

Conjunctivitis — allergic

This PRODIGY guidance topic is obsolete and has been replaced by a CKS Topic Review. Please visit www.cks.library.nhs.uk to find the latest version.

About this topic

Have I got the right topic?

Age from 1 month onwards

This guidance covers the management of seasonal allergic conjunctivitis and perennial allergic conjunctivitis.

This guidance does not cover the management of atopic keratoconjunctivitis, vernal keratoconjunctivitis, or giant papillary conjunctivitis.

There are separate CKS topics on *Allergic rhinitis*, *Blepharitis*, *Conjunctivitis — infective*, *Corneal superficial injury*, *Dry eye syndrome*, and *Herpes simplex — ocular*.

The target audience for this guidance is healthcare professionals working within the NHS in England, and providing first contact or primary health care. *Patient information from NHS Direct* is intended to be printed and given to people with this condition, and the *Shared decision making* sections are designed to provide a focus for discussion during the consultation about the treatment options.

Changes

Version 1.0.0, revision planned in 2008.

Last revised in February 2005

July 2006 — minor update. Levocabastine products discontinued and prescriptions removed. Issued in July 2006.

Previous changes

January 2006 — minor update. Black triangle removed from desloratadine. Issued in February 2006.

October 2005 — minor technical update. Issued in November 2005.

September 2004 — reviewed. Validated in November 2004 and issued in February 2005.

August 2001 — reviewed. Validated in November 2001 and issued in April 2002.

October 1998 — written, replacing guidance on *Acute atopic conjunctivitis*

Update

New evidence

Evidence-based guidelines

No new evidence-based guidelines since 1 March 2007.

HTAs (Health Technology Assessments)

No new HTAs since 1 March 2007.

Economic appraisals

No new economic appraisals relevant to England since 1 March 2007.

Systematic reviews and meta-analyses

No new systematic review or meta-analysis since 1 March 2007.

Primary evidence

No new high quality randomized controlled trials since 1 March 2007.

New policies

No new national policies or guidelines since 1 March 2007.

New safety alerts

No new safety alerts since 1 March 2007.

Changes in product availability

No changes in product availability since 1 March 2007.

Concise knowledge for clinical scenarios

Which therapy?

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Assess the cause of the red eye

- Exclude the serious causes of a red eye.
- Distinguish infective from allergic causes of conjunctivitis.
- Distinguish the type of allergic conjunctivitis.

Treating seasonal and perennial conjunctivitis

- **Prescribe a topical antihistamine for rapid relief if symptomatic at presentation;** azelastine, emedastine, levocabastine, ketotifen, and olopatadine are alternatives.
- **Prescribe a mast cell stabilizer for prophylaxis.** Sodium cromoglicate eye drops are effective and may also provide symptom relief. Lodoxamide and nedocromil are alternatives.
- **Consider oral antihistamines** if there are associated nasal symptoms e.g. rhinorrhoea.
- Cold compresses can be suggested for soothing the eyes.

Managing giant papillary conjunctivitis

- **Consider discontinuing the wearing of contact lenses** to allow the inflammation to settle, if they are causing irritation.
- Contact lenses can be re-commenced with new lenses, once the major symptoms of inflammation have settled.
- **Advise the patient to seek advice from their optician** regarding hygiene measures, more frequent contact lens changing, and a possible change of contact lens type, if the problem recurs. Topical sodium cromoglicate (2%) can be used to relieve symptoms while hygiene measures take effect.

Managing allergic contact dermatitis with conjunctivitis

- Identify and avoid the causative allergen, usually eye drops, cosmetics, or industrial chemicals.

Practical prescribing points

For further information please see the *Medicines Compendium* (www.medicines.org.uk) or the *British National Formulary* (www.bnf.org).

- **Contact lenses** should generally not be worn during treatment with eye drops. However:
 - o **Hard lenses:** use eye drops 30 minutes before inserting lenses.
 - o **Soft lenses:** eye drops containing preservatives should not be used with soft lenses. (Some preservatives, particularly benzalkonium chloride, accumulate in soft contact lenses and cause irritation.)
- **Non-sedating oral antihistamines:** although drowsiness is rare, people should be advised that it can occur and that these agents may affect the performance of skilled tasks such as driving.

Should I refer or investigate?

- Refer all people for same-day assessment if they have any of the following features that could indicate iritis, keratitis, or acute glaucoma:
 - o Moderate to severe eye pain
 - o Marked eye redness
 - o Ciliary injection
 - o Loss of visual acuity
- Refer all babies if they have any signs of conjunctivitis within the first 28 days of life (this must be distinguished from a simple sticky eye when there are no signs of inflammation of the conjunctiva).
- Refer people with symptoms that persist despite treatment, particularly if there are features of atopic keratoconjunctivitis, vernal keratoconjunctivitis, or allergic contact dermatitis with conjunctivitis, or when these conditions are associated with corneal involvement.

Follow-up advice

Prescriptions

Antihistamine eye drops for rapid relief

Otrivine-Antistin eye drops

Age from 5 years onwards

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- Otrivine Antistin 0.5%/0.05% eye drops. Put one drop into each eye 2 to 3 times a day. Supply 10 ml.
- NHS Cost £2.35
- OTC Cost £4.39
- Licensed use: yes
- Patient Information: These eye drops should not be used continuously for more than one week.

Azelastine 0.05% eye drops

Age from 4 years onwards

- Azelastine 0.05% eye drops. Put one drop into each eye twice a day. Increase to four times a day if required. Supply 8 ml.
- NHS Cost £6.88
- Licensed use: yes

Emedastine 0.05% eye drops

Age from 3 years onwards

- Emedastine 0.05% eye drops. Put one drop into each eye twice a day. Supply 5 ml.
- NHS Cost £7.69
- Licensed use: yes

Mast cell stabiliser eye drops for prophylaxis

Sodium cromoglicate 2% eye drops

Age from 1 month onwards

- Sodium cromoglicate 2% eye drops. Put one drop into each eye four times a day. Supply 14 ml.
- NHS Cost £1.96
- OTC Cost £3.45
- Licensed use: yes

Nedocromil 2% eye drops

Age from 6 years onwards

- Nedocromil 2% eye drops. Put one drop into each eye twice a day. Increase to four times a day if required. Supply 5 ml.
- NHS Cost £9.31
- Licensed use: yes
- Patient Information: Do not use these drops for more than 12 consecutive weeks.

Lodoxamide 0.1% eye drops

Age from 4 years onwards

- Lodoxamide 0.1% eye drops. Put one drop into each eye four times a day. Supply 10 ml.
- NHS Cost £5.48
- Licensed use: yes

Olopatadine and ketotifen (2nd line combined action drugs)

Olopatadine 1mg/ml eye drops

Age from 3 years onwards

- Olopatadine 0.1% eye drops. Put one drop into each eye twice a day. Supply 5 ml.
- NHS Cost £8.77
- Black triangle
- Licensed use: yes
- Patient Information: Do not use for more than 4 months.

Ketotifen 250micrograms/ml eye drops

Age from 3 years onwards

- Ketotifen 250micrograms/ml eye drops. Put one drop into each eye twice a day. Supply 5 ml.
- NHS Cost £9.75
- Licensed use: yes

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Oral antihistamines: non-sedating

Cetirizine s/f solution: 5mg once a day

Age from 2 years to 5 years 11 months

- Cetirizine 1mg/ml oral solution sugar free. Take one 5ml spoonful once a day. Supply 200 ml.
- NHS Cost £9.77
- OTC Cost £17.22
- Licensed use: yes
- Patient Information: This medicine may make your child drowsy.

Cetirizine s/f solution: 10mg once a day

Age from 6 years to 11 years 11 months

- Cetirizine 1mg/ml oral solution sugar free. Take two 5ml spoonfuls once a day. Supply 300 ml.
- NHS Cost £14.66
- OTC Cost £25.83
- Licensed use: yes
- Patient Information: This medicine may make your child drowsy.

Cetirizine tablets: 10mg once a day

Age from 12 years onwards

- Cetirizine 10mg tablets. Take one tablet once a day. Supply 30 tablets.
- NHS Cost £5.64
- OTC Cost £9.94
- Licensed use: yes
- Patient Information: These tablets may make you drowsy and enhance the effects of alcohol. If affected, avoid driving or using hazardous machinery.

Loratadine syrup: 5mg once a day

Age from 2 years to 5 years 11 months

- Loratadine 5mg/5ml oral solution. Take one 5ml spoonful once a day. Supply 200 ml.
- NHS Cost £10.86
- OTC Cost £19.14
- Licensed use: yes
- Patient Information: This medicine may make your child drowsy.

Loratadine syrup: 10mg once a day

Age from 6 years to 11 years 11 months

- Loratadine 5mg/5ml oral solution. Take two 5ml spoonfuls once a day. Supply 300 ml.
- NHS Cost £16.29
- OTC Cost £28.71
- Licensed use: yes
- Patient Information: This medicine may make your child drowsy.

Loratadine tablets: 10mg once a day

Age from 12 years onwards

- Loratadine 10mg tablets. Take one tablet once a day. Supply 30 tablets.
- NHS Cost £4.09
- OTC Cost £7.21
- Licensed use: yes
- Patient Information: These tablets may make you drowsy and enhance the effects of alcohol. If affected, avoid driving or using hazardous machinery.

Fexofenadine tablets: 30mg twice a day

Age from 6 years to 11 years 11 months

- Fexofenadine 30mg tablets. Take one tablet twice a day. Supply 60 tablets.
- NHS Cost £6.11
- Licensed use: yes
- Patient Information: This medicine may make your child drowsy.

Fexofenadine tablets: 120mg once a day

Age from 12 years onwards

- Fexofenadine 120mg tablets. Take one tablet once a day. Supply 30 tablets.
- NHS Cost £8.14
- Licensed use: yes
- Patient Information: These tablets may make you drowsy and enhance the effects of alcohol. If affected, avoid driving or using hazardous machinery.

Mizolastine tablets: 10mg once a day

Age from 12 years onwards

- Mizolastine 10mg modified-release tablets. Take one tablet once a day. Supply 30 tablets.
- NHS Cost £5.77
- Licensed use: yes
- Patient Information: These tablets may make you drowsy and enhance the effects of alcohol. If affected, avoid driving or using hazardous machinery.

Levocetirizine tablets: 5mg once a day

Age from 6 years onwards

- Levocetirizine 5mg tablets. Take one tablet once a day. Supply 30 tablets.
- NHS Cost £7.45
- Black triangle
- Licensed use: yes
- Patient Information: These tablets may make you drowsy and enhance the effects of alcohol. If affected, avoid driving or using hazardous machinery.

Desloratadine syrup: 1.25mg once a day

Age from 2 years to 5 years 11 months

- Desloratadine 2.5mg/5ml oral solution. Take 2.5ml once a day. Supply 100 ml.
- NHS Cost £7.00
- Licensed use: yes
- Patient Information: This medicine may make your child drowsy.

Desloratadine syrup: 2.5mg once a day

Age from 6 years to 11 years 11 months

- Desloratadine 2.5mg/5ml oral solution. Take one 5ml spoonful once a day. Supply 200 ml.
- NHS Cost £14.08
- Licensed use: yes
- Patient Information: This medicine may make your child drowsy.

Desloratadine tablets: 5mg once a day

Age from 12 years onwards

- Desloratadine 5mg tablets. Take one tablet once a day. Supply 30 tablets.
- NHS Cost £7.04
- Licensed use: yes
- Patient Information: These tablets may make you drowsy and enhance the effects of alcohol. If affected, avoid driving or using hazardous machinery.

Drug rationale

Drugs not included

- **Otrivine-Antistin® eye drops** contain antazoline (antihistamine) and xylometazoline (vasoconstrictor). Although this is an established product that may be used for short-term relief, systemic effects are possible and it should not be used for long periods of time [BNF 47, 2004].
- **Sedating oral antihistamines** are not recommended because they are no more effective than non-sedating antihistamines, but have more adverse effects and generally require more than once-a-day dosing.
- **Non-sedating oral antihistamines:** acrivastine requires more than once-a-day dosing, and there are safety concerns associated with terfenadine [BNF 47, 2004].
- **Topical ocular corticosteroids** should not be initiated in primary care for this condition [BNF 47, 2004].

Drugs included

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- **Topical mast cell stabilizers** are safe and effective both in relieving, and preventing, allergic conjunctivitis. Three products are available in the United Kingdom:
 - **Sodium cromoglicate** is the preferred first-line choice. It is inexpensive and suitable for use in young children.
 - **Lodoxamide and nedocromil** are newer, more expensive topical agents available as alternatives to sodium cromoglicate.

[BNF 47, 2004; Owen et al, 2004]

- **Azelastine and emedastine** are single-agent topical antihistamines which give quick relief of allergic conjunctivitis. They are well tolerated, have few adverse effects, and have a rapid onset of action [Owen et al, 2004].
- **Olopatadine and ketotifen** are newer topical antihistamines that have mast cell stabilizer activity. They currently have black triangle status and are recommended for use when standard topical treatment has been poorly tolerated or is ineffective.
- **Non-sedating antihistamines** are recommended when there is coexisting allergic rhinitis:
 - **Cetirizine and loratadine** are well established agents with a good efficacy and safety profile. They are taken once a day and are suitable for young children.
 - **Fexofenadine and mizolastine** are alternative once-daily regimens suitable for older children and adults.
 - **Desloratadine (a metabolite of loratadine) and levocetirizine (an isomer of cetirizine)** are more recently marketed products.

[DTB, 2002]

Shared decision making

- Allergic conjunctivitis is usually due to pollen and occurs in the hay fever season. Allergies to other things are sometimes the cause.
- Do not wear contact lenses if you have conjunctivitis, if you are using anti-allergy eye drops, or if you have used anti-allergy eye drops in the previous 24 hours. If symptoms are mild, contact lenses can be applied 5–10 minutes after eye drop application, however.
- Try to ensure low exposure to pollen when hay fever symptoms are expected. For example, keep windows closed, do not cut grass, and stay indoors as much as possible.
- A cold compress with a flannel and cold water are soothing.
- Sodium cromoglicate eye drops are effective and safe. For the best effect, you should use them regularly throughout the season when symptoms are expected.
- Antihistamine eye drops are an alternative. They have a quick action and can be used 'as required' for short periods if symptoms are not too bad but flare up from time to time.
- Antihistamine tablets or medicine are alternatives if other symptoms of hay fever are also present (such as a runny nose).

Detailed knowledge about this topic

Goals and outcome measures

Goals

- To relieve symptoms
- To reduce the incidence and severity of symptoms

Background information

What is it?

- **Allergic conjunctivitis is inflammation of the conjunctiva** that occurs due to hypersensitivity reactions following sensitization and re-exposure to an allergen. The conjunctiva is a thin protective membrane that covers the surface of the eye and the inside surface of the eyelids.
- **Type I hypersensitivity** reactions occur immediately following contact with the allergen, causing mast cells to degranulate, leading to conjunctivitis.
- **Type IV hypersensitivity** reactions develop 24–48 hours after contact with an allergen and lead to inflammation without degranulation of mast cells.
- **Mast cells degranulate, releasing histamine** and other inflammatory mediators. These mediators cause:
 - Conjunctival blood vessels to dilate and the eye to appear red
 - Increased permeability of blood vessels resulting in oedema

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- o Itch and pain
- **Pure Type I hypersensitivity reactions** are frequently associated with allergic rhinitis/hay fever; they are caused by airborne allergen and rarely involve the cornea.
 - o **Seasonal allergic conjunctivitis** is caused mostly by pollens, which occur seasonally.
 - o **Perennial allergic conjunctivitis** is caused by allergens that are present in the environment year-round, primarily house dust mites.
- **Pure Type IV hypersensitivity reactions occur with contact allergic dermatitis with conjunctivitis**, most commonly caused by eye drops, cosmetics, and industrial chemicals, and may involve the cornea.
- **Mixed Type IV and Type I reactions occur with giant papillary conjunctivitis**, a syndrome of inflammation of the conjunctiva lining the upper eyelid occurring in the presence of an ocular foreign body (primarily soft contact lenses, but also hard lenses and sutures following surgery to the eye).

[Freissler et al, 1997]

How common is it?

- **Allergic conjunctivitis** is the cause of around 15% of all eye problems presenting in general practice [Manners, 1997], accounting for 4–5 cases per 1000 population per year [Royal College of General Practitioners and Royal College of Ophthalmologists, 2001]; 2–5% of all general practice consultations are eye-related [Manners, 1997].
- **Seasonal allergic conjunctivitis** accounts for half of all cases of allergic conjunctivitis [Freissler et al, 1997].
- **Contact allergic dermatitis with conjunctivitis** is the most common form of allergic reaction seen by the ophthalmologist [Rubenstein and Jick, 2004].
- **Giant papillary conjunctivitis**: estimates of prevalence vary from 1–5% of people using soft lenses, to 1% of people using hard lenses [Rubenstein and Jick, 2004].

How do I know my patient has it?

Seasonal and perennial allergic conjunctivitis (atopic conjunctivitis)

Symptoms

- **Sudden onset of itching** is the main symptom.
- **A burning sensation** may be reported.
- **Minimal photophobia** may occur.

Signs

- **Bilateral 'red eye'** caused by engorgement of the conjunctival blood vessels may be minimal to severe.
- **Clear watery discharge** may be present.
- **Oedema** may be seen collecting between the conjunctiva and the eye, forming a boggy sac filled with clear fluid below the coloured part of the eye (chemosis).
- **Papillae** (oedema in round swellings with an appearance like cobblestones) may be seen on the inside of the eyelids when inflammation is chronic.
- **Lid swelling** may occur.

Contact allergic dermatitis with conjunctivitis

- Symptoms and signs are as for allergic conjunctivitis but onset is gradual following contact of the eye with allergen.
- Contact dermatitis of the eyelids is also seen.
- Punctate epithelial keratitis and erosions may be seen with fluorescein staining.
- Commonly presents in individuals who are not atopic who are using eye drops.
- May be distinguished from other allergic conjunctivitis by complete lack of response to treatment with antihistamines or mast cell stabilizers.

Giant papillary conjunctivitis

Giant papillary conjunctivitis should be considered in people with conjunctivitis who wear contact lenses or who have had surgery to the eye. Symptoms develop slowly and precede signs.

Symptoms

- Itching after removal of contact lenses.
- Increased awareness of contact lenses, proceeding to discomfort and intolerance of contact lenses.

Examination

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- Giant papillae develop on inside of upper eyelid.
- White dots may be seen on lenses.

What else might it be?

The three main serious causes of a red eye

All patients with features of a serious cause of a red eye must be referred for same-day assessment by a specialist.

- **Acute glaucoma** causes markedly raised intraocular pressure presenting with pain in the eye, headache, and blurring of vision. Signs include:
 - o Ciliary injection
 - o Markedly diminished vision
 - o Hazy cornea
 - o Fixed and dilated pupil
 - o Eye is rock hard and tender
 - o Headache and vomiting
- **Keratitis** presents with a unilateral, painful, photophobic, injected eye. Signs include:
 - o Ciliary injection.
 - o Corneal ulceration is demonstrated with fluorescein. The ulcer is dendritic when caused by herpes simplex.
 - o Vision may be affected depending on the site of the ulcer.
- **Iritis (uveitis)** typically presents with pain and watering of the eye.
 - o Ciliary injection may be the only sign.
 - o The pupil may be fixed and mid-dilated or distorted from previous attacks.
 - o Less commonly, vision may be diminished.
 - o Headache.

Infective conjunctivitis

- **Features of infective conjunctivitis include:**
 - o History of close contact with another affected person.
 - o Eyes glued together by discharge after sleep.
 - o Symptoms of upper respiratory tract infection may be present.
 - o Mucopurulent discharge.
 - o Enlarged lymph nodes in front of the ear.
- **Blepharitis** may present with similar symptoms to allergic conjunctivitis, but itching is usually lacking.

Irritant conjunctivitis

- Irritant conjunctivitis may have a mechanical or chemical cause.
 - o **Common mechanical causes** of conjunctivitis include eyelashes rubbing against the surface of the eye, such as occurs with entropion or a foreign body. A foreign body usually becomes lodged beneath the upper eyelid. If a penetrating injury of the eye from high speed sharp particles may have occurred, refer for same-day assessment by a specialist.
 - o **Chemical causes** such as getting shampoo in the eye, or chlorine in a swimming pool, are usually obvious and settle when the underlying cause is removed.

Rare types of allergic conjunctivitis

- Vernal keratoconjunctivitis and atopic keratoconjunctivitis occur with a mixed Type IV and Type I hypersensitivity reaction and as such may not respond fully to treatment with antihistamine and mast cell stabilizers.
- They should be suspected if an atopic person has a chronic allergic conjunctivitis that responds poorly to treatment. There may be signs of corneal involvement with fluorescein staining.

Complications and prognosis

Complications

- Seasonal and perennial allergic conjunctivitis rarely lead to involvement of the cornea, but this may occur with allergic contact dermatitis with conjunctivitis. When it does, corneal involvement may be seen as:
 - o Punctate epithelial keratitis
 - o Keratitis

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Management issues

Assessment

- **Exclude the serious causes of a red eye.** If any of the following features are present a full examination (including fluorescein staining) must be carried out. All patients with features of a serious cause of a red eye must be referred for same-day assessment by a specialist.
 - **Moderate to severe eye pain:** if there is moderate to severe pain or moderate to severe photophobia, a secondary cause for the conjunctivitis must be excluded.
 - **Marked redness of the eye:** the greater the redness the more likely that there is a serious secondary cause. Ciliary injection, which is not always obvious, occurs with inflammation of deeper structures due to a secondary cause. It is indicated by redness and dilated blood vessels seen between the white of the eye and the coloured part of the eye.
 - **Reduced visual acuity:** any loss of visual acuity, measured with a Snellen chart, may indicate a serious secondary cause of conjunctivitis. Blurring of vision may occur with infective conjunctivitis, but this clears with blinking.
- **Distinguish infective from allergic conjunctivitis**
- **Distinguish the type of allergic conjunctivitis.**
 - **Seasonal conjunctivitis** is most likely in an atopic individual who has recurrent allergic conjunctivitis at the same time each year, particularly if associated with symptoms of allergic rhinitis.
 - **Perennial conjunctivitis** is most likely in an atopic individual who has daily symptoms of conjunctivitis, particularly if associated with allergic rhinitis on waking each morning.
 - **Allergic contact dermatitis with conjunctivitis** should be suspected in all patients who present with conjunctivitis associated with dermatitis of the eyelids, particularly if they are not atopic and are using eye drops. It distinguished from other types of allergic conjunctivitis by a complete lack of response to antihistamines and mast cell stabilizers.
 - **Giant papillary conjunctivitis** should be suspected in all patients who wear contact lenses, particularly if they are not atopic.

Seasonal and perennial conjunctivitis

What general measures might be useful?

- **Cold compresses** may be soothing.
- **Contact lenses should not be worn** if conjunctivitis is present or during a course of topical therapy. Soft lenses should not be worn within 5–10 minutes of instilling eye drops containing the preservative benzalkonium chloride.

What topical treatments are available?

Topical antihistamines and mast cell stabilizers are the mainstay of treatment if conservative measures are not effective.

Topical antihistamines

- **Topical antihistamines directly block the action of histamine** in the conjunctiva, and have a rapid onset of action. Several randomized controlled trials (RCTs) have demonstrated that topical antihistamines are more effective than placebo at reducing the signs and symptoms of allergic conjunctivitis [[Owen et al, 2004](#)].
- **Azelastine and emadastine** are single-agent topical antihistamines which give rapid relief of allergic conjunctivitis. They are well tolerated, have few adverse effects, and have a rapid onset of action.
- **Otrivine-Antistin®**, a combination of antazoline and xylometazoline, a vasoconstrictor, is an established preparation. It has the potential for systemic effects, and is not recommended for long-term use [[BNF 47, 2004](#)].
- **Olopatadine** has both antihistamine and mast cell stabilizing properties. Preliminary RCTs have found olopatadine to be safe and effective:
 - Olopatadine is more effective than placebo [[Abelson and Turner, 2003](#)].
 - Olopatadine is at least as effective as sodium cromoglicate [[Katelaris et al, 2002](#)].
- **Ketotifen** is primarily an antihistamine, but is thought to have some mast cell stabilizing properties. It has been found to be safe and effective in RCTs:
 - Ketotifen is safe and well tolerated, and more effective than placebo [[Abelson et al, 2002](#); [Abelson et al, 2003](#)].

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- o Ketotifen is at least as effective as levocabastine, sodium cromoglicate, nedocromil, and olopatadine [Greiner et al, 2002; Ganz et al, 2003; Greiner and Minno, 2003; Kidd et al, 2003].

Topical mast cell stabilizers

- **Topical mast cell stabilizers prevent the release of histamine** and other inflammatory mediators from mast cells. They have been proven to be more effective than placebo in several RCTs [Owen et al, 2004]. Mast cell stabilizers may take up to 14 days to relieve symptoms if used alone.
- **There have been no RCTs directly comparing one topical mast cell stabilizer with another.** Currently, three products are available in the United Kingdom [BNF 47, 2004]:
 - o **Sodium cromoglicate** has been used extensively and is safe, effective, and well tolerated. It is suitable for use in children [BNF 47, 2004].
 - o **Lodoxamide and nedocromil** are newer, more expensive topical agents available as alternatives to sodium cromoglicate.

Topical corticosteroids (not recommended)

- **Topical corticosteroids should never be given for an undiagnosed red eye.** They can transform a simple herpetic dendritic ulcer into an extensive amoeboid ulcer involving all layers of the cornea, with resultant corneal scarring and visual loss.
- **GPs are advised against starting corticosteroids for ophthalmic conditions** unless they have access to a slit lamp and the necessary expertise. Treatment should not be repeated without slit lamp review and intraocular pressure measurement. Long-term use should be avoided because this can result in adverse effects such as cataract, glaucoma, and severe bacterial or fungal infections involving the eyelid, conjunctiva, and cornea.

Should I prescribe a topical antihistamine or mast cell stabilizer?

- **A recent systematic review and meta-analysis** did not find sufficient evidence to recommend the use of either class of drug, or any specific drug, over another. However, it did find limited evidence that topical antihistamines are quicker to act than mast cell stabilizers. None of the drugs was associated with any significant safety concerns [Owen et al, 2004].
- **The choice of topical treatment** should be made according to the needs and preference of the patient:
 - o **If a rapid response is required**, particularly if contact with allergens is intermittent, a topical antihistamine may be preferred.
 - o **If prevention of allergy over a longer period is required**, topical mast cell stabilizers may be the first treatment choice.
 - o **Individual products** should be selected on the basis of their convenience of use and cost.

What systemic treatments may be useful?

- **Oral antihistamines are commonly used** in the treatment of allergic conjunctivitis, despite there being little trial evidence to support their use. They have a role in suppressing Type I immunoglobulin E-mediated associated hypersensitivity, and are especially useful when there is coexisting allergic rhinitis.
- **Non-sedating antihistamines** are preferred to the older, first-generation antihistamines, which frequently cause drowsiness:
 - o **Cetirizine and loratadine** are well established agents with a good efficacy and safety profile. They are taken once a day and are suitable for young children.
 - o **Fexofenadine and mizolastine** are alternative once-daily regimens suitable for older children and adults.
 - o **Desloratadine (a metabolite of loratadine) and levocetirizine (an isomer of cetirizine)** are more recently marketed products.

Allergic dermatitis with conjunctivitis

- Management requires identification and avoidance of the causative allergen, which is usually eye drops, cosmetics, or industrial chemicals.
- If inflammation is severe, or there are signs of corneal involvement, topical corticosteroids may be required to settle the inflammation quickly. In these circumstances refer the patient for specialist assessment and management.

Giant papillary conjunctivitis

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- Consider discontinuing the wearing of contact lenses to allow inflammation to settle, if they are causing irritation.
- Wearing contact lenses can be re-commenced with new lenses, once the major symptoms of inflammation have settled.
- Advise the patient to seek advice from their optician regarding hygiene measures, more frequent contact lens changing, and a possible change of contact lens type, if the problem recurs. Topical sodium cromoglicate (2%) can be used to relieve symptoms while hygiene measures take effect.

References

NHS staff in England can link, free of charge, from references to the full text journal articles by clicking on [NHS Athens Full-text]. You will need an NHS Athens password to access these resources. Click here for Athens registration.

All references with links to [Free Full-text] are freely available online to users in England and Wales. This includes the full text of Department of Health papers and Cochrane Library reviews.

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