



## CLINICAL GUIDELINE

# Antibiotic management of suspected or confirmed invasive Group A Streptococcus (iGAS) infection in children

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

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<b>Approval Group:</b>	Antimicrobial Utilisation Committee

### Important Note:

The Intranet version of this document is the only version that is maintained. Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

## **Antibiotic management of suspected or confirmed invasive Group A Streptococcus (iGAS) infection in children**

The purpose of this guidance is to direct the antimicrobial management of suspected or confirmed invasive Group A Streptococcus (iGAS) infections in children presenting to the Royal Hospital for Children, Glasgow. Diagnosis and wider clinical management are not within the scope of this guidance.

For the management of suspected non-invasive GAS infection please continue to use guidance issued by the Scottish Antimicrobial Prescribing Group (SAPG) – accessed via [Paediatric Stewardship \(sapg.scot\)](http://sapg.scot) and that issued by NHS GG&C – accessed via [Antibiotic management of Group A Streptococcus \(GAS, Strep. pyogenes\) infection in children \(scot.nhs.uk\)](http://scot.nhs.uk)

The UKHSA and PHS have reported on an unusually high number of children presenting with lower respiratory tract GAS infection, including pulmonary empyema. A large proportion of cases have indicated co-infection with respiratory viruses including RSV, influenza, human metapneumovirus (hMPV) and enterovirus.

Increased case numbers of GAS and invasive Group A streptococcus infection (iGAS) have placed an unprecedented pressure on the medication supply chain. Alternative antibiotic management choices, and practical advice on the use of solid oral dosage forms is included within this guidance.

Isolates of GAS reported within NHS GGC have demonstrated good susceptibility to penicillin and macrolide antibiotics.

## Antibiotic management of suspected or confirmed invasive Group A Streptococcus (iGAS) infection in children

### Suspected iGAS sepsis/Toxic Shock Syndrome

#### **1<sup>st</sup> line:**

IV Ceftriaxone PLUS IV Clindamycin  
Consider IVIG (discuss with ID team)

#### **Penicillin allergy:**

IV Vancomycin PLUS IV Clindamycin PLUS IV Gentamicin

Review blood cultures at 48hours.

*If GAS confirmed*, Ceftriaxone can be switched to Benzylpenicillin.  
Clindamycin can be stopped after 5 days.

**Treatment duration:** minimum 2 weeks. Consider IVOST after 7 days if improving.

**IVOST\*\*** (where NO documented penicillin allergy)

1<sup>st</sup> line **PO Penicillin V**

2<sup>nd</sup> line **PO Amoxicillin**

3<sup>rd</sup> line **PO Co-amoxiclav** (*only where Penicillin V/Amoxicillin unavailable*)

**IVOST in Penicillin allergy: Clarithromycin**

If other bacterial sepsis treat as per guidelines or ID/micro advice. If culture negative review diagnosis and need for antibiotics.

**\*\*For oral antibiotics consider the use of solid oral dosage forms in children aged 5 years and older.**

**Doses as per the BNF-c. Use highest doses in recommended range.**

**Dosing regimens for once or twice daily dosing of Penicillin V or Amoxicillin are not recommended due to the short half-life of these medications in children.**

### Suspected iGAS with severe pneumonia +/- empyema\*

#### **1<sup>st</sup> line:**

IV Cefuroxime PLUS IV Clindamycin

#### **Penicillin allergy:**

IV Vancomycin PLUS IV Clindamycin PLUS IV Gentamicin

Consider early aggressive source control.

Review when blood and other cultures available.

*If GAS confirmed*: Switch Cefuroxime to IV Benzylpenicillin.  
Continue Clindamycin for a minimum of 5 days in severe infection/empyema. Longer courses can be considered following Consultant review.

#### **Treatment duration:**

*Pneumonia* – complete 7 days antibiotics. Consider IVOST when improving.

*Empyema* – complete 3-4 weeks antibiotics. Consider IVOST after 7 days if improving.

**IVOST\*\*** (where NO documented penicillin allergy)

- Pneumonia and confirmed streptococcal empyema: **PO Amoxicillin**
- Empyema unknown cause– **PO Co-Amoxiclav**

**IVOST in Penicillin allergy: Clarithromycin**

**\*NB Severe pneumonia with no features of streptococcal infection and no empyema should be treated with IV Cefuroxime +/- Gentamicin as per standard guidance**

**\*\*Advice on the use of solid oral dosage forms in children.**

For all children aged 5 year and above, assess for ability to swallow tablets/capsules. Penicillin tablets are small and easily swallowed using good technique.

Advice can be found at [Healthier Together | Pill Swallowing \(Kidzmed\) \(nenc-healthiertgether.nhs.uk\)](https://www.healthiertgether.nhs.uk/healthier-together/pill-swallowing-kidzmed), along with practical information for parents/carers.

1.



4.



2.



Make sure the drink is put in a bottle with a sports cap...

5.



3.



6.



Where children cannot swallow tablets/capsules an alternative treatment option should be chosen.

Guidance on the use of solid oral dosage forms can be found at:  
<https://www.sps.nhs.uk/articles/using-solid-oral-dosage-form-antibiotics-in-children/>

General principles:

- Ensure the person manipulating the tablet/capsule does NOT have a documented penicillin allergy
- Use closed systems (eg. barrel of syringe) where possible.
- Crushed/dispersed oral solid dosage forms can have a bitter taste. This can be masked with a small amount of blackcurrant juice (draw up in to the syringe), apple sauce or jam.
- Administer immediately

