American Family Physician

PUBLISHED BY THE AMERICAN ACADEMY OF FAMILY PHYSICIANS

FEBRUARY 15, 1998

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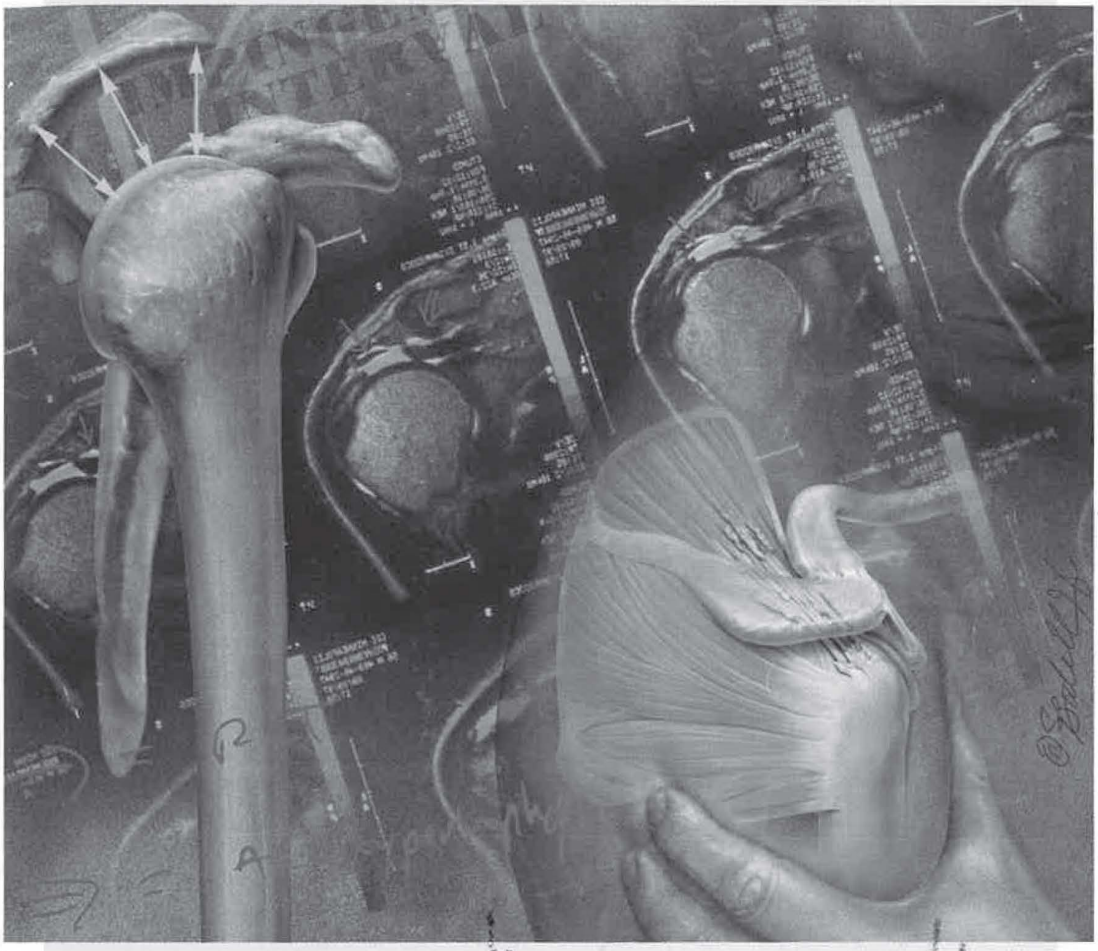

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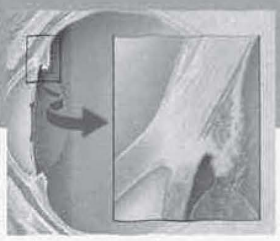
VOLUME 57, NUMBER 4 FEBRUARY 15, 1998

Cover



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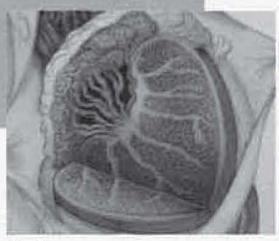

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Cover illustration by Scott Bodell, Dallas, Tex.

Articles

ACF *This article exemplifies the AAFP 1997-98 Annual Clinical Focus on cardiovascular medicine.*

American Family Physician (ISSN 0002-838X) is published semimonthly, except June, July August and December, which are monthly, by the Publications Division, American Academy of Family Physicians, 8880 Ward Parkway, Kansas City, Missouri 64114-2797; phone: 800-274-2237. The journal is included in Index Medicus, medlars and Cumulative Index to Nursing & Allied Health Literature. Nine dollars a copy in the U.S.A., $12 in Canada and foreign countries. One-year subscription: physicians and other individuals, $83—U.S.A., $123—foreign countries; institutions, $99—U.S.A., $139—foreign countries; medical students, residents, allied health care professionals, and medical office management staff, $52—U.S.A., $92—foreign countries, when payment is accompanied by identification of profession. Remit in U.S. dollars, drawn on a U.S. bank. To order by VISA or MasterCard, call 800-944-0000. Receive a 25 percent discount on AFP when also ordering Family Practice Management. (Medical students who are AAFP members receive AFP as a benefit of membership for a $10 annual membership fee.) Periodicals postage, paid at Kansas City, Missouri, and at additional mailing offices. Printed in the U.S.A.

POSTMASTER:
Send address changes to American Family Physician 8880 Ward Parkway Kansas City, MO 64114-2797

Conjunctivitis

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Conjunctivitis refers to any inflammatory condition of the membrane that lines the eyelids and covers the exposed surface of the sclera. It is the most common cause of "red eye." The etiology can usually be determined by a careful history and an ocular examination, but culture is occasionally necessary to establish the diagnosis or to guide therapy. Conjunctivitis is commonly caused by bacteria and viruses. Neisseria infection should be suspected when severe, bilateral, purulent conjunctivitis is present in a sexually active adult or in a neonate three to five days postpartum. Conjunctivitis caused by Chlamydia trachomatis *or* Neisseria gonorrhoeae *requires aggressive antibiotic therapy, but conjunctivitis due to other bacteria is usually self-limited. Chronic conjunctivitis is usually associated with blepharitis, recurrent styes or meibomianitis. Treatment requires good eyelid hygiene and the application of topical antibiotics as determined by culture. Allergic conjunctivitis is distinguished by severe itching and allergen exposure. This condition is generally treated with topical antihistamines, mast-cell stabilizers or anti-inflammatory agents.*

The conjunctiva is a thin, translucent, relatively elastic tissue layer with both bulbar and palpebral portions. The bulbar portion of the conjunctiva lines the outer aspect of the globe, while the palpebral portion covers the inside of the eyelids.

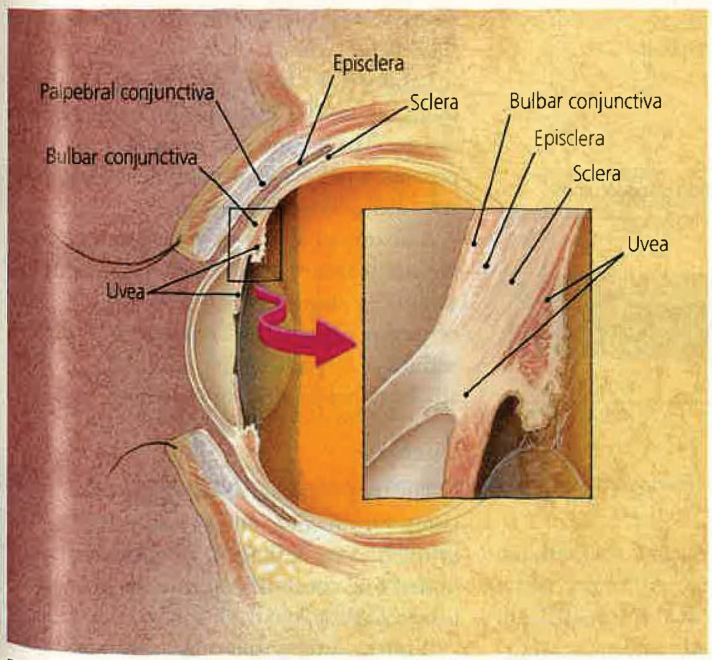


ILLUSTRATION BY LINDA WINNER

FIGURE 1. Anatomy of the eye and eyelids.

Underneath the conjunctiva lie the episclera, the sclera and the uveal tissue layers *(Figure 1)*.

The clinical term "red eye" is applied to a variety of distinct infectious or inflammatory ocular disease processes that involve one or more tissue layers of the eye *(Table 1)*. Red eye is the most common ocular problem seen by primary care physicians.

The term "conjunctivitis" encompasses a broad group of conditions presenting as inflammation of the conjunctiva. The inflammation can be hyperacute, acute or chronic in presentation and infectious or noninfectious in origin. Conjunctivitis is the most common cause of red eye.

Most frequently, conjunctivitis (and thus red eye) is caused by a bacterial or viral infection. Sexually transmitted diseases such as chlamydial infection and gonorrhea are less common causes of conjunctivitis. However, these infections are becoming more prevalent and are important to recognize because of their significant associated systemic, ocular and social implications.

Ocular allergy in its many forms is one of the major causes of chronic conjunctivitis. Blepharitis (inflammation of the eyelid margin), dry eye and the prolonged use of ophthalmic medications, contact lenses and ophthalmic solutions are also relatively

Conjunctivitis

TABLE 1
Differential Diagnosis of a Red Eye

- Conjunctivitis
  - Infectious
    - Viral
    - Bacterial (e.g., staphylococcus and Chlamydia species)
  - Noninfectious
    - Allergic
    - Dry eye
    - Toxic or chemical reaction
    - Contact lens use
    - Occult conjunctival neoplasm
    - Foreign body
    - Factitious
    - Idiopathic
- Keratitis
  - Infectious
    - Bacterial
    - Viral
    - Fungal
    - Acanthamoeba
  - Noninfectious
    - Recurrent epithelial erosion
    - Foreign body
- Uveitis
- Episcleritis/scleritis
- Acute glaucoma
- Eyelid abnormalities
  - Entropion
  - Lagophthalmos with globe exposure
  - Trichiasis
  - Molluscum contagiosum
- Orbital disorders
  - Preseptal and orbital cellulitis
  - Idiopathic orbital inflammation (pseudotumor)

TABLE 2
Discharge Associated with Conjunctivitis

Etiology	Serous	Mucoid	Mucopurulent	Purulent
Viral	+	–	–	–
Chlamydial	–	+	+	–
Bacterial	–	–	+	+
Allergic	+	+	–	–
Toxic	+	+	+	–

+ = Present; – = absent.

Adapted with permission from Jackson WB. Differentiating conjunctivitis of diverse origins. Surv Ophthalmol 1993;38(Suppl):91-104.

frequent causes of chronic conjunctival inflammation.

This article highlights key features in the clinical history and ocular examination that can help family physicians to formulate a differential diagnosis and a management plan for patients with conjunctivitis or red eye of uncertain etiology *(Figure 2)*. The diagnosis and treatment of the most common forms of conjunctivitis are also reviewed.

Historical Clues to the Etiology of Conjunctivitis

The history of a patient with conjunctivitis should include a thorough ocular, medical and medication history. This should establish whether the condition is acute, subacute, chronic or recurrent, whether it is unilateral or bilateral, and whether it is associated with any specific environmental or work-related exposure.

Many symptoms of conjunctivitis, such as tearing, irritation, stinging and burning are nonspecific. However, certain symptoms may strongly suggest a particular diagnosis.

Itching

Itching is the hallmark of allergic conjunctivitis, as well as other forms of allergic eye disease. The itching may be mild to severe. In general, a red eye in the absence of itching is not caused by ocular allergy.

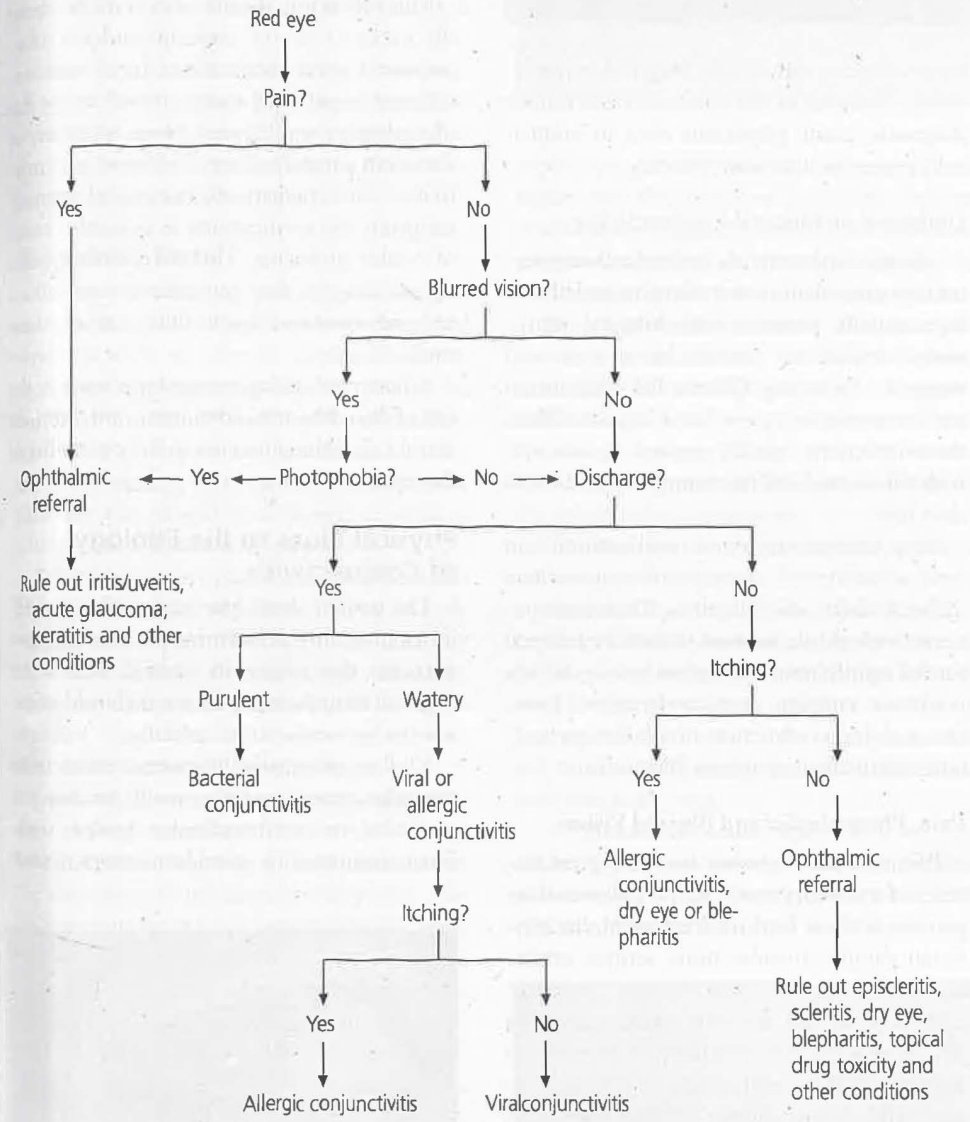
A history of recurrent itching or a personal or family history of hay fever, allergic rhinitis, asthma or atopic dermatitis is also suggestive of ocular allergy. Mild itching can also be a feature of blepharitis, dry eyes and, occasionally, bacterial or viral conjunctivitis.

Discharge

The type of ocular discharge, such as serous (watery), mucoid, mucopurulent or grossly purulent, can be helpful in determining the underlying cause of conjunctival inflammation[1] *(Table 2)*.[2]

A serous discharge is most commonly associated with viral or allergic ocular conditions.

FIGURE 2. Algorithm for the differential diagnosis of a red eye.



A mucoid (stringy or ropy) discharge is highly characteristic of allergy or dry eyes. A mucopurulent or purulent discharge, often associated with morning crusting and difficulty opening the eyelids, strongly suggests a bacterial infection. The possibility of *Neisseria gonorrhoeae* infection should be considered when the discharge is copiously purulent.

The preceding generalizations about ocular discharges can be helpful in distinguishing

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