

## **Diagnosis and Antibiotic Treatment for Group A Streptococcus (GAS)**

Author:	Aoife Hendrick, David Annandale, Joanne Munns, Dr Emily Walton, Dr Emily Charkin
Approved by:	Antimicrobial Stewardship Group and Medicines Governance Committee December 2022
Publication date:	21/12/22 December 2022. Version 3.3
Review date:	June 2023

---

### **Contents**

Introduction .....	1
Background .....	3
Sore Throat .....	3
Scarlet Fever.....	4
Treatment Choice .....	5
Course Length .....	6
Supplying medication.....	6
Dose .....	7
Additional Information .....	10
Appendix 1 – crushing tablets/opening capsules guidance (from SPS Guidance) .....	11
Appendix 2 - Leaflets and guidance to support children swallowing tablets or capsules.....	17
Appendix 3 – UKHSA HPT Notification.....	17
Appendix 4 – Management of Contacts .....	18

### **Introduction**

UKHSA have reported an increase in invasive group A streptococcus (iGAS) infections in children, that are higher than expected for this time of year with an unusually high number of children presenting with lower respiratory tract GAS infections, including pulmonary empyema. The increased iGAS rates may reflect increases in the co-circulation of respiratory viruses. (Serial number 2022/098 published 2/12/2022).

Recommendations from the briefing note include

- Health care professionals are asked to have a low threshold to consider and empirically prescribe antibiotics to children presenting with features of GAS infection, including where secondary to viral respiratory illness.
- GPs should maintain a low threshold for prompt referral to secondary care of any children presenting with persistent or worsening symptoms.
- Secondary care should maintain a low threshold for considering pulmonary complications of GAS, especially if presenting with: an illness compatible with bacterial pneumonia, scarlet fever, GAS infection, or if GAS was recently isolated, or the patient was recently in contact with a case of scarlet fever/GAS infection. Prompt initiation of appropriate antibiotics remains key.
- When indicated, throat swab, blood cultures and other appropriate samples including respiratory culture, tissue and fluid samples should be sent for culture and antimicrobial susceptibility testing. When required, diagnostic imaging, with aspiration / drainage remain important in the diagnosis and management of suspected or confirmed empyema.
- In the case of culture-negative fluid specimens, please use molecular diagnostics such as GAS-specific PCR or 16S rDNA PCR, as guided by infection specialists. Send all positive isolates (or DNA extract if molecular diagnosis only) to UKHSA reference lab for further typing and investigation.

In response to this briefing note on a national level, there has been a significant increase in demand for the oral antibiotic solutions in paediatrics. The wholesaler's stocks of amoxicillin, penicillin V, clarithromycin, azithromycin and erythromycin oral solutions have been impacted and there is currently limited stock available. This supply issue is affecting both the primary and secondary care sectors.

Across UHSussex we have very limited stock of these drugs and these need to be prioritised as per the following guideline. We will continue to monitor the situation and stock levels within UHSussex closely.

This guideline reflects national treatment guidelines for Group A streptococcus (GAS) infections in children published on 16<sup>th</sup> December 2022 ([PN00080](#)) and valid until end of January 2023. The Specialist Pharmacy Service has also released guidance on [Using solid oral dosage form antibiotics in children](#)

Please see Appendix 3 for information on notification of UKHSA Health Protection Teams.

Please see Appendix 4 for management of contacts.

## Background

Group A streptococcus (GAS) is a bacterium which can colonise the throat, skin and anogenital tract. It can cause a diverse range of clinical presentations such as skin, soft tissue and respiratory tract infections, including:

- Tonsillitis
- Pharyngitis
- scarlet fever
- impetigo
- erysipelas
- cellulitis
- pneumonia.

Please see the following resources for additional information and guidance.

- [Healthier Together](#) – Advice for parents
- NHS website ([Strep A](#)), ([Scarlet Fever](#)) – Advice for parents
- NICE Guidance - Fever in under 5s: assessment and initial management [\[NG143\]](#)
- NICE Guidance - Sepsis: recognition, diagnosis and early management [\[NG51\]](#)
- NICE Clinical Knowledge Summary - [Sore throat – acute](#)
- NICE Clinical Knowledge Summary - [Scarlet Fever](#)
- UKHSA – [Scarlet Fever: guidance and data](#)
- UKHSA – [Group A Streptococcal Infections: guidance and data](#)

## Sore Throat

Sore throat is a common and usually self-limiting condition. The majority of sore throats are caused by viruses, and the risk of progression to serious disease is low. NICE guidance on [sore throat \(acute\)](#) currently recommends the modified feverPAIN score to guide clinical decision making around people most likely benefit from an antibiotic. According to the cumulative FeverPAIN score NICE recommends either no, delayed or immediate antibiotic prescriptions.

Given the current high prevalence of GAS, and the increased likelihood of GAS as cause of sore throat in children, the current FeverPAIN score has been adjusted, with a recommendation to prescribe antibiotics to children with a FeverPAIN score of 3 or more.

### Modified feverPAIN score

- Fever (during previous 24 hours)
- Purulence (pus on tonsils)
- Attend rapidly (within 3 days after onset of symptoms)
- Severely Inflamed tonsils
- No cough or coryza (inflammation of mucus membranes in the nose)

Each of the FeverPAIN criteria score 1 point (maximum score of 5). Higher scores suggest more severe symptoms and likely bacterial (streptococcal) cause

Consider taking a throat swab where there is diagnostic uncertainty, or concerns regarding antibiotic resistance.

### **Scarlet Fever**

First symptoms: sore throat, headache, fever, nausea and vomiting

After 12 to 48 hours: characteristic fine red rash develops (feels like sandpaper).

Typically, it first appears on the chest and stomach, rapidly spreading to other parts of the body.

On brown and black skin, the rash may be harder to spot, although the 'sandpaper' feel should be present.

Further symptoms include:

- fever over 38.3° C (101° F) or higher is common
- white coating on the tongue which peels a few days later, leaving the tongue looking red and swollen (known as 'strawberry tongue')
- swollen glands in the neck
- feeling tired and unwell
- flushed red face, but pale around the mouth. The flushed face may appear more 'sunburnt' on brown and black skin
- peeling skin on the fingertips, toes and groin area, as the rash fades.

The fever will usually subside within 24 hours of starting antibiotics.

## Treatment Choice

(Please see Appendix 1 for guidance on crushing tablets/opening capsules)

For all FP10 prescribe the following (community pharmacy can amend according to NHS BSA [Serious Shortage Protocol](#))

- Child under 1 year – **Phenoxymethylpenicillin** oral solution
- Child over 1 year – **Phenoxymethylpenicillin** tablets

If penicillin allergy - contact the recommended pharmacies about stocks, please know during the Christmas period a list of pharmacies holding extra stock is being circulated.

## For Hospital Outpatient prescriptions and TTO packs

(Pharmacy staff may change the prescription according to this guidance using “PNC” usual procedure)

### 1<sup>st</sup> Line

- Child under 1 year – **Amoxicillin** oral solution
- Child over 1 year – **Amoxicillin** capsules

### 2nd Line

- Child under 1 year – **Cefalexin** oral solution or **Phenoxymethylpenicillin** suspension (check which has stock available). Note: The unpleasant taste and palatability of **Phenoxymethylpenicillin** suspension can affect adherence to antibiotics
- Child over 1 year and under 6 - **Cefalexin** tablets
- Child over 6 years – **Phenoxymethylpenicillin** tablets

### 3rd Line

- Child under 1 year – **Flucloxacillin** oral solution
- Child over 1 year and under 6 - **Cefalexin** tablets
- Child over 6 years and under 9 – **Phenoxymethylpenicillin** tablets
- Child over 10 years - **Flucloxacillin** capsules

## Penicillin Allergic

### Non severe penicillin Allergy (non IgE mediated e.g. delayed rash)

#### 1<sup>st</sup> Line

- Child under 1 year – **Cefalexin** oral solution
- Child over 1 year – **Cefalexin** tablets

#### 2nd Line (depending on availability)

- Child under 1 year – **Clarithromycin/Azithromycin** oral solution
- Child over 1 year – **Clarithromycin/Azithromycin** tablets

### **Severe penicillin allergy (IgE mediated e.g. anaphylaxis, respiratory distress, angioedema)**

#### **1<sup>st</sup> Line (depending on availability)**

- Child under 1 year – Clarithromycin/Azithromycin oral solution
- Child over 1 year – Clarithromycin/Azithromycin tablets

#### **2<sup>nd</sup> Line (depending on availability)**

- Child under 6 years – Co-trimoxazole oral solution (unless able to swallow tablets, do not crush and disperse)
- Child over 6 years – Co-trimoxazole tablets (Do not crush and disperse co-trimoxazole tablets)

#### **If Pregnant and penicillin allergic**

- Erythromycin 8-17 years: 1g po BD\*<sup>2</sup>

### **Course Length**

- Sore Throat: a 5-day course of antibiotics
- Scarlet Fever: a 10-day course of antibiotics

### **Supplying medication**

#### **Children under 1 – suspension**

The suspension stock is to be reserved for patient under 1 years old. It is advisable to contact the pharmacy supplying the medication to confirm what is in stock. **Note** it may become required to supply tablets or capsule to this age group see dispersing or crushing advice in appendix 1.

#### **Children over 1 year and under 6 years**

- Supply with tablets or capsules
- Dispersing or crushing advice. See Appendix 1

#### **Children over 6 & adult patients**

- Supply with tablets or capsules
- +/- Pill swallowing advice See Appendix 2
- +/-Dispersing or crushing See Appendix 1

### During normal working hours

Patients should be +/- given a dose and then sent to the outpatient pharmacy with an outpatient prescription for medication.

There should be daily communication with the outpatient pharmacy concerning available stock.

**TTO packs to only be used out of hours when outpatient pharmacy is closed.**

### Out of hours

In order to protect TTO pack supply patients should be given a dose and a prescription. They will need to take this to the outpatient pharmacy when it is open. **However**, consideration of the opening hours and the timing of the next dose should be taken into consideration to avoid late dosing.

If patient unable to receive timely supply and about to miss a dose, please advise them to represent for further dose to ensure treatment not missed. Across the bank holiday weekends there is reduced access to community pharmacy.

If a TTO pack is used, you will need to make antibiotic choice based on available stock.

Patient presenting with prescriptions from the community should be referred back the community for a supply. The community pharmacist should discuss with the prescriber in order to ensure a supply is made. OUT OF HOURS it would be wise to give a dose of treatment to provide time to obtain the prescription.

## Dose

Based on BNFC except if \* beside dose. This differs from the dose quoted in BNFC and is recommended in order to improve compliance.

### Amoxicillin:

- **3-11 months:** 125mg po TDS<sup>2</sup> or 250mg po BD<sup>4</sup> (off-label) (Liquid if available)
- **1-4 years:** 250mg po TDS<sup>2</sup> or 500mg po BD<sup>4</sup> (off-label)
- **5-11 years:** 500mg po TDS<sup>2</sup> or 750mg po BD<sup>4</sup> (off-label)
- **12 years and over:** 500mg po TDS<sup>2</sup> or 1g po BD<sup>4</sup> (off-label)

**Formulations:** 125mg/5mL, 250mg/5mL, 250mg caps & 500mg caps

### Phenoxymethylpenicillin (Penicillin V):

- **1-11 months:** 125mg po BD<sup>\*2,7</sup> (Liquid if available or half a 250mg tablet)
- **1-5 years:** 250mg po BD<sup>\*2,7</sup>
- **6-11 years:** 500mg po BD<sup>\*2,7</sup>
- **12-17 years:** 1g po BD<sup>\*2,7</sup>

**Formulations:** 250mg/5mL, 125/5mL, 250mg tab & 500mg tab

Flucloxacillin:<sup>2,7</sup>

- **1 month-1 year:** 62.5mg po QDS (Liquid)
- **2-9 years:** 125mg po QDS (Liquid – Not recommended in this guideline)
- **10 and above years:** 250mg po QDS (Capsules)

**Formulations:** 125mg/5mL, 250mg/5mL, 250mg caps & 500mg caps

Cefalexin:<sup>2,7</sup>

Cefalexin		
Age	Dose and frequency	No. tabs per dose
Child 1–11 months	125 mg twice daily	Half a 250mg tablet
Child 1–4 years	125 mg 3 times a day	Half a 250mg tablet
Child 5–11 years	250 mg 3 times a day	Half a 500mg tab or one 250mg tab
Child 12–17 years	500 mg 3 times a day	One 500mg tab

**1 month to 11 months:** Liquid if available otherwise crush and disperse as per Appendix 1.

**Formulations:** 250mg/5mL, 125/5mL, 250mg tab, 500mg tab, 250mg caps & 500mg caps

Penicillin allergic

Azithromycin:<sup>2</sup>

Azithromycin		
Weight	Dose and frequency	No. tabs per dose
4.0kg to 8.5kg	62.5mg Once daily	Quarter of a 250mg tab
8.5kg to 13.5kg	125mg Once daily	Half a 250mg tab
13.5kg to 18.5kg	187.5mg Once daily	Three quarters of a 250mg tab
18.5kg to 24.5kg	250mg Once daily	One 250mg tab
24.5kg to 29kg	312.5mg Once daily	One 250mg and a quarter
29kg to 35kg	375mg Once daily	One and a half 250mg tab
35kg plus or over 12 years of age	500mg Once daily	Two 250mg tab or one 500mg tab

**Formulations:** 40mg/mL, 250mg tab & 500mg tabs



Clarithromycin:<sup>2,3,7</sup>

- Under 8 kg: 7.5 mg/kg po BD<sup>2</sup>

Clarithromycin		
Weight	Dose and frequency	No. tabs per dose
8-11 kg:	62.5mg po BD	Quarter of a 250mg tab
12-19 kg:	125mg po BD	Half a 250mg tab
20-29 kg:	187.5mg po BD	Three quarters of a 250mg tab
30-40 kg:	250mg po BD	Half a 500mg tab or one 250mg tab
12-17 years:	250-500mg po BD	One 250mg tab or one 500mg tab

**Formulations:** 250mg/5mL, 125/5mL, 250mg tab, 500mg tab

Co-trimoxazole:<sup>2,6</sup>

Do not crush and disperse co-trimoxazole tablets

Co-trimoxazole		
Age	Dose and frequency	No. tabs per dose
6 weeks-5 months	120mg po BD	Liquid
6 months-5 years	240mg po BD	Half a 480mg tab, if unable to swallow whole tablet give liquid
Child 6–11 years	480mg po BD	One 480mg tab
Child 12–17 years	960mg po BD	One 960mg tab

**Formulations:** 240mg/5mL, 480/5mL, 480mg tab & 960mg tab

## Additional Information

**Notify** the local health protection team promptly within 3 days by completing a [notification form](#) if a diagnosis of scarlet fever is suspected. Please see appendix 3.

### General advice<sup>1</sup>

Advise the family to keep child away from school/nursery for at least 24 hours after starting antibiotic treatment, wash their hands frequently, avoid sharing eating utensils and towels, dispose of tissues promptly, and avoid contact with anyone at particular risk of infection (e.g. people with valvular disease or who are immunocompromised).

### Safety netting

[Scarlet fever written and verbal advice](#) from Healthier Together (advice updated Dec 2022)  
[Strep A and Scarlet fever written and verbal advice](#) from Healthier Together (advice updated Dec 2022)

## References

1. NICE CKS. Scarlet fever. Last revised 03/20. Accessed [LINK](#) 7/12/22
2. BNFC accessed at [LINK](#) 7/12/22
3. NICE & PHE. Summary of antimicrobial prescribing guidance – managing common infections [LINK](#) accessed 6/12/22
4. WHO - Recommendations for management of common childhood 2012 conditions. [LINK](#) accessed 7/12/22
5. SPS Guidance [Using solid oral dosage form antibiotics in children](#) published 7/12/22
6. NHS England. Group A streptococcus in children: Interim Clinical Guidance Summary published 16<sup>th</sup> December 2022 ([PN00080](#))
7. NHSBSA – Serious Shortage Protocol Phenoxymethylpenicillin 250mg Tablets. Annex B Antibiotic Dosing. Published 16<sup>th</sup>/12/22 [LINK](#) accessed 19/12/22

## Appendix 1 – crushing tablets/opening capsules guidance ([from SPS Guidance](#))

### General Advice

Swallowing whole solid dose forms is preferred

Children should be encouraged to swallow oral solid dose forms (tablets and capsules), where possible:

- [Medicines for Children](#) has useful guides on how to give medicines, including giving [tablets](#) and [capsules](#).
- [KidzMed](#) is an e-Learning resource from Health Education England for healthcare professionals teaching children to swallow pills.

Where children are unable to swallow oral solid dose forms, we have provided advice on how to give doses by dispersing or crushing tablets, or opening capsules. Use in this way is outside the product license ('off-label').

---

### Amoxicillin capsules

Amoxicillin capsules are available in 250mg and 500mg strengths.

#### Opening and dispersing

The capsules can be opened and the contents tipped out and mixed with liquid or soft food. However, this should not be undertaken by anyone with a penicillin allergy.

#### Masking the taste

The capsule contents will taste bitter so it can be helpful to use a strongly flavoured drink (e.g. blackcurrant cordial) or food (e.g. jam, apple sauce, yoghurt) that the child likes:

- use a small amount of food or drink (e.g. a teaspoonful) so you can be sure the child eats it all and swallows the whole dose
- it might be helpful to use an oral syringe for liquids
- after mixing the powder with food or drink, give it straight away

### Azithromycin capsules

Azithromycin capsules are available in a 250mg strength.

#### Opening and dispersing

They can be opened and the contents tipped out and mixed with liquid or soft food. However, this should not be performed by anyone with a macrolide allergy.

---

**Masking the taste**

The capsule contents will taste bitter so it can be helpful to use a strongly flavoured drink (e.g. blackcurrant cordial) or food (e.g. jam, apple sauce, yoghurt) that the child likes:

- use a small amount of food or drink (e.g. a teaspoonful) so you can be sure the child eats it all and swallows the whole dose
- it might be helpful to use an oral syringe for liquids
- after mixing the powder with food or drink, give it straight away

Absorption of azithromycin capsules (but not tablets or oral suspension) can be decreased by food; however, it is not clear whether absorption of opened capsules is affected.

---

**Azithromycin tablets**

Azithromycin tablets are available as 250mg and 500mg strengths.

---

**Dispersing or crushing**

They are film-coated but can be crushed and mixed with liquid or soft food. Crushing tablets should not be undertaken by anyone with a macrolide allergy.

*Dispersing tablets*

To disperse the tablet:

- place the tablet in the barrel of a 10mL oral syringe
- replace the plunger
- draw up approximately 5mL of water and 2mL of air
- shake well and allow to disperse (this may take up to 10 minutes)
- ensure all contents of the syringe are given

Alternatively, the tablet may be mixed with 5 to 10mL of water in small glass or medicine cup and stirred well.

---

**Masking the taste**

The crushed tablet will taste bitter so it can be helpful to use a strongly flavoured drink (e.g. blackcurrant cordial) or food (e.g. jam, apple sauce, yoghurt) that the child likes:

- use a small amount of food or drink (e.g. a teaspoonful) so you can be sure the child eats it all and swallows the whole dose
  - it might be helpful to use an oral syringe for liquids
  - after mixing the crushed tablet with food or drink, give it straight away
-

### Cefalexin capsules

Cefalexin capsules are available as 250mg and 500mg strengths.

---

#### Opening and dispersing

They can be opened and the contents tipped out and mixed with liquid or soft food. However, this should not be performed by anyone with penicillin or cephalosporin allergy.

---

#### Masking the taste

The capsule contents will taste bitter so it can be helpful to use a strongly flavoured drink (e.g. blackcurrant cordial) or food (e.g. jam, apple sauce, yoghurt) that the child likes:

- use a small amount of food or drink (e.g. a teaspoonful) so you can be sure the child eats it all and swallows the whole dose
- it might be helpful to use an oral syringe for liquids
- after mixing the powder with food or drink, give it straight away

---

### Cefalexin tablets

Cefalexin tablets are available as 250mg and 500mg strengths.

---

#### Dispersing or crushing

They are film-coated but can be crushed and mixed with liquid or soft food. Crushing tablets should not be undertaken by anyone with a penicillin or cephalosporin allergy.

#### *Dispersing tablets*

To disperse the tablet:

- place the tablet in the barrel of a 10mL oral syringe
- replace the plunger
- draw up approximately 5mL of water and 2mL of air
- shake well and allow to disperse (this may take up to 10 minutes)
- ensure all contents of the syringe are given

Alternatively, the tablet may be mixed with 5 to 10mL of water in small glass or medicine cup and stirred well.

---

#### Masking the taste

The crushed tablet will taste bitter so it can be helpful to use a strongly flavoured drink (e.g. blackcurrant cordial) or food (e.g. jam, apple sauce, yoghurt) that the child likes:

- use a small amount of food or drink (e.g. a teaspoonful) so you can be sure the child eats it all and swallows the whole dose
- it might be helpful to use an oral syringe for liquids
- after mixing the crushed tablet with food or drink, give it straight away

---

### Clarithromycin tablets

Clarithromycin immediate-release tablets are available as 250mg and 500mg strengths.

---

#### Dispersing or crushing

They are film-coated but can be crushed and mixed with liquid or soft food. Crushing tablets should not be undertaken by anyone with a macrolide allergy. The modified-release tablets must not be crushed.

#### *Dispersing tablets*

To disperse the tablet:

- place the tablet in the barrel of a 10mL oral syringe
- replace the plunger
- draw up approximately 5mL of water and 2mL of air
- shake well and allow to disperse (this may take up to 10 minutes)
- ensure all contents of the syringe are given

Alternatively, the tablet may be mixed with 5 to 10mL of water in small glass or medicine cup and stirred well.

---

#### Masking the taste

The crushed tablet will taste bitter so it can be helpful to use a strongly flavoured drink (e.g. blackcurrant cordial) or food (e.g. jam, apple sauce, yoghurt) that the child likes:

- use a small amount of food or drink (e.g. a teaspoonful) so you can be sure the child eats it all and swallows the whole dose
- it might be helpful to use an oral syringe for liquids
- after mixing the crushed tablet with food or drink, give it straight away

---

### Erythromycin tablets

Erythromycin tablets are available as 250mg and 500mg strengths. Some are film coated and some are enteric coated.

---

#### Dispersing or crushing

The film-coated tablets can be crushed and mixed with liquid or soft food. Crushing tablets should not be undertaken by anyone with a macrolide allergy. Enteric coated tablets should not be crushed.

### *Dispersing tablets*

To disperse the tablet:

- place the tablet in the barrel of a 10mL oral syringe
- replace the plunger
- draw up approximately 5mL of water and 2mL of air
- shake well and allow to disperse (this may take up to 10 minutes)
- ensure all contents of the syringe are given

Alternatively, the tablet may be mixed with 5 to 10mL of water in small glass or medicine cup and stirred well.

---

### **Masking the taste**

The crushed tablet will taste bitter so it can be helpful to use a strongly flavoured drink (e.g. blackcurrant cordial) or food (e.g. jam, apple sauce, yoghurt) that the child likes:

- use a small amount of food or drink (e.g. a teaspoonful) so you can be sure the child eats it all and swallows the whole dose
- it might be helpful to use an oral syringe for liquids
- after mixing the crushed tablet with food or drink, give it straight away

Note that some generic products advise to give one hour before food, however this may not be necessary and is not practical in this situation.

---

### **Flucloxacillin capsules**

Flucloxacillin capsules are available as 250mg and 500mg strengths.

---

#### Opening and dispersing

They can be opened and the contents tipped out and mixed with liquid or soft food. However, this **should not** be performed by anyone with penicillin allergy.

---

#### Masking the taste

The capsule contents will taste bitter so it can be helpful to use a strongly flavoured drink (e.g. blackcurrant cordial) or food (e.g. jam, apple sauce, yoghurt) that the child likes:

- use a small amount of food or drink (e.g. a teaspoonful) so you can be sure the child eats it all and swallows the whole dose
- it might be helpful to use an oral syringe for liquids
- after mixing the powder with food or drink, give it straight away

Although flucloxacillin is generally given on an empty stomach, a study in children found there was no difference in absorption when flucloxacillin was given with or without food.

---

## Phenoxymethylpenicillin (Penicillin V) tablets

Phenoxymethylpenicillin tablets are available in a 250mg strength.

---

### Dispersing or crushing

They are film-coated but can be dispersed in water, or crushed and mixed with liquid or soft food. Crushing tablets should not be undertaken by anyone with a penicillin allergy.

#### *Dispersing tablets*

To disperse the tablet:

- place the tablet in the barrel of a 10mL oral syringe
- replace the plunger
- draw up approximately 5mL of water and 2mL of air
- shake well and allow to disperse (this may take up to 10 minutes)
- ensure all contents of the syringe are given

Alternatively, the tablet may be mixed with 5 to 10mL of water in small glass or medicine cup and stirred well.

---

### Masking the taste

The dispersed or crushed tablet will taste bitter so it can be helpful to use a strongly flavoured drink (e.g. blackcurrant cordial) or food (e.g. jam, apple sauce, yoghurt) that the child likes:

- use a small amount of food or drink (e.g. a teaspoonful) so you can be sure the child eats it all and swallows the whole dose
- it might be helpful to use an oral syringe for liquids
- after mixing the crushed tablet with food or drink, give it straight away

Phenoxymethylpenicillin would normally be given half an hour before food as food slightly decreases the peak plasma concentration of the drug; however, the manufacturer acknowledges food does not appear to affect the extent of absorption.



## Appendix 2 - Leaflets and guidance to support children swallowing tablets or capsules

Tablets - [How to give medicines: tablets – Medicines For Children](#)

Capsules - [How to give medicines: capsules – Medicines For Children](#)

e-learning for HCPs and carers - <https://www.e-lfh.org.uk/programmes/kidzmed/>



Carer-leaflet (1).pdf



KidzMed-Comic-Pos  
ter-English (1).pdf



KID\_pill-swallowing  
-certificate.pdf

## Appendix 3 – UKHSA HPT Notification

Clinicians are reminded of the importance of rapid notification by telephone of all cases of severe GAS infection to Health Protection Teams (HPTs) to facilitate rapid assessment of contacts and identification of epidemiological links with other cases, according to [national public health guidelines](#). Details of HPTs are available at <https://www.gov.uk/health-protection-team>

Severe GAS cases encompass both cases of invasive disease defined through the isolation of GAS from a normally sterile site, plus additional cases where GAS is isolated from a non-sterile site in combination with clinical signs consistent with a severe infection (streptococcal toxic shock syndrome, pneumonic changes, empyema, necrotising fasciitis, puerperal sepsis, meningitis, septic arthritis). This includes cases diagnosed via culture or molecular methods.

In the event of a sudden death of a child potentially due to GAS infection, clinicians are asked to liaise with microbiology and histopathology colleagues to ensure appropriate post-mortem clinical specimens are taken to facilitate diagnosis.

In addition: UKHSA Health Protection Teams can be contacted for advice and incident management, especially for outbreaks.

For schools or early years' settings, HPTs should be contacted when:

- schools have one or more cases of chickenpox or Influenza in the class that has scarlet fever at the same time
- experiencing an outbreak of scarlet fever in a setting/class that provides care or education to children who are clinically vulnerable
- the outbreak continues for over 2 weeks, despite taking steps to control it
- any child or staff member is admitted to hospital with any GAS infection (or there is a death)
- any issues that are making it difficult to manage the outbreak.

As per national guidance, prompt notification of scarlet fever cases and outbreaks to UKHSA HPTs, and exclusion of cases from school or work until 24 hours of antibiotic treatment has been received, remain essential tools to limit spread.

## Appendix 4 – Management of Contacts

Contacts will be identified by HPTs. HPTs will advise on who requires prophylaxis. For information, the following individuals who are close contacts of cases are recommended for antibiotic prophylaxis due to higher risk of severe outcomes:

- neonates and women within the first 28 days of delivery
- pregnant women  $\geq 37$  weeks
- older household contacts ( $\geq 75$  years)
- individuals who develop chickenpox with active lesions either seven days prior to onset in the iGAS case or within 48 hours after the iGAS case commences antibiotics, if exposure is ongoing.
- If 2 or more confirmed iGAS cases are identified in the household

Close contact is defined as:

- Prolonged contact with the case in a household-type setting during the 7 days before onset of symptoms and up to 24 hours after initiation of appropriate antimicrobial therapy in the index case

Please see [UKHSA guidance](#) for further information and discuss with the local Health Protection Team