ganglion cell nerve fibers and can be seen with the ophthalmoscope. 

Nerve endings of retinal ganglion cells form the optic nerve, which carries visual information from each retina also contains a high number of very large ganglion cells that conduct the visual impulses over cones in the horse. The rods are responsible for the very good night vision of horses, and the information from the retina is conducted to the brain in order for the horse to see.

Retina: The retina lines the inside of the back of the eye and contains all of the photoreceptors. There are 2 types of photoreceptors: the rods and the cones. Cones are responsible for vision in bright light and contain different photopigments that allow for color vision. Rods are more sensitive to low levels of light. The rods and cones are structurally divided into 3 layers: inner nuclear layer, outer nuclear layer, and photoreceptor layer. The photoreceptor layer contains the rods and cones and is the only layer of nerve cells. There are 3 types of rods and 3 types of cones.

Vitreous chamber: The vitreous is a clear gel-like structure that fills the chamber behind the retina. It allows the retina to be held in place. The vitreous humor is a clear, jelly-like substance that fills the posterior chamber of the eye and serves as a cushion for the retina. It is composed of gelatinous material and water. The vitreous humor is a transparent gel-like fluid that fills the posterior chamber of the eye.

Focusing Light: Light enters the eye through the cornea, and is focused by the lens onto the retina. The cornea is a transparent, dome-shaped structure that serves as the front window of the eye. It is the most curved part of the eyeball. The cornea bends light rays and helps to focus them onto the retina. The lens is a transparent, biconvex structure that is located behind the iris. It has a bending power and changes shape to focus light on the retina.

Vascular Uveal Tract: The uveal tract is composed of the iris, ciliary body, and the choroid. The iris contains the pupil, which is the opening in the center of the eye that allows light to enter. The ciliary body produces aqueous humor, a clear fluid that nourishes the eye. The choroid is a vascular layer that nourishes the retina.

Pupil: The pupil is the hole in the iris that allows light to enter the eye. The size of the pupil is controlled by the iris muscles. The iris muscles dilate to increase the size of the pupil, allowing more light to enter the eye. The iris muscles constrict to decrease the size of the pupil, reducing the amount of light entering the eye.

The human pupil is a small, dark circle located in the center of the iris. It is the opening through which light enters the eye. The size of the pupil changes in response to changes in light intensity. In bright light, the pupil constricts to allow less light to enter the eye. In dim light, the pupil dilates to allow more light to enter the eye.

The horse pupil is a smaller, more rounded opening located in the center of the iris. The size of the horse pupil is determined by the surrounding tissue, and it does not change in response to changes in light intensity.

Corneal Anatomy: The cornea is a very prominent, transparent, and physically strong structure. It is the outermost layer of the eye and is responsible for focusing light onto the retina. The cornea bends light rays and helps to focus them onto the retina. The cornea is composed of 3 layers: epithelium, stroma, and basement membrane. The epithelium is the outer layer of the cornea and is composed of single-layered cells that are responsible for the transparency of the cornea. The stroma is the middle layer of the cornea and is composed of a connective tissue network that provides mechanical support to the cornea. The basement membrane is the inner layer of the cornea and is composed of a thin layer of connective tissue that separates the stroma from the endothelium.

The cornea contains a little pump that drains water out of the cornea so it stays clear. Endothelial disease results in pump failure and corneal swelling.

The epithelium is attached to the stroma. The stroma constitutes approximately 90% of the corneal thickness. The epithelium is a single cell layer that lines the surface of the cornea. It is responsible for the transparency of the cornea and is constantly being shed and replaced. The stroma is the connective tissue layer that provides mechanical support to the cornea. It is composed of a network of collagen fibers that are embedded in a gel-like substance.

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Anterior Uveal Tract: The anterior uveal tract is composed of the iris, ciliary body, and the choroid. The iris is a pigmented, vascular structure that surrounds the pupil and regulates the amount of light entering the eye. The ciliary body produces aqueous humor, a clear fluid that nourishes the eye. The choroid is a vascular layer that nourishes the retina.

The iris is the colored part of the eye that surrounds the pupil. It contains muscles that control the size of the pupil. The ciliary body produces aqueous humor, a clear fluid that nourishes the eye. The choroid is a vascular layer that nourishes the retina.

Diaphragm: The diaphragm is a strong, dome-shaped muscle that separates the thoracic and abdominal cavities. It is the primary muscle involved in respiration. During inspiration, the diaphragm contracts and flattens, allowing the chest cavity to expand. During expiration, the diaphragm relaxes and domes, allowing the chest cavity to return to its normal position.

The horse diaphragm is a strong, dome-shaped muscle that separates the thoracic and abdominal cavities. It is the primary muscle involved in respiration. During inspiration, the diaphragm contracts and flattens, allowing the chest cavity to expand. During expiration, the diaphragm relaxes and domes, allowing the chest cavity to return to its normal position.

Nasolacrimal Duct: The nasolacrimal duct is a narrow, passageway that runs from the lacrimal sac to the nasal cavity. It is lined with mucus-secreting cells and is responsible for carrying tears from the eye to the nasal cavity. Tears are produced by the lacrimal gland, which is located in the upper corner of the eye. Tears help to lubricate the eye and wash away debris.

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Incisura: The incisura is the name given to the area of the orbit where the bone forms a lip and can be seen with the ophthalmoscope. It is a small, triangular area that is located in the orbital rim. The incisura is visible through the orbit and can be easily palpated.

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Orbit: The orbit is a bony, conical cavity protected by a complete bony rim. Respiratory sinuses border the horse orbit on the side of the head.

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Animals with laterally positioned orbits (one on each side of the head), such as horses, have a bony orbital rim on each side of the head. This bony rim is visible through the orbit and can be easily palpated.

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Animals with laterally positioned orbits (one on each side of the head), such as horses, have a bony orbital rim on each side of the head. This bony rim is visible through the orbit and can be easily palpated.

While vision in only one eye does not mean the horse must be euthanized, it does somewhat limit the usefulness of the remaining eye.

Editor's Note: The equine eye is very sensitive, and even the slightest injury can result in blindness.