

Common Eye Disorders

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PLAY PICMONIC

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Conjunctivitis

Convict-eye-on-fire

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Refractive Errors

Reflective Error-404

Refractive errors are the most common cause of impaired vision and include hyperopia (“farsightedness”), myopia (“nearsightedness”), and astigmatism. Hyperopia causes close objects to appear blurry and occurs when the eye is too short for the refractive power of the cornea or lens, leading to light focused behind the retina. Myopia causes far objects to appear blurry and occurs when the eye is too long for refractive power of the cornea and lens and focuses light in front of the retina. Astigmatism occurs when there is an abnormal curvature of the cornea leading to different refractive power at different axes, contributing to a variation of blurry or clear vision for up-close or distant objects based on the underlying pathology.

Presbyopia

Present-eye

An age-related condition, presbyopia impairs accommodation of vision on closer objects and is due primarily to decreasing lens elasticity, changes in lens curvature, or weakening of the ciliary muscles.

Cataract

Cadillac-cataracts

A painless and often bilateral opacification (“cloudiness”) of the lenses, resulting in reported “glaring” of light and a decrease in vision, particularly at night. For adults, risk factors for the development of glaucoma are an increase in age, smoking history, excessive alcohol use over time, excessive exposure to sunlight, diabetes mellitus, trauma, infection, and prolonged glucocorticoid steroid use. Risk factors in children, particularly newborns and infants, include classic galactosemia, galactokinase deficiency, trisomies (13, 18 or 21), TORCH infections, Marfan syndrome, Alport syndrome, myotonic dystrophy and neurofibromatosis II.

Glaucoma

Glock-eye

Glaucoma is characterized by open or closed (narrow) angle glaucoma. It occurs when the optic disc is atrophied, leading to cupping (e.g., thinning of the outer rim of the presenting optic nerve during an ophthalmoscopic exam). A contributory factor can include elevated intracranial pressure leading to progressive peripheral vision loss. Risk factors for the development of open-angle glaucoma include age, African heritage, and familial history of the condition. Closed-angle glaucoma has many causes, but all are the result of impediments of aqueous flow leading to a chronic closure or acute (true emergency) closure.

Uveitis

UV-sunglasses

Uveitis is an inflammation of the uvea and, specific to the certain regions affected, includes anterior uveitis, iritis, posterior uveitis, choroiditis, and retinitis. Risk factors include systemic inflammatory disorders (e.g., sarcoidosis, rheumatoid arthritis) and may present with hypopyon (accumulation of pus in anterior chamber) and conjunctival erythema.

Age-Related Macular Degeneration

Old Macula-Dracula

Age-related macular degeneration is a degeneration of the macula causing distortion (metamorphopsia) and progressive loss of central vision (scotoma). The most common cause of macular degeneration is a “dry” or non-exudative source, such as the deposition of Drusen (yellowish extracellular material) between the Bruch membrane and retinal pigment epithelium. In dry macular degeneration, the light-sensitive cells in the macula break down. “Wet” or exudative is less common but more serious, leading to a rapid loss of central vision caused by choroidal neovascularization (development of new blood vessels) with contributory bleeding. Wet macular degeneration causes leaky blood vessels to grow under the retina and create a large blind spot in the center of the visual field.

Diabetic Retinopathy

Dyed-bead-pancreas Red-tin-eyes

Retinal damage secondary to chronic uncontrolled hyperglycemia leading to nonproliferative or proliferative pathologic complication. Nonproliferative damage occurs when microvascular damage leads to capillary leakage of blood and serum-based lipids and fluid seep into retinal tissue, causing macular edema and eventually hemorrhage. Proliferative damage occurs when chronic hypoxia leads to neovascularization but results in pressure and traction of the retina, eventually leading to retinal detachment.

Retinal Detachment

Detached Red-tins

Retinal detachment occurs when the neurosensory layer (where rods and cones are located) separates from the pigmented epithelium of the retina. This degeneration of photoreceptors can lead to vision loss and is often preceded by the presence of “flashes of light” or “floaters.” Etiology can be sustained head trauma leading to a retinal break, diabetic traction, or inflammatory effusion. It is considered a medical and surgical emergency.

Leukocoria

Luke-cornmeal

Leukocoria is the loss of the red reflex during an ophthalmoscopic examination of the eye from conditions including retinoblastoma, congenital cataract, or toxocariasis.

Cranial Nerve Palsies

Brainstem Nerve Pause

Cranial nerve palsies are damage to cranial nerves III (oculomotor), IV (trochlear), or VI (abducens), leading to various motor, or in the case of CN III, parasympathetic outputs. Damage to CNIII from certain causes (e.g., uncal herniation, posterior communicating artery aneurysm, midbrain stroke) can result in extraocular motor (e.g., ptosis, “down-and-out” gaze) or parasympathetic (e.g., “blown pupil, diminished or absent pupillary light reflex) dysfunction. CNIV damage leads to an elevated pupil incarcerated in an “up-and-lateral” gaze affecting lower visual fields and interfering with the person’s navigation of stairs, walking and activities like reading. CNVI damage leads to a medially displaced pupil affecting the lateral gaze of the affected eye.