

# Disorders of the Conjunctiva

## Gonococcal Conjunctivitis

Newborns can acquire a gonococcal infection of the conjunctiva from their mother while passing through the birth canal. For this reason, most states require that all newborns receive eyedrops--often silver nitrate, povidone iodine, or an antibiotic ointment such as erythromycin--to kill the bacteria that could cause gonococcal conjunctivitis. Adults can contract gonococcal conjunctivitis during sexual activity if, for example, infected semen gets into the eye. Usually only one eye is involved. Within 12 to 48 hours after the infection starts, the eye becomes red and painful. If the infection isn't treated, ulcers can form on the cornea, an abscess can develop, the eyeball can become perforated, and even blindness can result. Antibiotic tablets, injections, or eyedrops can cure gonococcal conjunctivitis.

## Trachoma

Trachoma (granular conjunctivitis, Egyptian ophthalmia) is a prolonged infection of the conjunctiva caused by the bacterium *Chlamydia trachomatis*. Trachoma is common in poverty-stricken parts of the dry, hot Mediterranean countries and the Far East. It occurs occasionally among Native Americans and among people in mountainous areas of the southern United States. Trachoma is contagious in its early stages and may be transmitted by eye-hand contact, by certain flies, or by contaminated articles such as towels and handkerchiefs.

## Symptoms and Treatment

In the early stages of the disease, the conjunctiva is inflamed, reddened, and irritated, and a discharge appears. In the later stages, the conjunctiva and cornea become scarred, causing the eyelashes to turn inward and vision to become impaired. When trachoma is suspected, a doctor swabs the eye or scrapes the area to obtain a specimen, which is sent to a laboratory, where the infecting organism is identified. Treatment consists of applying antibiotic ointments containing tetracycline or erythromycin for 4 to 6 weeks. Alternatively, these antibiotics can be taken orally. If the condition causes deformities of the eyelid, conjunctiva, or cornea, surgery may be needed.

## Inclusion Conjunctivitis

Inclusion conjunctivitis is a form of conjunctivitis caused by the bacterium

# Factsheet

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*Chlamydia trachomatis*. Newborns may be infected by their mother while passing through the birth canal; adults may be infected by being exposed to genital secretions containing the bacterium.

## Symptoms and Treatment

About 5 to 14 days after birth, an infected newborn develops severe conjunctivitis with swelling of the eyelids and conjunctiva. A sticky discharge of pus runs from the eyes. Adults are usually infected in only one eye. The lymph nodes near the ear may swell. Occasionally, the condition damages the cornea, causing cloudy areas and a growth of blood vessels. Antibiotics usually don't reverse such damage, but they may help prevent it if they're given early. Half of the children who have this condition also have a chlamydial infection of the throat and nose, and about 10 percent develop pneumonia. Regardless of the extent of infection, the antibiotic erythromycin generally cures it. In adults, erythromycin or other antibiotics, such as tetracycline and doxycycline, can be used. The mother of an infected child or the sex partner of an infected adult should also be treated.

## Vernal Keratoconjunctivitis

Vernal keratoconjunctivitis is a recurring inflammation of the conjunctiva, usually in both eyes, that may damage the surface of the cornea. Because the condition is typically caused by allergies, it tends to recur in the spring and summer. Vernal keratoconjunctivitis is most common in children; it usually begins before puberty and resolves before age 20.

## Symptoms and Treatment

Symptoms include intense itching; red, watery eyes; sensitivity to sunlight; and a thick, sticky discharge. In one form of the condition, the conjunctiva under the upper lids is most affected, becoming swollen and pale pink to grayish, while the rest of the conjunctiva becomes milky white. In another form, the conjunctiva covering the eyeball is thick and grayish. Sometimes a small area of the cornea is damaged, causing pain and extreme sensitivity to light. All symptoms usually disappear in cold weather and become milder over the years. Antiallergy eyedrops such as cromolyn, lodoxamide, ketorolac, and levocabastine are the safest treatments. Oral antihistamines may also help. Corticosteroids are more potent but shouldn't be used for more than a few weeks without close monitoring because increased pressure in the eyes, cataracts, and opportunistic infections may result.

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## Keratoconjunctivitis Sicca

Keratoconjunctivitis sicca is a long-standing dryness of both eyes leading to dehydration of the conjunctiva and cornea. Dry eyes may be a symptom of diseases such as rheumatoid arthritis, systemic lupus erythematosus, or Sjogren's syndrome. Whether accompanying these diseases or occurring alone, dry eyes are most common in adult women.

## Symptoms, Diagnosis, and Treatment

Reduced tear production or a loss of tears by evaporation leads to irritation of the eye, causing a burning sensation. Scattered damage to the surface of the eye increases discomfort and sensitivity to bright light. In the advanced stages of this condition, the surface of the eye can thicken and develop ulcers and scarring, and blood vessel growth can increase. If scarring affects the cornea, it can impair vision. Although a doctor can usually diagnose dry eyes by the symptoms alone, a Schirmer test--in which a strip of filter paper is placed at the edge of the eyelid--can measure the amount of moisture bathing the eye. Doctors examine the eyes with a slit lamp (a microscope that magnifies the structures of the eye) to determine if damage has developed. Artificial tears (eyedrops prepared with substances that simulate real tears) applied every few hours can generally control the problem. Surgery can be done to block the flow of tears into the nose, so that more tears are available to bathe the eyes. In people with very dry eyes, the eyelids may be partially sewn together to decrease tear evaporation.

## Scleritis

Scleritis is a deep, extremely painful inflammation and purple discoloration of the sclera that may severely damage vision. Scleritis may accompany rheumatoid arthritis and related disorders. In severe cases, this inflammation leads to perforation of the eyeball and loss of the eye. Scleritis must be treated, usually with nonsteroidal anti-inflammatory drugs or corticosteroids. If the person has rheumatoid arthritis or doesn't respond to corticosteroids, drugs that suppress the immune system, such as cyclophosphamide or azathioprine, may be needed.

## Noncancerous Growths

Two kinds of noncancerous (benign) growths can develop on the conjunctiva.

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A pinguecula, a raised yellowish-white growth next to the cornea, is unsightly but generally doesn't cause any serious problem and needn't be removed. A pterygium, a fleshy growth of the conjunctiva into the cornea, may spread across the cornea and distort its shape, possibly causing astigmatism and other visual changes. Pterygium is more common in hot, dry climates. Either type of growth can be removed by an eye doctor (ophthalmologist).

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