

Glossary

achromatopsia – inability to perceive color because of a gene-based retinal cone abnormality

age-related macular degeneration – loss of function of the central specialized region of the retina unrelated to injury or vascular disease. Macular dysfunction limits visual acuity and the ability to discriminate colors.

albinism – a group of genetic disorders with reduced pigmentation in the iris and choroid associated with an under developed macula (macular hypoplasia) and reduced visual acuity

angiogenesis – growth new of blood vessels. In the retina, angiogenesis develops in response to ischemic stimuli on the surface or beneath the retina

angioid streak – a break within Bruch's membrane that when viewed with an ophthalmoscope resembles a branching blood vessel. Angioid streaks are found in association with pseudoxanthoma elasticum, Paget's disease, sickle cell disease and possibly Ehler's-Danlos syndrome.

angle-closure – narrowing of the anterior chamber may force the iris to press against the back of the cornea, blocking the outflow of fluid through the eye's drainage mechanism, the trabecular meshwork, causing an abrupt increase in eye pressure

anterior chamber – the chamber of the eye bounded by the cornea, lens and iris

anti-oxidant- substances that retard destructive chemical reactions caused by unstable oxygen molecules. Foods with orange, red and yellow pigmentation contain carotenoids, a group of compounds with exceptional power to quench oxidizing molecules

aortic arch syndrome – disease of the cardiac outflow vessels limits blood supply and oxygen, to the eye and brain, leading to ocular ischemia and stroke

aphakic – an eye in which the natural lens has been removed and not replaced

aptamer – an “antisense” molecule with a structure designed to bind to a molecule of opposite structure and thereby inhibit its biological activity

aqueous humor – the fluid, mostly water with salts, filling the space between the cornea and iris also bathes the front surface of the lens. Aqueous is produced by the ciliary body and drains out through the trabecular meshwork.

atrophy – loss of function because of wasting from disease, age or injury

avastin – a drug that functions as an inhibitor of blood vessels growth (anti-vascular endothelial growth factor) and also helps to prevent blood vessels from leaking blood and

Glossary

fluid. Its primary use is for the treatment of cancers; in ophthalmology it is used for the treatment of wet macular degeneration and other vascular diseases.

AZOOR – acute zonal occult outer retinopathy – includes the spectrum of white dot syndromes known as evanescent white dot syndrome, acute macular retinitis, acute idiopathic blind-spot syndrome – leading to transient or persistent macular dysfunction

background (non-proliferative) diabetic retinopathy – characterized by changes in permeability and perfusion causing local swelling, leakage, ischemia and infarction in the retina.

B-scan – an ultrasound technique that highlights ocular topography and the relationship of vitreous, retina and choroids. Typically used when the retina cannot be visualized

Bear-track – see congenital hypertrophy of the RPE

bevacizumab – brand name Avastin – a manufactured antibody (Genentech) that binds to and inhibits vascular endothelial growth

birdshot retinochoroidopathy – a multifocal chronic inflammatory condition of the retina and choroid characterized by white dots and associated with vitritis, macular edema and choroidal neovascularization.

branch retinal artery occlusion – obstruction of a tributary of the retinal circulation may affect a substantial portion of the retina and produce local infarction. Often caused by emboli from the carotids or heart valves

branch retinal vein occlusion – obstruction of branch of the retinal venous circulation typically occurs at an arterial venous crossing site

Bruch’s membrane – a multilayered elastic tissue between the RPE and the choroidal vasculature

bullous keratopathy – corneal swelling caused by failure of the corneal endothelial layer to maintain adequate dehydration and clarity

carotene – the natural form of vitamin A, an orange hydrocarbon that forms an integral part of the visual pigments that absorb light rays in the retina and help convert light energy into a nerve impulse

carotenoid – one of over 500 red-orange pigments found in nature and possessing anti-oxidant capability.

capillary – the narrowest of blood vessels - permits blood cells to pass in single file

Glossary

carotenoid pigments – long chain organic molecules, which typically give foods yellow, red and orange color, have anti-oxidant properties. Vitamin A (carotene) has a prime role in the transforming the retinal image into a electrical signal to the brain

cataract – clouding of the natural lens of the eye, typically an aging phenomenon, and sometimes associated with trauma, metabolic abnormalities and radiation (solar and high energy)

cataract surgery – removal of the natural lens of the eye can be performed by several techniques (See Surgery, cataract)

cellophane retinopathy – an epiretinal membrane that produces no significant distortion

central retinal artery occlusion – obstruction of the chief vessel for the retinal circulation causes extensive infarction

central retinal vein occlusion – obstruction of principal vessel draining blood from the retinal circulation causes engorgement of vessels and retinal ischemia, and is often associated with glaucoma, hypertension and diabetes

choriocapillaris – this plexus of large-bore choroidal capillaries lies adjacent to Bruch's membrane

choroid – the posterior [uveal](#) layer, lies adjacent to the retina and in between the retina and the sclera

choroidal effusion – expansion of the choroidal space with fluid in response to hypotony, inflammation or vortex vein obstruction. The choroid expands inward to displace the retina inward.

choroidal hemorrhage – bleeding into the choroid may follow surgical or other trauma, usually under acute hypotensive conditions (low intraocular pressure). The choroid expands, pushing the retina toward the center of the eye. In severe and catastrophic cases, the volume of the choroidal hemorrhage nearly fills the entire globe.

choroidal neovascularization – growth of new vessels within Bruch's membrane or beneath the RPE or retina

choroidal nevus – a highly pigmented lesion comprised of benign melanocytes

ciliary body – a segment of the uvea, lying just behind the iris, is responsible for accommodation (focusing) and the production of aqueous

classic neovascularization – choroidal neovascularization that leaks actively and has sea-fan like appearance on fluorescein angiography

Glossary

central serous retinopathy – an effusion of fluid between the retina and RPE that develops in young individuals, sometimes attributed to steroid use or “type-a” personality

collagen – the molecular component of fibrous tissue

collaterals – blood vessels that shunt blood around obstructed segments of a blood vessel

Coats’ disease – a congenital abnormality of retinal vessels producing a diffuse or segmental outpouring of blood fluid and exudate within the retina

complement – a group of blood proteins that interact and form a cascade of reactions that reinforces the ability of antibodies to clear an infection

cone – a retinal color sensitive cell. About 6 million cones are distributed in the outer retina - most lie in the macular region.

cone dystrophy – a defect in the cone system, leading to impaired macular function

congenital - present at or near the time of birth

congenital hypertrophy of the retinal pigment epithelium – a highly pigmented benign lesion in the retina composed of enlarged RPE cells – sometimes appearing in clusters

corneal abrasion – loss of surface barrier cells on the cornea exposes superficial nerves and causes severe pain

corneal endothelium – the innermost layer of the cornea is one cell layer thick and is responsible for keeping the cornea in a state of relative dehydration. A swollen cornea loses transparency

cotton wool spot – a focal infarct in the inner retina caused by insufficient circulation and oxygenation – a hallmark retinal manifestation of hypertension (high blood pressure)

cryopexy – a method of producing focal choroidal and retinal injury with a fine blunt cold probe directly applied to the sclera. The freezing is produced by rapid expansion of a compressed gas.

cycloplegia – relaxation of constricting smooth muscle fibers in the ciliary muscle and pupil – typically with atropine or scopolamine eye drops

cystoid macular edema (CME)

degeneration – atrophy or other deterioration of a tissue with resultant loss of function

Glossary

dialysis – a retinal tear at the far periphery of the fundus produced by blunt trauma and acute tension on the vitreous base

diabetes mellitus – an illness characterized by impaired regulation of blood sugar in the bloodstream, that leads to vascular compromise throughout the body, with particular involvement in the eyes and kidneys.

diabetic macular edema – central retinal swelling caused by diabetic damage to retinal capillaries.

diabetic retinopathy - diabetes induced retinal disease caused by damage to the retinal capillaries causing altered capillary permeability and closure. Leakage of blood and plasma causes local retinal swelling. Capillary closure induces ischemia and infarction of the inner retinal layers. Retinal ischemia activates a cascade of factors stimulating neovascularization.

diffuse ooze – slow and low-grade leakage beneath the retina in association with AMD

disc – the optic nerve as seen at its internal origin at the surface of the retina

disciform scar – a circular scar (fibrous and vascular tissue) caused by the growth of choroidal neovascularization (new blood vessels) beneath the central retina, with damage to the retina and fine acuity.

dropped lens – the natural or artificial lens of the eye may fall away from its stable and preferred position

drusen – nodules in Bruch's membrane beneath the RPE are in the early spectrum of AMD

dystrophy – a disorder of genetic basis

edema - swelling

Elschnig spot – a focal infarct of the peripheral retina and choroid

emboli – particles in the bloodstream with potential to obstruct downstream vessels

endolaser – a device that permits application of laser by means of a probe inserted into the globe

endophthalmitis – intense inflammation of the internal eye, usually of bacterial origin and typically after intraocular surgery. Endophthalmitis may develop after penetrating trauma or from spread from the bloodstream. Sterile endophthalmitis may follow the introduction of toxic chemicals into the vitreous cavity (as a contaminant of a medicine or

Glossary

intraocular lens). The hallmark finding is the hypopyon, a layer of settled white blood cells, in the anterior chamber

expansile gas – gas injected into the vitreous cavity, that pushes or keeps the retina in position – acting as a temporary splint. Undiluted expansile gases, usually SF₆ perflurane or C₃F₈, expand upon injection, increasing their volume 400-500%. Pure gases are employed in pneumatic retinopexy. Stable diluted gases (15-20% gas/the remainder air) may fill the vitreous cavity for one to three weeks after vitrectomy for macular hole or retinal detachment, before their gradual absorption and replacement by fluid.

exudates – swelling with a high content of protein and/or lipid released from the local circulation

exudative detachment Retinal detachments are separated into two groups: exudates or rhegmatogenous, related to cause. Exudative detachments have no tears. They are caused by local tumors, inflammation or impaired egress of fluid from the choroidal space.

fibrous tissue – one of the body's structural and connective tissues, comprised of long strands of protein, that are laid down by fibrous cells. Fibrous cells that repair injured tissues contract and generate a "scar."

filtering procedure – surgical methods to create a new passageway for fluid to exit the eye. These procedures channel through the sclera, to connect the anterior chamber (and sometimes the vitreous cavity) to the space between the globe and its covering conjunctiva. The most popular is called a trabeculectomy, in which part of the sclera is removed. Resistant cases and reoperations are often treated with setons – a mechanical device or non-compressible tube through which the aqueous fluid is directed.

flap tear – a retinal tear with persistent adherence of vitreous to the tongue of the flap (also called a horseshoe tear)

floaters – condensations of protein in the vitreous that float through the eye and cast visible shadows on the retina

fluorescein angiogram – a diagnostic procedure to help evaluate the integrity of the retinal vessels and Bruch's membrane - link

focal and grid laser - laser photocoagulation directed to a specific lesion (a vessel, tear or diseased tissue) or well-defined area of retinal swelling

fovea – the central depressed zone in the macula has a high concentration of photoreceptors

Glossary

foveal avascular zone (FAZ) – the central 350-550 micron zone in the fovea (also called the foveola) lacking blood vessels

foveola – see FAZ above

Fuchs' spot – a small pigmented disciform scar seen in myopic degeneration

fungal – related to a fungus

ganglion cells – neural cells in the retina, which each send a single long fiber (axon) to the brain, carrying partially processed visual information

glaucoma – a pressure associated malady of the optic nerve, resulting in chronic, subacute or acute damage to the nerve and vision

glial cells – a group of cells within nerve tissue in the eye and brain, which add structural support to the tissues

gliosis – proliferation of fibrous elements, especially including fibrous astrocytes on the surface of the retina. Glial elements can proliferate into the vitreous cavity as a component of neovascularization

grid laser – application of laser in a checkerboard pattern to seal leaks and treat retinal swelling

glucose control – a measure of the average blood sugar level over the past several weeks – usually described as the level hemoglobin A1c, that is, the amount of glucose adherent to hemoglobin in the bloodstream.

Harada's disease – an inflammatory condition characterized by white spots in the retina, subretinal fluid and migration of white blood cells into the choroidal layer.

heavy liquid - a type of silicone oil, denser than water, that can be used to press a detached retina back to its original position, a used as a surgical adjunct for detachments with proliferative vitreo-retinopathy or giant tears.

hemorrhage – blood escaped from the vascular system, may lie within, underneath or in front on the retina, based on the pathology of the process.

Herpes group viruses – herpes simplex, zoster, cytomegalovirus (CMV), and measles may all cause retinal infection and necrosis – especially in individuals with an impaired immune system.

Histoplasmosis – a fungal organism, responsible for an asymptomatic choroiditis, that later can lead to choroidal neovascularization

Glossary

horseshoe retinal tear – also known as a flap tear, has an attached strand of vitreous pulling at the tongue of the tear

hyperope – an individual whose uncorrected acuity is better far away than up-close.

hypertensive retinopathy – retinal changes in vascular diameter, thickness, permeability and perfusion related to high blood pressure. The hallmark feature is the cotton wool spot.

hypertrophy – enlargement of a cell, group of cells or an organ

hypotony – low intraocular pressure leads to swelling of the ocular layers. The health of the eye is maintained with eye pressures generally between 4 and 24 millimeters of mercury

iris – the colored ring of tissue in the anterior chamber, that helps regulate the amount of light reaching the retina by dilation or constriction of the pupil

infarction – loss of function and death of tissue because of insufficient oxygenation

inflammation – activation of white blood cells with associated swelling, redness, pain and warmth of the inflamed area

inner limiting membrane (ILM) – the thin innermost surface of the retina, may be associated with wrinkles and contractions of the retinal surface caused by the vitreous or contractile surface membranes

insulin – a natural hormone that promotes the absorption of glucose from the blood stream into the body's cells

intraocular injection – injection of vitreous substitutes (salt solution, silicone or gas) or therapeutic agents through the pars plana into the vitreous cavity

intravitreal steroids – usually triamcinolone but sometimes dexamethasone (Posurdex) – may help reduce ocular inflammation and retinal swelling. Side effects include cataract and increased intraocular pressure.

intravitreal triamcinolone – a long acting (6 months) injection of steroid into the vitreous cavity

iris – the pigmented tissue responsible for the blue, green, and brown “eye color,” has a dark center, the pupil, which is an opening through which light travels into the eye.

Irvine-Gass Syndrome - macular edema and ocular inflammation associated with vitreous loss at the time of cataract surgery

Glossary

ischemia – lack of adequate oxygen to support local metabolism in a tissue

lamellar hole – a change in contour of the retina resembling a retinal hole induced by the distorting contraction of a thin retinal surface membrane

laser – intense (collimated) light energy that travels as a narrow beam of with a precise or limited color spectrum

lattice degeneration – A peripheral vitreo-retinal disorder with a strong vitreous connection to the retina; associated with retinal tears and detachment

lacquer crack - a break or split in Bruchs' membrane, typically spontaneous in high myopes, potentially leading to subretinal bleeding or neovascularization

lens capsule – the membrane that surrounds the lens of the eye has filamentary attachments to the ciliary body and adhesion to the anterior face of the vitreous body

lens implant – a plastic lens placed at or after cataract extraction to restore the ability of the eye to focus light upon the retina

limbus – the region of the conjunctiva adjacent to the cornea. The limbus supplies surface cells to the cornea as needed to repair defects, and goblet cells to secrete mucus for the tear film.

Lucentis – brand name of an anti-angiogenesis drug (ranibizumab) – an agent injected into the vitreous for treatment of wet AMD

Lutein – a carotenoid found in the macular region of the retina presumed to retard light scattering

macroaneurysm – an expansion of the wall of a vessel. Retinal macroaneurysms may leak, or bleed within, in front or beneath the retina.

Macugen – brand name for pegabtamid – the first approved intravitreal anti-angiogenesis agent for wet AMD

macular degeneration Deterioration of macular function is usually age-related, but may be also caused by high myopia, angioid streaks or presumed ocular histoplasmosis

macula The central region of the retina, responsible for fine acuity and color vision, contains a high concentration of ganglion cells arranged around a central avascular depression, the foveola or foveal avascular zone

macular edema – swelling of the macula – typically related to dysfunction and leakage of the adjacent retinal capillaries

Glossary

macular hole – a break in the central region of the retina caused by trauma, vitreous traction or chronic swelling

macular pucker – macular distortion and wrinkling caused by contraction of a surface membrane

melanocyte – a pigmented cell that contributes to skin and ocular pigmentation, and which may form benign and malignant proliferations

melanoma – pigmented melanocytic tumor of variable malignant potential – ocular melanoma may arise from conjunctival or uveal melanocytes

metamorphopsia – the sense that objects are the wrong size

mews – evanescent white dot syndrome

microaneurysm – a nodule of cellular proliferation within the capillary bed that leaks

myope – a near sighted individual whose uncorrected acuity is better at near. A high myope, with greater than 7 diopters of refractive error, is predisposed to macular degeneration and retinal tears and detachment.

myopic degeneration – with high myopia, the RPE within the macula becomes attenuated with secondary breakdown of Bruch's membrane and choroidal neovascularization – leading to atrophy, loss of function and occasional disciform scarring

non-proliferative diabetic retinopathy – background diabetic retinopathy with retinal manifestations reflecting increased permeability of the capillaries (edema, exudates and bleeding) as well as perfusion

neovascular glaucoma – elevated pressure caused by the obstruction of aqueous outflow by neovascularization of the iris and angle; invariably caused by retinal ischemia.

neovascularization – the growth of new vessels (capillaries) stimulated by local factors – principally lack of oxygenation

nerve fiber layer – an inner retinal layer composed of the neural axons of the ganglion cells.

neural crest – the region in embryologic development that gives rise to a variety of cells that form the bones and cartilage of the face, peripheral nerve tissue and melanocytes.

nevus – a benign pigmented lesion composed of melanocytes

Glossary

non-steroidal anti-inflammatory agents (NSAIDs) – aspirin and related compounds that retard inflammation

occult neovascularization – choroidal neovascularization, usually occurs beneath or within Bruch's membrane, and lacks clear localizing features on fluorescein angiography

OCT – ocular computed tomography – a technique of imaging transparent tissues by processing reflected light through means of an interferometer

ocular ischemia – lack of sufficient oxygenation to the entire eye is manifest by inflammation as well as atrophy of the retina and choroid, peripheral retinal hemorrhages and neovascularization. Usually related to impaired carotid circulation.

operculated tear – a tear in the retina with an avulsed fragment of retina attached to the posterior surface of the detached vitreous

optic disc – the visible surface of the optic nerve at the back side of the eye

optic nerve- the nerve trunk comprised of 1 million individual fibers that connect the retinal nerve cells (ganglion cells) to the brain

orbit –the volume of space filled by the eye and its associated muscles, nerves, blood vessels, fat and eyelids

oxidation – a chemical reaction that introduces energized oxygen atoms into another compound. In the eye, light energy has the potential to activate oxygen molecules, called free radicals, which can damage cell components.

parafoveal – the area closest to central specialized zone (fovea) of the retina.

pars plana – the thin area of the ciliary body containing few blood vessels where instruments can be safely inserted through the wall of the eye.

pars plana vitrectomy – techniques for vitreous and retinal surgery performed with multiple instruments through the pars plana region

patent foramen ovale – a small hole in the wall of the heart, between the atria

periocular injection – a injection of medicine not in but around the globe

periretinal – occurring on either the vitreous or choroidal side of the retina

phakic –possessing the natural lens of the eye

Glossary

phlebitis – inflammation of a vessels – may occur in infectious or autoimmune conditions

photocoagulation – bright, intense focused light, typically used to treat retino-vascular disease or retinal tears. Includes laser of various types as well as xenon arc sources.

photodynamic therapy – treatment of choroidal neovascularization with light absorbing chemicals injected into the bloodstream. The photosensitive pigments (typically vertiporphyrin) bind to the choroidal neovascular membranes and absorb laser directed into the eye. This process enhances the absorption of low energy laser and seals the problem membranes.

photopsia – a sensation of light that occurs without illumination

pigment alteration – change in coloration of the retinal pigment epithelium. With atrophy, the pigmentation is lost.

polymerase chain reaction (PCR) – a technique that helps identify a virus by making many copies of its DNA sequence

posterior capsule – the remnant of the natural lens that is left behind with conventional cataract surgery. The posterior capsule serves as a scaffold to support an artificial intraocular lens.

posterior chamber – the portion of the anterior chamber that lies behind the iris and in front of the vitreous body

posterior vitreous detachment (PVD) Separation of the gelatinous clear vitreous fluid from the posterior retina. Associated with an acute onset of light flashes and floaters.

pre-retinal hemorrhage – blood layered between the retina and vitreous, usually related to neovascularization but sometimes from tears or trauma

pre-proliferative diabetic retinopathy- diabetic eye disease characterized by dilated blood vessels, focal retinal ischemia and visible irregularities in the capillary bed

presumed ocular histoplasmosis (POHS)– a complex of retinal scars in the macula and retinal periphery associated with choroidal neovascularization and presumed related to prior lung exposure to Histoplasmosis fungus.

pseudoexfoliation – a condition characterized by protein deposits on the lens, weakened zonules and glaucoma, which predisposes to dislocation of the natural or artificial (pseudophakic) lens

proliferative diabetic retinopathy – an advanced stage of diabetic disease with neovascularization placing the eye at risk for massive intraocular hemorrhage

Glossary

proliferative vitreoretinopathy – growth and contraction of fibrous tissue on the inner or outer retinal surface that may develop after retinal detachment or major ocular trauma.

pseudophakic – possessing a foreign lens, either plastic or silicone
PVR proliferative vitreoretinopathy – growth of periretinal fibrous tissue that accompanies a retinal detachment – often stimulated by surgical intervention

pterygium – an overgrowth of fibrous tissue onto the peripheral cornea related to long term sun-exposure, especially at high altitude or in the Tropics

pupil – the central opening in the iris, which constricts or dilates to help adjust the amount of light reaching the retina

radiation – (unseen) high energy electromagnetic waves produced by radioactive elements (eg, uranium and plutonium) or by the acceleration of charged particles (eg, protons) by magnetic fields (cyclotrons, linear accelerators). Radiation can penetrate tissue and destroy living cells beneath the body's surface.

retained lens material – remnants of the natural lens left after incomplete cataract extraction

retinal capillaries – the finest retinal blood vessels, bridging the circulation from arterioles to venules, that let blood cells pass single-file.

retinal detachment – separation of the retina from the choroid, usually related to retinal tear and traction, but occasionally related to exudation, inflammation or tumor

retinal pigment epithelial detachment – separation of the RPE from the underlying choroid

retinal pigment epithelium (RPE) – the single cell layer of pigmented cells lying on Bruch's membrane and contiguous with the outermost segments of the photoreceptors

retinal pigment alteration – atrophy or proliferation of RPE cells

retinal tear – holes develop with PVD, lattice, trauma and infection. Symptomatic tears – flashing lights, floaters require therapy.

retinal vascular permeability – normal retinal vessels do not permit blood cells and proteins to pass through their walls

retinitis – an infection of the retina, of parasitic (*Toxoplasma gondi*), viral, fungal or bacterial origin

Glossary

retinitis pigmentosa – a group of genetic disorders, which cause progressive failure and loss of function of retinal structures, often with a characteristic pigmentary alteration

retinopathy of prematurity – a spectrum of retinal immaturity which in its worst forms, leads to peripheral retinal neovascularization followed by vitreous hemorrhage and tractional retinal detachment

retinoschisis – separation of the retinal layers – may be degenerative or rarely genetic as in sex-linked retinoschisis

rod – a visually receptive cell – sensitive to light and motion but not color. Rods are most sensitive under dim or dark illumination and less sensitive under bright lights

ruptured globe – a traumatic tear in the cornea or sclera

scar tissue – fibrous or fibrovascular tissue produced in response to an injury, especially with a wound

sclera – the white tunic of the globe, comprised of collagen

scleral buckle – a procedure that relies upon external indentation of the sclera to reduce traction – typically for retinal detachment with one or more tears in a phakic individual. Synthetic silicone bands and sponges are sutured to the globe, as segments or circumferentially.

sero-sanguinous – mixed with blood and fluid – usually a descriptive applied to wet AMD

sickle cell retinopathy – a group of findings – peripheral neovascularization, vitreous hemorrhage, RPE infarction and retinal bleeding all caused by microvascular occlusion from abnormal red blood cells.

silicone oil – a non-compressible vitreous substitute, which can be introduced into the eye at the time of vitrectomy, that serves to fill the vitreous cavity and prevent the retina from detaching.

skin cancer – a group of malignancies with primary involvement of the skin. Persistent or progressive nodules, thickening or ulceration of the skin should be evaluated.

snow blindness (photokeratitis) A temporary but painful burn to the cornea caused by a day at the beach without sunglasses; reflections off of snow, water, or concrete; or exposure to artificial light sources such as tanning beds.

Glossary

steroids – most medical “steroids” are class of organic molecules that help regulate metabolism and immune function. In treatment of the eye disease, steroids are generally used to reduce inflammation.

stress factors – biochemical products and markers that are indicative of local conditions, e.g oxygen levels, temperature and salt concentration, that impair a cell’s ability to function effectively

sulcus – the ciliary sulcus is bounded anteriorly by the iris, and posteriorly by the ciliary processes and their filamentary zonules extensions to the lens capsule

sympathetic ophthalmia- a rare, potentially blinding, chronic inflammatory condition of the uveal tract, that may develop in the opposite eye after penetrating ocular trauma.

tapetoretinal disorder – a spectrum of gene-based retinal disease associated with alteration of the underlying retinal pigment epithelium and often characterized by increased reflectivity of light from the deeper layers

tapetum – in some nocturnal species, the membrane separating retina from choroid has a mirror-like reflective property, allowing incident light rays that pass through the retina to pass again in the opposite direction

tear – a full-thickness hole or break in the retinal layers, permitting vitreous fluid to gain access to the potential space between the retina and choroid

toxoplasmosis – retinitis caused by the parasite *Toxoplasma gondi*, acquired in the womb or by eating contaminated foodstuffs.

trabecular meshwork – a sieve-like network of perforated membranes lining the sclera at the junction of the iris and cornea, where aqueous fluid drains out of the anterior chamber

tractional – tension caused by vitreous strands or peri-retinal scar tissues (epiretinal membranes, gliosis, macular pucker, proliferative retinopathy)

tractional retinal detachment – separation of the retina caused of the contraction of the vitreous or epiretinal membranes and lacking a retinal hole

trimacinolone – a steroid with long term activity – used for “depot” injection to the outside of the globe or intravitreally. Brand names: Triesence (preservative-free) and Kenalog

turbid – cloudy fluid, typically used as a modifier for subretinal or subRPE fluid to indicate or suggest the presence of neovascular activity

Glossary

uvea – the pigmented layer of the eye, composed of the iris, ciliary body and choroid – also contain a rich network of blood vessels

uveitis - inflammation of the uvea, the middle or pigmented layer, may be acute or chronic from infectious, autoimmune, traumatic, ischemic, vasculitic or other causes

vascular – pertaining to blood vessels

vascular endothelial growth factor (VEGF) – a signaling cell protein that stimulates growth of endothelial cells, the principal component of capillaries. VEGF is a major factor in the growth of new vessels in proliferative diabetic retinopathy and wet AMD.

vasculitis – inflammation in the wall of a blood vessel – may be caused by infection, trauma or immunologic responses

venous occlusive disease – retinal disorders caused by the obstructed flow of blood draining through the retinal veins.

vitreous hemorrhage – blood within the vitreous cavity may be either layered on the inner retinal surface or dispersed

vitreous substitute – the fluid, gas or silicone oil used to replace the natural vitreous humor removed at the time of vitrectomy surgery. The substitute is selected on its physiologic properties to aid the repair of the vitreoretinal abnormality.

vitritis – inflammation of the vitreous causes symptoms of floaters and impaired acuity

VKH – Vogt-Koyanagi-Harada – a white dot syndrome –characterized by the presence of acute or chronic multifocal yellow-white/gray spots indicative of inflammation or infection

xanthophylls – a subset of carotenoid pigments that quench stray light, internal reflections and oxidative species within the macular region

zonules – fine collagen filaments that anchor the lens capsule to the ciliary processes