

Glossary of Common Ophthalmic Terminology

Abbe Number – A measure of lens light dispersion.

Aberration - The failure of a refracting surface or lens to produce an exact point-to-point correspondence between an object and its image.

Accommodation - Adjustment by the eye for focusing clearly on near targets, which is accomplished by changing the shape of the crystalline lens through action of the ciliary muscle.

Add – The total dioptric (see Diopter) power added to a distance prescription to supplement accommodation for reading

Against-the-rule Astigmatism – When the steepest meridian of a lens/ prescription lies near the 0°-180° line.

Age-Related Macular Degeneration (AMD/ARMD) – Age related, deterioration of the macula.

Albinism - A hereditary absence of pigment in the skin, hair, iris, and retina; usually associated with a loss of visual acuity, nystagmus and photophobia; often accompanied by refractive errors.

Amaurosis – Partial or total blindness

Amblyopia - Decreased visual acuity in one or both eyes, usually due to lack of sensory input during childhood. Often occurs without any apparent disease of the eye.

Ametropia - An optical error of the eye in which the image of an object does not focus on the retina, when the visual system is at rest. (See refractive error)

Amsler Grid – A diagram with horizontal and vertical lines used to detect macular distortion.

Anesthetic – A drug that induces an insensitivity to pain.

Aniseikonia - The images of an object, which appear on each retina, are unequal in size or shape and cannot be fused into one image

Anisometropia – A difference in refractive error between the two eyes.

Anterior Chamber - The aqueous-filled space in the forward portion of the eye, bounded in front by the cornea and behind by the iris.

Anterior Chamber Angle – The junction between the cornea and the iris where aqueous filters out of the eye.

Anterior Segment – referring to the front part of the eye (i.e. the lens forward).

Antihistamine – Drug used in the treatment of allergies.

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Antireflective Coating (ARC) – Reduces light reflections and increases the transmission of light through a lens.

Aphakia - Absence of the crystalline lens of the eye.

Applanation Tonometry – A method for determining intraocular pressure (IOP) by measuring the force required to flatten an area of the cornea.

Aqueous Humor (Aqueous) - Clear, watery fluid which fills the anterior chamber of the eye.

Aspheric Lens - A non-spherical lens, in which the radii of curvature increase towards the periphery rather than remaining equal at all points. Aspheric lenses reduce optical aberration and improve resolution.

Asthenopia - Ocular fatigue caused by tiring of the muscle in and around the eye.

Astigmatism - A refractive error in which light rays fail to come to a single focus on the retina because of differing amounts of refraction in the various meridians of the eye.

Atoric Lens – Ophthalmic lens with aspheric curves on the back surface.

Auto-refractor – A computerized machine that estimates the eye's objective refractive power.

Axial length – Length of the eyeball.

Bandage Contact Lens – Soft contact lenses used to protect the cornea.

Base Curve – the curvature of the central portion of the posterior surface of a lens.

Bicentric Grind - The grinding of the lower part of a spectacle lens to help compensate for a lens-induced vertical prism power that occurs with unequal power lenses.

Bifocal - A lens with two optical zones, one for near vision and one for distance vision.

Bilateral - Both eyes.

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.

Biomicroscope - A corneal microscope for examination of the front portions of the eye, which provides a narrow beam of strong light.

Blepharitis - Inflammation of the lid margins; also known as dandruff of the eyelids.

Blepharoplasty - Any plastic surgery performed on the eyelids.

Blindness - See "Legal Blindness."

Blind Spot – The natural sightless area of the visual field generated by the lack of photoreceptors where the optic nerve enters the eye.

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Blue Light – High energy visible light suspected of cause eye damage.

Bowman’s Membrane – Layer of the cornea located between the epithelium and stroma.

Braille – Tactile writing system used by individuals who are visually impaired.

Bridge – The portion of the frame front that joins the two eye wires together. This part supports the frame on the patient’s nose.

Canaliculi – Canal where tears pass from the puncta into the lacrimal sac.

Canthus - The angle formed by the meeting of the upper and lower eyelids; specified as outer or temporal, and inner or nasal.

Capsulotomy – A laser procedure used to remove capsular haze secondary to cataract surgery.

Cataract - A clouding of the crystalline lens of the eye or its capsule, or both, with consequent loss of visual acuity.

Cellulose Acetate – The most commonly used plastic frame material.

Center Thickness – Thickness of a lens (measured in millimeters).

Central Retinal Artery Occlusion (CRAO) – Disease of the eye where retinal arterial blood flow is blocked. Symptoms include sudden, painless, profound vision loss in one eye.

Chalazion - Inflammatory enlargement of a meibomian gland in the eyelid.

Chief Complaint – The main reason the patient has booked an appointment.

Chorioretinitis - Inflammation of the choroid and retina.

Choroid - The vascular, intermediate layer of the eye, lying between the retina and sclera, which furnishes nourishment to the other parts of the eyeball.

Choroiditis - Inflammation of the choroid.

Ciliary Body - A portion of the vascular layer between the iris and the choroid, which consists of ciliary processes and ciliary muscle.

Color Deficiency - Diminished ability to perceive differences in color - usually for red or green, rarely for blue or yellow.

Colour Vision – The ability to discriminate objects based on wavelengths of light.

Computer Vision Syndrome – Eye and vision related problems resulting from prolonged focus on a computer screen or digital device.

Concave Lens - A lens in which both surfaces curve inward, so it produces focal power by diverging parallel rays of light. It is also called a minus lens and is denoted by a minus sign.

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Congenital - Present at birth.

Conjunctiva - Mucous membrane which lines the eyelids and covers the front part of the eyeball.

Conjunctivitis - Inflammation of the conjunctiva.

Contact Lenses - Lenses that are placed on the corneal surface or sclera. They have either an optical, therapeutic or cosmetic purpose.

Contrast Sensitivity – A measurement which determines the observer’s ability 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 in which both surfaces curve outward, so it produces focal power by converging parallel rays of light to a focal point. It is also called a plus lens and is denoted by a plus sign.

Cornea - The transparent, dome-shaped tissue covering the iris and the pupil. The front “window” of the eye, approximately 12mm in diameter, responsible for approximately 2/3 of the refractive power of the eye.

Corneal Abrasion - An erosion of the superficial layer of the epithelium of the cornea (missing or injured cells); normally quite painful.

Corneal Edema - Excessive accumulation of fluid in the cornea, due to disturbance in the mechanism of fluid exchange.

Corneal Topography – A non-invasive imaging technique for mapping the corneal curvature in three dimensions.

CR-39 – A conventional plastic ophthalmic lens material.

Crystalline Lens - The transparent lens which is suspended inside the eye immediately behind the iris. It is responsible for approximately 1/3 of the refractive power of the eye.

Cup-to-disc ratio (C/D) – the relationship between the size of the optic cup and the optic disc of the optic nerve.

Cycloplegic - A drug that temporarily paralyzes the ciliary muscle and dilates the pupil; often used to ascertain the refractive error.

Cylindrical Lens - A toric lens, that is, one which has differing radii of curvature in different meridians, which causes the refractive power to vary in the different meridians; used to correct astigmatism.

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Dacryocystitis - Inflammation of the lacrimal sac.

Daily Wear – Contact lenses worn during the waking hours (i.e. not overnight).

Dark Adaptation - The ability of the eye to adjust to a dimly lit environment.

Datum Line – The horizontal line that runs through the vertical center of a frame.

Decentration - The displacement of the optical centre of an eyeglass lens (i.e., not placing it in the geometric centre of the frame). This is done purposely to place the optical centre in line with the visual axis of the eye or to induce prism.

Depth Perception - The ability to perceive the relative position of objects in space.

Dermatochalasis – Excess eyelid skin drooping over eye.

Deuteranopia – A red-green colour deficiency resulting from an insensitivity to green light.

Diastolic Pressure – The pressure in the arteries when the heart is at rest between beats. It is the bottom number in a blood pressure reading (i.e. 120/80 – 80 is the diastolic pressure).

Diopter - A unit of measurement of strength or refractive power of lenses; also can refer to the relative curvature of a lens surface.

Diplopia - Double vision

Disposable Lens – Soft contact lens that is discarded after a specific period of time.

Distance Between Lenses (DBL) – The shortest distance between the nasal edges of 2 lenses.

Distometer – An instrument that measures vertex distance.

Drusen – Yellowish deposits under the retina made up of lipids (fatty protein).

Dyslexia - A dysfunction in which the ability to read is diminished due to neurological or other non-optical problems.

Ectropion – Turning out of eyelid.

Effective Diameter (ED) – Twice the distance from the geometric center of a lens to the furthest edge of a lens.

Emmetropia - The focal condition of the normal eye in which there is no refractive error.

Endophthalmitis - Inflammation of most of the internal tissues of the eyeball.

Endothelium – Innermost corneal layer which is a single layer of cells.

Endpiece – The outer part of the frame front where the temples are attached.

Entropion – Turning in of eyelid.

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Enucleation - Complete surgical removal of the eyeball.

Epi-retinal Membrane – Thin fibrous tissue that forms on the retina.

Epithelium – Outermost layer of the cornea.

Esophoria - A tendency of the eyes to turn too far inward under certain conditions.

Esotropia - A condition in which one or both eyes turn too far inward at all times; sometimes called convergent strabismus or crossed eyes.

Exophoria - A tendency of the eye to turn too far outward under certain conditions.

Exophthalmos - An abnormal protrusion of the eyeball.

Exotropia - A condition in which one or both eyes turn too far outward at all times; sometimes called divergent strabismus.

Extraocular/ Extrinsic Muscles – Six muscles that are responsible for moving the eye. Each eye has four recti and two oblique muscles.

Exudate – Yellowish lesions (lipid proteins) found within the retina from leaking blood vessels caused by systemic diseases.

Extended Wear (Continuous Wear) – Contact lenses that can be worn during sleep.

Eye Dominance - The tendency of one eye to assume the major function of seeing, being assisted by the less dominant eye.

Eyewire – The portion of a frame that surrounds the lens.

Face Form – The curve on the front of a frame. Also referred to as “wrap”.

False Negative – Failing to see a stimulus that was previously seen (i.e. patients who become tired during visual field testing).

False Positive – Seeing a stimulus when one is not present (i.e. trigger happy patients during visual field testing).

Far-sightedness - See “Hyperopia.”

Field of Vision (Visual Field) - The entire area which can be seen without shifting the gaze.

Fitting Cross – The location of a lens sitting right in front of a patient’s pupil.

Fitting Triangle – When a frame touches the head only on the nose and against the sides of the head around the ears.

Fixate - The ability of an eye to move so an image is focused on the fovea.

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Floaters - Small particles consisting of cells or fibrin which move in the vitreous.

Fluorescein Angiography – Technique for examining the circulation of the retina and choroid using a fluorescein dye that is injected into the veins and viewed using a specialized camera.

Focus - The point at which rays are converged after passing through a lens.

Fornix - The pocket formed where the bulbar conjunctiva meets the palpebral conjunctiva.

Fovea - A small depression in the central retina at the back of the eye; the part of the macula adapted for most acute vision.

Frame PD – The horizontal distance between the geometric centers of two lenses.

Fresnel prism - A series of small prisms in a plastic sheet, which attach to eyeglass lenses to temporarily correct for eye misalignments.

Fundus - The back of the eye including the retina, optic nerve, macula and fovea.

Fusion - The power of coordinating the images received by the two eyes into a single image.

Gas Permeable Lenses - Contact lenses that allow oxygen and carbon dioxide to pass through them. This usually refers to a rigid lens, although soft lenses are also gas permeable.

Geocenter – The intersection of the datum line and horizontal centers of each lens shape.

Giant papillary conjunctivitis (GPC) - Is a long-term hypersensitivity or allergic reaction, resulting in bumps called papillae developing on the underside of the upper eyelid, usually accompanied by mucus discharge and itching.

Glare - Caused by a brightness greater than the eyes can adjust to.

Glaucoma - A disease in which vision is lost due to damage of the optic nerve, it is often associated with increased pressure inside the eye.

Gonioscope - A magnifying device which is placed on the cornea and, in conjunction with strong illumination, is used to examine the angle of the anterior chamber.

Grave's Disease – Autoimmune thyroid disease that causes protrusion of the eyes.

Half-eye – A frame designed to sit lower on the nose, to allow a patient to read and to look over the top to see distance.

Hemianopsia - Blindness of one half the field of vision of one or both eyes.

Hepatitis B – An infectious disease caused by a virus that affects the liver.

Heterochromia – Different colored irises.

Human Immunodeficiency Virus (HIV) – A disease caused by a virus that weakens the immune system and can lead to AIDS.

Hybrid Lens – A contact lens that has both soft and gas permeable materials.

Hyperopia – Often called farsightedness. Also known as hypermetropia. A refractive condition resulting from the tendency of rays of light to be out of focus on the retina when accommodation is relaxed. If the light rays could do so, they would reach their focal point behind the retina. In mild amounts this causes blurred vision at near. In higher amounts, vision is blurred at all distances.

Hyperphoria - A tendency of one eye to deviate upward under certain conditions.

Hypertension – High blood pressure. A medical condition in which the blood pressure within the arteries is persistently elevated.

Hypertropia - A condition in which one eye deviates upward all the time.

Hyphema – Blood in the anterior chamber in the eye.

Hypophoria - A tendency of one eye to deviate downward under certain conditions.

Hypotropia - A condition in which one eye deviates downward all the time.

Injection - A term used sometimes to mean congestion of ciliary or conjunctival blood vessels; redness of the eye.

Inner Canthus – Inner corner of the eye where the upper and lower eyelids meet.

Instrument Myopia – Occurs when looking into an optical instrument and the person focuses their eyes closer than needed to see the image.

Interpupillary Distance (PD) – Also called pupillary distance (PD), is the distance between the centers of the pupils of each eye (measured in millimeters).

Intraocular Lens (IOL) – An artificial lens that is implanted in the eye during cataract surgery to replace the anatomical lens.

Intraocular Pressure (IOP) – The fluid pressure or tension within the eye measured in millimeters of mercury (mmHg)

Iris - Colored, circular muscle tissue behind the cornea and immediately in front of the crystalline lens. The iris regulates the amount of light entering the eye by changing the size of the pupil.

Iritis - Inflammation of the iris; the condition is marked by pain, inflammation, discomfort from light, contraction of pupil, discoloration of iris.

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Jaeger Test - A test for near vision; lines of reading matter printed in a series of various sizes of typeface.

K-readings - Corneal curvature measurements taken with a keratometer

Keratitis - An inflammation of the cornea.

Keratoconjunctivitis Sicca – Dry eye condition.

Keratoconus - A progressive disease where the central corneal tissue protrudes forward dramatically, making the cornea somewhat cone-shaped.

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 cornea.

Lacrimal Gland - A gland which secretes tears.

Lacrimation - Production of tears.

Lacrimal Sac – Upper part of the nasal lacrimal duct; receives tears from the canaliculi.

LASIK - Lasik stands for “Laser-assisted in situ keratomileusis” which is commonly referred to as laser eye surgery. This is a type of corneal refractive surgery for the correction for myopia, hyperopia and astigmatism.

Lateral - Toward the ear, away from the midline of the body.

Lateral Geniculate Body (LGB) – Relay center that receives information from the retina and transmits it to the occipital lobe in the brain.

Lazy eye/Amblyopia; decreased visual acuity in one or both eyes with no detectable cause.

Legal 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 visual field of no greater than 20 degrees in the better eye.

Lens - A refractive medium having one or both surfaces curved.

Lens Blank – A lens before it has been edged (or cut) to fit into a frame.

Lens Calipers – An instrument used to measure the center thickness of a lens.

Lens Clock – An instrument for measuring the base curve of a lens.

Lens Height (B) – The vertical distance between the furthest top and bottom edges of a lens.

Lens Size (A) – The horizontal distance between the furthest temporal and nasal edges of a lens.

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Lensometer – A device (manual or automated) used to determine the prescription of an ophthalmic lens.

Leukocoria – White pupil.

Light Adaptation - The ability of the eye to adjust to an increased amount of light in the environment.

Limbus - The boundary between the cornea and sclera.

Low Vision – Although many definitions exist, typically binocular vision less than 20/60.

Low Vision Aids - Optical devices of various types useful to persons with vision impairment.

Macula (Macula Lutea) - The small area of the central retina that surrounds the fovea; this region provides the most distinct vision in the retina.

Major Reference Point (MRP) – The point on the lens where the prism is equal to that called for by the prescription. If an Rx has no prism, the optical center and the MRP are located at the same place; in an Rx with prism, the OC and the MRP are at different places.

Meibomian Gland - A gland located within the eyelids which secretes an oily layer of tear fluid.

Medial - Toward the nose or toward the midline of the body.

Minimal Blank Size (MBS) – The smallest lens blank that can be used to edge a given prescription.

Miotic - A drug that causes the pupil to contract.

Monocular – Refers to one eye only.

Monovision - A type of contact lens fitting in which one eye is corrected for distance vision and the other is corrected for near vision.

Mydriasis – Pupil dilation. As part of the light reflex, pupils dilate (enlarge) in dim lighting.

Mydriatic - A drug that dilates the pupil.

Myodisc – Ophthalmic lens used to correct very high myopic prescriptions.

Multifocal Lens - Eyeglass lens that incorporates several different optical powers and allows the wearer to see clearly at multiple distances.

Multiple Sclerosis (MS) – Autoimmune central nervous system disease causing demyelination of nerves.

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Myopia - Often called nearsightedness; a refractive error in which, because the eyeball is too long in relation to its focusing power, the focal point for rays of light from distant objects is in front of the retina. Once the light rays reach the retina, they are out of focus.

Nasal - Towards the nose or toward the midline of the body.

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 Point of Convergence - The nearest single point at which the two eyes can direct their visual lines, normally about three inches from the eyes in young people.

Near Vision - The ability to perceive distinctly objects at normal reading distance, or about fourteen to sixteen inches from the eyes.

Nearsightedness - See "Myopia."

Neovascularization - Formation of new blood vessels in a part of the eye. Can occur in the cornea when it does not receive enough oxygen.

Nevus – Birthmark, freckle, or mole.

Night Blindness - A condition in which vision diminishes greatly in faint light.

Nystagmus - An involuntary, rapid movement of the eyeball; it may be lateral, vertical or rotary.

Oblique Astigmatism – When the strongest (steepest) and weakest (flattest) meridians of a lens are not at 90° and 180 but rather at 45° and 135°.

Occluder – An opaque or translucent device that is placed before an eye to block vision.

Oculus Dexter (O.D.) - Right eye

Oculus Sinister (O.S.) - Left eye

Oculi Uniter (O.U.) - Both eyes

Ophthalmologist – A medical doctor who specializes in diagnosis and treatment of defects and diseases of the eye, performing surgery when necessary or prescribing other types of treatment; formerly called an oculist.

Ophthalmoscope - An instrument used to examine the interior of the eye.

Optic Atrophy - Degeneration of the nerve tissue, which carries messages from the retina to the brain.

Optical Center – The location in a lens where light will pass through without being bent.

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Optical Cross (Power Cross) – Represents an imaginary lens in which the power is labeled for both principal meridians, which are always 90 degrees apart.

Optic Chiasm – Location where optic nerve fibres cross over in the brain.

Optic Disk - Head of the optic nerve in the eyeball where the retinal nerve fibres leave the eye; responsible for the physiological blind spot.

Optician - One who dispenses frames and lenses, based on a prescription written by an Optometrist or Ophthalmologist; grinds lenses, fits them into frames, and adjusts the frame to the wearer.

Optic Nerve - The nerve which carries visual messages from the retina to the brain.

Optic Neuritis - Inflammation of the optic nerve.

Optic Tract – Extension of the optic nerve within the brain located beyond the optic chiasm.

Optometrist - A primary health care provider specializing in diagnosing and treating diseases and optical disorders of the eye, prescribing lenses, vision training, medicines and other treatments.

Optyl – Plastic frame material that has a “memory”. It can be bent into any shape when heated and cooled. When heated again, it will return to its original shape.

Orbital Cellulitis – An infection of the soft tissue of the orbit posterior to the orbital septum.

Orthokeratology - The practice of purposely flattening the cornea with a specially designed contact lens. Primarily used to reduce or eliminate myopia.

Orthoptic Training - series of scientifically planned exercises for developing or restoring the normal teamwork of the eyes.

Outer Canthus – Outer corner of the eye where the upper and lower eyelids meet.

Pachymetry – Measuring the thickness of the cornea.

Palpebral - Pertaining to the eyelid.

Palpebral Fissure – The space between the upper and lower eyelids.

Panretinal Laser Photocoagulation – Heat from a laser used to destroy leaking blood vessels in the retina.

Pantoscopic Tilt - The angle of an eyeglass lens in relation to the vertical plane.

Perimeter - An instrument for measuring the field of vision.

Peripheral Vision - The ability to perceive the presence, motion or color of objects outside of the direct line of vision.

Phacoemulsification – An ultrasound technique used during cataract surgery to remove the natural lens in the eye.

Phakic - Refers to an eye that still possesses its natural lens.

Phoria - A latent deviation in which the eyes tend to turn from the normal position for binocular vision. See "esophoria," "exophoria," "hyperphoria," and "hypophoria."

Phoropter – An instrument for determining the refractive and binocular state of the eye.

Photochromic – Lens tints that lighten and darken according to the amount of UV the lens is exposed to.

Photophobia/ Photosensitivity - Abnormal sensitivity to and discomfort from light.

Photopsia – Flashes of light.

Photoreceptors – See "Rods and Cones".

Pingeculae – Yellow-white deposit on the conjunctiva.

Plano – A lens with no prescription.

Plano-Cylinder Lens – A lens where one principle meridian has no power. They are used for the correction of simple hyperopic astigmatism and simple myopic astigmatism.

Polarization – A type of ophthalmic lens coating that screens out horizontal reflections and reduces glare.

Polycarbonate – High index plastic ophthalmic lens material that is impact resistant.

Posterior Capsular Opacification (PCO) – Haziness of the lens capsule secondary to cataract surgery.

Posterior Chamber - The narrow space between the back of the iris and the front surface of the crystalline lens, bounded by the ciliary body and filled with aqueous.

PRK – Stands for "Photo refractive Keratectomy". Is a type of laser eye surgery where the outer layer of the cornea is removed.

Prentice's Rule - Formula for calculating the prismatic effect induced at any point in a lens; prism diopters equal decentration (in cm) times lens power in diopters.

Presbyopia - A condition common after age forty in which a gradual lessening of the eye's power of accommodation causes difficulty in seeing near objects.

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Primary Visual Cortex – Area within the brain responsible for processing visual information.

Prism - A triangular, wedge shaped lens that bends, but does not focus, light rays toward the position of its base.

Prism Ballast - When a contact lens is thicker and heavier at the bottom, so that it will remain oriented in a specific position.

Progressive Addition Lens – Also referred to as a “PAL”, a lens that gradually increases in plus power towards the bottom of the lens.

Prosthesis - An artificial substitute for a missing eye (or other missing part of the body).

Protanopia – A red-green colour deficiency resulting from an insensitivity to red light.

Pseudoisochromatic Charts - Charts with colors dots of various hues and shades indicating numbers, letters or patterns, used for testing color discrimination.

Pseudophakia – An eye whose natural lens has been replaced by an artificial one.

Pseudotumor Cerebri – Neurological disorder characterized by increased pressure within the skull in the absence of a tumor or disease.

Pterygium - A triangular fold of growing membrane which invades the cornea; usually on the medial side.

Ptosis - A paralytic drooping of the upper eyelid.

Punctal Plugs – Tiny plugs that are inserted into the lacrimal puncta to block drainage of tears as treatment of dry eye.

Puncta (Lacrimal puncta) – Small drainage holes located along the upper and lower eyelid margins.

Pupil - The circular opening in the centre of the iris which regulates the amount of light that enters the eye.

Pupillometer – A device that measures the interpupillary distance (PD).

Radial Keratotomy – Refractive surgical procedure that was used to correct myopia in the past by making several incisions into the cornea.

Refraction - In optics, refraction is 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 visual system of the eye that prevents light rays from being brought to a single focus exactly on the retina.

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Retina - A thin membrane lining the back of the eye where optical images are received. The retina converts these images into electronic impulses and transmits them to the brain along the optic nerve.

Retinal Detachment - A separation of the retina from the choroid.

Retinitis - An inflammation of the retina.

Retinitis Pigmentosa - A hereditary degeneration and atrophy of the retina, which is usually accompanied by misplaced pigment in the retina.

Retinoblastoma – Most common form of eye cancer affecting children.

Retinopathy - A disease of the retina, due to various causes.

Retinopathy of Prematurity – Disease of the eye affecting pre-maturely born infants resulting in abnormal retinal blood vessels.

Retinoscope - An instrument for determining the refractive state of the eye by observing the movements of lights and shadows across the pupil by the light thrown onto the retina from a moving mirror.

Retroscopic Tilt – Occurs when the bottom eyewires of a frame are further from the face than the top eyewires.

Rods and Cones - These are two types of nerve cells which form a layer of the retina and act as light receiving media. Cones are concerned with visual acuity and color discrimination; rods with motion and vision at low degrees of illumination (night vision).

Safety Glasses - Impact-resistant spectacles, which are available with or without visual correction for protection of the eyes in hazardous situations.

Schlemm's canal – Area within the eye where aqueous humor passes from the anterior chamber into the episcleral vessels.

Sclera - The white part of the eye - a tough covering which, with the cornea, forms the external protective coat of the eye.

Scleral Contact Lens – Rigid contact lenses that vault over the cornea and are supported by the sclera.

Scleritis - Inflammation of the sclera.

Scotoma - A blind or partially blind area in the visual field.

Segment – Also referred to as "seg", an area of a lens with power differing from that of the main portion.

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Segment Height – The height at which a bifocal/multifocal is placed in a lens based on the relationship of the patient’s facial structure to the shape of a frame.

Silicone Hydrogel – Soft contact lens material.

Single Vision Lens – A lens having one focal length and spherical base curve.

Sjogrens Syndrome – An inflammatory disease characterized by dry eyes and mouth.

Slab-off - See “Bicentric Grind.”

Slit Lamp – See “Biomicroscope.”

Snellen Chart - Used for testing distance 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 for testing vision at 20 feet.

Soft Lens - A contact lens made of soft plastic that contains water and allows for oxygen transmission. Soft lenses are characterized by comfort and ease of adaptation.

Specific Gravity – Indicates the weight of a lens in grams per centimeter. The higher the number, the heavier the lens material.

Spherical Equivalent – Calculated using the sphere power plus half the cylindrical power.

Spherical Lens - A lens, which refracts rays of light equally in all meridians.

Spherocylinder Lens – The two principal meridians are different in power, and neither one is plano. They are used to the correction of compound hyperopic astigmatism, compound myopic astigmatism, and mixed astigmatism.

Sphygmomanometer – An instrument used to measure blood pressure.

Stereoscopic Vision/Depth Perception - The ability to use both eyes together to perceive the relative position of objects in space.

Strabismus/Tropia/Squint - This is a failure of the two eyes simultaneously to direct their gaze at the same object because of muscle imbalance.

String-Mounted Frame – A frame that holds a lens in place with only a small reinforcing arm and a very fine nylon cord. Also referred to as a nylon cord frame.

Stroma – Thickest corneal layer located between Bowman’s membrane and the Descemet’s membrane.

Stye/Hordeolum - Acute inflammation of a sebaceous gland in the margin of the eyelid, due to an infection and usually resulting in the formation of pus.

Surfactant – Cleaning agents that are used to remove contact lens deposits.

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Systolic Pressure – The amount of pressure that blood exerts on a vessel while the heart is beating. It is the top number in a blood pressure reading (i.e. 120/80 – 120 is the systolic pressure).

Telescopic Glasses - Magnifying spectacles founded on the principles of a telescope; occasionally prescribed for improving very poor vision which cannot be improved by ordinary glasses.

Temple – Attaches to the frame front and wraps around the patient's ears.

Temporal - Toward the ear, away from the midline of the body.

Tonometer - An instrument for measuring pressure inside of the eye.

Toric - Lens with two different power curves at defined optical axes, used to correct astigmatism.

Trabecular Meshwork – Area within the eye responsible for draining aqueous humor.

Trabeculectomy – Surgical removal of part of the trabecular meshwork used in the treatment of glaucoma to lower the intraocular pressure.

Trabeculoplasty – Laser treatment on the trabecular meshwork used in the treatment of glaucoma to assist the flow of aqueous humor.

Transpose - To convert the prescription of a sphero-cylindrical lens into the oppositely powered cylinder form (a plus cylinders into minus, or vice versa).

Trichiasis – Eyelashes grow inward.

Trichromatic Colour Vision – Normal colour vision derived from having three types of functioning cones.

Trifocal – Lenses that have three areas of viewing, each with its own power.

Tritanopia – A rare form of colour blindness resulting from an insensitivity to blue light.

Trivex – Impact resistant ophthalmic lens material.

Truncation - A flattening of the lower edge of a contact lens, so that it will remain oriented in a specific position.

Tunnel Vision - Contraction of the visual field to such an extent that only a small area of central visual acuity remains, thus giving the affected individual the impression of looking through a tunnel.

Uveal Tract - The entire vascular layer of the eyeball, including the iris, ciliary body, and choroid.

Vasoconstriction – Narrowing of the blood vessels.

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Vertex Distance - The distance from the front surface of the eye to the back surface of the spectacle lens.

Vision - The art or faculty of seeing; sight.

Visual Acuity - The resolving power of the eye, or the ability to see two separate objects as separate. Ability of the eye to perceive the shape of objects in the direct line of vision, usually measured in terms of a Snellen fraction, e.g. 20/20.

Vitreotomy – Surgical removal of the vitreous.

Vitreous Humor (Vitreous) – The gelatinous transparent, colorless substance filling the space in the eyeball between the crystalline lens and the retina.

With-the-rule Astigmatism – When the steepest meridian of a prescription/lens lies near 90 degrees.

Zonules - Radially arranged fibers that suspend the lens from the ciliary body and hold it in position.