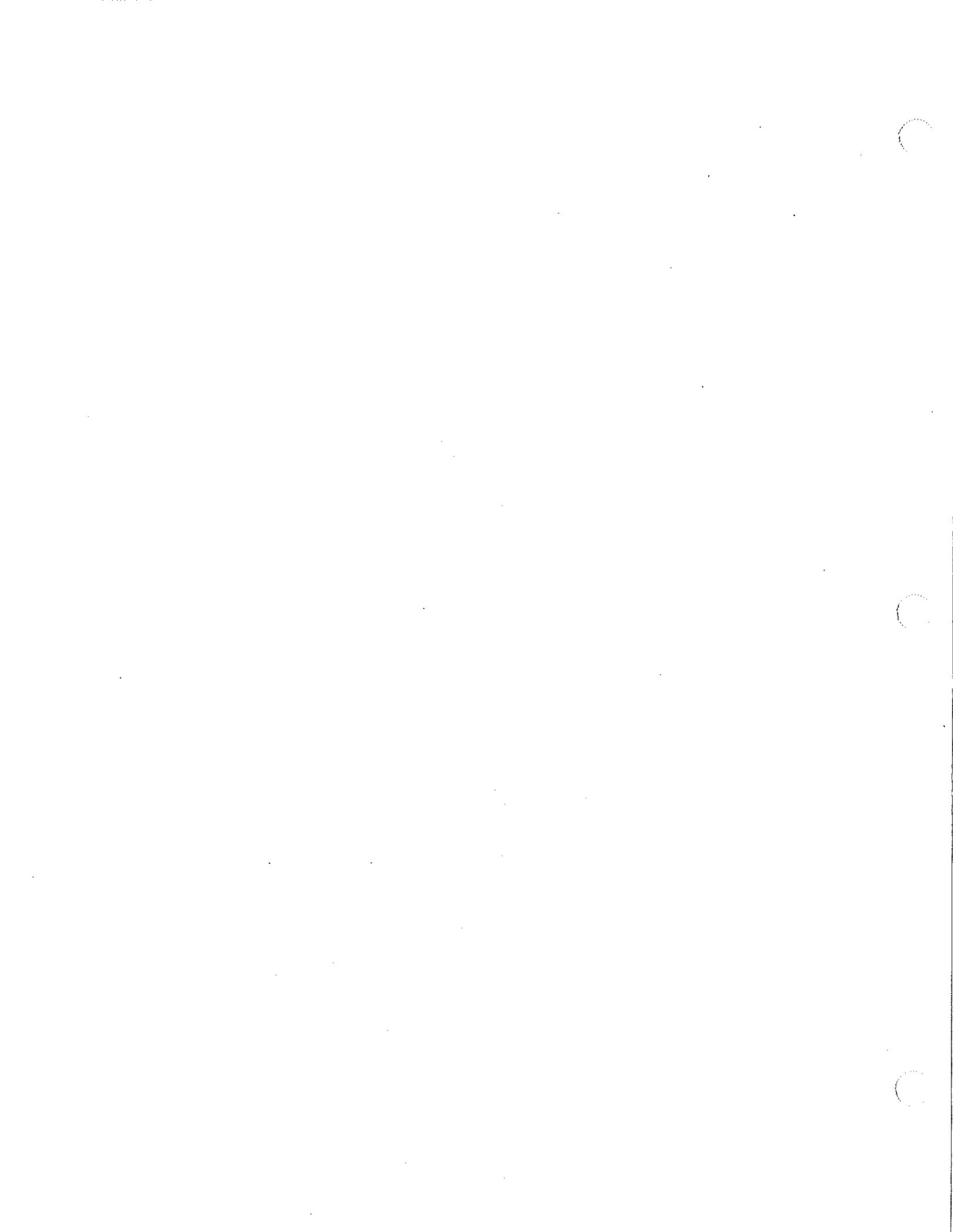


## **GLOSSARY**



# Glossary

**abduction** The movement of the eye outward toward the temple.

**abrasion** A scratch.

**abscess** A localized collection of pus surrounded by inflamed tissue.

**absolute scotoma** A severe visual field defect in which the largest and brightest stimulus cannot be seen; blindness at that location.

**accommodation** The change in the curvature of the lens that helps to focus images of objects close to the eye.

**acquired immunodeficiency syndrome (AIDS)** A viral infection characterized by a compromised immune system.

**acute** Refers to a condition that flares up suddenly and persists for only a short time.

**add** The portion of the multifocal lens (usually the lower part) that provides near vision. Also called *segment* or *near add*.

**adduction** The movement of the eye inward toward the nose.

**adnexa** The tissues and structures surrounding the eye; includes the orbit, extraocular muscles, eyelids, and lacrimal apparatus.

**against motion** The retinoscopic reflex movement that is in the opposite direction from the streak of light; typical of the myopic eye.

**agar** The nutrient medium to which fresh animal blood has been added to promote bacterial growth.

**agar plate** The dish on which agar and bacteria are placed.

**age-related macular degeneration** A disease in which sensory cells of the macula degenerate, resulting in a loss of central vision; affects older people.

**AIDS** See *acquired immunodeficiency syndrome*.

**allergic reaction** A condition in which the body produces antibodies to foreign materials such as food, plant pollens, or medications.

**altitudinal scotoma** The joining and enlargement of a nasal step visual field defect and an arcuate scotoma to cause loss of the entire upper or lower visual field.

**ametropia** The refractive state of an eye that is unable to focus correctly due to refractive error.

**A-mode ultrasonography** See *A-scan ultrasonography*.

**Amsler grid test** A test for determining the presence and location of defects in the central portion of the visual field.

**anatomy** The structure of an organism.

**anesthetic** A drug that causes a temporary deadening of a nerve, resulting in loss of feeling in the surrounding tissue.

**anisocoria** A condition in which the pupils are of unequal size.

**anterior** Front.

**anterior chamber** The small compartment between the cornea and the iris that is filled with a clear, transparent fluid called *aqueous humor*.

**anterior chamber angle** The junction of the cornea and the iris, from which aqueous humor leaves the eye. Also called *filtration angle*.

**anterior segment** The front of the eye; includes the structures between the front surface of the cornea and the vitreous.

**antibiotic** A drug that combats a bacterial infection.

**antibiotic-susceptibility testing** A series of tests to determine the sensitivity of an organism to various antimicrobial agents.

**antibody** The type of chemical that the body manufactures to neutralize an infecting microorganism.

**antifungal** A drug that combats a fungal infection.

**antihistamine** A drug that helps relieve inflammation around, and redness of, the eyes caused by hay fever or other allergies.

**antiviral** A drug that combats a viral infection.

**apex** The top.

**aphakia** Absence of the lens, usually because of cataract extraction.

**aphakic correction** The use of a contact lens, eyeglasses, or an intraocular lens for more normal vision in aphakic patients.

**applanation** A form of tonometry in which the force required to flatten a small area of the central cornea is measured.

**aqueous humor** The clear, transparent fluid that fills the anterior chamber.

**arc perimeter** A perimetric device that can test the entire field of vision.

**arcuate scotoma** The enlargement of a Bjerrum scotoma to become an arc-shaped area of reduced sensitivity.

**arcus senilis** A common degenerative change in which the outer edge of the cornea gradually becomes opaque, generally in both eyes; affects people over the age of 50.

**A-scan ultrasonography** A diagnostic procedure in which sound waves traveling in a straight line are used to reveal the position of, and distances between, structures within the eye and orbit. Also called *A-mode ultrasonography*.

**aseptic technique** A range of procedures used in medical environments to prevent the spread of infectious microbes.

**astigmatism** The refractive error of an eye whose corneal surface curvature is greater in one meridian than another; both distant and near objects appear blurred and distorted.

**autoclave** A metal chamber equipped to use steam under high pressure and temperature to destroy microorganisms.

**Autoplot** A refined version of the tangent screen (kinetic perimetric device) for measuring the central 30° of vision.

**axial ray** A light ray that strikes the center of a lens of any shape and passes undeviated through the lens material. Also called *principal ray*.

**axis** The meridian perpendicular to the meridian with curvature in a cylindrical lens.

**axon** The long fiber-like portion of a ganglion cell that courses over the surface of the retina and converges at the optic disc.

**bacillus** (plural: *bacilli*) A rod-shaped form of bacterium.

**bacterium** (plural: *bacteria*) A simple, single-cell plant that lives in the air, in food, on objects, and even inside the body, where it sometimes causes disease.

**balancing** A procedure performed on both eyes at once to ensure that the optical correction determined by refractometry for distance vision does not include an uneven overcorrection or undercorrection. Also called *binocular balancing*.

**basal cell carcinoma** The most common malignant lid tumor; has a characteristic appearance of a pit surrounded by raised "pearly" edges.

**base** The bottom.

**base curve** The curve of the lens surface, usually the outer or front side of the lens, from which the other curves necessary for sight correction are calculated.

**benign** Refers to any tumor that is not dangerous to the well-being of the individual.

**bifocal lens** One that has two powers; usually one for correcting distance vision and one for correcting near vision.

**binary fission** The form of reproduction by a bacterium, by splitting in two.

**binocular balancing** See balancing.

**binocular vision** The blending of the separate images seen by each eye into one image; occurs when both eyes are directed toward a single target and perfectly aligned.

**biomicroscope** See slit lamp.

**bipolar cell** A type of retinal cell that accepts electric (nerve) impulses from the photoreceptors and passes them to the ganglion cells.

**bitemporal hemianopia** A visual field defect affecting the temporal field of both eyes.

**Bjerrum scotoma** A small, relatively blind area in the visual field.

**blended bifocal** See invisible bifocal.

**blepharitis** A common inflammation of the eyelid margin.

**blowout fracture** An injury due to blunt trauma, in which orbital bones are broken.

**B-mode ultrasonography** See B-scan ultrasonography.

**Bowman's membrane** A layer of the cornea, located between the corneal epithelium and the corneal stroma; acts as an anchor for the corneal epithelium.

**B-scan ultrasonography** A diagnostic procedure that provides two-dimensional reconstruction of ocular and orbital tissues, using radiating sound waves. Also called *B-mode ultrasonography*.

**bulbar conjunctiva** The globe portion of the conjunctiva.

**calibration** The testing of any device against a known standard; for example, the illumination of a perimetric device.

**canaliculus** (plural: *canaliculi*) One of two tubes (*upper canaliculus* and *lower canaliculus*) through which tears pass into the lacrimal sac.

**canal of Schlemm** A structure that drains the aqueous humor from the anterior chamber after it has flowed through the trabecular meshwork.

**cannula** A blunt needle-like tube used during surgery for injecting or extracting fluid or air.

**canthus** (plural: *canthi*) The point where the upper and lower eyelids meet on the nasal (inner) side (*medial canthus*) and the temporal (outer) side (*lateral canthus*).

**cardinal positions of gaze** The six points to which a patient's eyes are directed to test extraocular muscle function; the positions are right and up, right, right and down, left and up, left, and left and down.

**cataract** An opacified (clouded) lens.

**cautery** The application of an electric current by means of a specialized instrument; used to destroy a lesion and prevent bleeding.

**central scotoma** A visual field defect in the center of the field.

**chalazion** A nontender lump that may become visible on the outer lid; due to long-term infection of a meibomian gland.

**chemical trauma** Refers to injury caused by a chemical, such as an acid or an alkali.

**chief complaint** The principal reason for the patient's visit to the doctor, defined by the nature and duration of the patient's symptoms and by whether the problem is worsening.

**chlamydia** (plural: *chlamydiae*) A small bacterium that can reproduce itself only by infection of living cells.

**choroid** A layer of tissue, largely made up of blood vessels, that nourishes the retina; it lies between the sclera and the retina in the uveal tract.

**chronic** Refers to a condition that has persisted for some time.

**cilia** (singular: *cilium*) The eyelashes.

**ciliary body** A band-like structure of muscle and secretory tissue that extends from the edge of the iris and encircles the inside of the sclera.

**ciliary muscle** The muscle fibers in the ciliary body of the uveal tract that are involved in accommodation.

**ciliary process** A finger-like extension of the ciliary body that produces aqueous humor.

**cilium** See *cilia*.

**circles of eccentricity** A series of concentric circles at intervals of  $10^\circ$  from the point of central visual fixation, providing coordinates for mapping the visual field.

**complication** A problem that occurs during or after medical or surgical treatment.

**concave lens** A piece of glass or plastic in which one or both surfaces are curved inward. Also called *negative lens* or *minus lens*.

**concave mirror effect** The lighting effect of a retinoscope that produces convergent rays.

**cone** The retinal photoreceptor largely responsible for sharp central vision and for color perception.

**confrontation field test** A test comparing the boundaries of the patient's field of vision with that of the examiner, who is presumed to have a normal field.

**congenital** Refers to any disease process or effect that is present from birth.

**congenital glaucoma** A rare disease that occurs in infants; due to a malformation of the anterior chamber angle.

**conjunctiva** The thin, translucent mucous membrane that lines the inner surface of the eyelids and the outer surface of the globe, except for the cornea.

**conjunctivitis** A swelling of the small conjunctival blood vessels, making the conjunctiva appear red. Also called *pink eye*.

**contagion** The spread of disease from person to person.

**contraindication** Any condition that renders a particular treatment, medication, or medical device inadvisable for a particular patient.

**contrast-sensitivity test** A procedure for determining the ability to distinguish between light and dark areas; useful in the diagnosis of cataract.

**converge** To come together.

**convex lens** A piece of glass or plastic in which one or both surfaces are curved outward. Also called *positive lens* or *plus lens*.

**cornea** The clear membrane at the front of the globe that begins the process of focusing light the eye receives.

**corneal abrasion** A scratch of the corneal epithelium.

**corneal endothelium** The layer of cells that covers the inner surface of the cornea and maintains proper fluid balance within the cornea.

**corneal epithelium** The outermost layer of the cornea, providing defense against infection and injury.

**corneal stroma** The main body of the cornea; contributes rigidity to the cornea.

**corneal ulcer** A lesion after an infection of or injury to the corneal epithelium.

**corticosteroid** A drug, either a natural or a synthetic hormone, that combats an allergic or inflammatory condition. Also called *steroid*.

**cross cylinder** A special lens consisting of two cylinders of equal power, one minus and one plus, with their axes set at right angles to each other; used for determining the axis and power of an astigmatic correction.

**cryopexy** Freezing by surgical means.

**crystalline lens** See lens.

**cul-de-sac** See fornix.

**culture** The growth of any bacteria in a controlled laboratory setting.

**cycloplegia** Temporary paralysis of the ciliary muscle (preventing accommodation) and of the iris sphincter muscle (preventing dilation of the pupil).

**cycloplegic refraction** Refractometry performed with the use of a drug that temporarily paralyzes the ciliary muscle, thus blocking accommodation.

**cylinder** See spherocylinder.

**cylindrical lens** A lens that has curvature in only one meridian.

**dacryocystitis** Inflammation of the lacrimal sac; usually caused by blockage or obstruction of the nasolacrimal duct.

**daily-wear lenses** Rigid and soft contact lenses intended to be worn for fewer than 24 consecutive hours while awake.

**DBC** See distance between optical centers.

**decibel** The unit (one tenth of a log) of measure of the brightness of a test object.

**decongestant** A drug that constricts the superficial blood vessels in the conjunctiva to reduce eye redness; a cosmetic effect only.

**deep scotoma** A visual field defect more serious than a shallow scotoma; appears as a pit or well in the island of vision.

**degenerative** Refers to any process in which the structure or function of body tissues gradually deteriorates.

**dendritic** Branch-shaped, such as the corneal ulcers seen after infection with the herpes simplex virus.

**density** Compactness, with reference to the structure of a particular substance.

**depression** The type of visual field defect that is like an indentation in the surface of the island of vision.

**Descemet's membrane** The thin, elastic layer between the corneal stroma and the corneal endothelium; contributes rigidity to the cornea.

**developmental** Refers to any disease process or effect that results from faulty development of a structure or system.

**diabetes mellitus** A condition in which the body is unable to produce enough insulin, the hormone required for the metabolism of sugar.

**diabetic retinopathy** A progression of pathologic changes in the retina; produced by long-standing diabetes mellitus.

**diagnosis** Determination of a medical condition.

**diffuse** See infection.

**dilator muscle** The iris muscle that dilates the pupil in reduced light conditions; fibers from this muscle stretch from the pupil to the boundaries of the iris.

**diopter** The unit of measure of the power of a lens.

**diplopia** Double vision.

**direct and consensual pupillary reaction** The response of the pupils when light is shone in one eye: that eye constricts (*direct reaction*) and the other eye also constricts, even when light does not reach it (*consensual reaction*).

**direct contact** The form of infection transmission usually requiring body contact.

**direct ophthalmoscope** A hand-held instrument with a light-and-mirror system that affords an upright, monocular view of a narrow field of the fundus, magnified 15-fold.

**disease** A specific process in which abnormal changes result in malfunction of a particular part or system of the body.

**disinfection** The process of inactivating or eliminating pathogenic microorganisms.

**disposable lenses** Soft contact lenses designed for either daily or extended wear and then disposal after 1 week to 1 month.

**distance between optical centers (DBC)** The distance between the optical center of the right lens and that of the left; corresponds to the patient's interpupillary distance.

**distometer** An instrument for measuring vertex distance.

**diverge** To spread apart.

**double-D segment** A multifocal lens with the distance correction in the middle, a traditional near-power D segment at the bottom, and an intermediate-power inverted D segment at the top.

**D segment** A portion of a bifocal or trifocal lens; so called because it is shaped like the capital letter D lying on its side.

**eccentricity, circles of** See circles of eccentricity.

**ectropion** A condition in which the lower eyelid margin is pulled away from the eye; caused by malformation of or damage to the eyelid tissues.

**edema** Swelling caused by a large amount of fluid in a part of the body.

**electromagnetic radiation** The spectrum of rays from invisible cosmic, gamma, and x-rays, through visible light waves, to invisible radio and television signals.

**emergency** A medical situation that requires immediate attention.

**emmetropia** The refractive state of an eye that is able to focus correctly.

**empiric treatment** The institution of medical treatment based on probable cause, before test results or other time-consuming procedures confirm a diagnosis.

**endophthalmitis** A serious ocular bacterial infection with inflammation of the vitreous and adjacent tissues.

**endothelium, corneal** See corneal endothelium.

**entropion** A condition in which the upper or lower lid margin is turned inward.

**enzyme cleaner** A specially designed detergent for removing protein deposits from contact lenses.

**epiphora** Excessive tearing.

**episcleritis** Inflammation of the surface layer of the sclera.

**epithelium, corneal** See corneal epithelium.

**eso deviation** The inward deviation of the eye.

**esophoria** The inward deviation of the eye that is present only when one eye is covered.

**esotropia** The inward deviation of the eye in which the eyes are misaligned even when uncovered.

**etiology** Literally, the study of the causes of a disease; informally, the causes themselves.

**executive** Refers to a bifocal lens consisting of a top distance band and a bottom near band that divide the entire width of the lens into two parts.

**exo deviation** The outward deviation of the eye.

**exophoria** The outward deviation of the eye that is present only when one eye is covered.

**exophthalmometer** An instrument that measures the prominence of the eyeball in relation to the bony orbital rim surrounding it.

**exophthalmometry** The measurement of the prominence of the eyeball in relation to the bony orbital rim surrounding it.

**exophthalmos** See proptosis.

**exotropia** The outward deviation of the eye in which the eyes are misaligned even when uncovered.

**extended-wear lenses** Soft contact lenses that are approved for overnight wear for up to 7 days.

**external hordeolum** See sty.

**extraocular muscles** The six muscles that attach to the outside of the globe and control its movements.

**eyeball** See globe.

**eyelid** The moving fold of skin that covers the outer portion of the globe.

**Farnsworth-Munsell D-15 test** See 15-hue test.

**15-hue test** A test that can identify color vision deficits by asking the patient to arrange 15 pastel-colored chips of similar brightness but subtly different hues in a related color sequence. Also called *Farnsworth-Munsell D-15 test*.

**filtration angle** See anterior chamber angle.

**fixate** To gaze steadily at something.

**flashlight test** A simple test for estimating the depth of the anterior chamber and the chamber angle.

**floaters** Small particles of dead cells or other debris that become suspended in the vitreous, or particles of the vitreous itself that degenerate in the normal aging process; they cast shadows on the retina and appear as spots or cobwebs.

**flora** See normal flora.

**fluorescein** A dye solution that is used in applanation tonometry; also used intravenously in fluorescein angiography to identify abnormal blood vessels.

**fluorescein angiography** Diagnostic photography of retinal vessels that requires injection of fluorescein dye.

**focal defect** The type of visual field defect in which a local pit or well in the field of vision occurs.

**focal length** The distance between the focal point and the lens.

**focal point** The point somewhere along the principal axis at which the paraxial rays from a distant source are refracted by a lens and converge in the case of a convex lens and diverge in the case of a concave lens.

**foreign-body sensation** A feeling of eye irritation or grittiness.

**fornix** The loose pocket of conjunctival tissue where the eyelid and globe portions of the conjunctiva meet beneath the upper and lower lids. Also called *cul-de-sac*.

**fovea** The center of the macula.

**fundus** A collective term for the retina, optic disc, and macula.

**fundoscopic examination** Examination of the vitreous and fundus by ophthalmoscope. Also called *posterior segment examination*.

**fungus** (plural: *fungi*) A complex microorganism that differs from a bacterium in that it has a true nucleus and reproduces sexually; includes molds, rusts, mildew, mushrooms, and yeasts. Some live inside the body and can cause infection.

**fusion** The blending by the brain of the separate images received by the two eyes so that a single view is perceived even when the eyes move.

**ganglion cell** The type of retinal cell retina that accepts electric (nerve) impulses from the bipolar cells and sends the impulses via axons through the optic disc to the brain.

**gel** See ointment.

**general defect** The type of visual field defect in which the field of vision shrinks symmetrically or is depressed evenly across the entire retina.

**genetic** Refers to a trait that is inherited from either or both parents.

**Geneva lens clock** An instrument for measuring the base curve of an eyeglass lens.

**genus** (plural: *genera*) A category of biologic classification ranking immediately higher than the species; the general name for a type of organism.

**geometric optics** The area of optics that deals with the transmission of light as rays and is concerned with the effect of lenses on light and the production of images.

**germicide** A chemical that kills germs.

**giant papillary conjunctivitis (GPC)** Inflammation of the tarsal conjunctiva, characterized by large raised bumps.

**gimbal** The ring-like frame in the lensmeter.

**glare testing** A procedure for assessing a patient's vision in the presence of a bright light source to determine whether sensitivity to glare is contributing to visual symptoms.

**glaucoma** An eye disease in which the intraocular pressure is high enough to cause damage to the optic nerve, resulting in visual loss; caused by impaired drainage of the aqueous fluid out of the eye.

**globe** The eye, without its surrounding structures. Also called *eyeball*.

**goblet cell** The type of cell in the conjunctiva that produces the sticky fluid that comprises the innermost tear-film layer.

**Goldmann gonioscopes** A mirrored contact lens used in gonioscopy; reflects an image of the anterior chamber, which is seen through a slit lamp.

**Goldmann perimeter** A bowl-like instrument for testing visual fields in which targets (lights) of different sizes and intensities are projected onto a standardized background illumination.

**Goldmann tonometer** An applanation tonometer that measures corneal flattening to determine intraocular pressure.

**gonioscopy** A method of viewing the chamber angle through a special contact lens placed on the anesthetized eye.

**GPC** See giant papillary conjunctivitis.

**Gram procedure or staining** The procedure for identifying bacteria according to whether they retain crystal violet dye after washing with alcohol or other solvents (*Gram-positive*) or lose the stain after washing (*Gram-negative*).

**granuloma** A firm collection of a specific kind of inflammatory cell.

**Graves' disease** A condition of unknown origin that involves the thyroid gland and causes the soft tissues surrounding the globe to swell.

**hemianopia** The type of visual field defect in which the right or left half of the field in one eye is missing.

**hemorrhage** The accumulation of blood from a broken vessel.

**hemostasis** The control of bleeding.

**herpes simplex virus** In ophthalmology, the type of virus that infects the cornea, producing branch-like ulcers (dendritic keratitis).

**herpes simplex virus type 1 (HSV-1)** A herpesvirus that causes recurrent fever blisters on the lips and mouth and, if introduced to the eye, blepharokeratoconjunctivitis.

**herpes simplex virus type 2 (HSV-2)** Similar to HSV-1, except that it more commonly infects the genital region and is spread by sexual contact.

**herpesvirus** A family of viruses.

**HIV** See human immunodeficiency virus.

**homonymous hemianopia** The type of visual field defect in which the right or left half of the field in both eyes is missing.

**hordeolum** See internal hordeolum; stye.

**horizontal and vertical meridians** The radial meridians that divide the circular visual field mapping device into quarters.

**host** The animal or plant in which a microbe lives as a parasite, gaining nutrients and the conditions necessary for its survival and reproduction.

**Hruby lens** A noncontact lens attached to the slit lamp; useful for examining the optic nerve head and small areas of the posterior retina and vitreous.

**HSV-1** See herpes simplex virus type 1.

**HSV-2** See herpes simplex virus type 2.

**human immunodeficiency virus (HIV)** A virus that causes a deficiency of the immune system, making the patient susceptible to a variety of opportunistic infections of various tissues, including the retina.

**hydrophilic** Refers to the property of combining with or attracting water.

**hydrophobic** Refers to the property of resisting or repelling water.

**hyperopia** Farsightedness; the eye is too short for its optical system.

**hyphema** The pooling of blood in the anterior chamber as a result of trauma or certain diseases.

**hypoglycemia** Low blood sugar level, common among patients with diabetes.

**hypopyon** The accumulation of pus in the anterior chamber.

**hypoxia** A loss of oxygen.

**immune reaction** The body's response to infection, in which antibodies are manufactured to neutralize the infecting microorganism and perhaps prevent recurrence of the infection.

**incision** A cut produced by a sharp instrument.

**inclusion** A microcolony of organisms within an infected cell.

**incubation** The placement of agar plates in a low-temperature oven overnight for growth of bacteria.

**indentation** A form of tonometry in which the amount of corneal indentation produced by a fixed weight is measured.

**indirect contact** The form of infection transmission involving an intermediate, inanimate object.

**indirect ophthalmoscope** An instrument that affords an inverted but wider view of the fundus than does the direct ophthalmoscope.

**infection** The invasion and multiplication of harmful microorganisms in the body tissues: a *local* bacterial or fungal infection begins in the tissues immediately surrounding the microorganism's point of entry; if unchecked, the infection may spread to surrounding tissues, thereby becoming *diffuse*.

**inferior oblique** The extraocular muscle that rotates the eye upward and away from the nose.

**inferior rectus** The extraocular muscle that is primarily responsible for turning the eye downward.

**inflammation** A local protective tissue response to infection, in which specialized cells move to the affected area to destroy the injurious agent, while other cells release fluids to dilute any toxic substances produced by the infectious agent and wall off both the offender and the damaged tissue.

**informed consent** The process by which, after discussion with the physician about the risks and benefits of a proposed procedure, the patient agrees to undergo a treatment.

**injection** The delivery system by which a drug is injected into the body with a hypodermic needle.

**injury** Damage to or destruction of cells that compose a tissue, organ, or system.

**insert** The delivery system by which a drug-containing wafer is placed in the corner of the eye; releases the drug slowly and steadily over a period of time.

**insulin** A hormone the body uses to metabolize sugar.

**interferometer** A laser instrument for determining visual acuity in the presence of an opacity, such as a cataract.

**internal hordeolum** An inflamed lump on the inner or outer side of the eyelid; caused by an infection of a meibomian gland.

**interpupillary distance (IPD or PD)** The distance from the center of the pupil of one eye to the center of the pupil of the other eye.

**intraocular pressure** Fluid pressure within the eye.

**invisible bifocal** A bifocal lens with a softened or blended transitional zone between the segment and the distance portion. Also called *seamless bifocal* or *blended bifocal*.

**IPD** See *interpupillary distance*.

**iris** The colored circle of tissue that controls the amount of light entering the eye by enlarging or reducing the size of its aperture, the pupil.

**iritis** Inflammation of the iris.

**irregular astigmatism** The less common form of astigmatism, in which the cornea resembles a football tipped to one side.

**ischemia** A condition in which the supply of blood to a part of the body is severely reduced.

**isopter** In visual field tests, a line connecting the points denoting areas of equal sensitivity to a stimulus; similar to contour lines denoting equal elevations of a topographic map.

**keratitis** Inflammation of the cornea.

**keratoconjunctivitis sicca** Dry eyes.

**keratoconus** A rare degenerative corneal disease in which the center of the cornea thins and assumes the shape of a cone, seriously affecting vision.

**keratometer** An instrument used to measure corneal curvature. Also called *ophthalmometer*.

**keratometry** The measurement of corneal curvature.

**kinetic perimetry** The type of perimetry that uses a moving test object of a predetermined size and brightness.

**Koeppel lens** A high-plus contact lens used in gonioscopy to examine the angle structures directly with a hand-held light source and microscope.

**laceration** A cut.

**lacrimal apparatus** The structures of the eye that produce tears and the ducts that drain the excess fluid from the front of the eyes into the nose.

**lacrimal gland** The gland that produces the watery substance making up the middle layer of the tear film; located in the lateral part of the upper lid.

**lacrimal needle** See *cannula*.

**lacrimal probe** An instrument for exploring and clearing an obstruction of the tear duct.

**lacrimal sac** The sac that holds tears after they pass through the canaliculi, which empty through the nasolacrimal duct into the nasal cavity.

**lacrimal set** A group of instruments for clearing an obstruction of the tear duct.

**lagophthalmos** A condition in which the globe is not completely covered when the eyelids are closed; may be caused by facial-nerve paralysis or by an enlarged or protruding eye.

**lateral canthus** See *canthus*.

**lateral geniculate body** The part of the brain where optic fibers synapse to the optic radiations and transmit visual impulses.

**lateral rectus** The extraocular muscle that rotates the eye outward toward the temple.

**legal blindness** A best-corrected visual acuity of 20/200 or less or a visual field reduced to 20° or less in the better-seeing eye.

**lens** Part of the optical focusing system of the eye, immediately behind the iris. Also called *crystalline lens*.

**lensmeter** An instrument for measuring the prescription of eyeglass lenses or the power of rigid contact lenses.

**lensometry** The measurement of certain qualities of lenses by the use of a lensmeter.

**lesion** An abnormal tissue or a break in a normal tissue.

**levator palpebrae** The muscle attached to the tarsal plate in the middle layer of the upper and lower eyelids that raises the eyelid when it contracts.

**limbus** The junction between the sclera and the cornea.

**local** See *infection*.

**lower canaliculus** See *canaliculus*.

**lubricant** A medication that helps maintain an adequate tear-film balance or keeps the external eye moist.

**macula** The specialized area of the retina close to the center of the back of the eye that provides detailed central vision.

**malignant** Refers to any tumor that is cancerous and has the potential of spreading to other parts of the body.

**manifest refraction** Refractometry performed without the use of cycloplegic drugs.

**medial canthus** See *canthus*.

**medial rectus** The extraocular muscle that rotates the eye inward toward the nose.

**media opacities** The general term used to describe a variety of conditions that cloud, obscure, or otherwise affect the ocular media and, ultimately, may disrupt vision.

**meibomian gland** A specialized gland that secretes the oily part of the tear film that lubricates the outer surface of the globe; located on the inner margin of the eyelid (the edge closest to the globe).

**meridian** Plane.

**metabolic testing** A series of tests to determine the kinds of sugars and other substances a bacterium metabolizes; used to identify the organism.

**metabolism** The physical and chemical processes by which the body converts food into energy and new body tissues.

**metastasis** The process by which cancerous cells move to other parts of the body and produce new tumors.

**microbe** See microorganism.

**microbiology** The study of extremely small plants and animals (microorganisms).

**microorganism** An extremely small plant or animal invisible to the unaided eye. Also called *microbe*.

**minus lens** See concave lens.

**miotic** A drug that causes the iris sphincter muscle to contract, producing miosis (pupillary constriction), which reduces the amount of light entering the eye.

**mires** The perpendicular crossed lines in a lensmeter.

**mold** A form of fungus that produces a woolly, fluffy, or powdery growth; used as a source of some antibiotics and to convert milk into cheese.

**mucinous** Sticky.

**mucopurulent discharge** A thick fluid containing mucus and pus; symptomatic of bacterial infection.

**multifocal lens** See bifocal lens; trifocal lens.

**mydriasis** Dilation of the pupil.

**mydriatic** A drug that dilates the pupil.

**myopia** Nearsightedness; the eye is too long for its optical system.

**nasal step** The type of visual defect that, when plotted, appears as a step-like loss of vision at the outer limit of the nasal field.

**nasolacrimal duct** The duct through which tears pass from the lacrimal sac into the nasal cavity.

**near add** See add.

**near visual acuity** The ability to see clearly at a normal reading distance.

**negative lens** See concave lens.

**neoplasm** A new growth of different or abnormal tissue, such as a tumor or wart.

**neovascularization** The abnormal growth of new blood vessels.

**neutralization** See lensometry.

**neutralization point** The lens power that is the approximate correction for a refractive error.

**nevi (singular: nevus)** Literally, freckles; common tumors involving the bulbar conjunctiva and appearing as yellowish pink or brown areas on the conjunctiva or skin.

**normal flora** Microorganisms that colonize part of a host's body without producing disease.

**nystagmus** A condition in which the eyes continually drift in a side-to-side or up-and-down motion and then snap back to a normal position.

**objective refractometry** See retinoscopy.

**occlusion** Blockage.

**ocularist** A professional who measures and fits patients with an artificial eye (prosthesis) to replace an absent eye or cover an unsightly one.

**ocular media** The three transparent optical structures that transmit light: cornea, lens, and vitreous.

**oculist** Obsolete term for *ophthalmologist*.

**oculomotor nerve** The third cranial nerve, which supplies the impulses that activate the superior, medial, and inferior rectus muscles, the inferior oblique muscle, and the orbicularis oculi muscle.

**OD (oculus dexter)** Latin for right eye.

**ointment or gel** The form of a drug in which the drug is dissolved or suspended in an oily or greasy vehicle.

**opacification** Clouding of the lens; occurs in many people over age 65.

**opaque** Refers to a substance that completely blocks light.

**ophthalmia neonatorum** Conjunctivitis in the newborn.

**ophthalmic medical assistant** A professional who assists the ophthalmologist in a variety of diagnostic and administrative tasks, including performing certain tests, administering certain topical medications or diagnostic drugs, and helping with office surgical procedures.

**ophthalmic photographer** A professional who photographs eye structures for diagnosis and documentation.

**ophthalmic registered nurse** A registered nurse with special training in problems related to the eye; frequently functions as a surgical assistant to an ophthalmologist, a director of an ophthalmic surgery service, or a director of clinical services.

**ophthalmologist** A medical doctor (physician) who specializes in the prevention, diagnosis, and medical as well as surgical treatment of vision problems and diseases of the eye.

**ophthalmology** The medical and surgical specialty concerned with the eye and its surrounding structures, their proper function, eye disorders, and all aspects of vision.

**ophthalmometer** See *keratometer*.

**ophthalmoscope** An instrument for examining directly or indirectly the vitreous and fundus.

**opportunistic** Refers to an infection that arises only when the immunity of a host is compromised.

**optical center** The point of optimal vision; the single point of a lens through which light may pass without being bent or changed.

**optical centers, distance between** See *distance between optical centers*.

**optic chiasm** The point behind the eyes in the brain where the two optic nerves merge and the axon fibers from the nasal retina of each eye cross to the opposite side.

**optic disc** The location where the central retinal artery enters and the central retinal vein, as well as the nerve fibers, exits. Also called *optic nerve head*.

**optician** An independent professional licensed to dispense eyeglasses and contact lenses from the prescription of an ophthalmologist or optometrist.

**optic nerve** The nerve that carries electric impulses to the brain's visual cortex, where they are integrated to produce the sensation of sight.

**optic nerve head** See *optic disc*.

**optic neuritis** Inflammation of the optic nerve; can produce a sudden, but reversible loss of sight.

**optic radiation** The nerve cell that transmits visual information from the lateral geniculate body to the visual cortex.

**optics** The branch of physical science that deals with the properties of light and vision.

**optic tract** The part of the brain between the optic chiasm and the lateral geniculate body.

**optometrist** An independent practitioner trained in the prescription of eyeglasses and contact lenses as well as in the detection of eye disease.

**optotypes, Snellen** See *Snellen chart*.

**oral drug delivery** The delivery system by which a drug is taken by mouth.

**orbicularis oculi** The circular muscle, located in the middle layer of the eyelids, that closes the eye when it contracts, as in winking.

**orbit** The bony cavity in the skull that houses the globe, extraocular muscles, blood vessels, and nerves.

**orbital cellulitis** A diffuse infection of tissues in the orbit, causing grossly swollen eyelids and red eye, sometimes without proptosis.

**orthophoric** Refers to the absence of visual deviation; normal.

**orthoptist** A professional who works under the direction of an ophthalmologist to help with the diagnosis, management, and nonsurgical treatment of eye muscle imbalance, as well as the consequent visual impairments.

**OS (*oculus sinister*)** Latin for left eye.

**pachymeter** An instrument, attached to a slit lamp, that measures the distance between the corneal epithelium and the corneal endothelium. Sometimes spelled *pachometer*.

**pachymetry** The measurement of corneal thickness by the use of a pachymeter. Sometimes spelled *pachometry*.

**palpation** Medical examination by touch.

**palpebral conjunctiva** The eyelid portion of the conjunctiva.

**palpebral fissure** The almond-shaped opening between the upper and lower eyelids.

**palsy** Paralysis.

**pantoscopic angle** The angle of an eyeglass frame by which the frame front deviates from the vertical plane when the glasses are worn.

**papilledema** A swelling of the optic disc with engorged blood vessels; caused by increased fluid pressure within the skull.

**papoose board** A padded board with Velcro straps; used for immobilizing an infant during an ophthalmologic examination.

**paracentral scotoma** A relatively blind area in the visual field, smaller than a Bjerrum scotoma, near the fixation point above or below the horizontal.

**parallax** An optical distortion that occurs when the measurer's line of sight is not parallel to that of the patient.

**parallel** Refers to rays that travel side by side in the same direction, neither diverging nor converging.

**paraxial** Refers to parallel light rays from a distant source that enter the lens at any point other than the center.

**pathogen** A disease-causing microbe.

**pathogenic** Disease-causing.

**pathologic** Abnormal.

**PD** See interupillary distance.

**perimetry** The measurement of the expanse and sensitivity of peripheral vision and the visual field to pinpoint possible defects.

**peripheral vision** The visual perception of objects and space that surround the direct line of sight.

**pharmacology** The study of the medicinal use and actions of drugs (medications).

**phoria** The tendency of the eyes to deviate; usually prevented by the brain's effort to fuse the two images.

**phoropter** See refractor.

**photochromic** Refers to lenses made of crown glass that is specially manufactured to be sensitive to ultraviolet light, so that it darkens in sunlight and lightens when not in sunlight.

**photocoagulation** Surgical welding with laser light beams.

**photoreceptor** A light-sensitive cell.

**physical optics** The area of optics that describes the nature of light in terms of its wave properties.

**physiologic blind spot** The sightless "hole" in the normal visual field corresponding to the optic disc.

**physiology** The function and operation of an organism.

**pigment epithelium** The outer layer of the retina; lies against the choroid.

**pingueculum** A small, benign, yellow-white mass on the bulbar conjunctiva, just nasal or temporal to the limbus.

**pinhole occluder** The hand-held device that completely covers one eye and allows the other to view a chart through a tiny central opening; often used to confirm a diagnosis of refractive error.

**"pink eye"** See conjunctivitis.

**plane** Flat.

**plano mirror effect** The flat lighting effect of a retinoscope that produces slightly divergent rays.

**pledget** A small tuft of cotton soaked in an anesthetic solution for application to the conjunctiva and punctum.

**plus lens** See convex lens.

**PMMA** See polymethylmethacrylate lenses.

**polariscope** An instrument for determining whether a lens has been heat-hardened; consists of two polarizing filters whose axes are at right angles to each other.

**polarized** Refers to lenses made of plastic, glass, or photochromic glass that is specially manufactured to reduce glare, brightness, and ultraviolet light transmission.

**polymethylmethacrylate (PMMA) lenses** Contact lenses that provide oxygen by means of a tear pump only; no oxygen or carbon dioxide diffuses through the lens.

**positive lens** See convex lens.

**posterior** Back.

**posterior segment** The rear portion of the eye; includes the vitreous and the retina.

**posterior segment examination** See fundusoscopic examination.

**potential acuity meter** A device for determining visual acuity in the presence of media opacities.

**power** See vergence power.

**prepping** Short for *preparing*; the routines for cleansing a patient's surgical site prior to surgery.

**presbyopia** The progressive loss of the accommodative ability of the lens; due to natural processes of aging.

**primary angle-closure glaucoma** A form of glaucoma in which the natural age-related increase in the size of the lens blocks the flow of aqueous through the pupil, gradually pushing the iris forward until its outer edge blocks the aqueous outflow channels in the anterior chamber angle.

**primary open-angle glaucoma** A form of glaucoma in which the pressure inside the eye is elevated because of increased resistance to aqueous drainage in the outflow channels; accounts for 60% to 90% of all adult glaucomas.

**principal axis** The pathway of a light ray that strikes the center of a lens of any shape and passes undeviated through the lens material.

**principal meridians** The meridians of maximum and minimum corneal curvature.

**principal ray** See axial ray.

**prism** A triangular piece of glass or plastic with flat sides, an apex, and a base.

**prism and alternative cover test** A test for measuring the extent of an eye's deviation.

**prismatic effect** An optical distortion in which images are displaced from their normal position; can occur if the distance between optical centers (DBC) does not correspond to the interpupillary distance (IPD).

**prism diopter** The unit of measure of the refractive power of a prism.

**prognosis** Prediction of the outcome of a medical condition.

**progressive-addition multifocals** Multifocals in which no discrete, visible line divides the distance and near segments; rather, the optical power is added progressively in a transitional zone. Also called *progressive-add multifocals*.

**proptosis** A condition characterized by a protruding eyeball; caused by an increase in volume of the orbital contents. Also called *exophthalmos*.

**protozoan** (plural: *protozoa*) A primitive, single-cell, parasitic microbe that reproduces sexually and asexually.

**pseudoisochromatic color plates** A book of plates that display patterns of colored and gray dots; used for evaluating color vision.

**pseudophakia** The use of an intraocular lens to correct the vision of an aphakic patient.

**pterygium** A wedge-shaped growth on the bulbar conjunctiva.

**ptosis** Drooping of and inability to raise the upper eyelid; caused by the levator muscle's inability to function.

**punctum** (plural: *puncta*) The tiny opening on the upper eyelid margin (*upper punctum*) and lower eyelid margin (*lower punctum*) near the nose, from which tears pass.

**punctum dilator** Part of the lacrimal set; the instrument used for enlarging the punctum.

**pupil** The opening in the center of the iris that enlarges (admitting more light) and reduces (admitting less light).

**quadrant** One of four quarters of the visual field: upper left, upper right, lower left, and lower right.

**radial meridians** Dividing sections radiating from the point of central fixation on a visual field chart.

**reagent** A special solution designed to react with a specific type of microorganism or chemical; used in microbiologic testing.

**refinement** The second step in refractometry, requiring patient participation and responses, which confirms the information produced by retinoscopy. Also called *subjective refractometry*.

**refracted** Refers to a light ray that bends when it passes at an angle from one transparent medium to another.

**refraction** (1) In physics, the bending of a light ray as it passes through substances of different densities. (2) In eye care, the process of measuring a patient's refractive error and the clinical judgment to determine the optical correction needed.

**refractive error** A nonpathologic deficiency in the eye's optical system.

**refractive index** The ratio of the speed of light in a vacuum to its speed through a specific substance.

**refractive state** The relative ability of the refractive components of the eye to bring objects into focus on the retina.

**refractometry** The measurement of refractive error with a variety of instruments and techniques.

**refractor** An instrument for determining a corrective lens prescription; stores a range of trial lenses that can be dialed into position. Also called *phoropter*.

**regular astigmatism** The most common form of astigmatism, in which the cornea resembles a football standing on one end or on its side.

**retina** The inner lining of the eyeball; consists of a layer of light-sensitive cells that convert images from the optical system into electric impulses sent along the optic nerve for transmission to the brain.

**retinal detachment** The separation of the sensory layer from the pigment layer of the retina.

**retinitis pigmentosa** A hereditary, progressive retinal degeneration that may lead to blindness.

**retinoscope** An instrument for measuring refractive error; consists of a light source and a viewing component.

**retinoscopy** The use of a retinoscope to determine a refractive error; the first step in refractometry. Also called *objective refractometry*.

**retrobulbar** Behind the eye.

**retrobulbar visual pathway** See *visual pathway*.

**retroscopic tilt** The tilt of an eyeglass frame adjusted so that the lower rim tilts away from the face.

**RGP** See *rigid gas-permeable lenses*.

**rigid gas-permeable (RGP) lenses** Contact lenses that permit oxygen and carbon dioxide diffusion through both the lens material and a tear pump.

**rod** The retinal photoreceptor largely responsible for vision in dim light ("night vision") and for peripheral vision.

**round-top segment** A portion of a circle fused or ground into a distance lens; may be used in bifocals and trifocals.

**routine situation** A medical situation that usually can be scheduled for the next available routine office appointment time, within a few days or weeks.

**rubeosis iridis** A condition in which the iris develops a reddish color due to neovascularization.

**Schiotz tonometer** An indentation contact tonometer that uses weights to determine intraocular pressure and detect glaucoma.

**Schirmer test** A test that uses filter paper to measure the patient's tear output and helps to confirm the diagnosis of a dry-eye condition.

**Schlemm's canal** See *canal of Schlemm*.

**sclera** The white tissue surrounding the cornea; protects the intraocular contents and forms the wall of the eye.

**scleritis** Inflammation of the sclera.

**scotoma** An area within the contours of the visual field where vision is reduced.

**seamless bifocal** See invisible bifocal.

**secondary glaucoma** Glaucoma that occurs secondary to another, primary disease.

**segment** See add.

**segment height** The distance between the lowest part of an eyeglass rim and the top of the multifocal lens segment.

**shallow scotoma** A mild visual field defect that appears as a depression in the island of vision.

**sign** An abnormal change observed objectively by the physician on examination of the patient.

**single lines** The closely spaced mires in a lensmeter.

**sinus** A bony cavern of the skull that contains air and connects with the nasal passages.

**slit lamp** An instrument used for close examination of the lids and lashes, cornea, lens, membranes, and clear fluids within the eye; consists of a microscope of low magnifying power and a light source that projects a rectangular beam that changes in size and focus. Also called *biomicroscope*.

**Snellen acuity test** A measurement of visual acuity by testing the ability to read characters at a standard distance on a special target called the *Snellen chart*.

**Snellen chart** A printed visual acuity chart consisting of *Snellen optotypes*—specially formed letters of the alphabet arranged in rows of decreasing letter size.

**soft lenses** Flexible contact lenses that permit oxygen and carbon dioxide diffusion through the lens material itself, with a minimal tear pump.

**solution** The form of a drug in which the drug is completely dissolved in an inert liquid.

**species** (plural: *species*) A category of biologic classification ranking immediately below the genus; the specific name for a type of organism.

**spectacle blur** Temporary blurred vision upon switching from contact lenses to eyeglasses.

**specular microscopy/photography** A method of microscopically photographing the cornea's endothelial cells at great magnification and producing photographs on which the cells can be counted.

**sphere** See spherical lens.

**spherical cornea** A cornea (of the normal eye and most myopic and hyperopic eyes) whose curvature is uniform.

**spherical lens** Also simply *sphere*. A concave or convex lens whose curvature is uniform, allowing it to focus light rays to a single point.

**spherocylinder** Also simply *cylinder*. A combination of a spherical lens and a cylindrical lens. Sometimes called *toric lens*.

**sphincter muscle** The muscle that encircles the pupil and makes the pupil smaller in response to bright light.

**spirochete** A spiral or corkscrew-shaped form of bacterium.

**spore** A resting state of a bacterium, protected by a heavy cell wall that permits the bacterium to survive for a long period of time until suitable conditions for growth occur.

**static perimetry** The type of perimetry that uses a stationary target that can be varied in size, brightness, and position within the visual field but is not displayed until it has stopped moving.

**stereopsis** The ability to perceive depth visually in three dimensions.

**sterile drapes** Large sterilized protective sheets or cloths placed around the part of the body that is to undergo surgery.

**sterile operating field** The surgical area and the materials within that area that have undergone sterilization. Also called simply *sterile field*.

**sterilization** The destruction of all microorganisms by various methods.

**steroid** See corticosteroid.

**strabismic amblyopia** The tendency of a child's brain to suppress the image from the deviating eye.

- strabismus** A misalignment of the eyes that may cause vision to be disturbed; occurs when the extraocular muscles do not work in a coordinated manner.
- stroma, corneal** See corneal stroma.
- stye** A reddened, sore lump near the outer edge of the eyelid; caused by an infected lash follicle. Also called *external hordeolum*.
- subconjunctival hemorrhage** A rupture of a conjunctival blood vessel that allows blood to flow under the tissue and produces a bright-red flat area on the conjunctiva.
- subjective refractometry** See refinement.
- superior oblique** The extraocular muscle that rotates the eye both downward and inward toward the nose.
- superior rectus** The extraocular muscle that is primarily responsible for turning the eye upward.
- super pinhole** A pinhole occluder that helps to determine macular function in a patient with an opacity, such as a cataract.
- suprathreshold static perimetry** The type of static perimetry in which a light or target of a specific size is chosen so that the patient should be able to see it when it is placed at a particular site in the visual field.
- surfactant cleaner** A specially manufactured detergent for removing superficial dirt from contact lenses.
- suspension** The form of a drug in which particles of the drug are suspended in a liquid vehicle.
- suture** To stitch a wound closed; the pattern of the stitch; or the thread-like material used to make the stitch.
- symptom** A change in vision, pain, or other subjective effect that indicates a disease process.
- synapse** The connection between nerves, where electric (nerve) impulses are transmitted.
- syndrome** A set of signs or symptoms that is characteristic of a specific condition or disease.
- syringe** An instrument for injecting or withdrawing liquid from a vessel or cavity.
- systemic drug delivery** Intravenous, intramuscular, or subcutaneous injection or oral intake into the circulatory system.
- tangent screen test** A type of kinetic perimetry used for quantifying visual field defects within 30° of a fixation point.
- tarsal plate** See tarsus.
- tarsus** The dense, plate-like framework within the middle layer of each eyelid that gives the eyelids their firmness and shape. Also called *tarsal plate*.
- tear film** The three-layered coating that covers the outer surface of the globe.
- thermal trauma** Refers to injury that results in the burning or freezing of tissues.
- threshold static perimetry** The type of static perimetry in which the threshold is that level of brightness at which the patient can just detect a test object about half the time.
- tissue culture** The use of living cells in a test tube; can be used to grow microbes.
- Titmus stereopsis test** A test for determining whether the patient has fine depth perception in terms of binocular cooperation.
- tonometer** An instrument for measuring intraocular pressure.
- tonometry** The measurement of intraocular pressure by means of a tonometer; useful in the diagnosis of glaucoma.
- topical application** The delivery system by which a drug is applied directly to the surface of the eye or surrounding skin.
- toric cornea** A cornea whose surface curvature is not uniform.
- toric lens** See spherocylinder.
- toxin** A poison.
- trabecular meshwork** The anterior chamber structure that filters the aqueous humor and controls its rate of flow out of the eye.
- translucent** Refers to a substance that transmits light but significantly interferes with its passage.

**transparent** Refers to a substance that permits the passage of light without significant disruption.

**transport medium** A solution or gel to protect bacteria in which a sterile swab used to obtain a sample of an infectious material is immersed during travel to a microbiologic laboratory.

**transposition** The conversion of a lens prescription from plus-cylinder form to minus-cylinder form or vice versa.

**trauma** A sudden wound or injury to the body, often from outside the body.

**triage** The screening of patients (in person or by telephone) to ensure that the patients with the most serious complaints are seen promptly.

**trial frame** The frame into which various trial lenses are placed, used during refractometry.

**trial lens set** A set of various lenses introduced before a patient's eye to select the appropriate corrective lens.

**trichiasis** An abnormality of the eyelid caused by an eyelash that grows in the wrong direction and rubs against the surface of the eye.

**trifocal lens** One that has three powers: one for correcting distance vision, one for correcting intermediate range of sight, and one for correcting near vision.

**triple lines** The widely spaced perpendicular mires in a lensmeter.

**tropia** A condition in which misalignment of the eyes is present even when the eyes are uncovered.

**ultrasonography** A method of examination that uses the reflection (echo) of high-frequency sound waves to define the outline of ocular and orbital structures, measure the distance between structures, and identify abnormal tissues inside the eye or orbit.

**upper canaliculus** See *canaliculus*.

**urgent situation** A medical situation that requires attention within 24 to 48 hours.

**uveal tract** The pigmented layers of the eye (iris, ciliary body, and choroid) that contain the majority of the blood vessel supply. Also called *uvea*.

**varicella-zoster virus (VZV)** A herpesvirus that produces chicken pox and the skin disease shingles.

**vehicle** The inert liquid in which a drug is dissolved to form a solution.

**vergence power** Also simply *power*. The measure of a lens's ability to converge or diverge light rays.

**vertex distance** The distance from the back surface of an eyeglass lens to the front surface of the cornea.

**vertical meridians** See *horizontal and vertical meridians*.

**virtual image** The image formed by a concave lens when the paraxial rays from a distant source are refracted and diverge.

**virus** (plural: *viruses*) A microorganism smaller than the smallest bacterium; multiplies only in living cells; causes infectious disease.

**visual acuity** The ability to discern fine detail.

**visual cortex** The area of the brain responsible for the initial conscious registration of visual information; the destination of electric (nerve) impulses from the retina.

**visual field** The height and breadth of space seen by the eye when the gaze is fixated straight ahead.

**visual pathway** The route that is taken by light-generated nerve impulses after they leave the eye. Also called *retrobulbar visual pathway*.

**vitreous** The clear, jelly-like substance that fills the space behind the lens. Also called *vitreous body*.

**VZV** See *varicella-zoster virus*.

**with motion** The retinoscopic reflex movement that is in the same direction as the streak of light; typical of the hyperopic eye.

**Worth four-dot test** A test for determining whether the eyes are perfectly aligned and whether the brain suppresses information from one eye.

**yeast** A form of fungus that produces creamy or pasty colonies.

**zonule** A transparent fiber that supports the lens by attaching to the ciliary body.