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2 **NATIONAL INSTITUTE FOR HEALTH AND CARE**
3 **EXCELLENCE**

4

Guideline

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**Sore throat (acute): antimicrobial
6 prescribing**

7

July 2017

Key messages

- Acute sore throat (including pharyngitis and tonsillitis) is self-limiting and usually triggered by a viral infection of the upper respiratory tract. Symptoms can last for around 1 week – most people will get better within this time without treatment, regardless of cause (bacteria or virus).
- People with a sore throat caused by a streptococcal bacterial infection are more likely to benefit from antibiotics. Clinical scoring systems can help to identify people who are more likely to have a bacterial infection.
- Antibiotics are not needed for most people. On average, the number of people improving with antibiotics is similar to the number getting adverse effects, such as diarrhoea.
- Complications of acute sore throat are rare. Withholding antibiotics is unlikely to lead to complications.

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Recommendations

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Managing acute sore throat

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**People who are unlikely to benefit from an antibiotic (FeverPAIN score of
11 0 or 1)**

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- Do not offer an antibiotic prescription.

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- 1 • Give advice about:
- 2 – the usual course of acute sore throat, which can last for around 1 week
- 3 – an antibiotic not being needed
- 4 – managing symptoms, including pain and fever, with self-care (see the
- 5 recommendations on [self-care](#))
- 6 – seeking medical help if symptoms deteriorate rapidly or significantly, do
- 7 not improve after 1 week, or they become systemically very unwell.

8 See [common symptoms and signs](#) of acute sore throat. See the evidence and

9 committee discussion on [no antibiotic](#).

10 **People who may be more likely to benefit from an antibiotic (FeverPAIN**

11 **score of 2 or 3)**

- 12 • Offer a delayed antibiotic prescription (see the recommendations on [choice](#)
- 13 [of antibiotic](#)), taking account of:
- 14 – evidence that antibiotics make little difference to the proportion of people
- 15 with improved symptoms or how long symptoms last
- 16 – possible adverse effects, particularly diarrhoea and nausea
- 17 – factors that might make a bacterial cause more likely (see the
- 18 information on [factors that might make a bacterial cause more likely](#)).
- 19 • When a delayed antibiotic prescription is given, give advice about:
- 20 – an antibiotic not being needed immediately
- 21 – using the delayed prescription if symptoms rapidly deteriorate,
- 22 significantly worsen, or do not improve within 3 to 5 days
- 23 – managing symptoms, including pain and fever, with self-care (see the
- 24 recommendations on [self-care](#))
- 25 – seeking medical help if symptoms significantly worsen despite taking the
- 26 antibiotic, or if the antibiotic has been stopped because it was not
- 27 tolerated.

28 See the evidence and committee discussion on [delayed antibiotics](#).

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1 People who are most likely to benefit from an antibiotic (FeverPAIN 2 score of 4 or 5)

- 3 • Offer an immediate antibiotic prescription (see the recommendations on
4 [choice of antibiotic](#)).

5 People who are systemically very unwell, have symptoms and signs of a 6 more serious illness or condition, or are at high-risk of complications

- 7 • Offer an immediate antibiotic prescription (see the recommendations on
8 [choice of antibiotic](#)) or further appropriate investigation and management in
9 line with the NICE guideline on [respiratory tract infections \(self-limiting\):
10 prescribing antibiotics](#).
 - 11 • Consider referring people to hospital if they have symptoms and signs of
12 acute sore throat associated with any of the following:
 - 13 – a severe systemic infection (see the NICE guideline on [sepsis](#))
 - 14 – risk of immunosuppression
 - 15 – risk of dehydration or inability to take any fluids
 - 16 – severe suppurative complications (such as quinsy [peri-tonsillar abscess]
17 or cellulitis, parapharyngeal abscess or retropharyngeal abscess or
18 Lemierre syndrome).

19 See the evidence and committee discussion on [choice of antibiotic](#).

20 **Choice of antibiotic**

21 **Adults aged 18 years and over**

Antibiotic ¹	Dose and course length
First choice	
Penicillin V	500 mg four times a day for 10 days ²
Alternative first choices for penicillin allergy or if penicillin is not tolerated	
Clarithromycin	250 mg twice a day for 5 days (increased to 500 mg twice a day in severe infections)
Erythromycin (in pregnancy)	250 to 500 mg four times a day for 5 days or 500 to 1000 mg twice a day for 5 days
¹ See BNF for appropriate use and dosing in specific populations, for example, hepatic impairment, renal impairment, pregnancy and breast-feeding.	
² Twice daily dosing of penicillin V is not recommended. See committee discussions on frequency of antibiotic dosing for more information.	

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1 Children and young people under 18 years

Antibiotic ¹	Dose and course length ²
First choice	
Penicillin V	1 to 11 months, 62.5 mg four times a day for 10 days. Increase if necessary up to 12.5 mg/kg four times a day 1 to 5 years, 125 mg four times a day for 10 days. Increase if necessary up to 12.5 mg/kg four times a day 6 to 11 years, 250 mg four times a day for 10 days. Increase if necessary up to 12.5 mg/kg four times a day 12 to 17 years, 500 mg four times a day for 10 days
Alternative for penicillin allergy or if penicillin is not tolerated	
Clarithromycin	1 month to 11 years: Under 8 kg, 7.5 mg/kg twice a day for 5 days 8 to 11 kg, 62.5 mg twice a day for 5 days 12 to 19 kg, 125 mg twice a day for 5 days 20 to 29 kg, 187.5 mg twice a day for 5 days 30 to 40 kg, 250 mg twice a day for 5 days 12 to 17 years, 250 mg twice a day for 5 days, increasing to 500 mg twice a day for 5 days, if required in severe infections
Erythromycin (in pregnancy)	8 to 17 years ³ , 250 to 500 mg four times a day for 5 days or 500 to 1000 mg twice a day for 5 days
¹ See BNF for children for appropriate use and dosing in specific populations, for example hepatic impairment, renal impairment. ² The age bands apply to children of average size and, in practice, the prescriber will use the age bands in conjunction with other factors such as the severity of the condition and the child's size in relation to the average size of children of the same age. ³ Dose banding given for age group as in the BNF for children	

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3 See the evidence and committee discussion on [choice of antibiotic](#) and
4 [antibiotic course length](#).

5 **Self-care**

- 6 • Consider paracetamol for pain or fever, or if preferred and suitable,
7 ibuprofen. Assess and manage fever at home in children under 5 as
8 outlined in the NICE guideline on [fever in under 5s](#)).
- 9 • Explain that low quality evidence shows that medicated lozenges
10 containing either a local anaesthetic, a non-steroidal anti-inflammatory drug
11 (NSAID) or an antiseptic agent can help to reduce pain by a small amount,
12 so some adults may wish to try these to relieve their sore throat.

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- 1 • Explain that no evidence was found for using non-medicated lozenges,
2 mouthwashes, or local anaesthetic mouth spray used on its own.

3 See the evidence and committee discussion on [self-care](#).

4 Symptoms and signs

5 *Common symptoms and signs*

6 Adults and children with acute sore throat usually present with non-specific
7 symptoms of upper respiratory tract infection, including pain on swallowing,
8 headache, cough, malaise, fever and reduced fluid intake.

9 *Factors that might make a bacterial cause more likely*

10 The [FeverPAIN](#) clinical score can help prescribers to determine if a sore
11 throat is more likely to be caused by bacteria. Higher scores suggest more
12 severe symptoms and likely bacterial (streptococcal) cause.

13 Each of the FeverPAIN criteria (below) score 1 point (maximum score of 5).

- 14 • **Fever**
15 • **Purulence**
16 • **Attend rapidly (3 days or less)**
17 • **Severely Inflamed tonsils**
18 • **No cough or coryza**

19 A score of 0 or 1 is associated with a 13% to 18% likelihood of isolating
20 streptococcus. A score of 2 or 3 is associated with a 34% to 40% likelihood of
21 isolating streptococcus. A score of 4 or 5 is associated with a 62% to 65%
22 likelihood of isolating streptococcus ([FeverPAIN](#)).

1 **Summary of the evidence**

2 ***Self-care***

3 **Oral analgesia**

- 4 • Overall, evidence from 3 randomised controlled trials (RCTs) ([Eccles et al. 2003](#), [Gehanno et al. 2003](#) and [Voelker et al. 2016](#)) found that aspirin, paracetamol and diclofenac potassium were all more effective than placebo at reducing pain and fever in adults with sore throat associated with an upper respiratory tract infection (very low to low quality evidence).
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9 • Adverse events for aspirin, paracetamol and diclofenac potassium in the 3 RCTs were not significantly different from placebo (very low to low quality evidence), although adverse events were poorly reported. Another RCT that assessed safety outcomes ([Moore et al. 2002](#)) found significantly higher rates of adverse events with aspirin compared with ibuprofen (very low quality evidence).
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15 • Diclofenac is associated with higher cardiovascular risk than other non-selective non-steroidal anti-inflammatory drugs (NSAIDs). Risk is similar to that with selective COX-2 inhibitors. Naproxen and low-dose ibuprofen are considered to have the most favourable cardiovascular safety profiles ([Drug Safety Update, October 2012](#)). Of the non-selective NSAIDs, low-dose ibuprofen has the lowest gastrointestinal risk ([Drug Safety Update, December 2007](#)).
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22 **Medicated lozenges**

- 23 • Overall, evidence from 6 RCTs ([Watson et al. 2000](#), [Benrimoj et al. 2001](#), [Blagden et al. 2001](#), [Chrubasik et al. 2012](#), [McNally et al. 2012](#) and [Schachtel et al. 2014](#)) found that medicated lozenges containing benzocaine, hexylresorcinol or flurbiprofen may help to reduce pain compared with placebo in adults (very low to low quality evidence). However, the absolute improvements in pain score were small.
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29 • Few adverse events were reported in the RCTs with benzocaine lozenges or hexylresorcinol lozenges. Adverse events occurred in 30% to 50% of
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1 people using flurbiprofen lozenges, including taste disturbances,
2 numbness, dry mouth and nausea.

3 **Throat sprays**

- 4 • An RCT ([Cingi et al. 2011](#)) found that a chlorhexidine plus benzydamine
5 throat spray significantly reduced pain symptoms by day 7 compared with
6 placebo in adults who were also taking penicillin V (low quality evidence).
7 The absolute improvements in symptom score were small and the clinical
8 relevance was not clear.
- 9 • Local adverse events, including numbness and taste disturbances, were
10 common (low quality evidence).
- 11 • No systematic reviews or RCTs of local anaesthetic mouth sprays (without
12 an antiseptic) were identified.

13 **Other interventions**

- 14 • No systematic reviews or RCTs of non-medicated lozenges were identified.
- 15 • No systematic reviews or RCTs of mouthwashes were identified.

Committee discussions on self-care

- Based on evidence, their experience and safety data the committee agreed that it was reasonable to consider paracetamol (first-line) or ibuprofen for self-care of pain or fever associated with acute sore throat. Although no evidence was identified for paracetamol and ibuprofen in children with sore throat, the committee noted that these medicines have well-established efficacy and safety profiles for managing pain and fever in children.
- Based on evidence and their experience, the committee agreed that people may wish to try self-care with medicated lozenges (containing a local anaesthetic, an NSAID or an antiseptic agent) to help reduce pain in acute sore throat, but should be told that the benefit is likely to be small.
- Based on evidence and their experience, the committee agreed that people should be told that it is unclear whether throat sprays containing an antiseptic plus a local anaesthetic help symptoms.
- The committee agreed that people should be told that no evidence was found for using non-medicated lozenges, mouthwashes or local anaesthetic mouth sprays (without an antiseptic).

1 **Corticosteroids**

- 2 • A systematic review of RCTs ([Hayward et al. 2012](#)) found that in adults and
3 children with sore throat, corticosteroids (oral or intramuscular) significantly
4 increased the number of people with no pain at 24 and 48 hours (high
5 quality evidence) and significantly reduced the time to pain resolution
6 (moderate quality evidence), compared with placebo. There was no
7 significant difference between corticosteroids and placebo in recurrence or
8 relapse of symptoms, or in the number of days missed from work or school
9 (moderate quality evidence). All people in the studies were also treated
10 with antibiotics.
- 11 • An RCT ([Hayward et al. 2017](#)) found a single dose of dexamethasone
12 given to adults who did not need an immediate antibiotic prescription did
13 not increase the proportion of people with resolution of symptoms at

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- 1 24 hours, although a significant difference was seen at 48 hours (low
2 quality evidence).
- 3 • There was no difference in adverse events for people taking corticosteroids
4 compared with placebo, although reporting of adverse events was
5 incomplete. The RCTs were not large enough to identify rare adverse
6 events associated with corticosteroids.
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Committee discussions on corticosteroids

- The committee noted that most studies of corticosteroids were carried out in accident and emergency departments and included people with more severe symptoms.
- The committee noted that the studies did not report on the long-term safety of corticosteroids and the risks of recurrent treatment. No studies compared corticosteroids with analgesia.
- The committee agreed that sore throat is a self-limiting illness and there are concerns about the safety of corticosteroids and the risks of recurrent treatment. The committee noted that there are safer alternatives for managing acute sore throat in primary care.

8 **No antibiotic**

- 9 • In most cases, acute sore throat is a self-limiting infection, often caused by
10 a viral infection, and most people will not need an antibiotic. Group A beta-
11 haemolytic streptococcus (GABHS) is the most common bacterial pathogen
12 in sore throat ([European Society for Clinical Microbiology and Infectious
13 Diseases Sore Throat Guideline](#)), isolated in approximately 20% of cases
14 ([Kronman et al. 2014](#)).
- 15 • Complications of sore throat caused by a GABHS infection are generally
16 rare in adults and children. Complications can be suppurative (including
17 quinsy [peri-tonsillar abscess], acute otitis media and acute sinusitis) or
18 non-suppurative (including acute rheumatic fever and acute
19 glomerulonephritis; [European Society for Clinical Microbiology and
20 Infectious Diseases Sore Throat Guideline](#)).

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1 Efficacy of antibiotics

- 2 • A systematic review and meta-analysis of RCTs and quasi-RCTs ([Spinks et](#)
3 [al. 2013](#)) found that significantly more people with acute sore throat were
4 symptom free at days 3 and 7 with antibiotics compared with placebo (low
5 quality evidence). Overall, antibiotics shortened the duration of symptoms
6 by about 16 hours over 7 days.
- 7 • Subgroup analyses suggest antibiotics are more effective in people with a
8 throat swab positive for GABHS. The [number needed to treat](#) (NNT) to
9 prevent 1 person with a negative throat swab having a sore throat on day 3
10 was 7, with an NNT of about 4 for people with a throat swab positive for
11 GABHS.
- 12 • The overall incidence of suppurative complications, including acute otitis
13 media, acute sinusitis and quinsy (peri-tonsillar abscess), was low and
14 based on data from older studies, mostly conducted in the 1950s. These
15 studies found that antibiotics significantly reduced the incidence of acute
16 otitis media and acute sinusitis within 14 days, and quinsy (peri-tonsillar
17 abscess) within 2 months, compared with placebo (moderate to high quality
18 evidence). Based on the complication rates from studies conducted after
19 1975, Spinks et al. (2013) estimated that 200 people would need to be
20 treated with antibiotics to prevent 1 case of acute otitis media.
- 21 • Rheumatic fever was reported only in RCTs published before 1961, and the
22 authors noted that the incidence has continued to decline in Western
23 societies since then. Results from these early studies found that antibiotics
24 reduced acute rheumatic fever by more than two-thirds compared with
25 placebo (moderate quality evidence).
- 26 • There was no statistically significant reduction in acute glomerulonephritis
27 in people taking antibiotics, although it was difficult to detect a significant
28 reduction because the absolute rates of this complication were low (less
29 than 0.1%; low quality evidence).

30 Safety of antibiotics

- 31 • Allergic reactions to penicillins occur in 1 to 10% of people and
32 anaphylactic reactions occur in less than 0.05%. People with a history of

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1 atopic allergy (for example, asthma, eczema and hay fever) are at a higher
2 risk of anaphylactic reactions to penicillins. People with a history of
3 immediate hypersensitivity to penicillins may also react to cephalosporins
4 and other beta-lactam antibiotics ([BNF, March 2017](#)).

- 5 • Antibiotic-associated diarrhoea is estimated to occur in 2 to 25% of people
6 taking antibiotics, depending on the antibiotic used ([NICE Clinical
7 Knowledge Summary \[CKS\]: diarrhoea – antibiotic associated](#)).
- 8 • Adverse effects were not reported in Spinks et al. (2013) because of
9 inconsistencies in reporting these effects in the RCTs.
- 10 • See the [summaries of product characteristics](#) for information on
11 contraindications, cautions and adverse effects of individual medicines.

12 ***Delayed antibiotics***

- 13 • One RCT in adults ([de la Poza Abad et al. 2016](#)) found that a delayed
14 antibiotic prescription (either patient-led or prescription collection) or no
15 antibiotic prescription was as effective as an immediate antibiotic
16 prescription for reducing duration and severity of symptoms in people with
17 pharyngitis (low quality evidence).
- 18 • One systematic review of RCTs ([Spurling et al. 2013](#)) reported conflicting
19 results in adults and children with acute sore throat. Immediate antibiotics
20 were significantly more effective than placebo for improving fever, pain and
21 malaise in some RCTs, whereas there was no difference between groups
22 in other RCTs (very low to low quality evidence).
- 23 • Across the RCT and systematic review there was generally no difference in
24 adverse events between an immediate antibiotic prescription strategy and a
25 delayed antibiotic prescription or no prescription strategy (Spurling et al.
26 2013, de la Poza Abad et al. 2016; very low to low quality evidence).

27 ***Identifying people likely to benefit from antibiotics***

- 28 • A UK open-label RCT ([Little et al. 2013](#)) found that the targeted use of
29 antibiotics using the FeverPAIN clinical scoring system improved symptoms
30 on days 2 to 4, and reduced antibiotic use compared with a delayed
31 antibiotic prescribed strategy alone. The additional use of rapid antigen

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- 1 tests for GABHS in people with a high FeverPAIN score had no clear
2 advantage over FeverPAIN score alone. People in the clinical score group
3 with a low FeverPAIN score (0 or 1 points) were not offered an antibiotic.
4 People with a moderate FeverPAIN score (2 or 3 points) were offered a
5 delayed prescription, and people with a high FeverPAIN score (4 points or
6 more) were offered an immediate antibiotic prescription.
- 7 • A systematic review ([Aalbers et al. 2011](#)) assessed the diagnostic accuracy
8 of the Centor criteria for estimating the probability of GABHS pharyngitis. A
9 Centor score of 3 or more had a specificity of 0.82 and a sensitivity of 0.49
10 (low quality evidence). The authors concluded that Centor is a well
11 calibrated tool for estimating the probability of GABHS pharyngitis, and can
12 enhance the appropriate prescribing of antibiotics.
 - 13 • A systematic review of RCTs ([Cohen et al. 2016](#)) found that rapid antigen
14 testing has high sensitivity and specificity for identifying GABHS infection.
15 In studies that compared rapid antigen testing and throat culture, rapid
16 antigen testing had a summary sensitivity of 85.6% and a summary
17 specificity of 95.4% (very low quality evidence).

Committee discussions on no antibiotics, delayed antibiotics and identifying people likely to benefit from antibiotics

- Based on evidence and their experience, the committee agreed that acute sore throat is a self-limiting infection, and most people will get better within a week without antibiotic treatment. Based on evidence and their experience, the committee agreed that complications are rare in adults and children, and the committee noted the adverse events associated with antibiotic use.
- The committee agreed that prescribers need to weigh up the small clinical benefits from antibiotics against their potential to cause adverse effects.
- Based on evidence and their experience, the committee agreed that no or delayed antibiotic prescribing was as effective as immediate antibiotic prescribing for people with sore throat. A delayed antibiotic prescription could be used if symptoms deteriorate rapidly or significantly, or do not improve within the next 3 to 5 days.
- The committee acknowledged the recommendation in the NICE guideline on [respiratory tract infections \(self-limiting\): prescribing antibiotics](#) for a no or delayed antimicrobial prescribing strategy in acute sore throat.
- The committee discussed the clinical scoring systems available for sore throat. They were aware that FeverPAIN was developed in a UK primary care setting in 2013, although further external validation has not been carried out. The committee noted that the Centor criteria were developed in the US in an emergency department setting in 1981 and have not been validated in a UK primary care setting.
- The committee noted that people with a FeverPAIN score of 4 or 5 had a 62-65% probability of having a bacterial infection, which is slightly higher than people with a Centor score of 4 who have a 55.7% probability of a bacterial infection. The committee recognised that the evidence review did not identify any studies that directly compared the diagnostic accuracy of the different clinical scoring systems.

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- The committee concluded that based on evidence and their experience, decisions about prescribing should be guided by the FeverPAIN score.
- The committee was aware that the NICE guideline on [respiratory tract infections \(self-limiting\): prescribing antibiotics](#) uses Centor criteria, however when this guideline was first published FeverPAIN was not available.

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2 **Antibiotic choice**

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- Overall, evidence from 2 systematic reviews and meta-analyses of RCTs in adults and children with GABHS-positive sore throat ([Altamimi et al. 2012](#) and [van Driel et al. 2016](#)) did not suggest major differences in clinical effectiveness between classes of antibiotics, including penicillins, cephalosporins, macrolides, and sulfonamides (very low to moderate quality evidence). Statistically significant differences were seen for some comparisons but the absolute differences between antibiotic classes was small.
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- One systematic review (van Driel et al. 2016) found no significant difference in adverse events for cephalosporins, macrolides or sulfonamides compared with penicillin. The other systematic review (Altamimi et al. 2012) found that a shorter course of late-generation (broader spectrum) antibiotics was associated with significantly more adverse events compared with a 10-day course of penicillin.
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17 **Frequency of antibiotic dosing**

- One systematic review and meta-analysis of RCTs ([Lan and Colford 2000](#)) found twice daily dosing of penicillin V was as effective as 3 or 4 times daily dosing for microbiological cure in adults and children with GABHS-positive sore throat (low quality evidence). Once daily dosing was significantly less effective than 3 or 4 times daily dosing of penicillin V (very low quality evidence).
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Committee discussions on antibiotic choice and frequency of dosing

- Based on the evidence that there are no major differences in clinical effectiveness between classes of antibiotics, the committee used their experience to agree that the choice should largely be driven by minimising the risk of resistance.
- The committee discussed that, generally, if an antibiotic is needed to treat an infection that is not life threatening, narrow-spectrum antibiotics should be used as the first choice. Indiscriminate use of broad-spectrum antibiotics is undesirable because it creates a selective advantage for bacteria resistant even to these 'last-line' broad-spectrum agents, and also kills normal commensal flora leaving people susceptible to antibiotic-resistant harmful bacteria such as *Clostridium difficile*. For infections that are not life threatening, broad-spectrum antibiotics need to be reserved for second-choice treatment when narrow-spectrum antibiotics are ineffective. Based on evidence, clinical experience and resistance data, the committee agreed to recommend **penicillin V** as the first-choice antibiotic. This is a narrow-spectrum penicillin with the lowest risk of causing resistance.
- The committee discussed the systematic review by Lan and Colford (2000) that suggested twice daily dosing was as effective as four times daily dosing. The committee noted that four times daily dosing was the standard dose frequency for penicillin V and the dose used most frequently in the included studies. The committee noted that this is low quality evidence, using data from only 6 studies and used bacteriological cure at follow-up as an efficacy outcome (rather than a patient-orientated outcome). The committee were concerned if a twice daily dose was used, penicillin V may fall below the minimum inhibitory concentration, especially for people who are more unwell (those with a higher FeverPAIN score). Based on evidence and clinical experience, the committee agreed that if penicillin V was prescribed, a frequency of 4 times a day should be used.

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- Based on evidence, clinical experience and resistance data, the committee agreed to recommend the following alternative first-choice antibiotics for use in penicillin allergy or for when penicillin V is not tolerated: **clarithromycin** or **erythromycin** (in pregnancy).

1 ***Antibiotic course length***

- 2 • One systematic review and meta-analysis of RCTs ([Falagas et al. 2008](#))
- 3 found that in people with GABHS-positive sore throat, treatment with
- 4 penicillin V for 5 to 7 days had significantly lower microbiological cure rates
- 5 compared with 10 days treatment (low quality evidence).
- 6 • The studies that compared different course lengths of penicillin V treatment
- 7 did not report on adverse events.

Committee discussions on antibiotic course length

- The committee agreed that, when an antibiotic is appropriate, the shortest course that is likely to be effective should be prescribed.
- The committee noted that the majority of studies involving clarithromycin or erythromycin used a 5 day course.
- Based on evidence, clinical experience and resistance data, the committee agreed that when an antibiotic was appropriate, a 10-day course of penicillin V was needed. A 5-day course of clarithromycin is an alternative for people with penicillin allergy or intolerance; a 5-day course of erythromycin is an alternative in penicillin allergy and pregnancy. This takes into account the overall efficacy and safety evidence for antibiotics, and minimises the risk of resistance.
- The committee noted that no studies were identified that compared 10 day and 5 day courses of penicillin V given at the current recommended dose (500 mg four times daily).

1 **Other considerations**

2 ***Medicines adherence***

- 3 • Medicines adherence may be a problem for some people with medicines
4 that require frequent dosing or longer treatment duration (for example,
5 antibiotics). See the NICE guideline on [medicines adherence](#).

6 ***Resource implications***

- 7 • Respiratory tract infections, including acute sore throat, are a common
8 reason for consultations in primary care, and therefore are a common
9 reason for potential antibiotic prescribing. In a 2011 survey of UK primary
10 care ([Gulliford et al. 2014](#)), consultations for 'sore throat' accounted for
11 27% of all consultations for respiratory tract infections, and the median
12 practice issued an antibiotic prescription for 60% of these.
- 13 • There is potential for resource savings if a no antibiotic or a delayed
14 antibiotic prescription strategy is used. One open-label RCT ([de la Poza](#)

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1 [Abad et al. 2016](#)) found significantly lower rates of antibiotic collection in
2 the delayed collection prescription group (26%, $p < 0.001$) and patient-led
3 delayed prescription group (34.7%, $p < 0.001$) compared with the immediate
4 prescription group (89.1%, very low quality evidence).

- 5 • Recommended antibiotics are all available as generic formulations, see
6 Drug Tariff for costs.

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8 See the full evidence review for more information.