

1: Sclera | White of the Eye - Definition and Detailed Illustration

Eye disease - Inflammation of the sclera: The sclera is the fibrous covering of the eye that shows up as a dense white layer beneath the transparent conjunctiva. A relatively mild nodular inflammation, called episcleritis, sometimes occurs in the superficial layers just above the sclera.

In fact, the sclera forms more than 80 percent of the surface area of the eyeball, extending from the cornea all the way to the optic nerve, which exits the back of the eye. Only a small portion of the anterior sclera is visible. Sclera Definition The sclera is the dense connective tissue of the eyeball that forms the "white" of the eye. It is continuous with the stroma layer of the cornea. The junction between the white sclera and the clear cornea is called the limbus. It is composed of fibrils small fibers of collagen that are arranged in irregular and interlacing bundles. The random arrangement and interweaving of these connective tissue fibers are what account for the strength and flexibility of the eyeball. The sclera is relatively inactive metabolically and has only a limited blood supply. Some blood vessels pass through the sclera to other tissues, but the sclera itself is considered avascular lacking blood vessels. Some of the nourishment of the sclera comes from the blood vessels in the episclera, which is a thin, loose connective tissue layer that lies on top of the sclera and under the transparent conjunctiva that covers the sclera and episclera. Larger episcleral blood vessels are visible through the conjunctiva. Other nourishment of the sclera comes from the underlying choroid, which is the vascular layer of the eyeball that is sandwiched between the sclera and the retina. Sclera Function The sclera, along with the intraocular pressure IOP of the eye, maintains the shape of the eyeball. The tough, fibrous nature of the sclera also protects the eye from serious damage " such as laceration or rupture " from external trauma. The sclera also provides a sturdy attachment for the extraocular muscles that control the movement of the eyes. Sclera Problems Here are a few conditions that can affect the sclera: Scleral icterus yellow eyes. This condition " also called icteric sclera " is a yellowing of the white of the eye. It is associated with hepatitis and other liver disease. If the white of your eye appears yellow or blue, you may need treatment for a systemic condition. Get it checked out as soon as possible. There is some controversy about the accuracy of the name of this condition. Some researchers have stated that the yellowing of the eyes jaundice actually takes place in the conjunctiva, not the sclera itself, and that the condition should therefore be called conjunctival icterus instead. Increased blood serum levels of bilirubin an orange-yellow pigment formed in the liver is commonly associated with scleral icterus. If you develop yellow eyes, you should have blood tests to see if you have this condition and associated liver problems. As you would expect, this condition is when a normally white sclera has a somewhat blue color. Blue sclera is caused by a congenitally thinner-than-normal sclera or a thinning of the sclera from disease, which allows the color of the underlying choroidal tissue to show through it. Acquired diseases such as iron deficiency anemia also can be associated with blue sclera. This is inflammation of the episclera that lies atop the sclera and under the conjunctiva. Episcleritis is relatively common and tends to be benign and self-limiting. It has two forms: The cause of most cases of episcleritis is unknown, but a significant minority up to 36 percent of people who get the eye condition have an associated systemic disorder " such as rheumatoid arthritis, ulcerative colitis, lupus, rosacea, gout and others. Certain eye infections also may be associated with episcleritis. Most episodes of episcleritis will resolve on their own within two to three weeks. Oral pain medication and refrigerated artificial tears may be recommended if discomfort is a problem. Scleritis can cause severe eye pain, redness and vision loss. If your eye hurts, take it seriously and visit your eye doctor for treatment. This is inflammation of both the episclera and the underlying sclera itself. Scleritis is a more serious and typically more painful red eye than episcleritis. Up to 50 percent of cases of scleritis involve an underlying systemic disease, such as rheumatoid arthritis. Generally, the onset of scleritis is gradual, and most patients develop severe, piercing eye pain over several days. This pain tends to worsen with eye movements. In most cases, the inflammation begins in one area and spreads until the entire sclera is involved. Scleritis can cause permanent damage to the eye and vision loss. Frequent complications include inflammation of the cornea keratitis, uveitis, cataract and glaucoma. Scleritis typically is treated with oral non-steroidal anti-inflammatory drugs NSAIDs and corticosteroids. In some

cases, immunomodulatory therapy may also be prescribed. Scleritis may remain active for several months or even years before going into long-term remission. What Is A Scleral Buckle? In the scleral buckle procedure, a band of silicone, rubber or semi-hard plastic is generally placed around the mid- to posterior sclera and sutured in place. This band pushes in, or "buckles," the sclera inward, toward the detached or torn retina, allowing the loose retinal tissue to rest against the inner wall of the eye. The retinal surgeon then uses either extreme cold cryopexy or a specific band of focused light laser photocoagulation to seal the retinal tissue against the wall of the eyeball, repairing the torn or detached retina. A scleral buckle usually is left in place permanently.

2: Sclera - Wikipedia

The sclera, also known as the white of the eye, is the opaque, fibrous, protective, outer layer of the human eye containing mainly collagen and some elastic fiber. In humans, the whole sclera is white, contrasting with the coloured iris, but in other mammals the visible part of the sclera matches the colour of the iris, so the white part does.

Bring fact-checked results to the top of your browser search. Inflammation of the sclera The sclera is the fibrous covering of the eye that shows up as a dense white layer beneath the transparent conjunctiva. A relatively mild nodular inflammation, called episcleritis , sometimes occurs in the superficial layers just above the sclera. It occurs more often in young and middle-aged adults and usually improves without treatment. In more severe cases, treatment with anti-inflammatory medication may be necessary. Inflammation of the deeper sclera, called scleritis , is more severe and is often painful. It occurs more frequently in older people and may be associated with underlying disorders, such as tuberculosis or rheumatoid arthritis. However, the cause of scleritis is often not discovered. Degenerative conditions of the cornea and sclera There are numerous types of corneal degeneration, many of which are rare and some of which are familial. The most common type is keratoconus, a curious condition in which the central part of the cornea, normally spherical in shape, begins to bulge and protrude forward as a cone. The only symptom is deterioration of vision due to irregular astigmatism caused by the changing corneal curvature. Contact lenses are often more effective than eyeglasses in treating this condition. Advanced cases of keratoconus, and most other types of corneal degeneration, may require corneal transplants. Diseases of the inner eye The uveal tract The uveal tract is a vascular layer of tissue—that is, a layer rich in blood vessels—lying next to the inner surface of the sclera. It is divided into three structures: The ciliary body, which lies behind and at the base of the iris, also functions by forming the aqueous humour , the production and drainage of which regulate intraocular pressure. The aqueous humour also is the source of nutrition to the lens and cornea , which are avascular without blood vessels. Uveitis Inflammations of the uveal tract are always potentially serious because of the secondary effects they may have on other intraocular structures. In most cases the disease affects either the anterior part of the uvea—that is, the iris and ciliary body—or the posterior part, the choroid. Inflammation affecting primarily the ciliary body and anterior vitreous area is termed intermediate uveitis and, if no other cause is identified, may also be called pars planitis. An attack of acute anterior uveitis also called iritis starts with deep pain, redness, and mistiness of vision. The eye is sensitive to light and may water, though there is no discharge as in conjunctivitis. The pupil tends to constrict, and the normally clear iris markings may become less distinct. In chronic anterior uveitis the main symptom is blurring of vision. Many infectious conditions and systemic inflammatory and immunologic diseases are known to cause uveitis. In a large proportion of cases, however, particularly when the inflammation is confined to the anterior segment, it proves impossible to be sure of the cause. A proportion of cases of anterior uveitis are associated with ankylosing spondylitis , a chronic disease of the joints of the spine. Some cases are associated with Reiter syndrome , a condition affecting young males that usually starts as an infection of the urogenital tract , with the later development of joint changes, particularly in the sacroiliac joints of the lower back, and recurrent attacks of anterior uveitis. Anterior uveitis may also be caused by herpesvirus infection, arthritis associated with psoriasis , inflammatory bowel disease , and complications of severe cataracts or lens damage. Inflammations of the choroid the posterior portion of the uveal tract and the retina are frequently infectious in origin. One of the organisms more commonly involved is *Toxoplasma gondii* , a protozoan of worldwide distribution among domestic animals such as cats , small mammals, and humans. Although antibodies to the organism can be found in a high proportion of most populations, overt signs of disease are rarely seen. Most people can acquire the infection without being aware of any systemic disturbance at all, and only in special circumstances does the organism cause disease. One of these special circumstances is pregnancy. If a woman with no previous exposure to toxoplasmosis is. In severe cases the child may be stillborn or may be born with congenital toxoplasmosis , a serious disease affecting many organs of the body, particularly the brain and the eyes. In less-serious cases small foci of infection are left in the nervous system and the retina of the eye. These may not be apparent at birth and may remain

quiescent, only to become active 15 or 20 years later in the form of an inflammation of the choroid and the retina. Children of subsequent pregnancies are unaffected. Other causes of posterior uveitis include viruses such as herpes, cytomegalovirus seen more frequently in AIDS patients, and rubella as well as fungal diseases and immunologic diseases such as systemic lupus erythematosus. A panuveitis refers to an inflammation of all parts of the uvea, often affecting both eyes and involving other ocular structures. Possible causes include syphilis, tuberculosis, Lyme disease, and sarcoidosis. The treatment of uveitis has been transformed by the advent of corticosteroid drugs. Even when a specific cause cannot be discovered, therapy with corticosteroids is usually successful in controlling the worst ravages of the inflammation.

Tumours of the uveal tract
Pigmented tumours are the most common tumours arising from the uveal tract. They may be benign such as a nevus or a mole or malignant such as melanoma. The choroid is a common site for these lesions, which can push the retina forward and possibly cause a retinal detachment. Disturbances of vision are the most common symptom, but, if the tumour is neglected, choroidal melanomas may enlarge and cause inflammation and raised pressure within the eye. Small portions of the tumour can enter the bloodstream and settle in distant organs, particularly the liver. The growth of these secondary deposits is often slow, and they may not be apparent until many years after the diagnosis of the tumour in the eye. Treatment options for melanoma vary and include local radiation treatment or removal of the eye called enucleation.

Diseases and disorders of the lens
The lens is a transparent, avascular organ surrounded by an elastic capsule. It lies behind the pupil and is suspended from the ciliary body by a series of fine ligaments called zonular fibres. Its transparency is the result of the regular arrangement of the internal lens fibres, which form continuously throughout life. Interference with the growth or maintenance of lens fibres can result in the formation of abnormal fibres or fibre arrangements that cannot transmit light as well as the normal lens fibres. An opacity is thus seen in the lens. Minor irregularities are common in otherwise perfectly normal eyes. If the opacity is severe enough to affect vision, it is called a cataract. Congenital lens opacities of many varieties have been recognized and described since the early days of ophthalmology, but they remained curiosities until the work of an Australian ophthalmologist, Norman M. Gregg, threw new light on their cause—and, indeed, on that of many other congenital defects. In Gregg noticed that, after an epidemic of German measles rubella, many of the children whose mothers had contracted the disease in the first two months of pregnancy were born with cataract, sometimes associated with deafness and congenital heart disease. Congenital cataracts can also be inherited, can be associated with genetic, metabolic, or other infectious diseases and disorders, or may have no known cause or association. Cataract in the adult may be the result of injury to the lens by a perforating wound, exposure to radiation such as X-rays, chronic inflammation such as uveitis, or ingestion of toxic substances or even of some drugs. The most common form of cataract is age-related cataract, so called because it becomes progressively more common with advancing age. Various types of age-related cataracts—called nuclear, cortical, and posterior subcapsular—are distinguished by the portion of the lens they involve, their natural course of development, and the somewhat differing symptoms they elicit. The most common type, nuclear sclerotic cataract, forms as the centre, or nucleus, of the lens slowly undergoes compression and hardening, turns yellowish or brown in colour, and becomes less transparent. Typical symptoms include cloudy vision, poor colour discrimination, and changes in distance vision. Mature, more severe cortical cataracts can cause the whole lens to appear white. Posterior subcapsular cataracts tend to occur in younger people and can be troublesome even when small, depending on their particular location on the back surface of the lens. In the early stages of cataract development, some visual improvement can usually be obtained with eyeglasses, but, as the cataract progresses, the visual deterioration becomes sufficiently severe to warrant surgical treatment. Cataract surgery involves removing the cloudy lens and, in most cases, placement of an artificial lens within the eye.

The retina
The retina is a thin transparent membrane that lines the inner eye. Its outermost layer, the pigment epithelium, consists of pigmented cells that are closely adherent to the underlying blood vessels of the choroid. The layer of rods and cones is more loosely attached to the pigment epithelium and has complicated interconnecting nerve networks that culminate in the innermost layer of nerve fibres. These fibres run back through the optic nerve to the brain. The inner portion of the retina derives its blood supply from a special complex of vessels, called the retinal vessels, that enter the eye through the optic nerve. A diagram of

the structure of the retina. Conditions affecting the retina can impair both central visual acuity and peripheral vision as well as alter light detection and image perception. Retinal detachment A retinal detachment occurs when the main vision-sensing part of the retina becomes separated from the pigment epithelium. This may result from an injury to the eye, a tumour within the eye, or inflammation of the underlying choroid. The most common type of detachment, however, has no such predisposing factors; instead, the distinctive feature is the formation of a small hole or tear in the retina, usually at its periphery. In most cases the tear is caused by normal forces acting on attachments between the retina and the gel-like substance called the vitreous humour that fills the interior of the eye. Sudden movement of the eye, age-related changes within the vitreous, or an injury can cause the vitreous to pull on the retina, thus creating a tear. When this has happened, fluid can pass through the hole and strip the retina off the pigment epithelium. Myopic nearsighted eyes are particularly prone to retinal detachment because they are larger than normal, and the coats of the eye are thinned and stretched. The periphery of the retina in particular often shows weak areas. The history of a retinal detachment is often quite typical, with the pull of the vitreous on part of the retina creating a sensation of brief flashes of light noticed by the person as the eye is moved. When an actual tear has developed, the retina may start to become detached, and the person has the sensation of a shadow slowly coming across the vision of the affected eye. The approach to the repair of a retinal detachment is variable and dependent on the patient and the particular features of the retinal break and detachment. The essential factor in early treatment is to seal off the tear in the retina if there is danger of detachment. The part of the retina containing the tear must be brought into close contact with the underlying pigment epithelium and choroid. The retina is then made to stick to the underlying choroid by means of heat via a laser or cold via cryotherapy , thus sealing off the leak. Remaining fluid under the retina can be drained away, allowing the retina to fall back into place. A scleral buckle is a flexible device that is fitted surgically around the outside of the mid-portion of the eyeball within the orbit and secured so that the retina is flattened back onto the pigment epithelium and choroid. Other techniques are available to accomplish this, including the use of air bubbles or silicone within the eyeball. Diagram of a scleral buckle. Provided that the detachment is not long-standing, retinal function often recovers quite well once the retina has been reattached. The small central area of retina that subserves the most acute vision, called the macula lutea , has only one source of blood supply, the underlying choroid. Once it is separated, some permanent damage usually ensues, even if the retina is subsequently replaced in its correct position.

3: Eye disease - Wikipedia

The diseases which affect the sclera are collagen destructive, painful, chronic, result in marked inflammation, and are often localized manifestations of disease processes affecting the entire body. The episclera is affected by acute processes which are usually short lived.

Moreover, the cornea bears more mucopolysaccharide a carbohydrate that has among its repeating units a nitrogenous sugar, hexosamine to embed the fibrils. The cornea, unlike the sclera, has five layers. The middle, thickest layer is also called the stroma. The sclera, like the cornea, contains a basal endothelium, above which there is the lamina fusca, containing a high count of pigment cells. Function[edit] Human eyes are somewhat distinctive in the animal kingdom in that the sclera is very plainly visible whenever the eye is open. This is not just due to the white colour of the human sclera, which many other species share, but also to the fact that the human iris is relatively small and comprises a significantly smaller portion of the exposed eye surface compared to other animals. It is theorized that this adaptation evolved because of our social nature as the eye became a useful communication tool in addition to a sensory organ. It is believed that the conspicuous sclera of the human eye makes it easier for one individual to infer where another individual is looking, increasing the efficacy of this particular form of nonverbal communication. Dogs do not seem to use this form of communication with one another and only look for visual information from the eyes of humans. However, if the sclera is ruptured by a blunt force or is penetrated by a sharp object, the recovery of full former vision is usually rare. If pressure is applied slowly, the eye is actually very elastic. However, most ruptures involve objects moving at some velocity. The cushion of orbital fat protects the sclera from head-on blunt forces, but damage from oblique forces striking the eye from the side is not prevented by this cushion. Hemorrhaging and a dramatic drop in intraocular pressure are common, along with a reduction in visual perception to only broad hand movements and the presence or absence of light. However, low-velocity injury which does not puncture and penetrate the sclera requires only superficial treatment and the removal of the object. Sufficiently small objects which become embedded and which are subsequently left untreated may eventually become surrounded by a benign cyst, causing no other damage or discomfort. Even relatively low-temperature molten metals when splashed against an open eye have been shown to cause very little damage to the sclera, even while creating detailed casts of the surrounding eyelashes. Such long exposures even in industrial settings are virtually nonexistent. The reflexive production of tears at the onset of chemical exposure tends to quickly wash away such irritants, preventing further harm. Acids with a pH below 2. However, acid burns, even severe ones, seldom result in loss of the eye. In very rare but severe cases of kidney failure and liver failure, the sclera may turn black.

4: Scleritis - Pictures, Causes, Symptoms, Treatment, Prevention | Diseases Pictures

The sclera is commonly considered to be divided into three layers from without inward: (1) the episclera, (2) the scleral stroma and (3) the suprachoroid (lamina fusca) which is interposed between choroid and sclera.

See Article History Eye disease, any of the diseases or disorders that affect the human eye. This article briefly describes the more common diseases of the eye and its associated structures, the methods used in examination and diagnosis, and the factors that determine treatment and prognosis. The first part deals with conditions affecting the orbit, lids, and external eye, and the second focuses on diseases of structures within the eyeball, or globe. Later sections deal with injuries, ocular conditions associated with systemic disease, disorders of vision, methods of examining the eye, and devices for correcting visual defects. For more information about the medical specialty dealing with the diagnosis and treatment of eye diseases, see ophthalmology; for more information about the health care profession concerned with the eye, see optometry.

Disorders of the outer eye and auxiliary structures

The orbit and lacrimal apparatus

The orbit is the bony cavity in the skull that houses the globe of the eye eyeball, the muscles that move the eye the extraocular muscles, the lacrimal gland, and the blood vessels and nerves required to supply these structures. The remaining space within the orbit is filled with a fatty pad that acts as a cushion for the eye and allows free movement of the globe. With aging, this pad of fat tends to atrophy so that the globe recedes, causing a more sunken appearance of the eye that is often seen in elderly people.

Inflammatory conditions of the orbit

Since the bone that separates the orbit from the nose and the nasal sinuses is rather thin, infection sometimes spreads from the nasal sinuses into the orbit, causing the orbital tissue to swell and the eye to protrude. This condition, called orbital cellulitis, is serious because of the possibility that the infection may spread into the cranial cavity via the pathways of the cranial nerves that reach the eye through the posterior orbit. Infections can also spread to the cranial cavity by way of the blood vessels that lie within the orbit. Prompt administration of appropriate antibiotics in most cases eliminates such infections. However, surgical drainage of orbital abscesses pockets of pus surrounded by areas of tissue inflammation may be required.

Sterile noninfectious inflammatory conditions such as Graves ophthalmopathy eye disease caused by thyroid dysfunction also affect the orbit.

The lacrimal glands, the small glands that secrete the watery component of tears and are located behind the outer part of each upper lid, are rarely inflamed but may become so as a complication of viral infection, such as in mumps or mononucleosis caused by Epstein-Barr virus. Inflammations of the lacrimal sac are much more common. The lacrimal, or tear, sac lies in a hollow at the inner corner of the eye in the front part of the nasal wall of the orbit; under normal conditions, tears run along the margins of the eyelids toward the nose and are drained through two tiny holes called puncta connected by small tubes to the upper part of the lacrimal sac. The lower part of the sac is connected to the nose by the nasolacrimal duct, and infection may ascend this passage from the nose and cause an acute painful swelling at the inner corner of the eye called dacryocystitis. Blockage of the nasolacrimal duct prevents the passage of tears into the nose and results in a watery eye. Such a blockage, which is often accompanied by chronic inflammation in the lacrimal sac, is usually treated in infancy with a simple massaging technique. However, if the problem persists, a procedure to open or stent the tear passageway can be performed to relieve the obstruction. If this approach also fails, a different operation can be undertaken in which a new opening from the lacrimal sac to the nasal cavity is made.

Tumours of the orbit

Tumours in the orbit are comparatively rare and may arise from within the orbit, as an extension from nearby sinuses, or as a metastasis from a distant tumour. Tumours arising within the orbit include lacrimal gland tumours, lymphoid tumours, vascular tumours, and tumours of the optic nerve, among others. Such tumours may be benign or malignant. Orbital tumours can cause a slow and gradual protrusion or displacement of the eye, which may prevent ocular movements from being coordinated with those of the normal eye. If this occurs, the images of the two eyes, which are normally fused, may separate and give rise to double vision diplopia.

Disorders of the lids

Inflammatory conditions

The chronic inflammation of the lid margins known as blepharitis is a common and potentially distressing condition. The inflammation may be mild, causing simple redness of the lid margin with scaling of the skin, or it may be severe, causing intense irritation and burning

along with eyelash destruction and distortion. Blepharitis tends to be associated with greasiness of the skin and with dandruff. The skin of the lids is particularly sensitive to allergic processes, and itching, scaling, and redness of the lids are common reactions to drugs or cosmetics applied to the eye of a sensitized person. Another common inflammatory condition of the lid is a sty, in which inflammation of particular oil glands or lash follicles occurs along the lid margin. Sties originating in the lash follicles are usually infectious and start as a painful swelling of the lid. At first it may be difficult to find a localized lesion, but soon one area becomes more swollen, and, as pus forms, a yellow point may be seen near the lid margin. A rather similar appearance can be produced by an inflammation of the tiny glands in the inner eyelid, called meibomian glands, that open onto the lid margin. Since the glands are embedded in tough fibrous tissue, the pain and reaction may be more severe than in a sty of the lash follicle. Examination of the internal surface of the lid often shows a red, velvety area with a central yellow spot through which pus may later discharge. Sometimes the meibomian glands suffer from a chronic infection, and a painless firm lump, called a chalazion, appears in the lid and slowly increases in size. The skin can be moved freely over the surface of the lump, showing that the latter is in the deeper tissue of the lid. The inner surface of the lid will show a discoloured area surrounded by inflammation. If the chalazion persists and does not respond to warm compresses, eyelid scrubs, and massage, it can be removed through an incision made on the inner surface of the lid. Herpes zoster shingles may affect the skin of the eyelids and is of particular importance because the cornea the transparent covering of the front of the eyeball and inner eye may also be affected. The condition often starts with pain and redness of the forehead and the eyelids of the same side. Vesicles, or small blisters, form later in the affected area. The pain may be severe, and some constitutional disturbance is common. Malposition of the lids Malposition of the lid is common in elderly people. Although usually not serious in itself, it can give rise to considerable discomfort, irritation, and even impairment of vision. Ectropion arises when the lower lid curls away from the globe in such a way that, if significant, the tears overflow the lid. This constant wetting of the skin of the lower lid is abrasive and irritates the skin. In addition, severe cases can lead to exposure of and damage to the cornea. The opposite condition is entropion, in which the lid turns inward and the lashes cause irritation by rubbing on the eye. It may be caused by scarring of the deeper tissues of the lid or may be due to age-related changes in lid muscle tone. In ectropion and entropion, plastic surgery is usually necessary to bring the lid back to a near normal position. Another type of lid malposition is called blepharoptosis, in which the upper lid margin droops below its normal resting position when the eyelids are open. This can result from age-related changes, congenital abnormalities, or nerve or muscle disorders, among other causes. Severe cases of blepharoptosis can cause significant impairment of vision by blocking light from entering the pupil. In children, such vision impairment may become permanent if not treated promptly. Again, surgical intervention is usually required. Tumours of the lids Benign overgrowths of the blood vessels, called hemangiomas, may occur in the lids and give rise to soft, bluish swellings. They are most often present at birth and tend to grow in the first few years of life, sometimes contributing to obscuration of vision and amblyopia. Often they disappear spontaneously, but they can be treated with corticosteroids steroid hormones such as cortisone, prednisone, or prednisolone, with interferon potent proteins released by cells of the immune system that block cell reproduction and modulate immune response, or, rarely, by surgical removal. Simple overgrowths of skin, called papillomas, result from viral infections and are common along the lid margin. They require no special treatment except excision or ablation for cosmetic reasons. A nevus birthmark is a benign growth, usually pigmented and raised, that arises from pigment cells of the skin. Change in shape, size, or colour of a nevus may indicate transformation into a malignant tumour. The lids and the skin of the nose near the inner margins of the lids are common sites for the development of skin cancer in older people. Bleeding may occur from the base of the ulcer. Although basal cell carcinomas are malignant in the sense that they destroy tissue locally, they do not spread to distant areas of the body by means of the lymph system or the blood vessels. Other malignant cancers affecting the eyelid include sebaceous carcinoma of the eyelid glands and melanoma, the latter of which can arise from preexisting nevi. Strabismus squint In the lower vertebrates, such as fishes, the eyes are situated on either side of the head to give the maximum view of the surroundings and an early warning of the presence of predators. The field of vision of each eye is separate except for a narrow sector immediately in

front of the animal, where the visual fields of each eye overlap. The improved judgment of distance obtained by viewing an object with both eyes conferred considerable biological advantage in the struggle for survival. In the higher animals, particularly the predatory species of birds and mammals, binocular vision became more and more important. Structural changes in the placement of the eyes in the head permitted a larger overlap of the two visual fields until the situation was reached in the higher mammals in which the visual axes of the two eyes—that is, the line of direct sight—became essentially parallel. This desirable visual arrangement is fully realized in humans. However, the structural changes necessary to bring this about seem to have lagged behind the function, and the geometrical axes of most eyes are still slightly divergent. It is the function of using two eyes together that keeps the optic axes straight in a normal person. If, for example, one eye becomes blind, it tends to revert to an anatomical position of rest in line with the axis of the orbit. A blind eye will therefore often appear to be diverging under resting conditions. The visual axes can remain straight only if each eye has reasonably good vision, the ocular muscles can move the eyes in the required directions of gaze, and the complex neuromuscular inputs required to coordinate the movements of the two eyes are intact. Failure to maintain the visual axes parallel may therefore result from visual defects, muscular defects, or paralysis, which may result in loss of normal movement of the eye, or from defects in the central nervous system that affect the coordinating neural pathways. A true strabismus also called squint is a condition in which the visual axes are no longer parallel. A false strabismus may be seen in children as the result of prominent skin folds in the nasal portion of the eyelids, which make the eyes appear to be converging. These skin folds usually disappear when the bony structure of the nose has developed more fully. Clinically, strabismus can be divided into concomitant, in which the abnormal angle between the visual axes remains constant in all positions of gaze, and incomitant, in which the eye deviation varies with the direction of gaze. A common type of concomitant strabismus seen in young children is accommodative esotropia, in which the eyes are consistently or intermittently crossed when trying to focus. It is usually first noticed between the ages of two and three and is often associated with a family history of strabismus. First, the visual axes must converge, so that both eyes can view the same object. Second, the focus accommodation of the eyes must be adjusted for near vision. The link between convergence of the eyes and focusing is very strong, and normally the two actions work in harmony, resulting in both eyes being appropriately aligned on the object of regard. However, in children with accommodative esotropia, the balance between eye convergence and accommodation is abnormal, such that the eyes cross more than is required for a given amount of focusing demand. This imbalance is more common in farsighted children, who require more focusing effort to see clearly both distant and near objects. Once parallelism of the visual axes has been lost, the images no longer lie on corresponding areas of each retina, and two images are perceived. This condition of double vision, or diplopia, is detrimental to the child, whose adaptive brain reacts by suppressing the image from the deviating eye. Even if the original disturbance that started the strabismus is corrected, amblyopia may prevent the restoration of normal binocular vision. The longer the suppression is allowed to continue, the less likely the child is to regain normal vision in the deviating eye. Covering, or patching, the good eye will usually encourage the recovery of the suppressed vision, but it must be started as soon as possible. Any refractive error present. Early treatment along these lines may be all that is necessary, but, if the visual axes are still abnormal, surgery of the extraocular muscles is usually required to correct the deviation.

5: Scleritis: MedlinePlus Medical Encyclopedia

Diseases of sclera ppt ophthalmology 1. Diseases of sclera 2. anatomy â€¢ Sclera posterior 5/6th opaque part of the external fibrous tunic of the eyeball.

It may cause partial or permanent loss of vision and hence one has to take prompt treatment to prevent this condition. The sclera is responsible for white color of the eye and helps to maintain the shape of the eye. It is a tough white colored layer found on the walls of the eye, extending from cornea to optic nerve found on the back of the eyes. Inflammation of sclera is known as scleritis. Most often, scleritis is caused by systemic diseases which affect the body seriously. Some of the diseases belonging to this category are autoimmune disorders, connective tissue disorder and generalized vasculitic disorders. Scleritis inflammation of sclera is a strong indication of the underlying medical problem. It can be due to fungal, viral or parasitic infection, trauma, exposure to chemicals, poisonous gases or due to post-surgical complications. It can occur in either one of the eyes or both and in most of the cases in which both eyes are affected, systemic diseases will be the cause. Some of the major signs of this disease are redness of eye due to inflammation, pain, and tenderness along with problems in vision. Eye pain will be present always and it gets increased when touched. The pain will disturb the person while sleeping. It is the boring dull pain always present on the eyes that helps one to differentiate scleritis from other eye problems. The red coloration can be on the entire eye or only one corner of the eye, depending on the intensity of inflammation inside. It causes partial loss of vision since it may develop swelling on the cornea. The blood vessels of the eyes may become swollen and the redness can take a bluish tint. Scleritis can develop anterior or posterior regions of the eye. Vision loss may occur due to clouding of corneal region and due to development of intraocular pressure. Who Are At Risk? Aged people above 55 or 60 and women and people with autoimmune disorders like HIV are more prone to scleritis than others. Your ophthalmologist will view your eyes through special instrument for detecting scleritis. She may order for blood test, chest X-ray and scan for ruling out presence of any systemic infections inside. Underlying medical condition is to be evaluated first before giving treatment for scleritis. Your doctor may give antibiotic eye drops for reducing inflammation and pain. Topical antibiotics are prescribed in case of eye infection. Drugs like azathioprine, cyclophosphamide and cyclosporine are given. Steroid injection is given to control the symptoms. In rare cases, surgery is done in case if it has caused thinning of sclera. Scleritis is a potential eye disease often caused due to underlying medical cause. You need to consult your doctor to prevent loss of vision. You cannot prevent this disease but you should be aware to seek immediate attention from your doctor. Individuals with autoimmune disorders like arthritis should look for above symptoms or changes in eye color and seek prompt medical care.

6: Eye disease - Inflammation of the sclera | www.enganchecubano.com

The sclera is the tough, white, outer layer of the eyeball. The sclera provides the eyeball with structural strength and protects against penetration and rupture. The sclera provides the eyeball with structural strength and protects against penetration and rupture.

Eye Laser Consulting 1. Anatomy The sclera comprises a group of tissues that closely resemble the tough, fibrous tissue seen in the joints of vertebrates. Only the vertebrate population has a sclera, the invertebrates demonstrating an ocellus, which differs by being strengthened by cartilage and bone. Much like a hip joint, the ocular globe rests in a soft tissue socket covered with collagen rich tissue simulating synovia. Because of this unique anatomical relationship, it is subject to many of the same inflammations and disorders that often befall the joints of the human body. Because it is tough and fibrous it resists deformation and provides a protective covering for the intraocular contents, though it is not without risk of perforation or penetration. It is this same array that lends the strength and rigidity to the globe despite its constant movement and pull from the extraocular muscles. Unlike cornea, which has a very orderly array of parallel bundles that are layered on top of one another, the sclera is designed for strength and not clarity. The sclera may assume pigmentation such as the yellow discoloration of aging due to lipid deposition or blue, grey or brown spots due to melanin, the example of excess being the Nevus of Ota. The circular shell created by the sclera ranges in size from 20 to 24 mm with an average being 22 mm and a radius of curvature of approximately 12 mm. Gradations on either end of the extreme are seen in conditions such as microphthalmia and megalophthalmos. It is generally one mm thick, and is thinner in the equator and under the insertions of the recti muscles. It is an open sphere posteriorly due to the scleral foramen required for optic nerve penetration, and anteriorly due to the cornea. Actually, the cornea and the sclera are one and separated by the vague transition known as the limbus. The surgical limbus usually refers to the corneoscleral junction, a blue zone, which becomes evident upon removal of the overlying conjunctiva. The sclera does not demand much in terms of blood supply or perfusion of nutrients, due to its relatively low metabolic need. As a result, the healing of wounds, either surgical or from trauma, can take months or years to complete, if they heal at all. The sclera is penetrated by numerous small, arteries, veins and nerve fibres which pass through openings known as emissaria. The interior surface of the sclera is brown, due to melanocytes which form an inner coating. The inner side of the sclera is nourished by the choroid. The scleral structure is protected by a thin fibrovascular surface coating known as the episclera. The role of the episclera is to provide a matrix for an extensive arteriolar plexus that feeds these tissues above and below. The conjunctiva, a mucus membrane coating, overlies the entire structure. All of the tissues in contact with the avascular sclera are subject to respond with inflammation. The diseases which affect the sclera are collagen destructive, painful, chronic, result in marked inflammation, and are often localized manifestations of disease processes affecting the entire body. The episclera is affected by acute processes which are usually short lived.

7: Medical Lecture Notes Online: Diseases of Sclera

The sclera is the white part of the eye that surrounds the eyeball. In fact, the sclera forms more than 80 percent of the surface area of the eyeball, extending from the cornea all the way to the optic nerve, which exits the back of the eye.

This may be because they have: The immune system is a network of organs, tissues, and circulating cells that work together to stop bacteria and viruses from causing illness. T cells work to destroy incoming pathogens, which are organisms that can cause disease or illness. Scleritis may occur at any age. Women are more likely to develop it than men. You have an increased chance of developing scleritis if you have: Your doctor will review a detailed medical history and perform an examination and laboratory evaluations to diagnose scleritis. Other conditions that have symptoms similar to scleritis include: Treatment of scleritis focuses on fighting the inflammation before it can cause permanent damage. Pain from scleritis is also related to inflammation, so reducing the swelling will decrease symptoms. The treatment follows a step-ladder approach. If the first step in medication fails, then the second is used. Medications used to treat scleritis include the following: Reducing inflammation also helps to ease scleritis pain. Oral glucocorticoids are the preferred choice for posterior scleritis. Immunosuppressive drugs with oral glucocorticoids are preferred for the most dangerous form, which is necrotizing scleritis. Antibiotics may be used to prevent or treat infections of the sclera. Surgery may also be necessary for severe cases of scleritis. The process involves the repair of tissues in the sclera to improve muscle function and prevent vision loss. Sclera treatment may also be contingent on treating the underlying causes. For example, if you have an autoimmune disorder, then effectively treating it will help prevent recurring cases of scleritis. What is the outlook for people with scleritis? Scleritis can cause significant eye damage, including partial to complete vision loss. Scleritis is a serious eye condition that requires prompt treatment, as soon as symptoms are noticed. Treating underlying autoimmune conditions that might cause scleritis is also important in preventing future problems with the sclera.

8: Disorders of the Sclera

Scleritis is an uncommon disease and is differentiated from episcleritis, which is inflammation of the surface membrane covering the sclera and is a more common eye condition. In episcleritis, only the superficial tissue between the white of the eye (sclera) and the blood vessel-filled covering (conjunctiva) is inflamed.

9: Disorders of sclera, cornea, iris and ciliary body - ICD Codes - AAPC Coder

Scleritis (inflammation of sclera) is a strong indication of the underlying medical problem. It can be due to fungal, viral or parasitic infection, trauma, exposure to chemicals, poisonous gases or due to post-surgical complications.

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