

# TARGET Paediatric RTIs Webinar – Panel Questions

The following document covers questions and answers given during the live webinar “Managing paediatric respiratory tract infections (RTIs) – what is the evidence?” in October 2025.

Find the live webinar recording [here](#).

Answers have been provided by a group of clinical experts. They do not reflect the views of UK Health Security Agency (UKHSA) or the Royal College of General Practitioners (RCGP). *Please note the content of these webinars and this accompanying Q&A are accurate at the time of the event and are not reviewed for changes to guidance. Our [clinical scenario slides](#) are subject to evidence reviews and updated.*

## 1. Why is it important to avoid unnecessary antibiotic use in children?

There is a real risk of harm when children receive antibiotics unnecessarily. Antibiotics should be reserved only for cases where they are absolutely needed.

- Overprescribing not only contributes to antimicrobial resistance (AMR) but also potentially increases the risk of long-term health issues in children.
- It is important to reassure parents and educate through clear and accessible information on why antibiotics aren't needed.
- Providing safety netting information and red flags to look out for will help parents to regain control and seek care again only when necessary. For example, the [Healthier Together website](#) and '[Caring for children with coughs](#)' and '[When should I worry?](#)' leaflets may be useful to aid these discussions.

## 2. Does age impact the clinical benefit of using antibiotics to treat RTIs? For example, is it harder for a young child to fight off a bacterial infection compared to an older child?

- Age influences the cause (aetiology) of the infection more than the response.
- In young children, respiratory symptoms are far more likely to be caused by a viral infection, largely due to their close contact with other children in settings like nurseries and schools, so antibiotics would not be beneficial in these cases.
- It's important to note that young babies under 3 months have a significantly higher risk of invasive bacterial infections, such as late-onset sepsis, and may require antibiotics more urgently.

3. Is a persistent cough in a child (over 3 weeks) likely to be a bacterial infection?

A child with a viral RTI can expect the cough to last for 3 - 4 weeks, with antibiotics not adding benefit.

4. How do I ensure that I am providing a delayed prescription for paediatric patients correctly?

- A delayed antibiotic can be appropriate for some patients but there is no fixed script - use clinical judgement and shared decision-making.
- Ensure parents clearly understand:
  - When to start a delayed antibiotic prescription
  - When to seek care if symptoms worsen or change unexpectedly
- TARGET have developed a [webinar](#) to advise on how to use back-up/delayed antibiotic prescriptions:
  - Webinar slides: [Discussing antibiotics with patients: Overview | RCGP Learning](#)
  - Additional resources: [Discussing antibiotics with patients: Discussing back-up/delayed antibiotic prescriptions | RCGP Learning](#)

Factors to consider:

- Child's clinical presentation and severity of symptoms
- Your confidence in diagnosis
- Child's age
- When or if antibiotics would be appropriate (based on condition and time delay)
- Parental concerns and expectations

Guidance produced by [NHS Wales](#) and the NHS England [South-West](#) region can be used for consideration of implementation options.

5. How should we handle parents who re-consult and receive an antibiotic prescription elsewhere?

- This can be frustrating, but it's important to note that prescribing thresholds vary between clinicians, and out-of-hours services may prescribe more readily than GP practices.
- Evidence suggests providing an antibiotic prescription may increase the likelihood of re-consultation and may lead to harm through side effects and resistance.
- You cannot control what other professionals do, and it's rarely because you've 'got it wrong'.
- If you're concerned that you have missed an infection, follow up with the parent at an appropriate interval to check on the child.

- Use follow-up as an opportunity for patient education in a calmer setting, away from the anxiety of the initial consultation.

#### 6. Are parents living in deprived areas more likely to seek antibiotics for their child?

Prescribing rates do vary by level of deprivation (see more in the [ESPAUR report](#) page 77, box 3.4, and [this paper](#)). This difference is likely due to multiple factors, including:

- Risk of certain infections
- Access to healthcare
- Engagement and communication with healthcare providers

Current data is descriptive; we cannot confirm a causal link. Further research is needed to understand these relationships and design targeted interventions.

#### 7. Does culture influence parent expectations for antibiotics?

- Culture is definitely a contributing factor, both in patients and prescribers.
- It's important to return to the evidence and plan to have bespoke conversations with patients from different backgrounds.
- An interesting read here: [Are cultural dimensions relevant for explaining cross-national differences in antibiotic use in Europe? - PMC](#)

#### 8. Schools and nurseries sometimes ask parents to show photos of antibiotics as proof their child is ill, which can drive GP attendance. How should this be handled?

- The system is fragmented, and conflicting advice is given from different professionals (e.g. teachers vs clinicians) which can negatively impact parent confidence.
- Primary care teams should ensure consistent messaging and reassurance is provided to parents which aligns with public-facing information.
- Communication with schools and nurseries is essential to share clear guidance on when children should and shouldn't attend school or nursery and ensure consistency in the information given to parents. This approach should reduce unnecessary GP visits and improve trust. Clear guidance for parents and for colleagues working in schools and nurseries is available on the Healthier Together website (<https://www.healthiertogether.nhs.uk/child-under-12-years/should-my-child-go-to-school-nursery-today>)

#### 9. How can a viral rash be differentiated from an allergy to an antibiotic?

Children are the most likely age group to be incorrectly labelled with a penicillin allergy. This is often due to the higher likelihood of viral infections in children, which can cause viral rashes that are mistaken for allergic reactions to antibiotics.

- Around 10% of parents report a penicillin allergy in their child
- GP records show about 2.9%, but the true prevalence is estimated to be less than 0.1% in children
- In adults, 6% of the UK general population are labelled as allergic to penicillin, rising to 15% among hospitalised patients.

Incorrectly labelling of a penicillin allergy can lead to increased use of broad-spectrum antibiotics, and therefore an increased risk of AMR and worse long-term health outcomes. It's crucial to distinguish between a true allergy and a side effect or symptom of the underlying infection, using trusted resources and diagnostic criteria.

True penicillin allergy (Type 1 hypersensitivity) typically occurs within one hour of taking the antibiotic and may include:

- Urticarial skin rash
- Angioedema
- Shortness of breath
- Wheezing
- Anaphylaxis

IS MY CHILD ALLERGIC TO PENICILLIN		
<ul style="list-style-type: none"><li>• Side effects</li><li>• Intolerance</li><li>• History in family member</li></ul>	<ul style="list-style-type: none"><li>• Mild delayed maculopapular or urticarial rash</li><li>• More than one hour post dose</li><li>• No pro inflammatory health problems</li></ul>	<ul style="list-style-type: none"><li>• Immediate reactions within one hour of dose</li><li>• Severe delayed hypersensitivity reactions</li><li>• Proinflammatory health problem</li></ul>
Can be given penicillin anytime	Direct single dose oral challenge	Refer to allergist

Mild symptoms occurring after one hour, such as a non-urticarial rash or gastrointestinal upset, are not usually indicative of a true allergy. In these cases:

- Antibiotics can often be continued

- The patient should not be labelled as allergic

If a child has a mild rash over one hour after administration of a dose of penicillin, 4-6% will have a repeat mild benign rash and 94-96% will have no rash or other symptoms if given penicillin again.

#### 10. How should I tailor my approach for patients who have previously been admitted to hospital for a severe lower RTI previously?

- It is normal for families who have gone through one severe infection to be anxious about recurrence, but this is rare.
- It is important to keep strong communication with the family so they feel supported, even when antibiotics are not prescribed, and their concerns should be acknowledged during consultations.
- It would be worth highlighting that each infection needs to be assessed in its own right - use a scoring system but also consider any underlying risk factors.
- Children are expected to have an average of one infection per month, especially during winter months, as part of normal growth.

#### 11. Are there any plans to add STARWAVE onto clinical systems?

Clinical calculators and scoring tools are available through Ardens. However, it is not included in the acute cough template, as STARWAVE is not part of the current NICE guidelines.

While it can still be accessed and used by clinicians familiar with the tool, its absence from formal NICE recommendations means it's not yet embedded into standardised clinical templates.

#### 12. How might the respiratory syncytial virus (RSV) vaccine influence antibiotic prescribing?

The RSV vaccine is an exciting development that will eventually be used across different age groups. As uptake increases, we expect to see fewer RSV infections. This reduction will likely lead to:

- Less unnecessary antibiotic prescribing for children who actually have a viral infection, but where clinicians were unsure and prescribed antibiotics 'just in case'.
- Fewer secondary bacterial infections following RSV, which also reduces the need for antibiotics.

#### 13. Is there any benefit to taking a sputum sample and reviewing upon receiving the result?

In otherwise healthy patients presenting with lower RTI. There is no benefit to taking a sputum sample and reviewing upon receiving the result. However, there is a benefit if they need to be hospitalised.

It is important to note that the colour of sputum is not indicative of the aetiology of the lower RTI (viral versus bacterial), and it is important that parents are made aware of this.

14. I have seen some situations where a generally well child has a sputum sample sent off which grows mycoplasma but the child is well with a cough. How likely is it that some of the acute bronchitis/acute cough children have bacterial infections with viruses and do antibiotics make a difference in these stable and otherwise well children with symptoms?

*Mycoplasma pneumoniae* is extremely unlikely to cause significant respiratory pathology in young children. The following features may increase the clinical suspicion of mycoplasma infection:

- therapy failure after 3 days of beta lactam antibiotics
- older children (>5 years)
- prolonged fever and respiratory symptoms (>6 days)
- mucocutaneous manifestations, in particular Stevens-Johnson-like lesions

The diagnosis of mycoplasma is tricky - it is usually done using PCR, which is positive for several months after an infection, so often it is unclear that a positive mycoplasma test means it is currently impacting the child.

If a child is clearly not improving on the usual antibiotics in the expected timeframe and there is a positive mycoplasma test, then an antibiotic targeting mycoplasma can be considered.

15. How would you be able to diagnose pneumonia without having access to a chest X-ray?

Severity is key to management. Persistent or recurrent fever preceding 24-48 hours, respiratory distress and/or tachypnoea suggests increased severity and justifies the prescribing of antibiotics (assuming no alternative aetiology for the respiratory distress i.e. bronchiolitis).

16. When should I prescribe phenoxymethylpenicillin (Pen V) for suspected strep throat?

- The decision to prescribe antibiotics needs to be based on the likely diagnosis of the sore throat - FeverPAIN score is a good way to quantify the risk of Group A strep.
- While FeverPAIN was developed using a study population of those aged 3 and over, it has yet to be validated in children under the age of 5. NICE guidance

advises that young children (under 3 years) are unlikely to present with sore throat symptoms alone and prescribers should follow the [NICE guideline on fever in under 5s](#) to support treatment in this population.

- The benefits of treating Group A strep in a child in the UK is more for vulnerable contacts than for the child themselves.