

- Bleeding into the clear gel (vitreous) that fills the back of the eye (vitreous hemorrhage)
- Cancer of the retina (retinoblastoma), under the retina, or in other parts of the eye (such as melanoma)
- Damaged tissue or injuries in the bony socket (orbit) that surrounds and protects the eye
- Foreign bodies
- Pulling away of the retina from the back of the eye (retinal detachment)
- Swelling (inflammation)

Risks

To avoid scratching the cornea, do not rub the numbed eye until the anesthetic wears off (about 15 minutes). There are no other risks.

Alternative Names

Echography - eye orbit; Ultrasound - eye orbit; Ocular ultrasonography; Orbital ultrasonography; Ocular sonography; Orbital sonography

References

Campion T, Miszkiel K, Davagnanam I. The orbit. In: Adam A, Dixon AK, Gillard JH, Schaefer-Prokop CM, eds. *Grainger & Allison's Diagnostic Radiology*. 7th ed. Philadelphia, PA: Elsevier; 2021:chap 60.

Fisher YL, Bacci T. Contact B-scan ultrasonography. In: Yanoff M, Duker JS, eds. *Ophthalmology*. 6th ed. Philadelphia, PA: Elsevier; 2023:chap 6.3.

Fisher YL, Silverman RH, Ledesma-Gill G, Engelbert M. Diagnostic ophthalmic ultrasound. In: Sadda SVR, Sarraf D, Freund KB, et al, eds. *Ryan's Retina*. 7th ed. Philadelphia, PA: Elsevier; 2023:chap 10.

Review Date 2/12/2023

Updated by: Franklin W. Lusby, MD, Ophthalmologist, Lusby Vision Institute, La Jolla, CA. Also reviewed by David C. Dugdale, MD, Medical Director, Brenda Conaway, Editorial Director, and the A.D.A.M. Editorial team.

Learn how to cite this page



Health Content
Provider
06/01/2028

A.D.A.M., Inc. is accredited by URAC, for Health Content Provider (www.urac.org). URAC's [accreditation program](#) is an independent audit to verify that A.D.A.M. follows rigorous standards of quality and accountability. A.D.A.M. is among the first to achieve this important distinction for online health information and services. Learn more about A.D.A.M.'s [editorial policy](#), [editorial process](#), and [privacy policy](#).

The information provided herein should not be used during any medical emergency or for the diagnosis or treatment of any medical condition. A licensed medical professional should be consulted for diagnosis and treatment of any and all medical conditions. Links to other sites are provided for information only – they do not constitute endorsements of those other sites. No warranty of any kind, either expressed or implied, is made as to the accuracy, reliability, timeliness, or correctness of any translations made by a third-party service of the information provided herein into any other language. © 1997-2025 A.D.A.M., a business unit of Ebix, Inc. Any duplication or distribution of the information contained herein is strictly prohibited.



National Library of Medicine 8600 Rockville Pike, Bethesda, MD 20894 U.S. Department of Health and Human Services

National Institutes of Health