# Eye Care Terminology

| TERM NAME | DEFINITION |
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| Aberration | The failure of a refracting surface or lens to produce an exact point-to-point correspondence between an object and its image. |
| Ablation | Removal of all or part of an object, usually from the surface inward. |
| Accommodation | Adjustment by the eye for seeing at different distances, accomplished by changing the shape of the crystalline lens through action of the ciliary muscle. |
| Adnexa | The tissues and structures surrounding the eye: eyelids, orbit, extraocular muscles, and lacrimal system. |
| Amblyopia | Decreased visual acuity without any apparent disease of the eye. |
| Ametropia | Any optical error of the eye that can be corrected by glasses or contact lenses. See Refractive Error. |
| Anterior Chamber | The area between the inner-most layer of the cornea and the iris. |
| Anterior Chamber Angle | The junction of the cornea and the iris. |
| Anterior Segment | Front portions of the eye including the cornea, the anterior chamber, the iris, and the crystalline lens. |
| Aphakia | Absence of the crystalline lens of the eye, usually as a result of cataract surgery. |
| Aqueous Humor | Clear watery fluid, which fills the anterior chamber of the eye. |
| Astigmatic Keratotomy (AK) | Surgical procedure where incisions are made in the cornea to correct astigmatism. |
| Astigmatism | Distortions in the cornea, or sometimes the lens, that focus light rays at different lengths, making it difficult to focus well at any distance. |
| Automated Lamellar Keratoplasty (ALK) | A surgical procedure for correcting high myopia by removing and folding back a layer of the anterior cornea, removing a precise amount of corneal tissue with an automated microkeratome, and folding back into position the first layer without stitches. |
| Autorefraction | An automated objective refraction that measures each eye individually without patient response or interaction. |
| Axis | An axis is a line dividing a regular figure symmetrically. As used in optometry, two axes define the direction of the longest and shortest radii of an oval (astigmatic) lens system of the eye. Common usage refers to the longer axis of a lens, the direction of least power, as the cylinder axis. |
| Best Corrected Visual Acuity (BCVA) | The best vision the patient can achieve when they are using the most updated prescription. |
| Bifocal | A lens with two optical zones, one for near vision and one for distance vision. |
| Bilateral | Relating to or affecting both right and left eye. |

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| Binocular Vision | The ability to use both eyes simultaneously to focus on the same object and to fuse the images from both eyes into a single image. |
| Biometry | Either ultrasound or laser light used to measure the length of the eye to calculate power needed for IOL placement. |
| Biomicroscope | See Slit Lamp. |
| Blindness | Having central visual acuity of 20/200 or less in the better eye after correction; or having visual acuity of better than 20/200, but having a field of vision of no greater than 20 degrees (legal definition). |
| Bulbar Conjunctiva | The portion of the conjunctiva that covers the outer surface of the globe (eyeball). |
| Canaliculus (canaliculi) | Tubes connecting the eye to the lacrimal sac. The puncta are the openings of the canaliculi. |
| Canthus | The angle formed by the meeting of the upper and lower eyelids, specified as outer or temporal, and inner or medial (nasal). |
| Capsular Tension Ring | PMMA ring inserted into capsular bag to stabilize capsule to withstand the pressures of cataract surgery. |
| Cataract | Opacity or clouding of the natural crystalline lens, causing foggy vision. Symptoms may include necessity of more light to read, more difficulty driving at night due to glare from headlights, or loss of contrast sensitivity. |
| Choroid | Continuation of the ciliary body in the form of a layer of tissue that lies between the sclera and the retina, which furnishes nourishment to the other parts of the eyeball. |
| Cilia | Technical term for eyelashes. |
| Ciliary Body | Band-like structure of muscle and secretory tissue that extends from the edge of the iris and encircles the inside of the sclera toward the front of the eye. |
| Ciliary Muscle | Muscle fibers in the ciliary body |
| Ciliary Processes | Inner surface of the ciliary body that is arranged in folds, rows, or ridges. This structure secretes the aqueous humor. |
| Collagen | A protein found in connective tissues which is relatively inelastic but has high tensile strength. |
| Computerized Corneal Topography (CCT) | Measurement to map exact areas and degree of corneal astigmatism. |
| Concave Lens | A lens having a surface that is rounded inward, to produce focal power that diverges parallel rays of light. Also called a diverging, myopic, or minus lens, denoted by the minus sign. |
| Cone | One of the two types of light-sensitive cells in the eye. Cone cells are concentrated in the center of the retina and are responsible for color vision. |
| Congenital | Present at birth. |
| Conjunctiva | Thin, translucent layers of mucous membrane, which lines the eyelids |

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| | and covers the front part of the eyeball, excluding the cornea. |
| Conjunctivitis | Inflammation of the conjunctiva. |
| Contact Lens | A lens constructed to fit directly on the eyeball. |
| Contrast Sensitivity | A measurement, which determines the ability of the observer to see a wide range of everyday objects under normal and reduced illumination conditions. |
| Convergence | The process in which the visual axes of the two eyes are directed toward the same near point, with the result that the eyes are turned inward. |
| Convex Lens | A lens having a surface that is curved outward to produce focal power that converges parallel rays of light to a focus. Also called a converging, hyperopic, or plus lens, denoted by the plus sign. |
| Cornea | Referred to as the "window of the eye." It provides most of the focusing power when light enters the eye. The cornea is composed of five layers of tissue. The outer layer (the epithelium) is the eye's protective layer. This layer is made up of highly regenerative cells that have the ability to grow back within three days. You generate a completely new epithelial layer every five days. This allows for fast healing of superficial injuries to the cornea. Most of the inner layers provide strength to the eye. |
| Crystalline Lens | A transparent lens suspended inside the eye immediately behind the iris, which brings rays of light to a focus on the retina. |
| Cycloplegic | A drug that temporarily puts the ciliary muscle at rest and dilates the pupil, often used to ascertain the error of refraction. Administered in the form of drops. See Cycloplegic refraction. |
| Cycloplegic Refraction | A subjective refraction performed after instillation of cycloplegic drops. The cycloplegic drops temporarily prevent the muscular accommodation of the eye and permit a more objective evaluation of the refractive error of the eye. |
| Cylindrical Lens | See Toric Lens. |
| Depth Perception | The ability to perceive the relative position of objects in space. See Stereoscopic Vision. |
| Dilate | To spread wide, enlarge, or expand. In eye care, dilation describes the degree of opening of the pupil. The pupil can be further dilated by the instillation of cycloplegic drops. |
| Diopter | A unit of measurement of strength or refractive power of lenses. Can also refer to the relative curvature of a lens surface. |
| Emmetropia | The focal condition of the normal eye in which there is no refractive error. |
| Endocyclophotocoagulation (ECP) | A laser attached to a camera used to ablate ciliary processes to reduce pressure inside the eye by decreasing aqueous production. |
| Epithelium | A clear outer protective coating that covers the cornea, conjunctiva, and inner eyelid. |

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| Esophoria | A tendency of an eye to turn inward when covered. |
| Esotropia | A condition in which one or both eyes turn too far inward, sometimes called convergent strabismus or crossed eyes. |
| Exophoria | A tendency of an eye to turn outward when covered. |
| Exophthalmos | An abnormal protrusion of the eyeball. |
| Exotropia | A condition in which one or both eyes turn too far outward, sometimes called divergent strabismus. |
| Extraocular Muscles | External muscles attached to the outside of the globe (eyeball) that are responsible for turning and rotating the eye. Each eye has four rectus and two oblique muscles. |
| Eyelids | Moving folds of skin that cover the outer portion of the eyeball. The eyelids protect the eye from injury and aid in the lubrication of the eye's surface. |
| Farsightedness | A refractive condition of the eye, resulting from the tendency of rays of light to focus behind the retina when accommodation is relaxed. In mild amounts this can cause blurred vision at a near point. In higher amounts vision is blurred at all distances. |
| Field of Vision | The entire area, which can be seen without shifting the gaze. |
| Floaters | Small particles consisting of cells or fibrin, which move in the vitreous. |
| Focal Length | The distance between a lens and the position where the lens brings parallel light rays to a focus. |
| Focal Point | The position on the optical axis of a lens where parallel light rays are brought to a focus. |
| Focus | The point to which rays are converged after passing through a lens. |
| Fogging | A technique in subjective refraction of moving the refractive lens in a plus direction to initially cause a blurred image. The eye tries to compensate for the blur, and when the lens is changed to approach the correct refraction, the eye is more relaxed and the refraction can be better refined. |
| Fornix | The area where the palpebral and the bulbar conjunctiva meet. |
| Fovea | A small depression in the central retina at the back of the eye. The part of the macula adapted or most acute vision. |
| Fundus | The back of the eye, which can be seen with an ophthalmoscope. |
| Fusion | The power of coordinating the images received by the two eyes into a single mental image. |
| Gas Permeable Lenses | Contact lenses that allow oxygen and carbon dioxide to pass through them. Usually refers to a type of hard lens (RPG), although soft lenses are also gas permeable. |
| Glaucoma | A progressive disease of the eye, which is characterized by pressure inside the eye being too high and causing the nerve fibers running through the optic nerve to slowly deteriorate. There is no cure for glaucoma. It is managed with various treatments including drops, |

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| | laser treatment, and traditional surgery. A patient with glaucoma is not a candidate for laser vision correction. |
| Globe | More commonly known as the "eyeball." |
| Halo | A hazy ring around bright light, seen by some patients with a refractive error. |
| Haze | A clouding of vision sometimes reported following Laser-PRK. The condition usually corrects itself, after a period ranging from weeks to months. |
| Hypermetropia | See Farsightedness. |
| Hyperopia | Farsightedness. The length of the eye is too short and the light rays are focusing too far behind the retina. Farsighted patients have trouble with near tasks and close up vision can be non-existent or difficult. Distance vision may also be affected but it is usually clearer than the near vision when comparing the two. |
| Hypertropia | A condition in which one eye deviates upward. |
| Inferior Oblique | One of the six muscles of the eye that moves the pupil up, away from the midline and the top of the pupil away from the nose. |
| Inferior Rectus | One of the six muscles of the eye that allows rotation around all three axes and moves the pupil down and towards the midline and the top of the pupil away from the nose. |
| Injection | A term sometimes used to mean congestion of ciliary or conjuctival blood vessels; redness of the eye. |
| Instillation | The process of placing drops on the surface of the eye through retraction on the lower lid. |
| Intraocular Lens ( IOL) | An artificial lens put in the eye to replace the natural crystalline lens. |
| Intraocular Pressure (IOP) | The pressure of the contents of the eyeball. Increased IOP can be an indicator of an unwanted steroid response which could lead to secondary glaucoma. |
| Iris | The 'colored' portion of the eye. This muscle actually contains a contracting and an expanding muscle within it. It regulates the amount of light that enters the eye and controls the size of the pupil with its movements. |
| Iritis | Inflammation of the iris, a condition marked by pain, discomfort from light, contraction of the pupil, and discoloration of iris. |
| Jaeger Test | A test for near vision, lines of reading matter printed in a series of various sizes of type. |
| Keratitis | An inflammation of the cornea. |
| Keratoconus | A deformity in which the corneal curvature gets progressively steeper, making the cornea somewhat cone-shaped. |
| Keratometer | An instrument used to measure the radius of the anterior surface of the cornea, and the power and axis of the corneal cylinder if present. It utilizes the mirror effect of the front surface of the cornea. |

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| Keratometry | The measurement of the anterior curvatures of the cornea with a keratometer. |
| Keratoplasty | The graft of a donor cornea to replace a damaged or diseased one. |
| Lacrimal Apparatus | The orbital structures that produce tears and the ducts that drain the excess fluid from the front of the eyes into the nose. |
| Lacrimal Gland | Part of the lacrimal apparatus that produces tears. It is located in the lateral part of the upper lid just under the orbital rim. |
| Lacrimal Sac | Collection chamber for tears after they have left the eye and traveled through the canaliculi. |
| Laser Thermal Keratotomy (LTK) | Applying focalized light energy to the peripheral cornea to correct hyperopia (farsightedness). |
| LASIK | LASIK, or Laser In-Situ Keratomileusis, is a surgical procedure to reduce refractive errors that cause nearsightedness, farsightedness, and astigmatism, conditions that are historically corrected by spectacles or contact lenses. First, the inner layers of the cornea are gently separated from the outer layers with a micro-surgical instrument. Next, a cool ultraviolet laser applies pulses of energy on those inner layers of the cornea to slightly reshape and thin it. Because the cornea accounts for approximately 70% of the eye's total light bending ability, slight changes can dramatically reduce an individual's continued dependence on corrective lenses. |
| Lateral Canthus | The outer (temporal) side of the palpebral fissure. |
| Lateral Rectus | One of six ocular muscles which controls rotation around the vertical axis and moves the pupil away from the midline. |
| Lens | The lens is the clear structure located behind the pupil. Its primary function is to provide fine-tuning for focusing and reading. The lens performs this function by altering its shape. At about the age of 40 to 50, the lens becomes less flexible and presbyopia begins. At about the age of 60 to 70, the lens becomes cloudy and hard which prevents light from entering as well. This condition is called a cataract. |
| Limbus | The junction between the cornea and sclera. |
| Macula | The small area of the central retina that surrounds the fovea, which contains yellow pigment. This region provides the most distinct vision in the retina. |
| Manifest Refraction | A subjective refraction without use of cycloplegic drops. |
| Manual Refraction | A subjective refraction that measures each eye individually and together with patient interaction and response. |
| Medial Canthus | The inner (nasal) side of the palpebral fissure. |
| Medial Rectus | One of the six muscles of the eye that controls rotation around the vertical axis and moves the pupil towards the midline. |
| Microkeratome | An incision device that removes precise amounts of surface of the cornea used for LASIK surgery. |
| Miotic | A drug that causes the pupil to contract. |

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| Monovision | A type of corrective procedure in which one eye is corrected for distance vision and the other is corrected for near vision. |
| Mydriatic | A drug that dilates the pupil. |
| Myopia | Nearsightedness. The eye is too long and the light rays are focusing too far in front of the retina. Nearsighted patients have very little trouble seeing up close but distance vision is blurry. |
| Nasolacrimal Duct | The duct connecting the lacrimal sac and the nasal cavity. Tears pass through the nasolacrimal duct after leaving the lacrimal sac. |
| Near Point of Accommodation | The nearest point at which the eye can perceive an object distinctly. It varies according to the power of accommodation. |
| Near Vision | The ability to perceive objects distinctly at normal reading distance, or about 14 to 16 inches from the eyes. |
| Nearsightedness | A refractive error in which, because the eyeball is too long in relation to its focusing power, the point of focus or rays of light from distant objects is in front of the retina. |
| Non-Toric Lens | A lens, which refracts rays of light equally in all meridians. |
| Nystagmus | An involuntary rapid movement of the eyeball. May be lateral, vertical, or rotary. |
| Objective Refraction | A refraction performed without patient interaction or response. Each eye is measured individually. Binocular visual acuity is not measured. |
| Ocular Dexter (O.D.) | Right eye. |
| Ocular Sinister (O.S.) | Left eye. |
| Oculi Uniter (O.U.) | Both eyes. |
| Ophthalmologist | An M.D. who specializes in diagnosis and treatment of defects and diseases of the eye, performing surgery when necessary or prescribing other types of treatment. |
| Ophthalmoscope | An instrument used in examining the interior of the eye, especially the fundus. |
| Optic Atrophy | Degeneration of the nerve tissue, which carries messages from the retina to the brain. |
| Optic Disc | Head of the optic nerve in the eyeball. There is a complete absence of rods and cones here, thus it is insensitive to light and referred to as the blind spot. |
| Optic Nerve | The optic nerve serves to carry the nerve fibers of the retina to the brain. If the optic nerves are damaged from trauma or disease, then permanent loss of vision can occur. |
| Optic Neuritis | Inflammation of the optic nerve. |
| Optician | One who grinds lenses, fits them into frames, and adjusts the frames to the wearer. |
| Optometrist | A specialist in diagnosing and treating visual and optical disorders of the eye, prescribing lenses, vision training, and other treatment. The primary eye and vision care practitioner. |

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| Orbit | The bony cavity in the skull that houses the globe, the extraocular muscles, the blood vessels, and the nerves. |
| Pachymetry | Ultrasound measurement of the corneal thickness. |
| Palpebral Conjunctiva | The portion of the conjunctiva that covers the inner surface of the eyelids. |
| Palpebral Fissure | The opening between the upper and lower lids. |
| Pathologic | Resulting from diseases of the structure and function of the body. |
| Peripheral Vision | The ability to perceive the presence, motion, or color of objects outside the direct line of vision. |
| Phacoemulsification | Use of ultrasound or laser energy to break up a cataract for ease of removal. |
| Phakic Lens | The natural lens. |
| Phoria | A latent deviation in which an eye has a tendency to turn from the normal position for binocular vision when covered. See Hyperphoria, Esophoria, Exophoria. |
| Photophobia | Abnormal sensitivity and discomfort from light. |
| Photorefractive Keratectomy (PRK) | A procedure to correct refractive error by ablating the surface of the central area of the cornea using an excimer laser. The laser beam ablation pattern is shaped to create the necessary corrective refraction. |
| Phototherapeutic Keratectomy (PTK) | A procedure to treat pathologic conditions of the surface of the cornea using an excimer laser. The laser beam ablation pattern is flat to create a smoothing of the corneal surface. |
| Posterior Chamber | The narrow space between the back of the iris and the front surface of the crystalline lens, bounded by the ciliary body. |
| Posterior Segment | All parts of the eye behind the crystalline lens; the vitreous and the retina. |
| Presbyopia | The age-related inability of the crystalline lens to change or accommodate to focus on near objects (normally occurs in individuals over age 40). Patients require a prescription to see tasks clearly and up close. |
| Pseudophakic Lens | A surgically implanted lens. |
| Pterygium | A triangular fold of growing membrane, which may extend toward the cornea from the sclera. |
| Ptosis | A paralytic drooping of the upper eyelid. |
| Punctum (puncta) | Tiny openings on the nasal side of the upper and lower lids through which excess tears pass when leaving the eye. |
| Pupil | The pupil is the 'black circle' that you see in the center of a person's eye. The primary function of the pupil is to control the amount of light entering the eye. When you are in a bright environment, the pupil becomes smaller to let less light through. When it is dark, the pupil expands to allow more light to reach the back of the eye. |

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| Radial Keratotomy (RK) | A surgical procedure in which radial incisions are made in the peripheral cornea to flatten the central portion of the cornea and correct myopic refractive errors. |
| Refraction | In optics, the bending of light rays as they travel from one medium to another. Also, a test to determine the refractive error of an eye and the best corrective lenses to be prescribed. |
| Refractive Error | A defect in the eye that prevents light rays from being brought to a single focus exactly on the retina. |
| Retina | Inner-black surface of the eye. The retina contains light-sensitive cells that convert light to electric impulses that are carried to the brain. |
| Retinal Detachment | A separation of the retina from the choroid. |
| Retinoscope | A hand-held instrument for determining the refractive state of the eye. It throws light from a moving mirror onto the retina, creating a movement of lights and shadows across the pupil. |
| Rod | One of the two types of light-sensitive cells in the eye. Rod cells are responsible for vision in poor light and, apart from the central region and the blind spot, are found throughout the retina. |
| Sclera | White tissue (the white part of the eye) that forms the main structural component of the globe (eyeball). The sclera tissue is continuous from the cornea on the front of the eye to the optic nerve sheath in the back of the eye. |
| Scleritis | Inflammation of the sclera. |
| Sebaceous Gland | A gland that provides fatty lubrication to surrounding areas. |
| Slit Lamp | A corneal microscope, which provides a narrow beam of strong light, for examination of the front portions of the eye. |
| Snellen Chart | Used for testing central visual acuity. It consists of lines of letters, numbers, or symbols in graded sizes drawn to Snellen measurements. Each size is labeled with the distance at which it can be read by the normal eye. Most often used when testing vision at 20 feet. |
| Soft Contact Lens | A contact lens made of soft plastic, which contains water and allows for oxygen transmission. Soft lenses are characterized by comfort and ease of adaption. A soft contact lens is used to protect the cornea following Laser-PRK, aiding the healing process of the epithelium by reducing septic exposure. |
| Spherical Lens | See Non-Toric Lens. |
| Stereoscopic Vision | The ability to use both eyes together to perceive the relative solidity and depth of objects in space. |
| Strabismus | Sometimes called squint, a failure of the two eyes simultaneously to direct their gaze at the same object because of muscle imbalance. See Tropia, Esotropia, Exotropia. |
| Stye | Acute inflammation of a sebaceous gland in the margin of the eyelid, due to infection and usually resulting in the formation of pus. |

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| Subjective Refraction | A refraction where patient response to alternative corrections is performed. It includes measurement of each eye individually and both eyes together. |
| Superior Oblique | One of the six muscles of the eye that allows rotation around all three axes and moves the pupil down and away from the midline and the top of the pupil towards the nose. |
| Superior Rectus | One of the six muscles of the eye that allows rotation around all three axes and moves the pupil up and towards the midline and top of the pupil towards the nose. |
| Tonometer | An instrument for measuring pressure inside the eye. |
| Toric Lens | A lens, which has differing radii of curvature in different meridians, which causes the refractive power to vary in different meridians. Used in correction of astigmatism. |
| Trabecular Meshwork | Spongy structure that filters the aqueous and controls its rate of flow out of the eye. |
| Tropia | A deviation of the eyes from their normal straight alignment. |
| Uncorrected Visual Acuity (UCVA) | The vision the patient has when they are not using any prescription to help them out. Also known as "naked vision." |
| Unilateral | Relating to or affecting only one eye or one eye at a time. |
| Uveal Tract (Uvea) | Collective name for the iris, ciliary body, and choroid. |
| Vision | Sight, the faculty of seeing. |
| Visual Acuity | Ability of the eye to perceive the shape of objects in the direct line of vision, usually measured in terms of a Snellen fraction, such as 20/20. |
| Visual Cortex | The area of the brain that receives visual information. |
| Vitreous | The gelatinous, transparent, colorless substance filling the space in the eyeball between the crystalline lens and the retina. |
| Yag Peripheral Iridotomy | Use of a laser to put holes in the iris to help relieve pressure by allowing aqueous outflow. |
| Yag Posterior Capsulotomy | Use of a laser to put holes in the posterior chamber that has become opaque. |
| Zonules | Transparent fibers that radiate from the crystalline lens and attach to the ciliary body. |