UPDATE
Module 1688

This module covers:

- Conjunctivitis, blepharitis, styes, otitis externa, Eustachian tube dysfunction and acute sinusitis
- Symptoms, causes and treatment
- Advice pharmacists can give patients

FEBRUARY
Eye, ear and nose month

Chronic glaucoma	Feb 1*
Infection	Feb 8
Age-related macular degeneration	Feb 15
Rhinitis	Feb 22

**Online-only for Update and Update Plus subscribers*

Eye and ear infection and acute sinusitis

Jill Peaston

This article discusses the help and advice pharmacists can offer patients about acute sinusitis and commonly encountered infections of the eyes and ears.

Infective conjunctivitis

Conjunctivitis – inflammation of the transparent membrane covering the white part of the eyeball and inner surfaces of the eyelids – can be infective, allergic or irritant. Infective conjunctivitis presents with red, watering, gritty eyes; a burning sensation; a sticky coating on eyelashes in the morning; and an enlarged lymph node in front of the ear. There are no symptoms that distinguish between bacterial or viral conjunctivitis.

It is normally self-limiting, resolving within one to two weeks. However, patients should seek urgent medical attention if they develop:

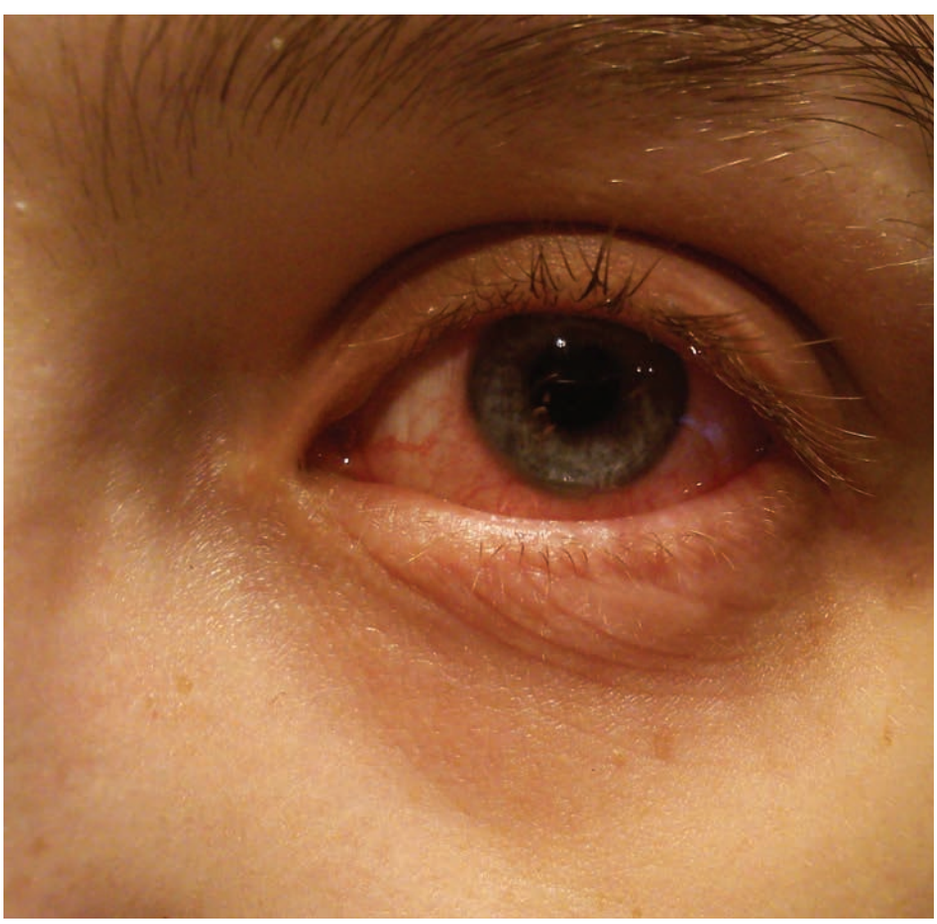
- marked eye pain
- photophobia
- loss of visual acuity
- marked redness of the eye.

Neonates with infective conjunctivitis should also be urgently referred.

Lubricant eye drops can reduce eye discomfort. Infected secretions should be removed from eyelids and lashes with cotton wool soaked in water, using a fresh piece for each eye. Patients should wash their hands regularly, particularly after touching infected secretions, and not share pillows or towels with others to avoid spreading infection.

Topical chloramphenicol should be used for severe cases. Conjunctivitis can be considered severe when the person considers their symptoms distressing or the signs are judged to be severe from experience. You could advise patients to delay treatment for seven days to see if the condition will resolve, as topical chloramphenicol makes little difference to recovery, and up to 10 per cent of people treated with topical ocular antibiotics report adverse reactions. The risk of a serious complication from untreated infective conjunctivitis is low.

Chloramphenicol 0.5 per cent eye drops and 1 per cent eye ointment are available over the counter (OTC) for the treatment of acute bacterial conjunctivitis in adults and children



Most cases of conjunctivitis are self-limiting but lubricant eye drops can reduce eye discomfort

aged over two years. The maximum duration of treatment is five days. Contact lenses should not be worn during treatment. Children with infective conjunctivitis need not be excluded from school or childcare.

In addition, patients should be referred for medical attention where:

- eye inflammation is associated with a rash on the scalp or face
- the eye looks cloudy
- the pupil looks unusual
- a foreign body in the eye is suspected
- there is a history of recent conjunctivitis
- the patient is being treated for other eye conditions
- the patient wears contact lenses.

Blepharitis

Blepharitis is characterised by inflammation of the eyelid margin. It is a common, non-contagious condition, often seen in people over 50 years old. Chronic sufferers experience repeated episodes with periods of remission. Symptoms affect both eyes and tend to be worse in the morning. These include:

- itchy, sore, red eyelids
- eyelids that stick together
- crusty/greasy eyelashes
- burning, gritty sensation in the eyes
- photophobia
- abnormal eyelash growth or loss
- swollen eyelid margins.

The treatment is to perform twice-daily lid hygiene in the acute phase and once daily at other times:

- make a compress: soak a cloth or cotton wool pad in hot water and apply to each eye for five to 10 minutes; avoid excessive heat
- massage the lids by closing the eyes and gently rotating a clean finger along each lid, ending in a downward stroke on the upper lid and an upward stroke on the lower lid and moving along the length of each lid
- cleanse the lids by mixing baby shampoo with water (start with a 50:50 mix and adjust according to effectiveness), dip a cotton bud in and then run it along the margin, cleaning debris from the lash base (bicarbonate of soda – use a pinch in an eggcup of water – or commercial lid scrubs may also be used).

When lid hygiene alone does not control the condition, chloramphenicol ointment can be applied to the lid margin (not a licensed OTC indication). If this does not control the problem within a month, the patient should be referred. As dry eyes make blepharitis worse, topical lubricant eye drops should be used where necessary. Contact lenses should not be used.

Stye

A stye (hordeolum) is due to an infection in an eyelash follicle: a small red lump on the eyelid edge develops into an abscess that looks like a pus-filled spot. Styes do not affect vision, and are common in children.

Styes typically develop over a few days. Usually only one eye is affected, although there may be multiple styes. Styes are painful, but normally resolve within a week or two. Usually no treatment is necessary. Once a head has formed on the stye, most burst within three to four days, and the small amount of pus drains without complications.

Warm compresses, applied for five to 10 minutes, three to four times a day, may help to ease soreness and draw the pus to a head. The eyelash may be plucked out to help the hair follicle drain, but this is painful. A sterile needle can be used to open the stye and drain the pus; this should only be done by a health professional and is not suitable for children. Antibiotics are not recommended for the treatment of styes.

To avoid spreading the infection, patients should not share flannels or towels and should wash their hands after touching the affected eyelid.

The infection can spread, causing conjunctivitis or the eyelid to become red and swollen (the latter requires referral). A stye may form a residual lump in the lid – a chalazion – these are less red than a stye and are not painful, but can require surgical drainage.

A rare complication is orbital cellulitis, which requires urgent medical attention. The infection spreads to involve the whole eyelid and surrounding tissues. The eyelid may be very swollen and red, the patient might not be able to open the eye and there may be pain, fever and photophobia. Sometimes the eyeball protrudes.

Otitis externa

Otitis externa is inflammation of the outer ear. The condition affects about one in 10 people, and is common among swimmers. It may be caused by infection, allergy, irritants or inflammation. If water, or products such as shampoo or hairspray, get into the ear canal they may cause itching. Scratching inside the ear can damage the lining of the ear canal, causing inflammation and predisposing it to infection by bacteria or fungi. The lining can also be damaged by objects such as hearing aids or cotton buds. Other causes include hot and humid conditions, eczema, psoriasis, ear syringing and discharge from otitis media.

Common symptoms include itch, ear discharge, temporarily dulled hearing and pain. The ear may feel blocked or full. One or both ears can be affected. Sometimes the glands in the neck or around the ear become swollen, and there may be tenderness when moving the jaw.

A solution of acetic acid 2 per cent (available OTC) acts as an antifungal and antibacterial in the external ear canal and is used to treat mild otitis externa. Severe cases may require an anti-inflammatory and/or antibiotic and need referral. Paracetamol or ibuprofen can be recommended for the pain.

To prevent otitis externa, the ears should be kept dry and underlying conditions need treating. Measures to keep the ears dry include plugging the ears with cotton wool coated in white soft paraffin when showering, using a swimming cap or earplugs (if they do not irritate the ear canal) when swimming, and drying them using a hair dryer on a gentle setting. Patients should not poke in the ears to dry them or remove wax. Using an acidifying product before and after swimming is recommended.

Eustachian tube dysfunction (ETD)

The Eustachian tube opens during swallowing, yawning and chewing, allowing air into the middle ear and mucus out. ETD occurs if the Eustachian tube becomes blocked, the tube lining is swollen or the tube does not open. The alteration in pressure in the middle ear tenses the eardrum, dulling hearing and causing pain. Other symptoms include a feeling of fullness in the ear, tinnitus and dizziness. Popping sensations or noises can be heard as symptoms resolve, and the dulled hearing may fluctuate temporarily. Both ears can be affected.

Colds are the commonest cause of ETD, and ETD is also part of the problem in glue ear. Allergies such as perennial rhinitis and hayfever cause extra mucus and inflammation in and around the Eustachian tube and can lead to ETD. Enlarged adenoids can cause ETD by restricting the opening of the tube.

ETD can develop when descending in a plane and is normally resolved by swallowing and chewing. However, if the tube is blocked there can be severe pain. The Valsalva manoeuvre can help: breathing out gently with the mouth closed and pinching the nose, pushing air into the Eustachian tube and popping the ears.

Decongestant nasal sprays or drops can relieve nasal congestion causing ETD. Remind patients to use for only five to seven days to avoid rebound congestion. Antihistamine tablets or nasal sprays can help if the cause is allergic in origin. A steroid nasal spray may be advised if an allergy or other cause of persistent inflammation is suspected; remind patients there will be a delayed response.

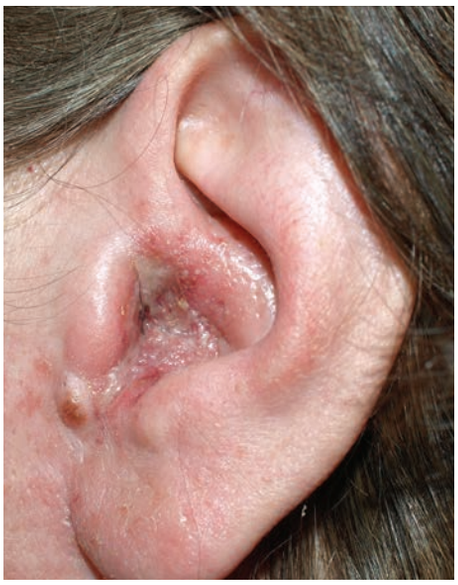
If symptoms persist or the cause of ETD is not clear, you should refer the patient.

Acute sinus infection

Sinusitis is inflammation of the membranous lining of the sinuses, which causes sinus cavity obstruction and subsequent infection. Factors predisposing to sinusitis include upper respiratory tract infection, allergy, asthma, smoking, pregnancy and dental problems.

Viral sinus infections last less than 10 days; worsening symptoms after five days suggests bacterial involvement. Most cases take two-and-a-half weeks to resolve.

Allergies can impair sinus mucus clearance and cause sinusitis.



Otitis externa affects about one in 10 people and is common among swimmers

Patients often present with a non-resolving cold. There may be pain/pressure over the affected sinus, pyrexia, purulent nasal discharge and loss of a sense of smell. Other symptoms include headache, halitosis, fatigue, cough and a feeling of pressure in the ears. Sinus pain may be felt as upper jaw pain, toothache or pain in the skin of the cheek.

Advise people to see a doctor if their symptoms rapidly deteriorate, they develop a high temperature or marked local pain that is predominately unilateral. Refer patients who have had three or more attacks per year or whose symptoms persist despite antibiotic treatment. Red flag symptoms include:

- severe frontal headache, frontal swelling, signs of meningitis
- eye involvement
- unilateral symptoms such as a mass, bloodstained discharge, non-tender facial pain, facial swelling
- severe systemic infection.

Paracetamol or ibuprofen can relieve pain and fever. Adults can use an intranasal decongestant for a maximum of a week, but oral decongestants are not recommended for sinusitis. Some patients find nasal irrigation with warm saline solution helpful and warm face packs may provide pain relief. All patients need adequate fluids and rest.

Other measures that have been recommended in the past, but which are now not advised, include steam inhalation, antihistamines (unless there is co-existing allergic rhinitis) and mucolytics.

References

- cks.nice.org.uk
- patient.co.uk
- nhs.uk
- bnf.org
- medicines.org.uk/emc

Correction: Update module 1685, Asthma in adults (C+D January 18, 2014)

- The fifth bullet point of 'Instructions for correct use of an MDI' (p16) should read: Start to breathe in and, as you do so, press on the inhaler canister to release one puff of medicine. Continue to breathe in deeply to make sure it gets into the lungs
- On p17, the sentence about large volume spacers should read: Some studies have shown that large volume spacers with MDIs deposit at least 30 per cent more drug in the lung because of reduced oropharyngeal deposition.[8,9] There is data to show that small volume spacers have a similar effect.[10]

Capitalise on the growing markets for eye and earcare » *Category Focus: p21*

5 minute test

■ Sign up to take the 5 Minute Test and get your answers marked online: chemistanddruggist.co.uk/update

Take the 5 Minute Test

1. Up to 20 per cent of people treated with topical ocular antibiotics report adverse reactions.
True or false?
2. Treatment of blepharitis includes performing twice-daily lid hygiene.
True or false?
3. Blepharitis is due to an infection in an eyelash follicle.
True or false?
4. Complications of styes include conjunctivitis, chalazion formation and orbital cellulitis.
True or false?
5. Infection, allergy, irritants or inflammation can all cause otitis externa.
True or false?
6. Symptoms of otitis externa include tinnitus, dizziness and dulled hearing.
True or false?
7. Colds are the commonest cause of Eustachian tube dysfunction.
True or false?
8. Eustachian tube dysfunction can be treated with a 2 per cent solution of acetic acid.
True or false?
9. Sinus pain may be felt as upper jaw pain, toothache or pain in the skin of the cheek.
True or false?
10. Intranasal decongestants are not recommended for the treatment of sinusitis.
True or false?

Tips for your CPD entry on eye and ear infection and acute sinusitis

Reflect **What is the recommended treatment for blepharitis? What are the common causes of otitis externa? When should patients with sinusitis be referred?**

Plan **This article provides information for pharmacists about acute sinusitis and some common infections of the eyes and ears. The symptoms, causes and treatment of conjunctivitis, blepharitis, styes, otitis externa, Eustachian tube dysfunction and acute sinusitis are discussed along with advice pharmacists can give about their prevention.**

Act **Read the Update article and the suggested reading (below), then take the 5 Minute Test (above). Update and Update Plus subscribers can then access their answers and a pre-filled CPD logsheet at chemistanddruggist.co.uk/mycpd.**

Read more about conjunctivitis on the NHS Choices website
tinyurl.com/eye-ear1

Find out more about blepharitis from the patient.co.uk website and styes from the NHS Choices website
tinyurl.com/eye-ear2
tinyurl.com/eye-ear3

Revise your knowledge of otitis externa on the NHS Choices website
tinyurl.com/eye-ear4

Find out more about acute sinusitis on the patient.co.uk website
tinyurl.com/eye-ear5

Review the medicines for the eye, ear and nose stocked in your pharmacy. Make sure your counter staff know which to recommend and when to refer.

Evaluate
Are you now confident in your knowledge of the symptoms and causes of acute sinusitis and common eye and ear infections? Could you give advice to patients about their treatment?

ASK THE EXPERT

February is eye, ear and nose month and our expert is on hand to answer your queries. From glaucoma to rhinitis, submit your questions by email: **steve.titmarsh@ubm.com**