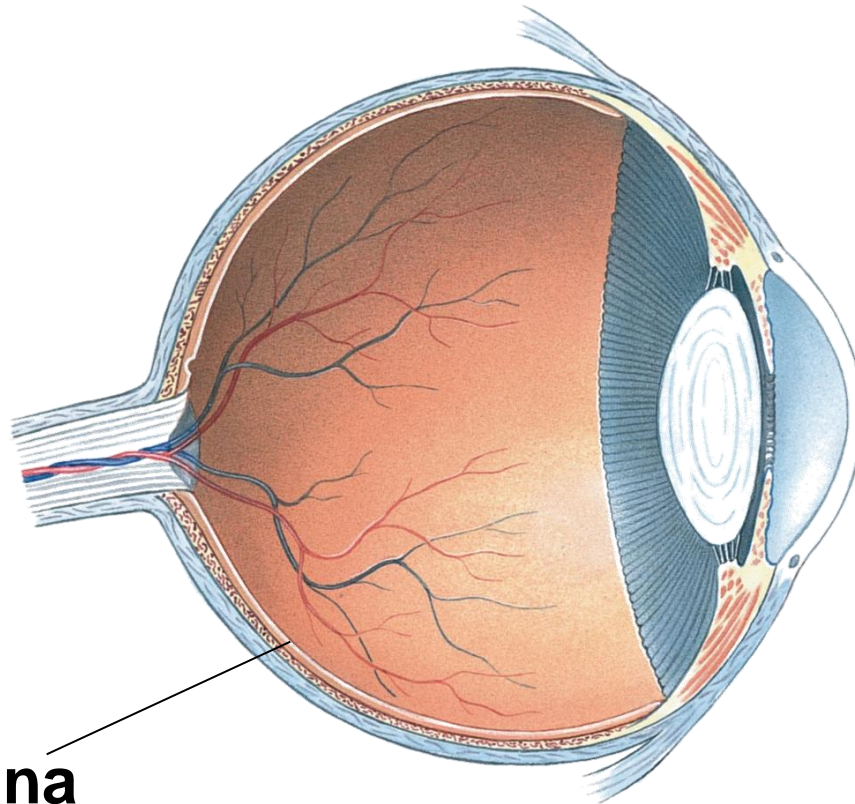




There are five general categories of sensory receptors:

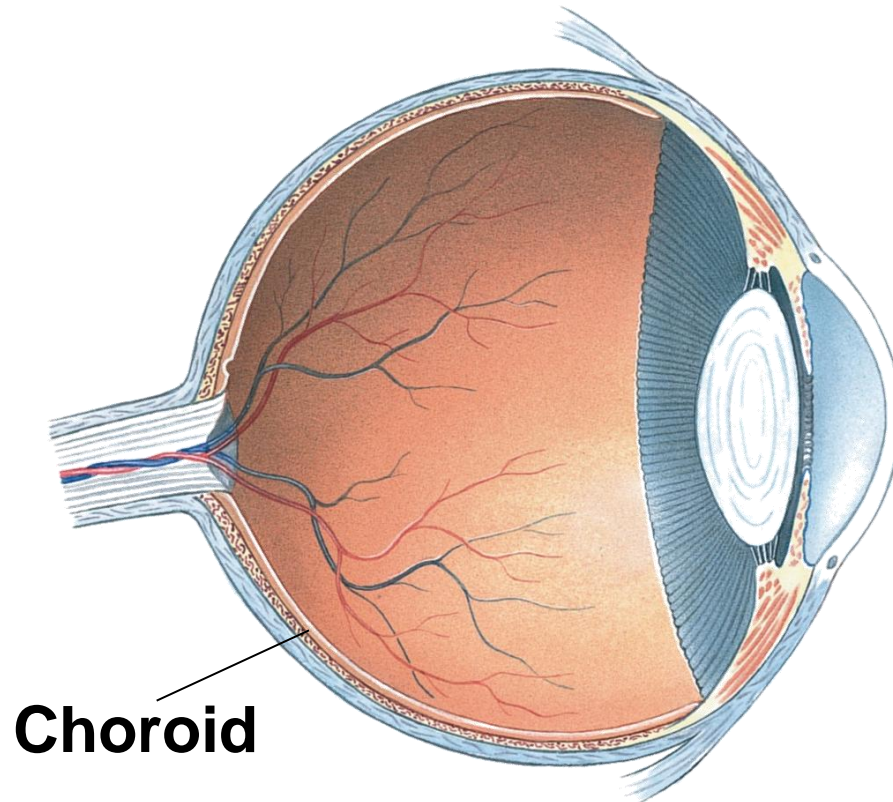
- **pain receptors**
- **thermoreceptors**
- **mechanoreceptors**
- **chemoreceptors**
- **photoreceptors**

The retina is the inner layer of eye that contains photoreceptors.



Retina

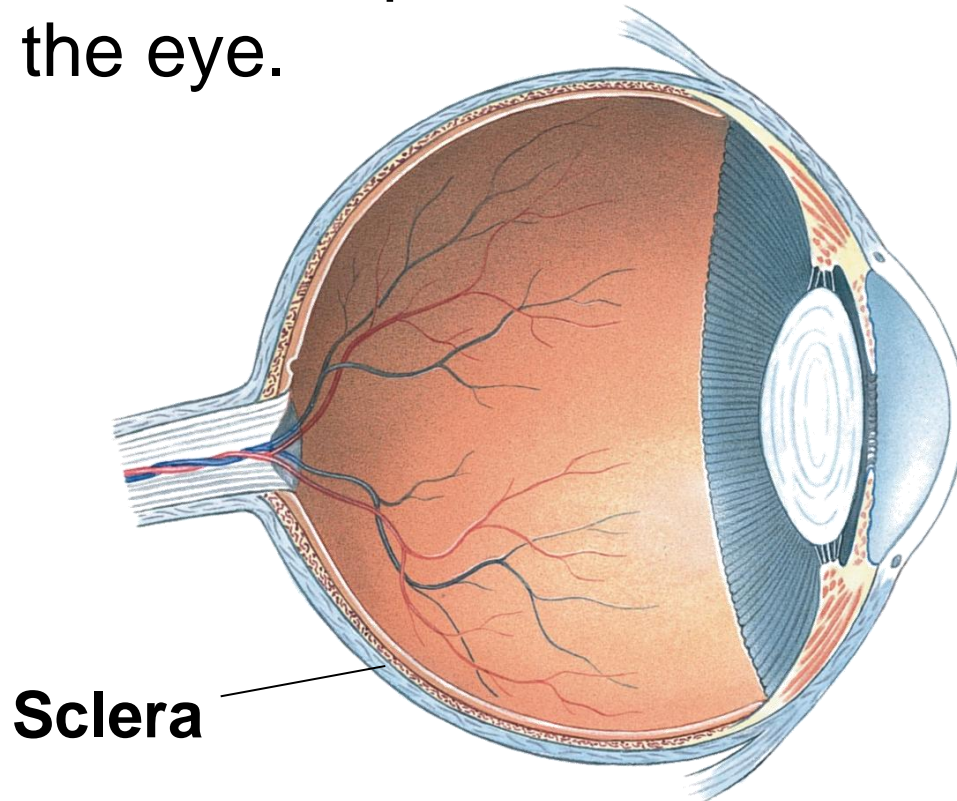
The choroid is the middle layer of eye that is rich in blood vessels.



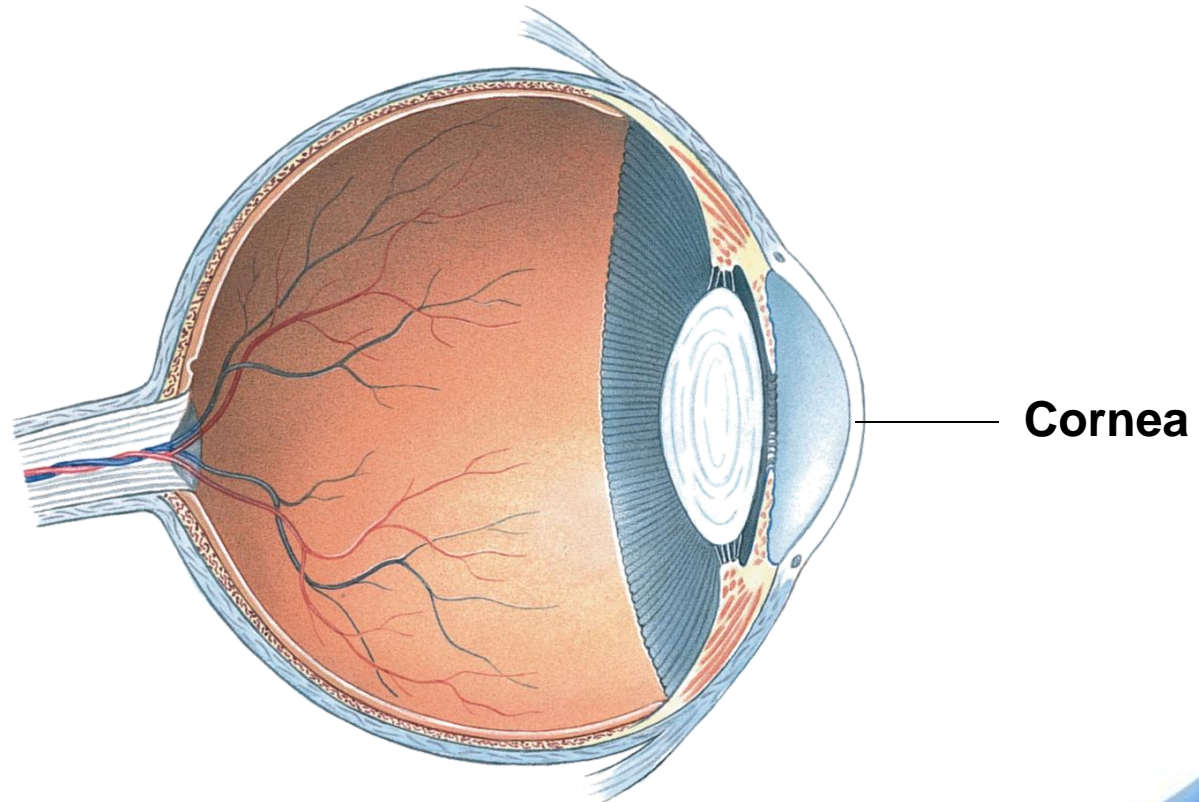
Choroid

The sclera is the outer layer of eye that maintains its shape.

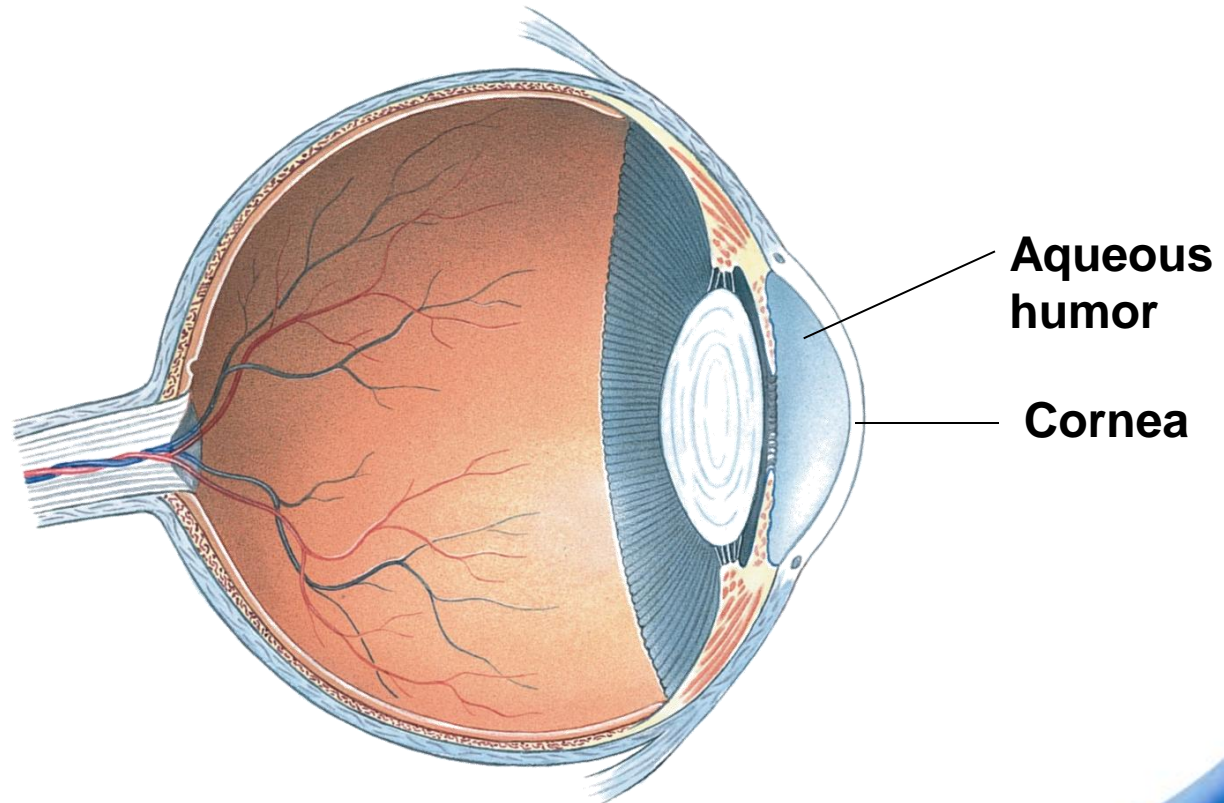
The sclera serves as point of attachment for muscles that move the eye.



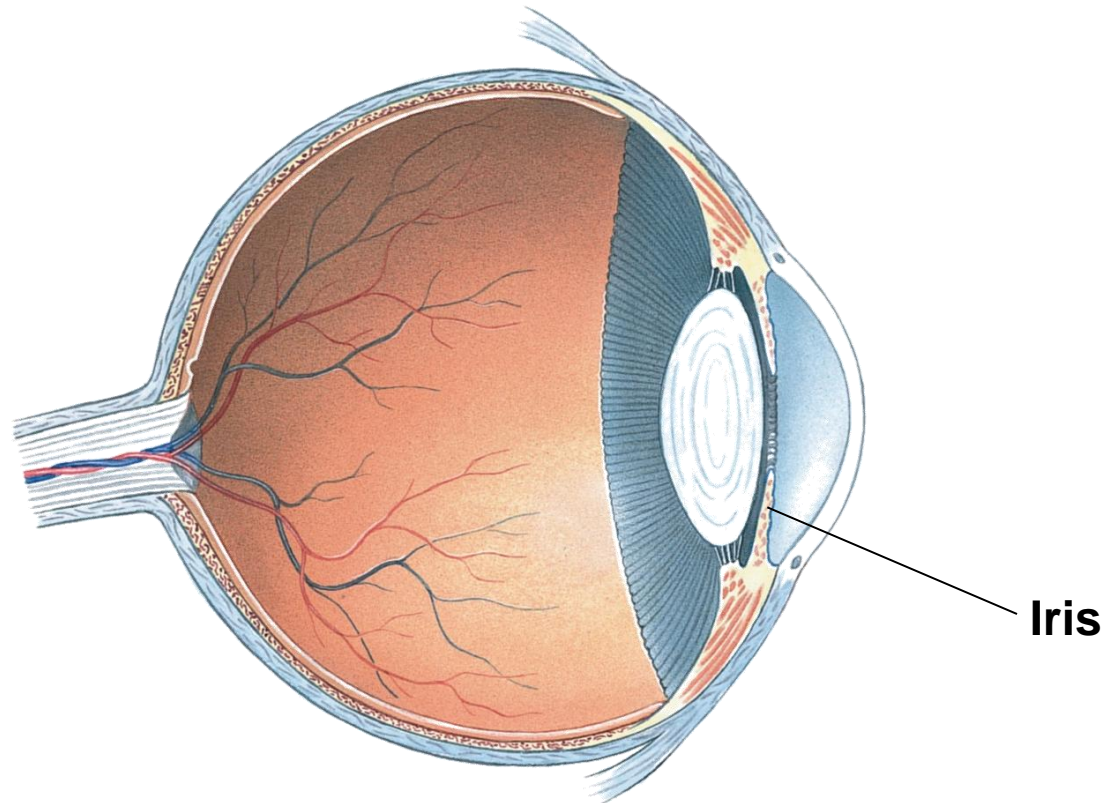
Light enters the eye through the cornea, a tough transparent layer of cells.



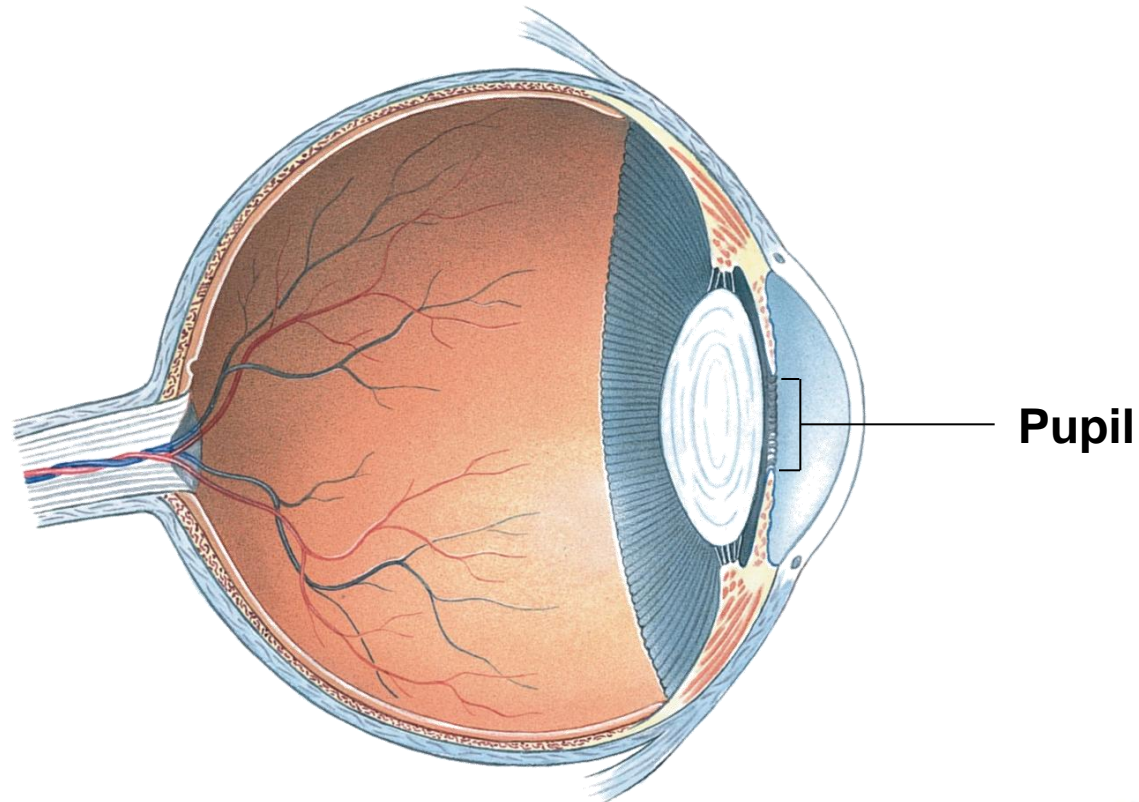
The cornea helps focus light, which then passes through a chamber filled with a fluid called aqueous humor.



At the back of the chamber is a disklike structure called the iris, which is the colored part of the eye.

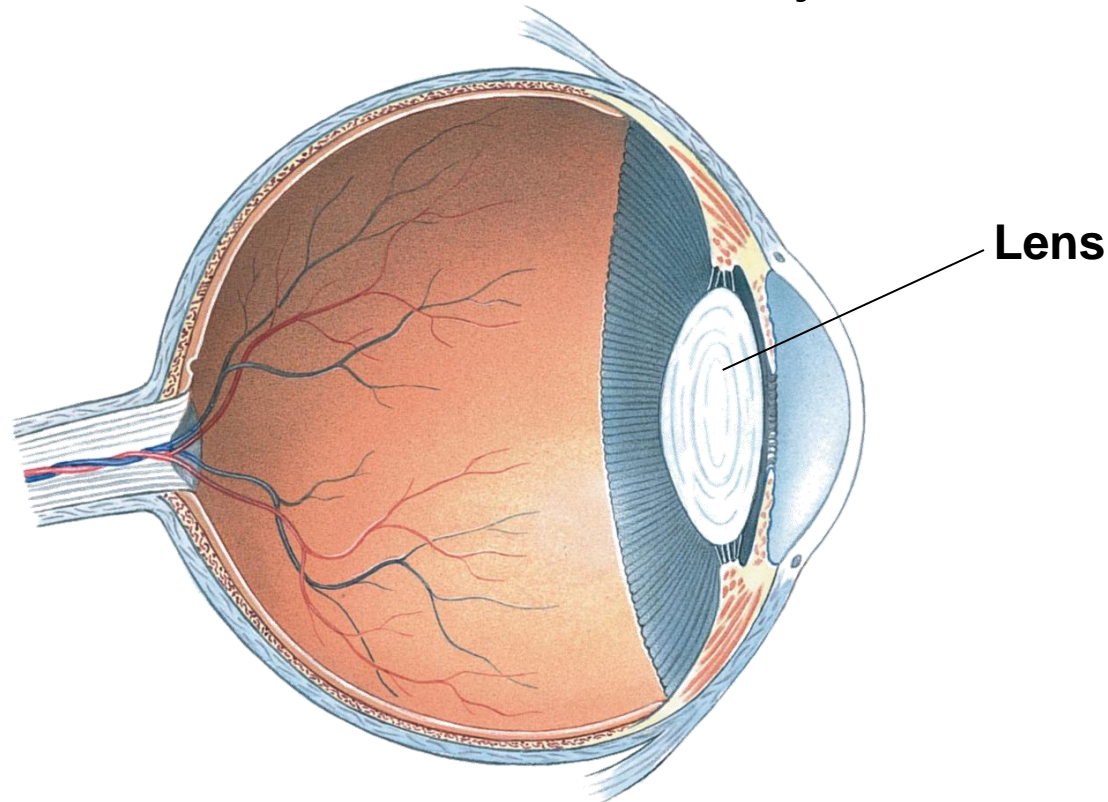


In the middle of the iris is a small opening called the pupil. Muscles in the iris adjust pupil size to regulate the amount of light that enters the eye.

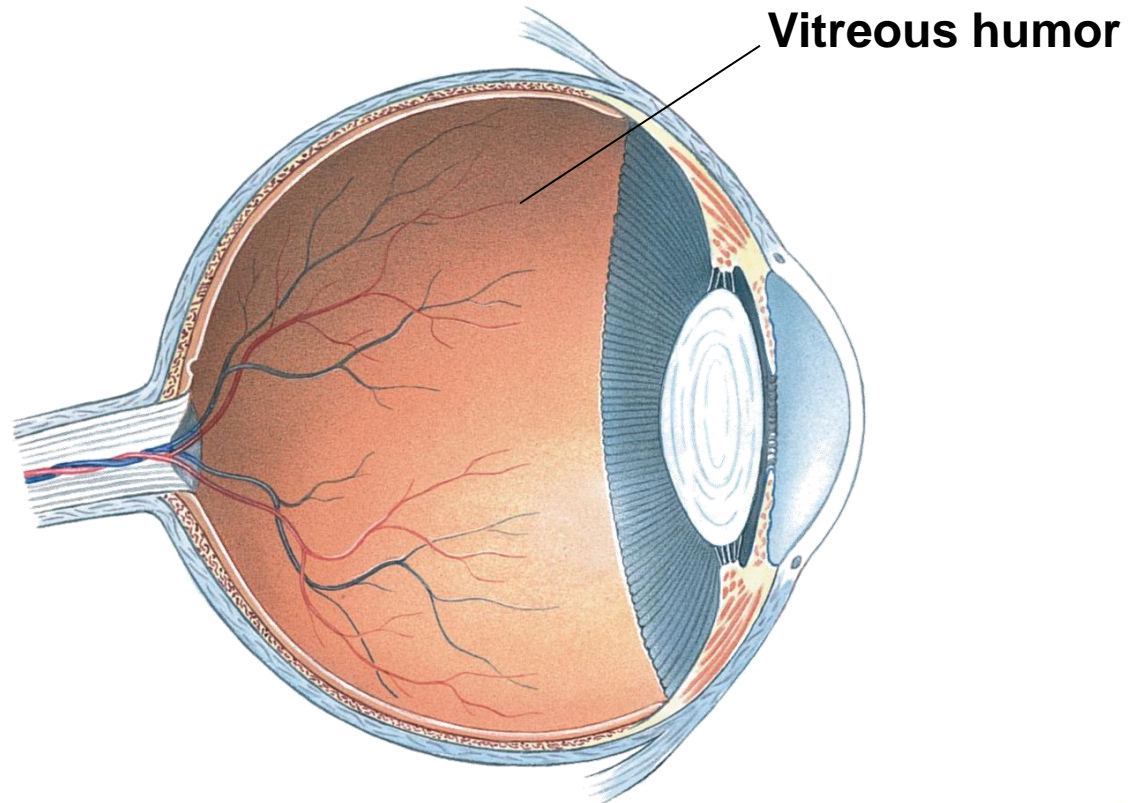


Just behind the iris is the **lens**.

Muscles attached to the lens change its shape to adjust focus to see near or distant objects.

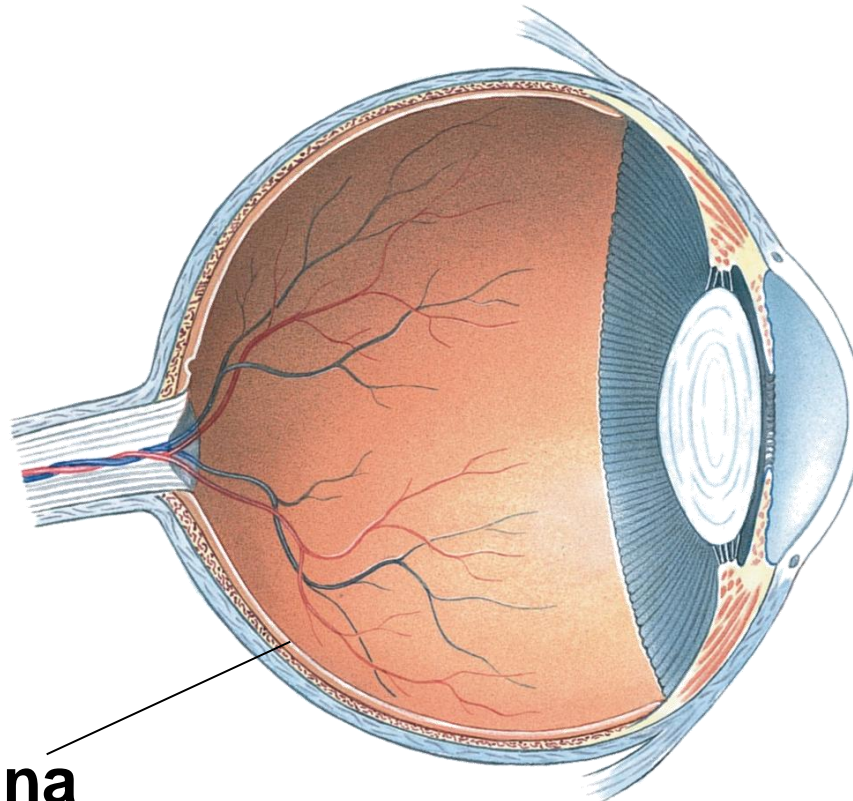


Behind the lens is a large chamber filled with a transparent, jellylike fluid called vitreous humor.



The lens focuses light onto the **retina**.

Photoreceptors are arranged in a layer in the retina.

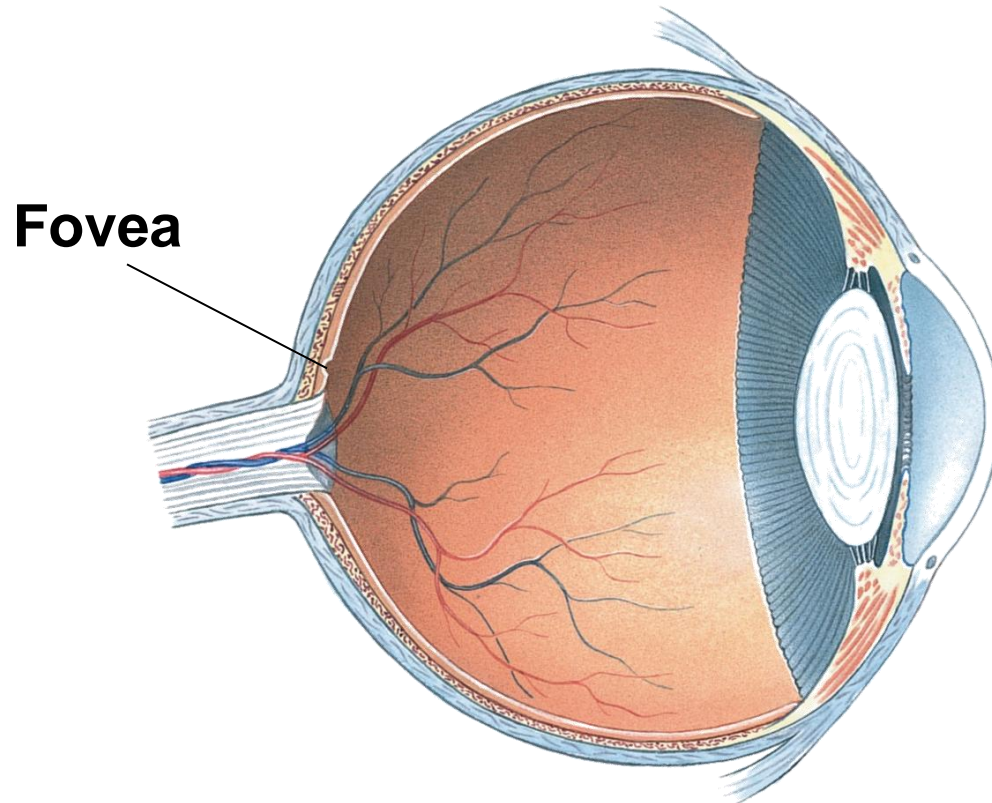


Retina

Rods are sensitive to light, but not color.

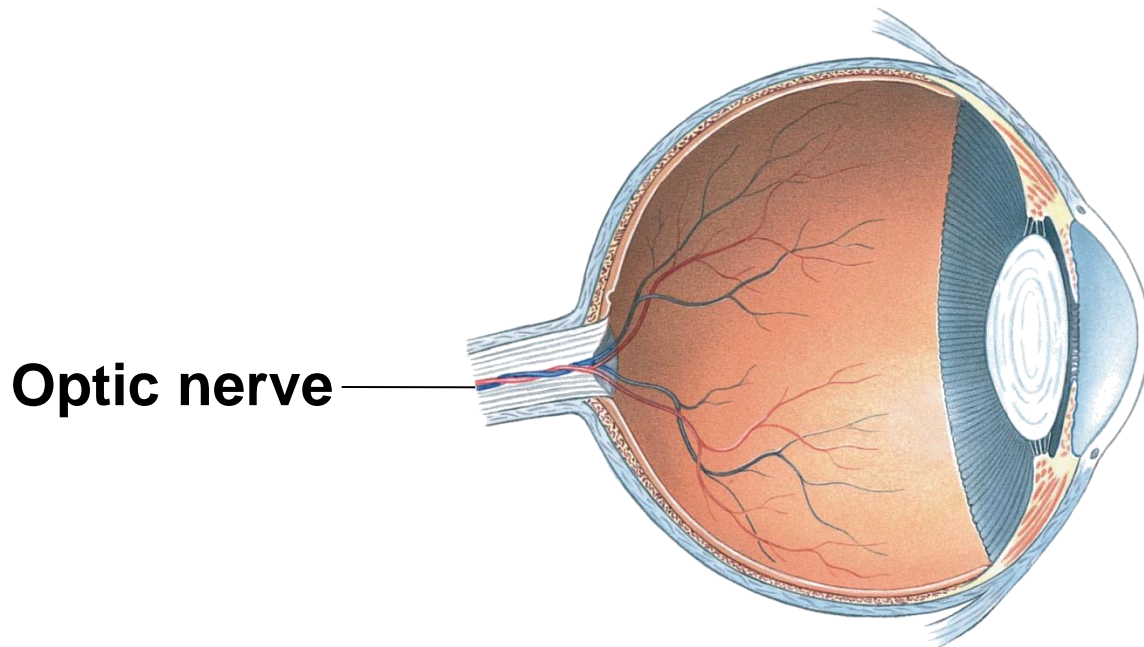
Cones respond to light of different colors, producing color vision.

Cones are concentrated in the fovea, which is the site of sharpest vision.



The impulses leave each eye by way of the optic nerve. Optic nerves carry impulses to the brain.

The brain interprets them as visual images and provides information about the external world.

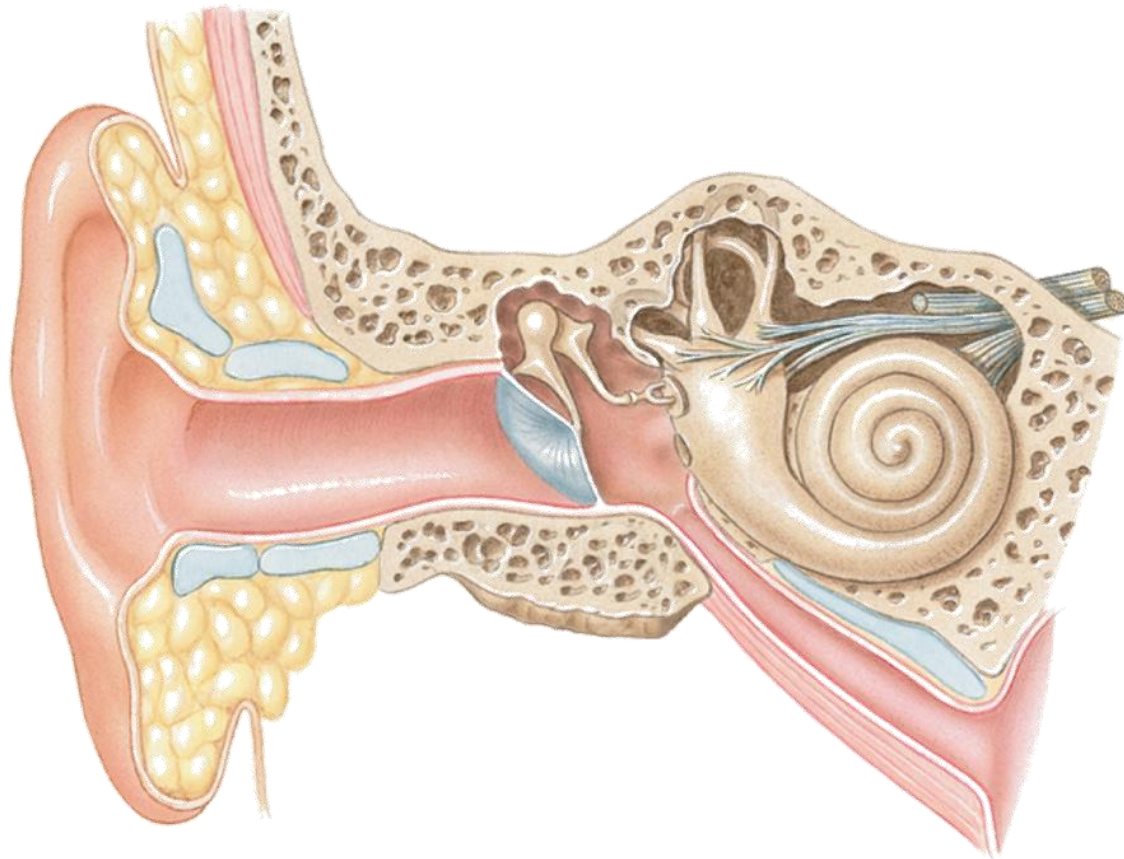


The Ear

The human ear has two sensory functions:

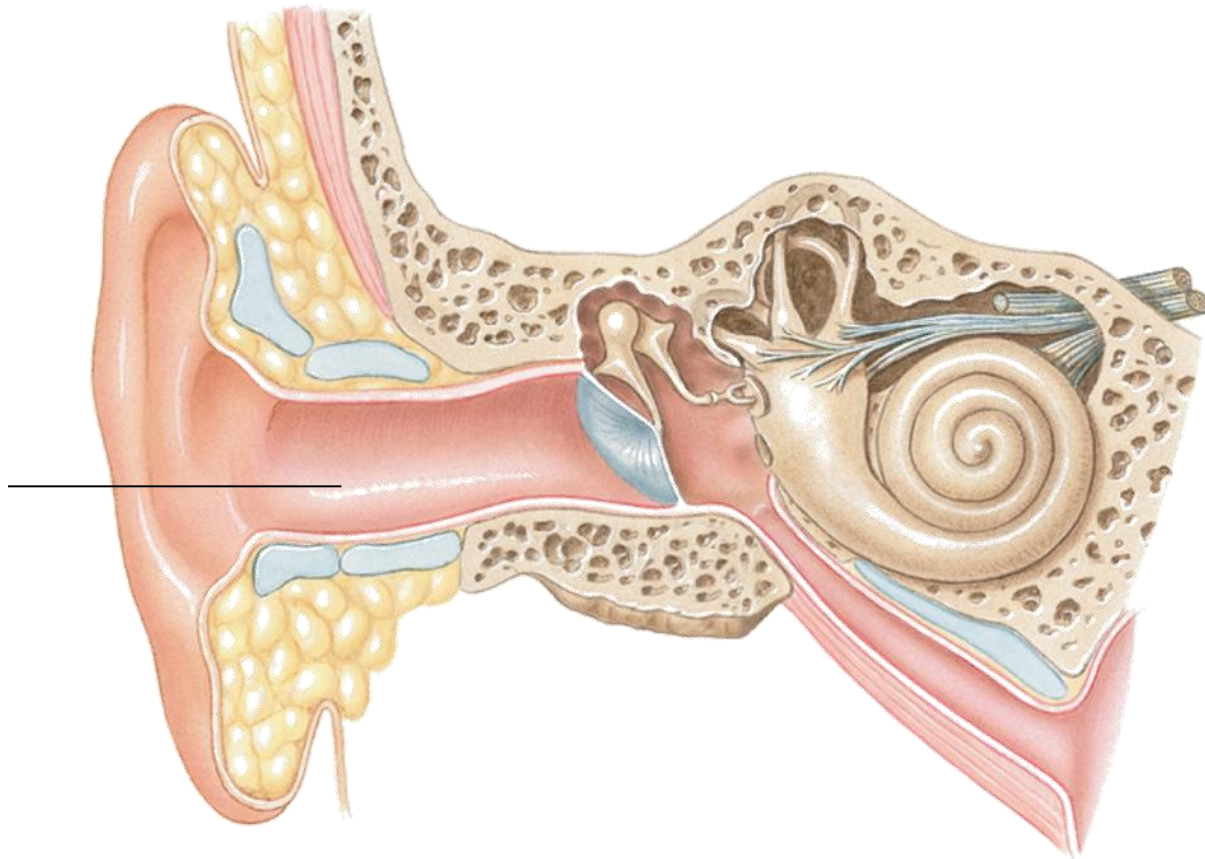
- hearing
- balance

The Human Ear

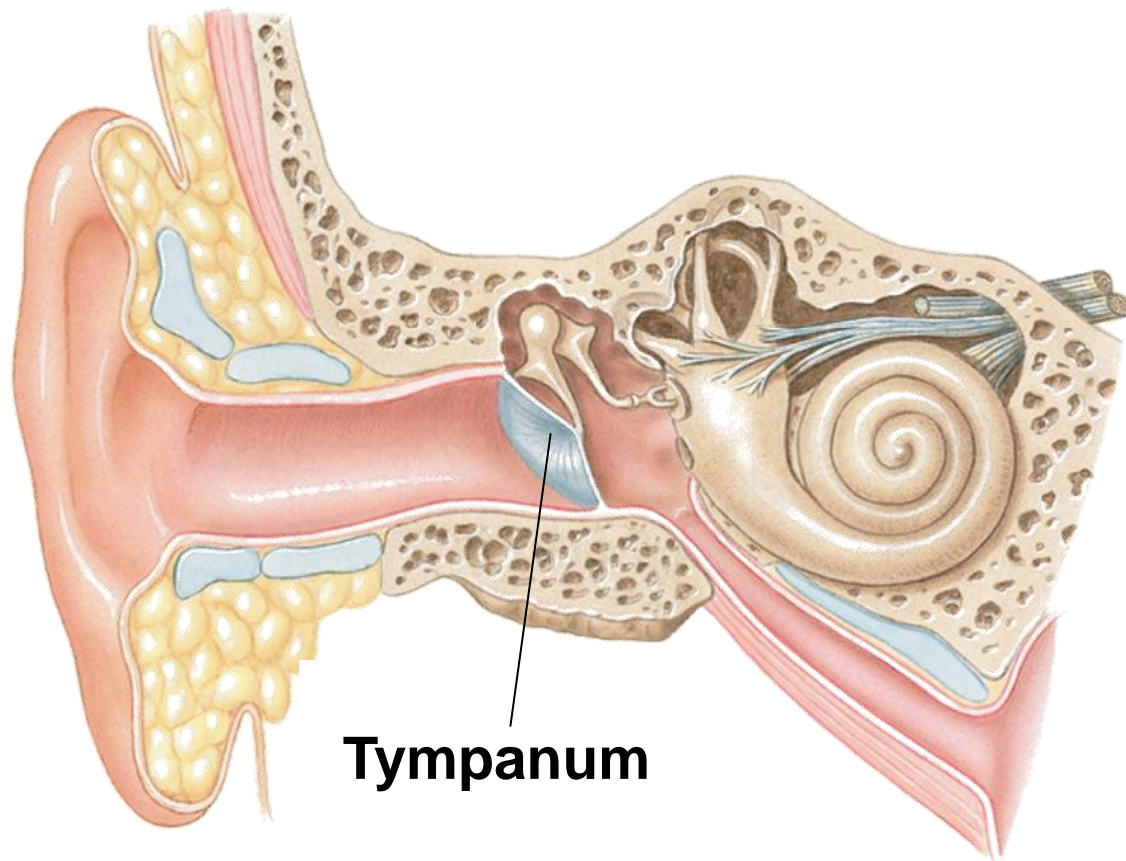


Vibrations enter the ear through the auditory canal.

Auditory canal

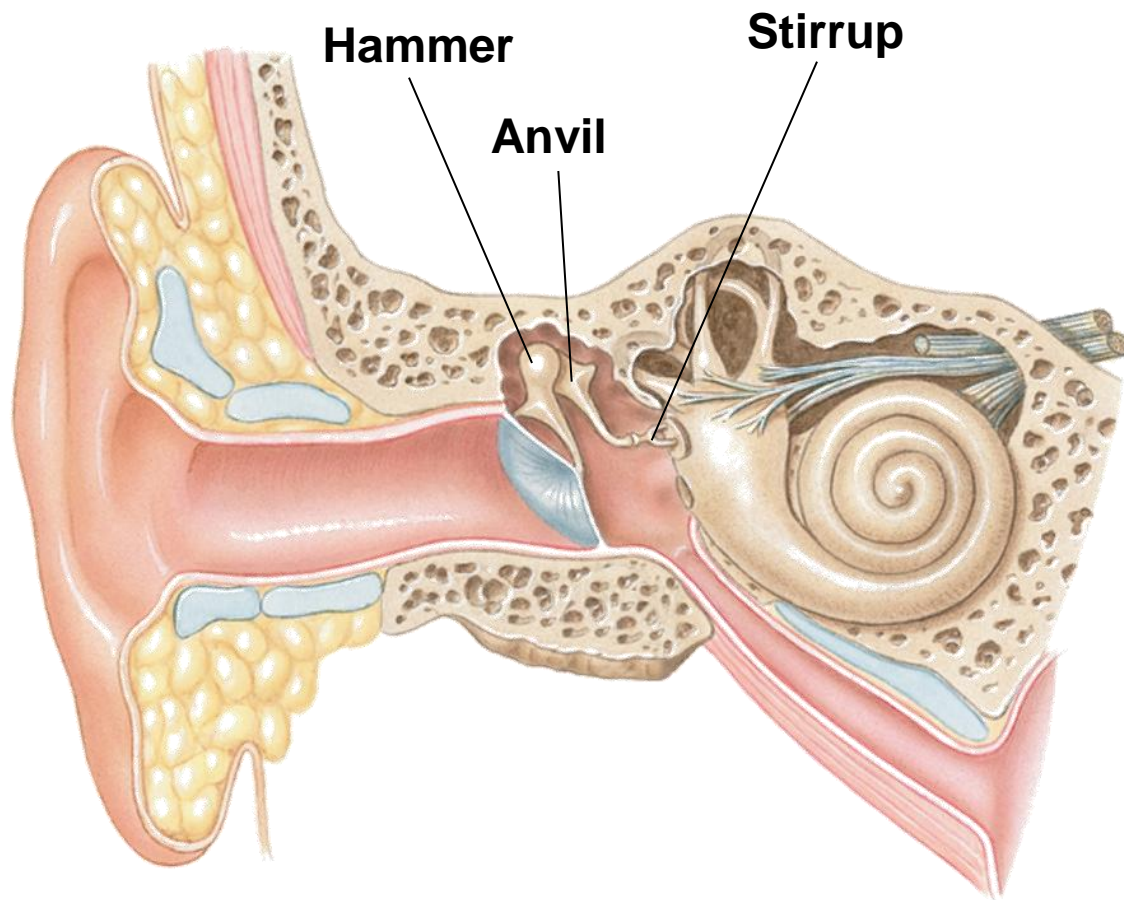


The vibrations cause the tympanum, or eardrum, to vibrate.

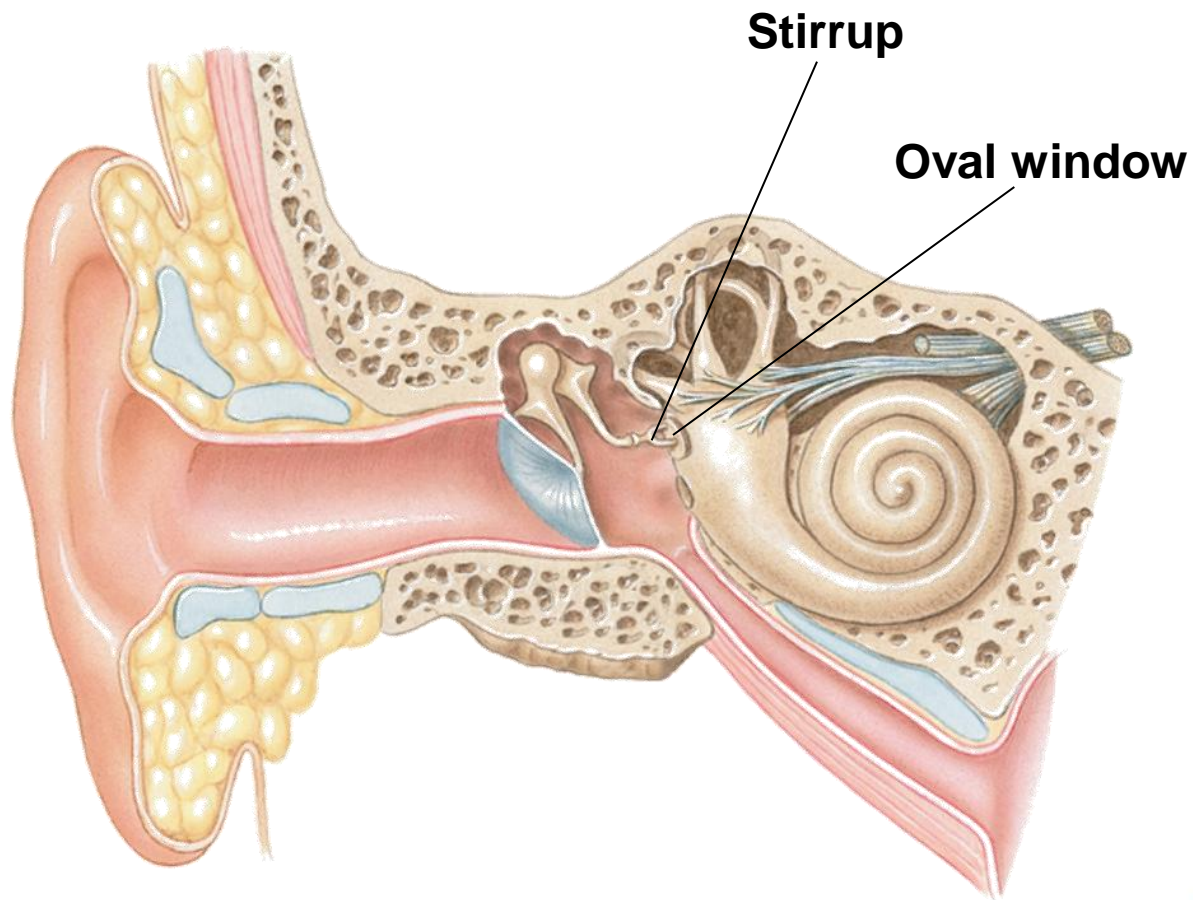


Tympanum

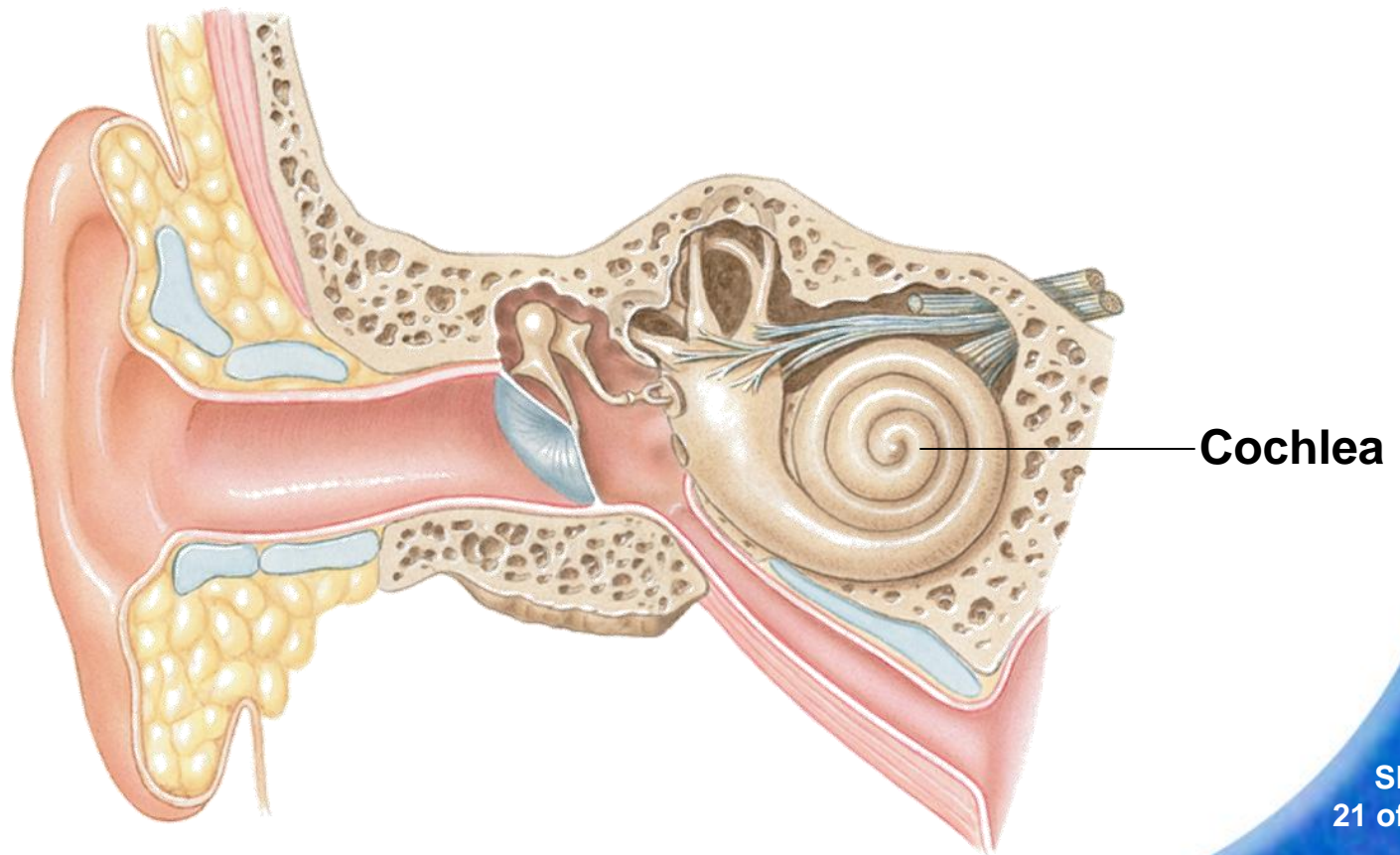
The vibrations are picked up by the hammer, anvil, and stirrup.



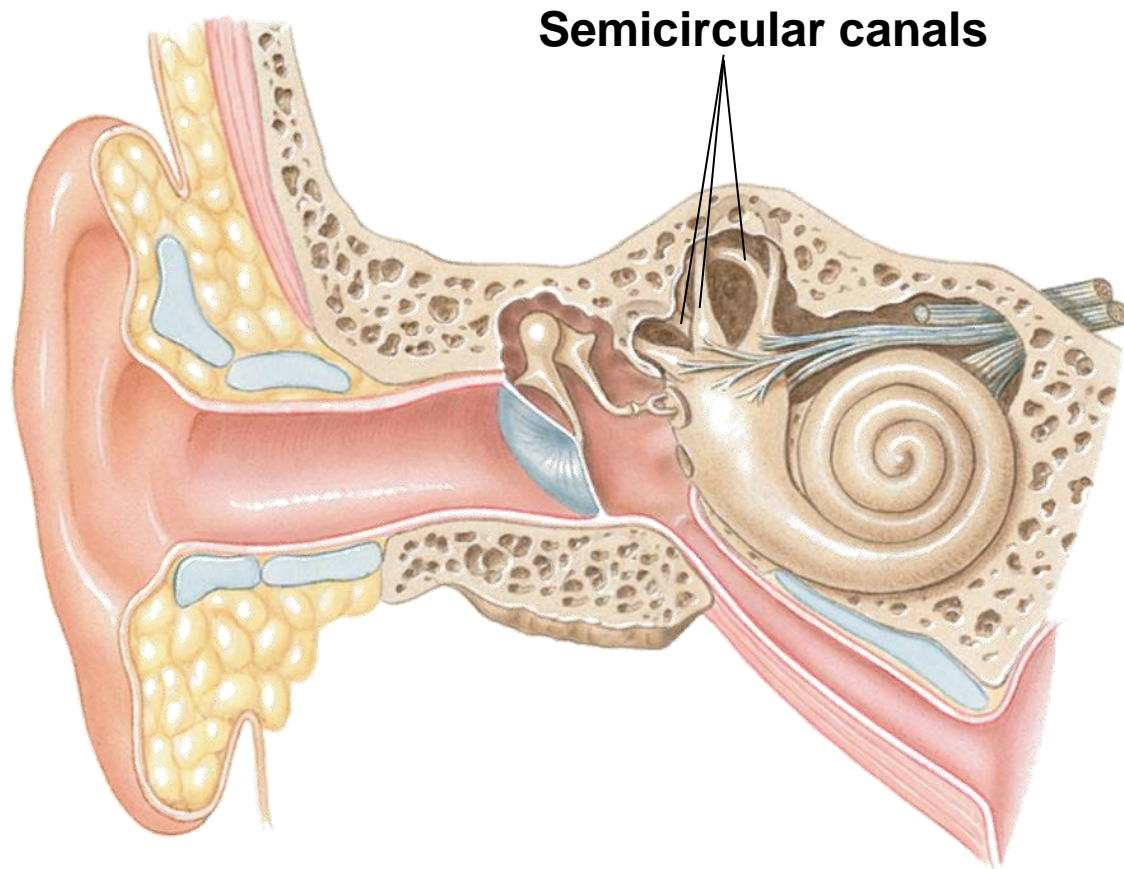
The stirrup transmits the vibrations to the oval window.



Vibrations of the oval window create pressure waves in the fluid-filled **cochlea** of the inner ear.



Within the inner ear, just above the cochlea are three **semicircular canals**.



35-4 Section QUIZ

Continue to:

Section QUIZ

- or -

Click to Launch:



35–4 Section QUIZ

1

The sensory receptor that detects variations in body temperature is a

- a. chemoreceptor.
- b. mechanoreceptor.
- A c. thermoreceptor.**
- d. photoreceptor.

35–4 Section QUIZ

2 The part of the eye containing tiny muscles that adjust the size of the pupil is the

a. cornea.

A b. iris.

c. lens.

d. retina.

3 The part of the ear that produces the nerve impulses sent to the brain is the

- a. tympanum.
- b. Eustachian tube.

A c. cochlea.

- d. oval window.

35-4 Section QUIZ

4 The structures in your ears that help maintain your sense of balance

a. is the auditory canal.

b. is the hammer.

c. is the tympanum.

A d. are the semicircular canals.

- 5** Photoreceptors in the eye that are sensitive to color are
- a. rods.
 - A** b. cones.
 - c. rods and cones.
 - d. the optic nerve.

END OF SECTION