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Abstract

This project will help in communication between the patient and the intern. The emphasis will be on providing to the patient a description of their condition through a printed page by means of the computer in the clinical setting. The printed page discusses what the condition is, it's signs, symptoms, treatment, and prognosis. Also included on the page is a picture if appropriate and an area labeled "notes" for the intern to include pertinent exam findings and special patient instructions. To provide this page of information we created web pages to be located on the College of Optometry's web page. The internet address for the college is www.opt.pacificu.edu/opt/puco/home.htm. The home page of our project includes a title, a logo, a list of common conditions, a disclaimer, and our names. From the home page each condition has a link to its own page. The relevance of this project is in providing a patient with take home information, and in creating another route of communication between the intern and the patient. This in turn will help to increase patient returns and patient compliance.

Degree Type

Thesis

Degree Name

Master of Science in Vision Science

Committee Chair

Robert L. Yolton

Subject Categories

Optometry

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Ву

Michael D. Tofte Marty J. Mrachek

A thesis submitted to the faculty of the College of Optometry, Pacific University, Forest Grove, Oregon for the degree of Doctor of Optometry

April 2000

Advisors

Robert L. Yolton, O.D., Ph.D. Darin Paulson, O.D.

Authors:

Advisors: Well

Biographies:

Michael Tofte is from Williston, North Dakota. He graduated from the University of North Dakota in 1997 with a Bachelor of Science. He is currently undertaking the Doctor of Optometry Degree from Pacific University College of Optometry with hopes of practicing in North Dakota.

Marty Mrachek is from Williston, North Dakota. He graduated from the University of North Dakota in 1997 with a Bachelor of Science. He is currently undertaking the Doctor of Optometry Degree from Pacific University College of Optometry with hopes of practicing in Missoula, Montana.

Abstract

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Acknowledgements

Special thanks to Dr. Yolton and Dr. Paulson as advisors and special thanks to Mark Mrachek for his expertise in web page construction.



This project will aid in communication between the patient and the intern. The emphasis will be on providing to the patient a description of their condition.

Allergic Conjunctivitis

Anterior Uveitis

Age Related Macular Degeneration

Bacterial Conjunctivitis

Cataract

Color Vision Deficiency

Concretions

Conjunctival Retention Cyst

Diabetic Retinopathy

Dry Eye

Glaucoma

Giant Papillary Conjunctivitis

Herpes Simplex Keratitis

Herpes Zoster

Hordeolum

Hyperopia

Keratoconus

Lid Hygiene

Marginal Infiltrates

Myopia

Nevus

Pinguecula

Presbyopia

Pterygium

Retinitis Pigmentosa

Spots and Floaters

Staphylcoccal Blepharitis

Viral Conjunctivitis

The material compiled has been presented as accurate as possible but mistakes may appear. No advice here should be used as a substitute for a comprehensive vision exam. All potential problems should be examined by your local eyecare provider.

Information presented by:

Michael D. Tofte and Marty J. Mrachek Pacific University College of Optometry

Special thanks to Mark Mrachek.



This project will aid in communication between the patient and the intern. The emphasis will be on providing to the patient a description of their condition.

Allergic Conjunctivitis

An allergic response is an over-reaction of the body's immune system to foreign substances known as allergens, which the body wrongly perceives as a potential threat.

Signs/Symptoms:

Itching and red eye are two hallmarks of an allergic reaction. Patients typically report a history of seasonal or other allergies. Seasonal allergies typically produce a thin, watery discharge.

Treatment:

Management of allergic conjunctivitis is primarily aimed at alleviating symptoms. The most effective treatment is to prevent exposure to the allergen. Since this is not usually possible, patients should use cold compresses, artificial tears and ointments to soothe, lubricate and wash away the allergens. Patients can use over the counter topical decongestants to reduce the redness, swelling, and other symptoms.

Prognosis:

For patients with a history of recurrent seasonal allergies using eye drops prescribed by your eye doctor in advance of allergy season can help. For extremely symptomatic patients a topical steroid can be used.



Sowka, J., Gurwood, A., & Kabat, A. "The Handbook of Ocular

Disease Management," Review of Optometry Ma	rch 1998.
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Home | Anatomy



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Anterior Uveitis

Anterior uveitis is a condition in which certain tissues inside the front of the eye are inflamed. It is important when discussing anterior uveitis to consider many of the underlying causes associated with the condition. Systemic diseases such as anklylosing spondylitis, Reiter's Syndrome, Behcet's Disease, multiple sclerosis, and juvenile rheumatoid arthritis are all associated with anterior uveitis. Infectious diseases such as tuberculosis, toxoplasmosis, Lyme disease, syphilis, and herpes all increase an individual's risk of getting anterior uveitis. Trauma to the eyeball can also bring about the condition, however most of the time, it is unknown what exactly has caused the inflammation.

Signs/Symptoms:

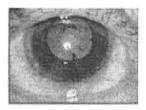
The hallmark signs of anterior uveitis are sensitivity to light, pain, excessive tearing, and intense redness. All of these factors combined often leads to a decrease in vision.

Treatment:

Anterior uveitis is controlled best when early intervention is possible. Topical ophthalmic drugs (cycloplegics and steroids) are used to calm and quit the eye by bringing the inflammation under control. In severe cases, oral medications may need to be added. Hot compresses, sunglasses, and plus lenses for near work are recommended to help manage the symptoms.

Prognosis:

If treatment is followed closely and completely, resolution of the condition should occur within two weeks. In severe cases or those caused by a systemic complication, it is possible that months of treatment may be necessary to get the condition under control.



Sowka, J., Gurwood, A., & Kabat, A. "The Handbook of Ocular Disease Management," Review of Optometry March 1998.

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Age-Related Macular Degeneration

ARMD is a common, chronic degenerative disorder of unknown origin and development that affects older individuals. It is reported that some families manifest a predisposition for the development of ARMD.

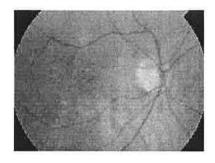
Signs/Symptoms:

It features central vision loss as a result of wide spread cell and tissue loss and /or formation of new blood vessels, which can result in detachment of the retina. Various researchers have implicated hardening of the arteries, oxidative damage, UV damage inflammation, diet, vitamin deficiencies, and genetics. Drusen are accepted to be precursor lesions for ARMD. Drusen are excretions of unrecyclable products produced during the process of vision.

Prognosis/Treatment:

There is no proven prevention of ARMD nor is there treatment for drusen. Dietary modification and/or antioxidant vitamins and minerals have been proposed. When ARMD features new blood vessel growth, laser photocoagulation is the only proven treatment.

Edwards, M.G., Bressler, N.M., & Raja, S. (Eds.). (1999). OPHTHALMOLOGY. London: Mosby.



Yanoff, M. Mosby.	, & Duker, J.	(1999). OI	HTHALMC	LOGY. Lot	ıdor
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Home | Anatomy



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Bacterial Conjunctivitis

Bacterial Conjunctivitis is an inflammation of the conjunctiva due to infection caused by bacteria, Staph. Aureus being the most common. It is found in all age groups and usually occurs in only one eye, however both eyes may become involved if rubbing the eyes manually transfers the infection.

Signs/Symptoms:

Patients with this condition often report VERY red eyes, however there is seldom pain noted. A foreign body sensation is also common. In the morning hours the eye will often produce a mucous type secretion. This produces a 'stuck together' feeling during the morning hours. Sensitivity to light is seldom a problem.

Treatment:

Topical ophthalmic antibiotics are usually initiated for this condition. Dosage regimes vary among drugs so it is important to understand the treatment schedule and follow it completely. Eyelid hygiene is also used for supportive therapy to the antibiotics. This includes warm compresses three to four times a day and flushing the eye with an approved solution to help manage the number of bacteria affecting the eye.

Prognosis:

Bacterial conjunctivitis is a fairly common condition that is potentially self-limiting in less severe cases. If a therapy program is initiated it is very important that is be followed closely and completed in full. Continued lid hygiene after the condition has been treated is a useful measure for the prevention of further attacks.



Sowka, J., Gurwood, A., & Kabat, A. "The Handbook of Ocular Disease Management," Review of Optometry March 1998.

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Home | Anatomy | Lid Hygiene



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Cataract

When the normally clear lens within the eye becomes cloudy and opaque, it is called a cataract. Cataracts vary from extremely small areas of cloudiness to large cloudy areas that cause a noticeable loss of vision. Cataracts are most often found in persons over the age of 55, but they are also occasionally found in younger persons, including newborns. No one knows exactly what causes cataracts. It is known, however, that a chemical change occurs within the eye that causes the lens to become cloudy. This may be due simply to advancing age or it may be a result of heredity, and injury, or a disease. Cataracts usually develop in both eyes but often at different rates.

Signs/Symptoms:

Currently, there is no proven method to prevent cataracts from forming. Although cataracts usually develop without pain or redness, some indications that a cataract may be forming include blurred or hazy vision, the appearance of spots in front of the eyes, or the feeling of having a film over the eyes. A temporary improvement in vision may also occur.

Prognosis/Treatment:

A thorough eye and vision examination by a doctor of optometry can determine the presence or absence of cataracts. If your cataracts develop to a point that your daily activities are affected, you will be referred to an eye surgeon who may recommend the surgical removal of the cataracts.

Your optometrist can prescribe changes in your eyewear that will help you see more clearly until surgery is necessary, but surgery is the only proven method for effectively treating cataracts. The surgery is a relatively uncomplicated procedure and has a 95% success rate. Cataracts may develop slowly over many, many years or they may develop rapidly in a matter of months. Some cataracts never progress

to a point where they need to be removed. Your optometrist will arrange a consultation with a surgeon who will decide on the appropriate time for removal. Most people wait until the cataracts develop to a degree that they interfere with daily activities before having them removed. Contact lenses, eyeglasses, and intraocular lenses are all common forms of post-cataract vision correction. You, along with your doctor, will decide on the type of post-cataract vision correction you will use. Intraocular lens implants are inserted into the eye at the time of surgery and serve as a "new" lens. Daily and extended wear contact lenses have also become increasingly popular forms of post-cataract vision correction.

Reproduced from <u>Answers To Your Questions About Cataracts</u>. American Optometric Association





Tasman, W. & Jeager, E.A. (1996). The Wills Eye Hospital Atlas of Clinical Ophthalmology. Philadelphia: Lippincott-Raven.

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Home | Anatomy



This project will aid in communication between the patient and the intern. The emphasis will be on providing to the patient a description of their condition.

Color Vision Deficiency

Approximately 4.5% of the population has a color vision deficiency. Color vision problems are mainly inherited through family although color vision deficiencies can be acquired through disease processes. The most common color deficiency is red-green labeling. A person with inherited red-green color deficiency may still be able to label correctly the colors of red and green when asked because they have learned the brightness cues of what society has labeled red or green. The same person put in certain situations may not be able distinguish red or green. Because of the fashion in which red-green color deficiency is inherited, men are considerably more common than women to receive it. Acquired color defects are not inherited but are due to disease processes or drug toxicity. Blue-yellow deficiency is assumed to be acquired unless proven otherwise.

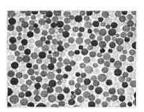
Signs/Symptoms:

The school performance of children may be evident in those with a color vision deficiency. This could result in the labeling of a child as a slow learner, which can have detrimental psychological effects to a child. An adult may suddenly find himself in a compromised situation in their daily activities due to a color deficiency.

Prognosis/Treatment:

Color vision deficiencies have no threat to vision but can interfere with a person's job or school activity. Color deficiencies remain stable over the person's lifetime. It is important that all children especially males have a color vision test as part of their first comprehensive vision exam by an optometrist. Once a person is able to recognize their color deficiency and learn its subtle effects encountered, he can learn to recognize situations in which their color labeling should be made more carefully.

Schwartz, S. (1999). Visual Perception: A Clinical Orientation (2nd ed.). Stamford: Appleton & Lange.



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Home | Anatomy



This project will aid in communication between the patient and the intern. The emphasis will be on providing to the patient a description of their condition.

Concretions

Concretions are minute hard, yellow spots produced by the accumulation of cellular debris. They are located mainly inside the bottom eyelid but can occur on the upper lid as well.

Signs/Symptoms:

Concretions rarely cause symptoms, but if they become large enough, they will produce a foreign body sensation that is uncomfortable for the patient.

Treatment:

If necessary, they can be removed using a needle point to excise the material. Topical anaesthetic is used to numb the area before the procedure.

Prognosis:

Concretions seldom produce any major ocular complications, many disappear with time, and the others that cause symptoms are easily removed. Patients should be warned that the concretions might reappear, even if they have been removed.



Spalton, Hitchings, Hunter "Atlas of Clinical Ophthalmology," 1984.

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Conjunctival Retention Cyst (Lymph Cyst)

Retention cysts are thin-walled, fluid-filled sacs located on the conjunctiva. They appear as a bubble filled with clear fluid on the eye.

Signs/Symptoms:

Retention cysts seldom cause any symptoms, but if they become large enough they will produce a foreign body sensation which is uncomfortable for the patient.

Treatment:

If necessary, the cyst can be ruptured to allow the fluid to drain. Topical anaesthetic is often used to numb the area prior to the procedure.

Prognosis:

Retention Cysts rarely produce any major ocular complications, many disappear with time, and the others that cause symptoms are easily treated. Patients should be warned that the cysts might reappear, even if they have been removed.

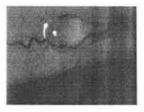


Image acquired by Corey Mairs

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Diabetic Retinopathy

Diabetic Retinopathy is a progressive dysfunction of the retinal blood vessels caused by chronic high levels of blood sugar in people with diabetes mellitus. It is the number one cause of new blindness in most industrialized nations.

Signs/Symptoms:

Key features within the retina of the eye include microaneurysms, hemorrhages, decreased blood and oxygen supply to retinal tissues, and retinal thickening. Glaucoma, retinal detachments, and premature cataracts can also occur.

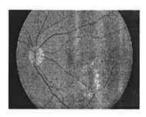
Treatment:

The key to sight preservation for diabetic patients is control of blood sugar through insulin or oral hypoglycemic drugs, diet and weight control, and routine eye examinations to detect the earliest signs of retinopathy. Today, the laser can be useful in severe retinopathy, yet prevention offers the most hope to diabetics. If blood glucose levels are aggressively controlled early and consistently in the disease both the onset of retinopathy and the rate of its progression are significantly delayed.

Prognosis:

The best predictor of the disease is the duration of the disease. The longer you have had diabetes the more likely it is to have diabetic retinopathy.

Benson, W. E. (Ed.). (1999). OPHTHALMOLOGY. London: Mosby.



Yanoff, M., & Duker, J. (1999). OPHTHALMOLOGY. London: Mosby.

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Home | Anatomy



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Dry Eye Syndrome

Dry eye syndrome is a condition most likely caused by a abnormality in the tear film that continually bathes the eye throughout the day. Tear film can be affected by several factors including contact lens wear, aging, and localized inflammation of ocular structures. Hormonal changes, such as those experienced during menopause, often play a major role in the onset of this condition. Systemic diseases such as rheumatoid arthritis and lupus can also have a detrimental affect on the production of tear film. Leisure activities such as reading, sewing, or any near work activity often leads to a decrease in the blink reflex which can often lead to dry eye. Also closed environments with air conditioners or heater systems can deplete the moisture in the air leading to increased symptoms. Arid climates and medications such as anti-histamines, anti-depressants, systemic beta-blockers, and diuretics may also bring about problems. Research is now being compiled to determine if refractive surgery is also a culprit to dry eye syndrome.

Signs/Symptoms:

The most common symptoms to dry eye are burning, grittiness, and redness. Excessive tearing is also a common complaint due to the body's overreaction to alleviate the dry eyes.

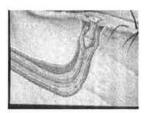
Treatment:

Lubrication therapy such as artificial tears and ointments are a first step towards reducing symptoms. More severe forms of dry eye are treated with a device called a punctal plug that prevents the rapid drainage of the tear film from the eye allowing the cornea increased dryness protection.

Prognosis:

Dry eye syndrome is a condition that will be with the patient for many

years, usually for the rest of their life. The advent of punctal plugs has allowed the patient some reprieve from the ocular lubricant routine, however, these drops should not be eliminated from treatment, but used in conjunction with the punctal plugs before symptoms arise.



Review of Optometry. February 1998.

Home | Anatomy



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Glaucoma

Glaucoma is a group of eye diseases characterized by increased intraocular pressure, resulting in atrophy of the optic nerve and possibly leading to blindness. It is the third most prevalent cause of visual impairment and blindness in the U.S.

Signs/Symptoms:

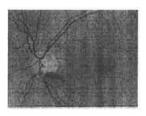
Glaucoma is a condition in which the changes to vision are so gradual that the patient may never notice any symptoms. Frequent changes to eyeglass prescriptions, mild headaches, vague visual disturbances, and impaired dark adaptation are all possible symptoms of the disease.

Treatment:

There are several ophthalmic drugs used to control the pressure inside the eye that help to delay the progression of the condition. Surgery and laser treatment are also options if the topical medications fail to control the disease.

Prognosis:

Glaucoma is a vision threatening disease. Careful monitoring of the intraocular pressures, visual fields and optic nerve head evaluations are necessary to continually follow the disease. Glaucoma is a diagnosis that lasts a lifetime and therefore predisposes the patient to lifelong treatment plans. If treatment is followed closely and completely, the loss of vision can often be halted or at least allowed to progress at a much slower rate than without treatment.



Sowka, J., Gurwood, A., & Kabat, A. "The Handbook of Ocular Disease Management," Review of Optometry March 1998.

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This project will aid in communication between the patient and the intern. The emphasis will be on providing to the patient a description of their condition.

Giant Papillary Conjunctivitis

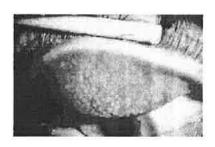
GPC is a common condition frequently seen in soft contact lens patients, patients with exposed suture knots from surgery, and patients with prosthetic eyes. Patients with asthma, hay fever or animal allergies may be at greater risk. The cause of GPC in contact lens wearers is due to allergy causing deposits on the lens.

Signs/Symptoms:

Initial presentation may occur months or even years after lens wear has been initiated. The inflammation in GPC can be observed on the upper eyelid. Symptoms include itching after lens removal, increased mucus discharge in the morning, and decreased lens tolerance are all initial symptoms. The allergic response is considered to be an overreaction of the body's immune system to allergans.

Prognosis/Treatment:

Management is primarily aimed at reducing symptoms. In more serious cases, aggressive management may be required. The type and frequency of medications depends upon the severity of the condition. Tear supplements can be supportive in washing away debris and environmental allergies and reducing the allergic response. Eye drops used preceding the onset of symptoms are treatment of choice for GPC. These drops may need to be continued for four to six weeks or until the end of the episode. The most effective treatment is to remove what is causing the allergic response. In severe cases or those that do not respond to standard therapy a steroid can be used. The final alternative may involve fitting the patient with daily disposable or rigid contact lenses or even discontinuing contact lens wear altogether.



Yanoff, M., & Duker, J. (1999). OPHTHALMOLOGY. London: Mosby.

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Home | Anatomy



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Herpes Simplex Keratitis

Herpes Simplex Keratits is an inflammation of the front clear part of the eye, the cornea. Herpes Simplex is the most common virus in humans. It typically shows itself in the younger person as cold sores or fever blisters around the mouth. After going away and lying dormant for a time up to many years it can show up again this time affecting the eye. Herpes Simplex can also affect babies due to maternal genital herpetic infection.

Signs/Symptoms:

Symptoms include a red eye or blisters around the eye with possible pain and irritation. Sensitivity to light, fever, and malaise can also be evident. A patient may seem to be in far less discomfort than the appearance of the eye would indicate. Herpes Simplex episodes can be recurrent. History of extreme stress or prolonged time in the sun can be significant in Herpes Simplex Virus reactivation.

Prognosis/Treatment:

Herpes Simplex is treated aggressively due to possible tissue deformation and scarring leading to loss of clear vision. Topical and oral anti-viral medications are used. The herpetic lesions can resolve spontaneously or with treatment over 1-2 weeks. Recurrence of the Herpes Simplex Virus is common.

Sowka, J., Gurwood, A., & Kabat, A. "The Handbook of Ocular Disease Management," Review of Optometry March 1998.



Mosby.	., & Duker,	J. (1999). (OPHIHAI	LMOLOG	Y. London
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Herpes Zoster

Herpes Zoster is a secondary infection of the more common disease chicken pox, which is caused by the virus varicella. This virus often remains with the individual throughout life in the nerve cells of the face and eyes. Herpes Zoster can NOT be acquired by contact with individuals who are currently infected with chicken pox or Herpes Zoster.

Signs/Symptoms:

Pain and tenderness along the affected nerve is often reported by patients and can be quite debilitating. As the virus travels along the nerve, there are physical skin manifestations that include rashes and blister-like sacs that can form on the forehead, nose and skin surrounding the eye. Ocular involvement occurs in approximately 50% of cases, when this occurs, the condition is termed Herpes Zoster Ophthalmicus. Ocular complications include conjunctivitis, scleritis, keratitis, uveitis, and secondary glaucoma.

Treatment:

Oral antiviral agents such as Acyclovir are often prescribed five times a day for seven to ten days. Pain relievers such as ibuprofen and acetaminophen (Tylenol) are often recommended to help with the accompanying nerve pain. Topical and/or oral steroids are also used to help control inflammation. If the eye is affected along with the skin, topical ophthalmic antiviral agents may also be used. In addition to this, cool compresses and ocular lubricants are also recommended. Topical antibiotic/steroid combinations may also be used to increase patient comfort.

Prognosis:

The blister-like rash that occurs with Herpes Zoster rarely reoccurs, but recurrent ocular problems may appear for as long as ten years

after the initial outbreak. Prompt treatment is very important to a successful outcome for this condition and the oral antiviral medications should be started within 72 hours of the initial skin manifestations.



Tasman, W. & Jeager, E.A. (1996). The Wills Eye Hospital Atlas of Clinical Ophthalmology. Philadelphia: Lippincott-Raven. Review of Optometry March 1998.

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Home | Anatomy



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Hordeolum

A hordeolum is an acute inflammation of the eyelid. An external hordeolum, or stye, results from infection of the follicle of an eyelash and its adjacent glands.

Signs/Symptoms:

It typically presents with pain, swelling, and redness of the eyelid. An internal hordeolum occurs due to obstruction and infection of a meibomian gland (a gland providing a component of tears). Initially, a painful swelling occurs and then localizes as an inflammatory abcess on the back surface of the eyelid. In both internal and external hordeolums the infection may spread to the surrounding tissue thus it is important not to squeeze or apply pressure to them.

Treatment:

Hot compresses and topical antibiotics help confine the spread of the lesion. Rarely, incision and drainage are necessary. Systemic antibiotics are used only if significant spread of the inflammation into the surrounding soft tissue exists. Treatment of any accompanying blepharitis (lid infection) is helpful to prevent the formation of new lesions (Neff & Carter, 1999).

Prognosis:

Hordeola frequently occur in association with inflammation along the edges of the eyelids called blepharitis. The inflammatory process is usually self-limited, with resolution within 5-7 days.

Neff, A. & Carter, K. (Eds.). (1999). OPHTHALMOLOGY. London: Mosby.



Yanoff, M., & Duker, J. (1999). OPHTHALMOLOGY. London: Mosby.

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Hyperopia (Farsightedness)

Hyperopia, also termed farsightedness, is a visual condition in which objects in the distance are seen clearly, but object that are close may not be bought into proper focus. This may occur because the eyeball is physically too short or the curvature is the cornea is not powerful enough to properly focus the light rays entering the eye.

Signs/Symptoms:

Some of the most common signs of hyperopia include: inability to maintain clear focus on near objects; difficulty concentrating; fatigue; aching eyes; headaches after close work; poor reading ability; and nervousness.

Diagnosis

Hyperopia is diagnosed by a comprehensive vision exam completed by your local eye care provider.

Treatment:

Hyperopia is commonly corrected with the use of glasses or contact lenses. These lenses may be prescribed for full time wear or only part time near activities including reading. Another treatment option includes refractive surgery.

Prognosis:

Hyperopia is a common condition and is prevalent in most grade school children. The condition seems to be more pronounced in the younger years and as life goes on it often decreases or even disappears. Hyperopia can cause severe limitations for school age children causing them to become fatigued and irritable after only short periods of reading. This condition also lends itself to higher incidences of strabismus and amblyopia.

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This project will aid in communication between the patient and the intern. The emphasis will be on providing to the patient a description of their condition.

Keratoconus

Thinning and distortion of the central cornea with an increasingly steep apex characterizes keratoconus. It occurs mainly during the second and third decade of life and the incidence of the condition is equal for males and females. Keratoconus tends to run in families.

Signs/Symptoms:

Symptoms range from severe blurred vision to no vision loss at all. There is often a slow deterioration of vision from progressively increasing myopia and astigmatism. Contact lens wearing time is often reduced.

Treatment:

In the early stages, glasses and soft contact lenses are often used to control the fluctuating vision. As the condition progresses, rigid gas permeable lenses are needed to help control the changing cornea shape. If thinning of the cornea becomes too advanced, it may be necessary to undergo surgery to replace the cornea.

Prognosis:

Many patients never experience severe visual problems from keratoconus. If surgery is required, the success of the treatment is 97%.



Burger, D. Optometry Today. Keratoconus Fitting Made Easy. September 1998

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Lid Hygiene

Lid Hygiene is an important therapy program in controlling the symptoms of several conditions. It consists of warm compresses and lid scrubs. The following contains some simple instructions for performing these procedures

Warm Compress

A warm compress is used to loosen up material that has collected on the lids and lashes. They also help to comfort the eye. Begin with a clean washcloth and fold in half twice. Soak the washcloth in warm water and wring out the excess fluid. CLOSE YOUR EYES. Gently place the washcloth over your eyes and allow it to rest for 5 minutes. Refold the washcloth to the opposite side and gently place of the eyes for another 5 minutes.

Lid Scrubs

After completing the warm compress, it is a good idea to follow up with a lid scrub. Commercial lid scrubs are available at most stores and have individual directions included with them. A homemade cleaning solution can be created by dissolving one to two drops of baby shampoo in a cup of water. Wet the washcloth with the solution and wring out any excess. CLOSE YOUR EYES! Use a gentle side-to-side cleaning motion to clean the lids and lashes. NEVER use an up and down stroke. It is important to clean only outer ocular structures and not disrupt any inner ocular structures.

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Marginal Infiltrates (Sterile Infiltrates)

Marginal infiltrates can be caused by two mechanisms. One is a hypersensitivity reaction (type III) to bacterial products, most commonly staphylococcus. The second mechanism is caused by contact lens wear due to decreased oxygen getting to the cornea or a reaction to contact lens cleaning solutions. The infiltrates are most likely to occur in the inferior periphery of the cornea.

Signs/Symptoms:

Irritated, watery eyes are common symptoms of marginal infiltrates. A foreign body sensation is also often noted and a decrease in vision is common. The condition is often localized to one eye however there is a slight possibility that both may be affected. Patients that have staph. lid diseases (staph blepharitis) are more susceptible to this condition and should take extra precautions such as lid hygiene to help minimize their risk.

Treatment:

The treatment for marginal infiltrates varies depending on the cause of the problem. If staphylococcal products are the cause, topical ophthalmic steroids are often utilized to help control the condition. Lid hygiene including warm compresses and lid scrubs are often incorporated into the therapy plan. Antibiotic ointments may also be prescribed to help control the number of bacteria causing the problem. If contact lens wear is responsible it is not recommended that topical steroids be used. Instead, the contact lenses are discontinued until the infiltrates clear and often lens cleaning solutions are switched, typically from a single step program to a hydrogen peroxide system. Daily contact lenses are another option.

Prognosis:

The outlook for marginal infiltrates is often good. If the therapy plan

is followed closely and to completion, there is often complete resolution to the condition. Patients must understand the certain factors put them at risk for reoccurrences of the disease. These factors include poor eyelid hygiene and improper care and use of contact lenses.



Tasman, W. & Jeager, E.A. (1996). The Wills Eye Hospital Atlas of Clinical Ophthalmology. Philadelphia: Lippincott-Raven. Review of Optometry March 1998.

Notes:			

Home | Anatomy



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Myopia (Nearsightedness)

Myopia, also termed nearsightedness, is a vision condition in which objects that are close are seen clearly, but objects in the distance are not in focus. This may occur because the physical length of the eyeball is too long or the cornea has too much curvature to properly focus the light rays onto the retina. There is significant research indicating that genetics plays a major role in myopia, but may also be exacerbated by too much near work. A pair of glasses can be prescribed to help reduce this near work stress and may delay the onset or progression of myopia.

Signs/Symptoms:

The most common sign of myopia is when objects appear blurred in the distance. The blur is often first noted when watching TV, reading signs during driving, or the inability to see letters clearly on a chalkboard.

Diagnosis

Myopia is diagnosed by a comprehensive vision exam completed by your local eye care provider.

Treatment:

Myopia is most commonly corrected with the use of glasses or contact lenses. These lenses may be prescribed for full time wear or only part time wear, for activities such as watching TV or driving. Other treatment options include orthokeratology and refractive surgery.

Prognosis:

Myopia often occurs during the early years and continues to progress into the late teen years, after which it tends to stabilize. Individuals with mild degrees of myopia, less than 2 diopters, tend to not

manifest other visual complications, however those with more advanced forms of myopia, greater than 6 diopters, may develop various complications. These possible complications include an increased risk for retinal detachments, glaucoma, staphyloma development, and retinal degenerative changes.

Notes:			

Home | Anatomy



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Nevus

A nevus is more commonly known as a mole. The primary concern to patients is cosmetics. A nevus is a clump of pigment containing cells.

Signs/Symptoms:

Nevi are very common and can be seen anywhere on the body. Although a nevus can develop anytime in life they are usually congenital or early in life. They can grow with the growth of the individual and enlarge throughout life. The color of a nevus can vary from light tan, brown, blue, to black. Color may be reported to change with age or hormonal changes during puberty or pregnancy.

Prognosis/Treatment:

The primary course of action concerning nevi is to document and monitor for any changes. Changes to watch for include color, size, bleeding, itching, general irritation or pain, and surface texture. If there are changes and significant concern, a biopsy is indicated.



Tasman, W. & Jeager, E.A. (1996). The Wills Eye Hospital Atlas of Clinical Ophthalmology. Philadelphia: Lippincott-Raven.

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Pinguecula

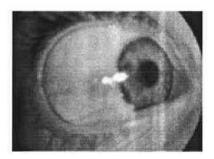
Pinguecula are areas of tissue thickening. They are elevated, white to yellow in color, and horizontally oriented. They are less transparent than the surrounding tissue, often have a fatty appearance, and are usually on both eyes. The causes of pinguecula are not known with certainty, however, there is an association with increasing age and UV exposure. Chronic exposure to the sun has been found to be a factor by association with outdoor work.

Signs/Symptoms:

Pingueculae rarely have any symptoms other than a minimal cosmetic defect. A pinguecula may become inflamed and irritated which is called pingueculitis.

Prognosis/Treatment:

Management of a pinguecula is based on symptoms. Patients with occupations or hobbies that increase the risk of pinguecula, may benefit from sunwear, UV-blocking coatings or goggles that limit dust exposure. For mild symptoms lubricating drops can be used. When symptoms and inflammation are more significant topical steroids can be used. In very severe cases where vision or contact lens wear is affected, surgery can be considered.



Sowka, J., Gurwood, A., & Kabat, A. "The Handbook of Ocular

Disease Management," Review of Optor	netry March 1999.
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Presbyopia

Presbyopia is a vision condition in which the crystalline lens of the eye loses its flexibility. This results in difficulty in focusing on close objects. Your eye stops growing at about the age of ten. The lens, however, continues to grow. Eventually the lens loses some of its elasticity and therefore loses some focusing ability. The onset of presbyopia varies from person to person. Although presbyopia may seem to develop suddenly, the actual decline takes place over the course of many years. Presbyopia usually becomes apparent, however, to people in there early to mid-forties.

Signs/Symptoms:

Some signs of presbyopia include the tendency to hold reading material at arms length, blurred vision at normal reading distance, and eye fatigue along with headaches when attempting to do close work.

Treatment:

A thorough optometric examination by a doctor of optometry will include the testing of your near vision ability to determine the extent of presbyopia. To compensate for presbyopia, doctors of optometry prescribe reading glasses, bifocals, trifocals, no line bifocals, or contact lenses. If you have other common vision conditions, such as nearsightedness, farsightedness, and astigmatism, your optometrist will determine the specific lenses that will allow you to see clearly. Your physical health, hobbies, and your job requirements are all information that will aid in determining what type of lenses to recommend.

Prognosis:

Wearing glasses all the time will depend on a number of factors, including any other vision conditions you may have. You may only need your glasses for reading, sewing, and other close work. You may

find, however, that wearing your glasses all of the time is more beneficial and convenient for your vision needs. Today contact lenses are now available for the correction of presbyopia. The constant changing of the eye's crystalline lens affects the presbyopia constantly. Therefore periodic changes in your eyewear are necessary to maintain correct vision. After adjusting to your new eyewear, you should find that you can still do all of the things you did before. Presbyopia will probably not have a significant effect on your lifestyle at all.

Reproduced from Answers To Your Questions About Spots and Floaters. American Optometric Association.

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Home | Anatomy



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Pterygium

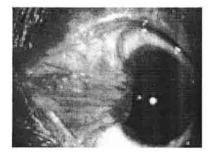
Pterygia represent a break down of tissue with replacement by thickened, tortuous tissue. In most cases, routine optometric evaluation reveals pterygia in asymptomatic individuals. Patients present with a cosmetic concern of a tissue "growing over the eye," or with symptoms of dry eye. Patients with pterygia are more commonly encountered in warm, dry climates, or who are chronically exposed to outdoor elements of dust, wind, air pollution, and sunshine.

Signs/Symptoms:

A pterygium is raised, whitish, triangular wedge of tissue containing blood vessels that encroaches onto the front clear part of the eye.

Prognosis/Treatment:

A pterygium can become red and inflamed or disrupt the eye's tear film creating symptoms of dry eye. Mild pterygia are managed with UV blocking spectacles and artificial tears. Individuals are advised to avoid smoky or dusty areas as much as possible. More inflamed or irritated pterygia are treated with topical eye drop decongestant/antihistamine combinations or mild topical corticosteroids. Surgery is an option if cosmetics are a concern or if vision is suffered.



Sowka, J., Gurwood, A., & Kabat, A. "The Handbook of Ocular

Disease Management," Review of Optometry Mar	ch 1998.
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Retinitis Pigmentosa

Retinitis pigmentosa (RP) is a condition in which the eye fails to properly dispose of products formed by normal metabolic processes. RP is a chronic, progressive disease that affects males more than females. It is the most common hereditary retinal dystrophy and affects individuals over 40 years of age.

Signs/Symptoms:

The most common initial symptom is night blindness, which is characterized by decreased visual perception in dim illumination. Patients also report a constriction of their visual field leading to 'tunnel vision'. The constriction can progress until only a central island of vision is maintained, thus rendering them with no usable peripheral vision. In severe cases of the disease, this central vision may be affected, potentially leading to blindness. Hearing loss is also experienced by 50% of patients.

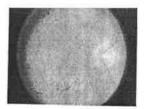
Treatment:

There is no curative treatment of RP. The therapy program focuses on helping the patient cope with the consequences of the disorder by allowing the patient to continue with their current lifestyle for as long as possible. Sun blocking lenses are often prescribed to increase patient comfort and contrast. As the condition progresses, low vision management may be needed to help the patient maintain independence.

Prognosis:

After diagnosis, RP is a condition that lasts for the remainder of one's life and because the disease is progressive, the projections about future vision are difficult. It is more productive to focus on maintaining the patient's current lifestyle and dealing with the changes as they arise. Studies are underway exploring the usefulness

of Vitamin A supplements in the treatment and progression of the disease.



Tasman, W. & Jeager, E.A. (1996). The Wills Eye Hospital Atlas of Clinical Ophthalmology. Philadelphia: Lippincott-Raven. Review of Optometry March 1998.

Notes:			

Home | Anatomy



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Spots and Floaters

Spots (often called floaters) are small, semi-transparent or cloudy specks of particles within the eye that become noticeable when they fall within the line of sight. Almost everyone sees a few spots at one time or another. They can become more noticeable, however, as a person grows older. The inner part of the eye is make up of a clear, jelly-like fluid known as the vitreous. Occasionally, small flecks of protein and other matter become trapped during the formation of the eye before birth and become suspended in the vitreous body. Certain injuries, eye disease, or the deterioration of eye fluid or its surrounding structures may also cause spots and floaters.

Signs/Symptoms:

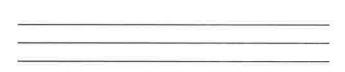
Spots are generally translucent specks of various shapes and sizes. They may also appear as threadlike strands or cobwebs within the eye. Since they are within the eye, they move as the eye moves and seem to dart away when an individual tries to look at them directly.

Prognosis/Treatment:

Most spots are normal and rarely do they cause blindness. But, since spots can be indications of more serious problems, patients seeing spots should have a complete vision examination to determine the cause. During a complete eye and vision examination, your doctor of optometry will look into your eye with a lighted instrument called an ophthalmoscope. The optometrist uses this instrument to examine the health of your inner eye and can also observe the spots within the eye.

Reproduced from Answers To Your Questions About Spots and Floaters. American Optometric Association

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Staphylococcal Blepharitis

Staph. Blepharitis is an inflammation of the eyelid margins that is caused by products produced by the bacteria staphylococcus.

Signs/Symptoms:

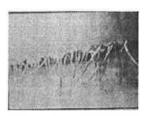
The symptoms of staph. blepharitis can range from constant irritation and burning to no symptoms at all. Often there is a foreign body sensation and mild sensitivity to bright lights. Crusts and flakes surrounding the lashes and the lid margins are common and usually both eyes are affected simultaneously.

Treatment:

Eyelid hygiene is the most important variable in controlling staph. blepharitis. This includes warm compresses placed on the eyes for ten minutes and then followed with lid scrubs. Lid scrubs are commercially available but a small amount of baby shampoo dissolved in water is also effective. This procedure should be preformed twice a day for mild cases and three to four times a day for more severe forms. Ophthalmic antibiotic ointments can also be used for more severe cases along with steroids. Ocular lubricants are also suggested.

Prognosis:

Often with the above treatment options the condition can be controlled so that symptoms are minimal, however because this condition often lasts throughout the individuals life, long term preventative care is often needed to insure that the reoccurrences are held to a minimum. Lid hygiene is the single most important care regime to help control the disease.



Sowka, J., Gurwood, A., & Kabat, A. "The Handbook of Ocular Disease Management," Review of Optometry March 1998.

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Home | Anatomy | Lid Hygiene



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Viral Conjunctivitis

Viral conjunctivitis is an inflammation of the clear covering membrane of the eye and eye lids. It is thought to be caused by airborne respiratory droplets or direct touch of one's fingers to the surfaces of the eye or eyelids. It is highly contagious and patients will usually report recent contact with someone who had either red eyes or chest cold/cough. It tends to start in one eye then spread to the other eye within a few days.

Signs/Symptoms:

Signs include red eye, tearing, swollen eyelids, and possibly small hemorrhages.

Prognosis/Treatment:

Most viral infections produce a mild, self-limiting red eye. In severe cases scarring can take place. Because viral conjunctivitis is contagious and self-limiting, the primary treatment is for the patient to stay home from work or school until there is no more symptoms, to not share utensils, glasses, linens or laundry with others. Treatment of symptoms can range from cold compresses and artificial tears to topical vasoconstrictors and steroids. Patients can expect their symptoms to worsen for up to 10 days before feeling better. The infection can last up to three to six weeks.



Sowka, J., Gurwood, A., & Kabat, A. "The Handbook of Ocular Disease Management," Review of Optometry March 1998.
Notes: