module 341

Pharmacy First: Acute sinusitis

This module is suitable for use as part of pharmacists' continuing professional development, a key component of the revalidation process. After reading this module in the magazine or online at **pharmacymagazine.co.uk**, you can include it in your personal *Pharmacy Magazine* revalidation record.

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This is the latest in our series of CPD modules designed to support pharmacists to manage common conditions and deliver England's new Pharmacy First service and similar schemes in the UK. It will be useful for all community pharmacists in their role of responding to patients' symptoms.

KEY FACTS

- Most cases of acute sinusitis take two to three weeks to resolve and do not need treatment with antibiotics – many patients will be unaware of this
- Most cases are caused by viruses. Only two in 100 cases will be complicated by bacterial infection
- NICE advises that even bacterial sinusitis is usually self-limiting and does not routinely need antibiotics
- Self-care measures include analgesics and nasal saline irrigation
- Symptoms indicating bacterial infection are a marked deterioration after an initial milder phase, fever (above 38°C), unremitting purulent nasal discharge and severe unilateral pain (especially tooth and/or jaw pain)
- A high-dose nasal corticosteroid, supplied via a PGD for 14 days (off-label), can be recommended for those who have had persistent unremitting symptoms for 10 days or longer
- Antibiotics can be provided via a PGD where there are still persistent symptoms despite the use of high-dose nasal corticosteroid for 14 days or if high-dose nasal corticosteroids are unsuitable

Introduction & module overview

Community pharmacists already advise on acute sinusitis, referring to a GP when red flags are present or where antibiotics might be needed.

This module will enhance existing knowledge and help expand pharmacists' clinical role. Drawing on the NICE Sinusitis (acute): antimicrobial prescribing guideline [NG79], it will support decision-making and identify the small number of occasions where antibiotics might be needed.

The paranasal sinuses are air-containing spaces in the bony structures adjacent to the nose (maxillary sinuses) and above the eyes (frontal sinuses). During a cold, their lining surfaces become inflamed and swollen, producing mucus. The maxillary sinuses are most commonly involved.

The secretions drain into the nasal cavity and, if the drainage passage becomes blocked, fluid builds up in the sinus. This causes pain from pressure – acute sinusitis. Rarely it can become secondarily (bacterially) infected. If this happens, more persistent pain arises in the sinus areas, and there may be fever and purulent nasal discharge.

When to suspect acute sinusitis

The PGDs for supply of treatments for acute sinusitis under the Pharmacy First scheme use the following diagnostic criteria (derived from CKS):

- Presence of ONE of the following signs/symptoms which suggest acute sinusitis:
- Nasal blockage (obstruction/congestion) OR
- Nasal discharge (anterior/posterior nasal drip)

AND ONE or more of the following:

- Facial pain/pressure (or headache) OR
- Reduction (or loss) of the sense of smell (in adults) OR
- Cough during the day or at night (in children).

As noted, there may be a reduction or loss of the sense of smell. Other features suggestive of acute sinusitis are altered speech indicating nasal obstruction, and tenderness, swelling or redness over the cheekbone or periorbital areas. To diagnose sinusitis rather than the after-effects of a viral respiratory tract infection, symptoms should be present for 10 days or more with little improvement.

Key information from history

Age: The Pharmacy First service includes adults and children aged 12 years and over.

Continued overleaf ▶

Pregnant females aged under 16 years should be referred.

Duration: Most cases of sinusitis are improving by day 10 and resolve in two to three weeks. Chronic sinusitis is defined as symptoms lasting for more than 12 weeks. Symptoms for around 10 days or fewer are more likely to be associated with a preceding cold rather than viral or bacterial acute sinusitis.

Associated symptoms:

- The affected sinus often feels tender when pressure is applied. It is typically worse on bending forwards or lying down
- The pain may be felt behind and around the eye, or over the cheek, with radiation over the forehead and often only one side is affected
- The headache may be associated with runny nose or nasal congestion
- Fever (above 38°C) is usually an indication of bacterial infection.

Previous history: Ask whether there has been a marked deterioration in sinusitis symptoms following a recent cold that had started to settle (so called 'double sickening') as this may be an indication of bacterial infection.

Patients may have had episodes of acute sinusitis previously. Recurrent episodes may relate to an incomplete response to antibiotics (sometimes due to resistance, or anatomical abnormalities affecting drainage, or nasal polyps). Patients who have had acute sinusitis before may expect to receive antibiotics if this has happened in the past.

Immunosuppressed patients, such as those on chemotherapy, should be referred (see PGDs for details). The features of a bacterial infection are summarised in Figure 1 below.

Who to refer and red flags

The PGD for inhaled corticosteroids or antibiotics will give specific inclusion and exclusion criteria. The following is intended to give some pragmatic guidance on how these might be followed – it is not intended to be all-inclusive or definitive.

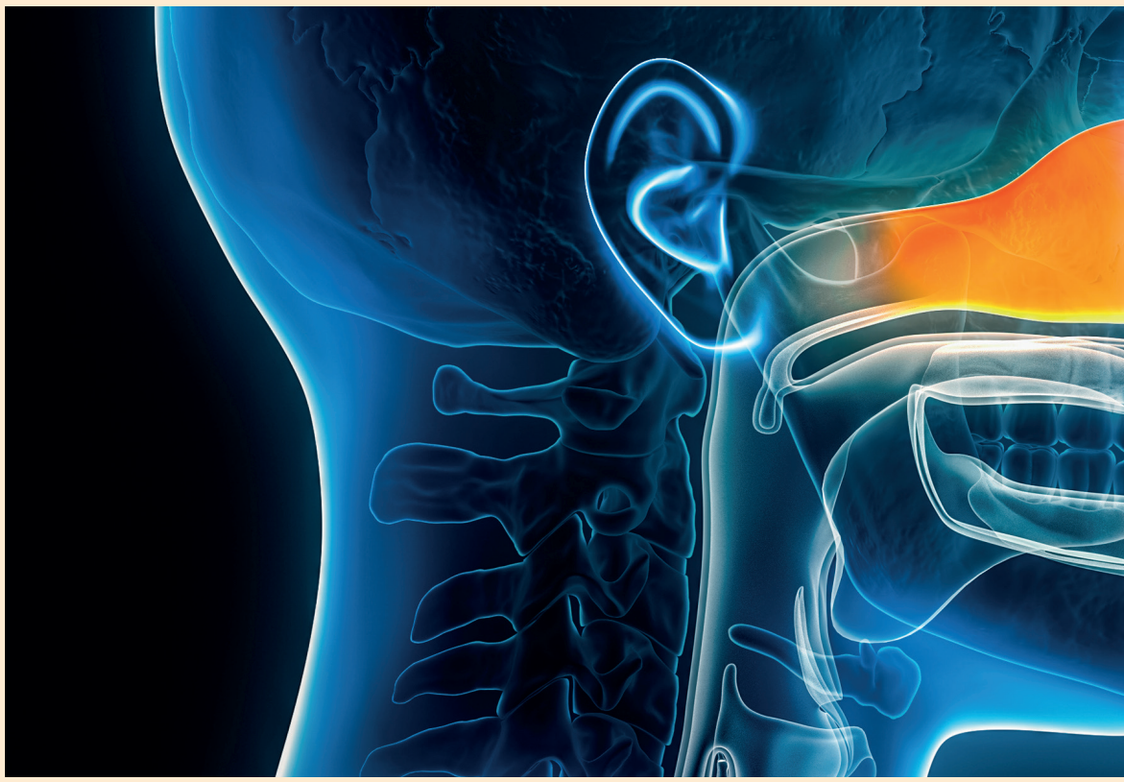

Figure 1: Acute sinusitis: Could it be a bacterial infection?

Core symptoms of acute sinusitis

ONE or more of:

- Nasal blockage
- Nasal discharge.

With **ONE** or more of:

- Facial pain/pressure or headache
- Reduction or loss of sense of smell (adults)
- Daytime or night-time cough (children)

Symptoms for at least 10 days without improvement

Plus **TWO** or more of:

- Marked deterioration after an initial milder phase
- Fever >38°C
- Unremitting purulent nasal discharge
- Severe localised unilateral pain, particularly toothache/jaw

Most of the people who attend a pharmacy with sinusitis will be unwell and have pain but are not severely ill. A few patients may attend who have symptoms suggesting more severe illness or who are at risk of severe illness.

The most important requirement is to recognise severely ill patients and make sure they get urgent care.

Many PGDs list rare or unusual causes of symptoms. Severe complications of acute sinusitis are very rare. The most common are orbital with swelling and reduced vision, then intracranial (meningitis, encephalitis, abscess or venous thrombosis), with bony complications presenting with swelling over the frontal bone/forehead being least common.

Severe complications were estimated to occur in one in 12,000 children and one in 32,000 adults with acute sinusitis who were otherwise healthy.

Some patients may seek assessment by a pharmacist but do not meet the criteria for the PGD under which the service is operating. Some of these patients may require referral to a GP (or urgent care, if needed).

The NHS lists the following symptoms as signs of a more serious illness or condition (red flag symptoms) requiring urgent care:

Call 999 or go straight to A&E

- Intraorbital (within the eye) or periorbital (around the eye) complications: such as peri-orbital oedema (swelling) or cellulitis, displaced eyeball, double vision, ophthalmoplegia (paralysis/weakness of the eye muscles), or newly reduced visual acuity (reduced vision)
- Bony complications such as tender swelling over the frontal bone
- Symptoms or signs of meningitis
- Severe frontal headache or focal neurological signs.

Any individual identified with symptoms of severe/life-threatening infection or systemic sepsis should be referred urgently via ambulance.

GP referral

The following suggestions are for guidance only. It is important for pharmacists to use their professional judgement regarding urgency.

Same day

- Individual is severely immunosuppressed or immunocompromised (this may include patients on chemotherapy or high-dose systemic corticosteroids)
- Individual is systemically unwell, but not showing signs or symptoms of sepsis
- Possible cancer suspected: unilateral (one-sided) polyp or mass or bloody nasal discharge present
- Foreign body inserted into nasal passages
- Significant/active epistaxis (nosebleeds)
- Persistent unilateral symptoms, such as nasal obstruction, nasal discharge or nosebleeds, crusting or facial swelling

Clinical and safety guidance

All the original guidance can be accessed through the relevant links at **pharmacymagazine.co.uk**

- Individual where treatment under this PGD is not indicated/permitted but upper respiratory symptoms are present and require further assessment.

Less urgent referral

- Individual with untreated localised infection involving the nasal mucosa, such as herpes simplex
- Recurrent sinusitis (four or more annual episodes without persistent symptoms in the intervening periods)
- Chronic sinusitis (sinusitis that causes symptoms that last for more than 12 weeks)
- Anatomic defect(s) causing nasal obstruction
- Co-morbidities complicating management such as nasal polyps
- Concurrent use of any interacting medicine as listed in drug interactions section of the PGD.

Treatment options

When the features associated with infection are not present, treatment should be aimed at symptom relief. NICE advises considering paracetamol or ibuprofen for pain or fever.

One of the issues in treating sinusitis is that for many OTC or home remedies, there is a lack of high quality evidence, often with few randomised clinical trials and low quality designs. Hence NICE's comment that patients with sinusitis "may wish to try self-care with nasal saline or nasal decongestants to relieve … congestion, but it should be explained that there is not enough evidence to recommend these. It should be explained to people that no evidence was found for using oral decongestants, antihistamines, mucolytics, steam inhalation or warm face packs in acute sinusitis".

Patients may have found specific preparations or remedies helpful in the past and their personal experience is important. The NHS A-Z information on sinusitis advises the following: "A pharmacist can advise you about medicines that can help, such as: decongestant nasal sprays or drops to unblock your nose (decongestants should not be used by children under six years of age); salt water nasal sprays or solutions to rinse out the inside of your nose. You can buy nasal sprays without a prescription, but they should not be used for more than one week."

We introduced how the Royal College of General Practitioners uses the **CHESTSSS** consultation framework in the Sore Throat Part 2 CPD module (*PM* February issue). In Table 1, we show how CHESTSSS could be tailored to a consultation about sinusitis.

Table 1: Communicating with patients and parents about treatment decisions in sinusitis

C Ask specifically about **Concerns**	If concerns are not specifically asked about, the patient will sometimes not share their main worries for fear of being seen as 'overly anxious'. **"What are the things you are most worried about?"**
H Discuss **History and examination**	While doing an examination provide a 'no problem' commentary: **"Your face is not swollen or tender and your temperature is normal."** You could explain that the assessment you are using is recommended across the UK, is used by local GPs, and that it helps to determine if antibiotics are likely to help.
E Ask specifically about prior knowledge and **Expectations**	The only way of actually knowing what patients want or expect is to ask them. **"How do you think I could most help you today?"** or **"How do you feel about antibiotics?"**
S Provide a non-serious explanation for **Symptoms**	"Your body reacts to viruses or bacteria by fighting the infection and this reaction causes **inflammation, which in your sinuses causes swelling and mucus (snot) production** – this is normal. It's why you are bunged up and feel pressure in your sinuses." Patients often consult for reassurance rather than with an expectation of being given an antibiotic. Make a clear statement combining a negative and a positive. "**An antibiotic won't help but I can give you something else that *will* help.**"
T Be specific about illness **Timeline**/usual course	Give an accurate prognosis. **"Typical sinusitis can take several weeks to improve."**
S Explain **Shortcomings of antibiotics**	Antibiotics **don't help with pain** but **side-effects**, such as diarrhoea, nausea and rash, can be **experienced by up to one in 10 people**.
Back-up or delayed antibiotic prescriptions	For patients where clinical assessment does not warrant antibiotics it is appropriate to advise returning if they do not feel better after seven days, or if they are feeling worse. The patient can then be re-evaluated.
S **Self-care advice**	For most people symptom relief is more effective than antibiotics. "Pain in the sinuses is due to the inflammation and congestion, **you can take paracetamol, and/or ibuprofen, which will help the pain and soothe the discomfort."**
S **Safety-netting** advice	Provide patients with specific **information on red-flag symptoms** and when they should seek further help. **"If you become very unwell, or are still poorly in a week, or if you develop a fever or face swelling, call or come back and see me."**
Check understanding	Summarise what has been found and your advice. Check that the patient is reassured and satisfied.

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Create your own learning plan this year using the Revalidation Planner tool on pharmacymagazine.co.uk. Decide what you are planning to learn in a selected time frame, your learning objectives and how you will put your learning into practice. You can also plan your reflective account and peer discussion.

Analgesics

Paracetamol or ibuprofen (if suitable for the patient) can be used for acute sinusitis.

Saline irrigation & steam inhalation

A randomised controlled trial found that steam inhalations had little effect in sinusitis but saline nasal irrigation (also called nasal douching) improved symptoms. Patients were more likely to feel they could manage the problem themselves and used less OTC medication.

Pharmacists can recommend a short video showing patients how to use saline nasal irrigation, such as the method used by NHS Southampton Hospitals on YouTube. NHS Health A-Z also gives guidance on how to clean the nose with a homemade salt water solution (see **nhs.uk/conditions/sinusitis-sinus-infection**).

Nasal saline irrigation may cause minor adverse effects, such as irritation. Patients sometimes experience ear discomfort while rinsing and may experience drainage of left-over solution from the nose, sometimes many minutes or hours after use.

Reflection exercise

How would you explain nasal irrigation to patients? Do you recommend the home remedy method from NHS A-Z or a proprietary squeezable bottle?

If you have not done so, try using these two methods yourself so that your explanations to patients can be based on your own personal, practical experience.

High-dose nasal corticosteroids (fluticasone or mometasone)

These POMs can be supplied for sinusitis through a PGD. The use of high-dose nasal corticosteroid is off-label in sinusitis and is based on the NICE review of relevant clinical trials. NICE concluded that there is evidence that high-dose nasal corticosteroid (equivalent to mometasone 400mcg a day) for 14 to 21 days produced a statistically significant improvement in symptoms in adults and children aged 12 years and over compared with placebo.

The following side-effects are listed in the product SPC or BNF as very common or common with intranasal fluticasone (or other intranasal steroids), but as use is 'off label' these may not reflect all side-effects when used for sinusitis: epistaxis; headache; throat irritation; nasal ulceration; dyspnoea; altered smell; altered taste.

The steroid burden of nasal corticosteroids needs to be considered in people already taking oral or inhaled corticosteroids, particularly in children, due to systemic effects.

Antibiotics

NICE advises that even bacterial sinusitis is usually self-limiting and does not routinely need antibiotics. A recent Cochrane Review indicated only a small benefit from antibiotics even in acute sinusitis that had lasted for longer than seven days. The NNT was 15 for one additional person with acute sinusitis to be 'cured' with antibiotics, based on a meta-analysis.

NICE says that antibiotics may be used if sinusitis symptoms persist for more than 10 days or are severe with fever (>38°C), severe local pain, discoloured or purulent nasal discharge or marked deterioration. NICE states that: "An immediate antibiotic prescription is not recommended unless people are systemically very unwell, have symptoms and signs of a more serious illness, or are at high risk of serious complications because of pre-existing comorbidity."

Where an antibiotic is to be recommended, NICE advises penicillin first-line unless there is a reported penicillin allergy via the NHS National Care Record or stated by the patient/carer.

Under the Pharmacy First scheme, antibiotics via a PGD can be provided by pharmacists where there are still persistent symptoms despite the use of high-dose nasal corticosteroid for 14 days, or if high-dose nasal corticosteroids are unsuitable. The antibiotics available to pharmacists to provide are penicillin-V (first-line), with clarithromycin or doxycycline, or erythromycin in pregnancy, if penicillin allergy is a concern.

The main contraindication is allergy/hypersensitivity to an antibiotic – usually penicillin. Those with a known allergy to phenoxymethylpenicillin (penicillin-V), or any penicillin, or a history of severe immediate allergic reaction (e.g. anaphylaxis) to another beta-lactam antibiotic (e.g. cephalosporin, carbapenem or monobactam) must not be prescribed penicillin-V. Acceptable sources of allergy information include individual/carer/parent/guardian or the National Care Record (but bear in mind these sources are not always accurate or reliable).

Working in partnership

Where community pharmacists are authorised to make a NHS supply of antibiotics, there is the opportunity to reduce their unnecessary use and reinforce good antimicrobial stewardship.

Pharmacists managing sinusitis as part of Pharmacy First may wish to talk their strategy through with local GP practices. How local practices manage patients with sinusitis and what interventions they advise for symptomatic relief are important issues. Agreeing a common approach ensures that patients are not confused by variations in practice and will enhance consistency and continuity of care.

Remote consultations

Remote consultations for sinusitis are permitted in the Pharmacy First service in England, but there is a view that where an antibiotic might be prescribed, a remote consultation should only be conducted in exceptional circumstances.

Resources

Patient information

- NHS Health A-Z. **nhs.uk/conditions/sinusitis-sinus-infection**
- Patient – Acute Sinusitis. **patient.info/ears-nose-throat-mouth/acute-sinusitis**

Healthcare professional resources

- Sinusitis (acute): antimicrobial prescribing NICE guideline [NG79] **nice.org.uk/guidance/ng79**
- Clinical Knowledge Summaries: Sinusitis. **cks.nice.org.uk/topics/sinusitis**
- Patient professional resources – Sinusitis. **patient.info/doctor/sinusitis-pro**

CPD Reflective Account

Making decisions about use of high-dose nasal corticosteroids and antibiotics is worth considering for inclusion in your CPD Reflective Account. Log onto your myGPhC account and make some notes in the Reflective Account section. This will get you started and you can add to these during the weeks and months ahead.

The GPhC wants you to know how you meet the standards for pharmacy professionals it has selected with a real example(s) taken from your practice to illustrate this.

Below are some suggestions that you might want to adapt or build on:

Person-centred care

How has using the diagnostic framework indicating bacterial infection in sinusitis helped to make your care more patient-centred? Did you use the CHESTSSS consultation structure and the "three E's" in patient consultations about sinusitis? How did these work out in conversations about whether high-dose nasal corticosteroid or antibiotics were needed?

Working in partnership with others

How did you communicate with local GP practices and what sorts of things did you agree on in relation to referrals and consistency regarding use antibiotics and OTC medicines?

Using professional judgement

If this has been the first time you have used a PGD for antibiotics, how has it developed your professional judgement about striking a balance between the new treatment options and the need for antimicrobial stewardship? How have you dealt with challenging consultations and what did you learn from them?

Next month's CPD module: Pharmacy First – UTIs in women