

Group A Streptococcus in children (including scarlet fever and invasive Group A Streptococcus)

Frequently asked questions

January 2023

These FAQs have been developed to provide information and advice on Group A Streptococcus and its public health management, including in educational settings, and are aimed at healthcare professionals and those working in education and early years settings.

They should be read in conjunction with:

- [UK guidelines for the management of contacts of invasive group A streptococcus \(iGAS\) infection in community and education settings](#)
- [Guidelines for the public health management of scarlet fever outbreaks in schools, nurseries and other childcare settings](#)

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References

General information

What is Group A Streptococcus (GAS)?

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 (superficial bacterial skin infection)
- cellulitis
- pneumonia

Very rarely it can cause a more serious illness [invasive Group A Streptococcus \(iGAS\)](#).

How is GAS spread?

Streptococcus bacteria survive in throats and on skin for long enough to easily spread between people through sneezing and skin contact. They can also spread in the environment in outbreaks (both in the air and on surfaces or objects, although the degree to which transmission occurs on surfaces or objects is likely to be limited). People who are currently carrying GAS in the throat or on the skin can pass these bacteria on to others, especially while in close or prolonged contact.

What is scarlet fever?

Scarlet fever is a clinical diagnosis, caused by Group A Streptococcus when the bacteria start producing a toxin that causes a rash. Scarlet fever is a notifiable disease.

Symptoms of scarlet fever are available here.

The usual treatment for scarlet fever is a 10-day course of antibiotics. The fever will usually subside within 24 hours of starting antibiotics.

Children who have had chickenpox or influenza recently are more likely to develop more serious GAS infection during an outbreak of scarlet fever and so parents should remain vigilant for symptoms such as a persistent high fever, cellulitis (skin infection) and arthritis (joint pain and swelling).

How is a streptococcal throat infection distinguished from a sore throat?

Sore throat is a common and usually self-limiting condition. Most sore throats are caused by viruses, and the risk of progression to serious disease is low.

“Strep throat” is a mild sore throat, caused by GAS.

Given the current high prevalence of GAS in winter 2022/23, and the increased likelihood of GAS as a cause of sore throat in children, clinicians may prescribe antibiotics to children if they clinically suspect a streptococcal throat infection. Clinicians might consider taking a throat swab where there is diagnostic uncertainty, or concerns regarding antibiotic resistance and [have been given guidance on when to do this](#).

What is the role of GAS Rapid Diagnostics?

GAS rapid diagnostics (rapid throat swabs) bought over the counter are [not currently recommended](#) and the potential benefits and risk of using them in the current context is uncertain. Work is underway to consider the role of these tests in this outbreak situation.

What is the treatment for GAS infection?

Antibiotics are used to treat GAS infections and should be taken on advice of a clinician (interim clinical guidance for clinicians is available [here](#)).

Invasive Group A Streptococcus (iGAS)

What is Invasive Group A Streptococcus (iGAS)?

Invasive Group A Streptococcus (iGAS) occurs when the bacterium ‘invades’ the body and is isolated from a normally sterile body site, such as the blood, joints, or the lungs, or isolated from a non-sterile site (such as a skin or throat swab) in combination with clinical signs consistent with a severe infection. iGAS is rare and serious.

The most important thing to be aware of are the early signs and symptoms of invasive Group A Streptococcal disease. These are:

- high fever
- severe muscle aches
- localised muscle tenderness
- increasing pain, swelling and redness at the site of a wound
- unexplained diarrhoea or vomiting

Belfast Health and Social Care Trust have produced a ‘[symptom checker](#)’ for the most common conditions and symptoms that affect children, which aims to help parents choose the most appropriate care.

Parents should contact their GP or GP Out of Hours if:

- their child is getting worse
- their child is feeding or eating much less than normal
- their child has had a dry nappy for 12 hours or more or shows other [signs of dehydration](#)
- their baby is under 3 months and has a temperature of 38°C, or is 3 to 6 months and has a temperature of 39°C or higher
- their baby feels hotter than usual when you touch their back or chest, or feels sweaty
- their child is very tired or irritable

Parents/carers should call 999 or go to A&E if:

- their child is having difficulty breathing – you may notice grunting noises or their tummy sucking under their ribs
- there are pauses when their child breathes
- their child’s skin, [tongue or lips are blue](#)
- their child is floppy and will not wake up or stay awake

How common is iGAS?

Notifications of invasive Group A streptococcus (iGAS) disease 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 (collection of pus in the cavity between the lungs and the membrane that surrounds it). However, iGAS disease remains rare. There are 2 to 4 cases per 100,000 population annually in the UK.

Management of contacts

Who is considered a close contact for GAS/iGAS infection?

A close contact is defined as someone who has had 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.

Examples of such contacts would be:

- those with an overnight stay in the same household (including extended household if the case has stayed at another household)
- pupils in the same dormitory
- intimate partners
- university students sharing a kitchen in a hall of residence
- for a care home, a close contact is defined as someone sharing a bedroom

Close contacts would **not** normally include:

- staff and children attending the same school, class or tutor group (although the risk assessment may allow you to define a group within the setting in which extensive close contact takes place)
- work colleagues
- care home residents (unless sharing a bedroom)
- friends (not co-habiting)
- low level saliva contact, for example, social kissing (cheek)
- sharing food or drink with the case
- attending the same social function
- travelling in the same plane, bus, train or car unless for prolonged periods of time (for example, a flight ≥ 8 hours, coach tours over a period of days)

When is antibiotic prophylaxis for close contacts of GAS infection recommended?

Antibiotics are not routinely recommended for close contacts of non-invasive GAS infection.

When is antibiotic prophylaxis for close contacts of iGAS infection recommended?

Antibiotic prophylaxis is recommended for close contacts of cases (defined as above) in high-risk groups due to higher risk of severe outcomes. These high-risk groups are:

- pregnant women from ≥ 37 weeks gestation;
- neonates and women within the first 28 days of delivery;
- older household contacts (≥ 75 years);
- individuals who develop chickenpox with active lesions either 7 days prior to onset of the iGAS case or within 48 hours after commencing antibiotics by the iGAS case, if exposure is ongoing.

Antibiotic prophylaxis should be offered promptly to high-risk close contacts to commence as soon as possible (within 24 hours, and preferably the same day). It should not commence beyond 10 days of index case onset.

Wider antibiotic prophylaxis may be considered in exceptional circumstances by the outbreak control team based on a risk assessment; factors to be considered include evidence of co-circulating chickenpox or respiratory viral infections alongside GAS infections.

Is mass swabbing of children recommended?

Although mass swabbing of children is not routinely recommended, it can be considered in exceptional circumstances by the outbreak control team or as part of clinical studies to improve our understanding of disease transmission and interventions. There are scenarios where targeted swabbing may be helpful, for example to identify ongoing transmission or confirm cause of clinical reports of illness.

Does everyone in the class need antibiotics if there is a case of iGAS in the school?

No. Antibiotic prophylaxis is not routinely recommended. Prophylaxis may be advised by the outbreak control team in specific circumstances. If there are cases identified in a child's class, any child showing symptoms should be assessed by a clinician and will be prescribed antibiotics if needed.

Do clinically vulnerable children need antibiotic prophylaxis for contact with an iGAS case?

Assessment of a child's clinical vulnerabilities forms part of risk assessment of the nature of any iGAS contact, and need for prophylaxis. However, antibiotic prophylaxis is not routinely recommended.

In addition, all close contacts receive 'warn and inform' letters, and should be monitored for symptoms, and assessed by a clinician if symptoms develop. The clinician will prescribe antibiotics if necessary and manage according to the child's agreed care plan. These letters will be provided by PHA Health Protection Duty Room for those identified as close contacts.

Parents can help protect clinically vulnerable children by encouraging good hand hygiene and respiratory hygiene. Parents of clinically vulnerable children are also advised to get their child vaccinated with the [influenza vaccination](#).

Other infections and Group A Strep

What is the link between influenza and iGAS?

Influenza infection is an identified risk factor for iGAS disease amongst children in the subsequent weeks following an influenza infection. The influenza vaccine reduces the risk of becoming infected with influenza and may be helpful therefore in reducing the risks of iGAS.

It is strongly recommended that eligible children are vaccinated against influenza **for many reasons**. The vaccine given to children has an excellent safety record and has been given to millions of children in the UK and worldwide.

The **children being offered the influenza vaccine this year** are those who are:

- aged two and over
- in primary school
- in Years 8 to 12 of post-primary school
- aged six months to two years and in a clinical risk group

Children aged 2 and 3 years will be given the vaccination at their general practice, usually by the practice nurse. School aged children should be offered a flu vaccine in school. For most children, the vaccine will be given as a spray in each nostril. This is a very quick and painless procedure.

Schools and nurseries have a key role to play in promoting uptake of the flu vaccine due to the relationship they have with parents and children. Schools and nurseries should be encouraged to use their communication channels to help promote uptake. Free resources that may be useful in these settings are available at:

www.publichealth.hscni.net/publications/protect-them-inside-too-childrens-flu-poster

www.publichealth.hscni.net/publications/protecting-your-child-against-flu-vaccination-your-toddler-or-pre-school-child-english-

www.publichealth.hscni.net/publications/protecting-your-child-against-flu-vaccination-your-primary-school-child-english-and-tra

Can the flu vaccine help in a GAS/iGAS outbreak situation?

If flu is suspected or confirmed to be co-circulating in a nursery or school setting where an iGAS case has been confirmed, this provides an opportunity to remind eligible children, including those in clinical risk groups who are at increased risk of severe disease, to take up their offer of flu vaccination.

However, influenza vaccination is unlikely to prevent secondary cases of iGAS so parents should remain vigilant for symptoms.

Detailed recommendations about the use of antiviral neuraminidase inhibitors (that is, 'antivirals') can be found in the **guidance on use of antiviral agents for the treatment and prophylaxis of seasonal influenza**. In keeping with current **recommendations by NICE** UKHSA recommends the targeted use of antivirals as follows:

- For treatment of uncomplicated influenza among specific at-risk groups (ideally within 48 hours of onset of symptoms).
- Treatment of complicated influenza regardless of underlying individual risk factors.

There may be rare outbreak situations when wider use of post-exposure prophylaxis with antivirals in nursery or school settings could be considered, such as in boarding schools. This decision would be made by the outbreak control team, with specialist advice.

Does the varicella vaccine have a role in reducing risk?

Chickenpox has been identified as a risk factor for iGAS infection in between 15% to 25% of iGAS cases in hospitalised children in a number of different international studies.¹⁻⁴ If chickenpox is co-circulating with scarlet fever in a nursery or pre-school setting, the outbreak control team may consider use of varicella vaccine.

Schools, nurseries and childcare settings

When should a child with scarlet fever or streptococcal throat infection stay off school, nursery, and childcare settings?

Confirmed cases of scarlet fever and streptococcal throat infection (as confirmed by a clinician) should stay off school until 24 hours after starting treatment with an appropriate antibiotic.

Children can return to school after 24 hours if their fever has settled and they're feeling well enough. Education is extremely important for a child or young person's health and wellbeing and high-quality face-to-face education is always preferable where appropriate.

If antibiotics are not used, the recommendation is for a three-week exclusion period.

In residential settings, exclusion may not be possible. In these cases, separate placement of the individual is required, based on the timelines above.

Should a child attend school, nursery and childcare settings if they have mild respiratory symptoms?

People with mild respiratory symptoms such as a runny nose, sore throat, or slight cough who are otherwise well and do not have a high temperature can continue to attend their education or childcare setting.

Can a sibling of a confirmed case of GAS attend school, nursery and childcare settings?

Yes. The sibling of a confirmed case of GAS can continue to attend; however, if the sibling of a confirmed case begins to develop symptoms, they should be assessed by a clinician and prescribed antibiotics if needed. Parents and carers should follow the advice on [when a child should stay off school](#).

Should schools expect a negative throat swab before allowing a child to attend a school, nursery or childcare setting?

No, testing to attend is not required. Any testing for GAS will be at the discretion of a clinician. If a child is unwell, has a rash or fever then they should remain at home and consider getting an assessment from their primary care clinician. If scarlet fever is diagnosed, the child may return to the setting 24 hours after commencing antibiotic treatment and if well.

If there is a known case of iGAS or scarlet fever in a school, nursery or childcare setting, should the setting let parents know?

Following a case of iGAS in a school, nursery or childcare setting, a warn and inform letter should be sent to parents and guardians. A template letter is provided to schools for this purpose by the PHA. In a scarlet fever outbreak, a letter should be sent to parents/carers advising on the signs and symptoms of scarlet fever and the need for symptomatic children to stay at home, see their GP and remain at home until they have taken at least 24 hours of antibiotic. Settings should be reminded not to disclose any details of individual children or staff except to healthcare staff managing the case to assess the risk.

What should schools do to protect pregnant staff?

GAS bacteria can spread by direct contact between children and staff, and shared contact with surfaces. The best way to prevent the spread of infection is by practising good hand hygiene (with soap and water), practising good respiratory hygiene (covering your nose and mouth with coughs and sneezes), keeping areas well ventilated and increasing the frequency of cleaning (especially of commonly touched areas such as door handles and taps),

There is no evidence to suggest that getting scarlet fever or GAS during pregnancy will harm the baby. Pregnant staff members should contact their GP or midwife if they are concerned, especially if they develop symptoms of scarlet fever or Group A Strep infection. Household contacts of an iGAS case who are 37 weeks pregnant or above will be risk assessed by PHA health protection.

When should schools and nurseries contact the PHA Duty Room?

Schools, nurseries and childcare settings should contact the PHA Health Protection Duty Room if they have a suspected outbreak of scarlet fever, or after a single case of iGAS. School, nursery and childcare settings should also inform the Duty Room when:

- settings have one or more cases of chickenpox or influenza that has scarlet fever at the same time
- settings are experiencing an outbreak of scarlet fever 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 Group A Strep (GAS) infection (or there is a death)
- any issues that are making it difficult to manage the outbreak (such as in residential settings where separate placement is not possible)

School, nursery and childcare settings do not need to inform the Duty Room about cases of streptococcal throat infections.

What advice should be given to schools, nurseries and childcare settings who have an outbreak of scarlet fever?

[Guidelines for the public health management of scarlet fever outbreaks in schools, nurseries and other childcare settings](#) has been published along with wider advice for children and young people's settings on [what to do in the case of an outbreak](#).

Schools, nurseries and childcare settings should follow UKHSA [guidance for preventing and controlling infections](#). Schools do not need to close following a confirmed case of scarlet fever, streptococcal throat infections, or iGAS. Schools do not need to use a bubble system or cancel events.

Discussions around closure of schools or activities or movement to remote learning for operational/safeguarding reasons (such as staff shortages) is a local decision between the setting and the relevant employing authority.

What advice should be given to schools, nurseries and childcare settings who have not had an outbreak?

Settings should be encouraged to continue to take a proactive and preventative approach to preventing infections. Guidance is provided for children and young people settings on [what to do to prevent and control infections](#). Settings should consider letters to parents to raise awareness of scarlet fever and promoting uptake of the flu vaccination.

How can schools, nurseries and childcare settings reassure parents and carers who are scared to let their children come to school?

Serious illness caused by GAS remains rare (including iGAS) and the majority of GAS infections are mild and common.

Settings can take a proactive approach to preventing infections within their setting, including reinforcing hand and respiratory hygiene, and cleaning. [Clear and transparent communication](#) can also reassure parents and carers. Further information is available [here](#).

Settings can access free educational resources including interactive lesson plans for children aged 3–16 through [e-Bug](#) to promote positive behaviour change among children and young people to support infection prevention and control efforts.

Parents and carers can support these efforts by:

- reinforcing hand and respiratory hygiene behaviours at home (further information can be found [here](#));
- when their child shows symptoms of being unwell, seeking care and keeping the child off school in line with the [exclusion criteria outlined](#);
- ensuring that when eligible, children are up to date with the immunisation schedule (further information for parents and carers on protecting your child against flu can be found [here](#)).

Is there routine advice to cancel events, mixing, assemblies or nativity plays in school, nursery and childcare settings?

There is no routine recommendation to cancel events or change school mixing plans. If there is concern in outbreak situations, settings should make risk-based decisions, seeking advice from the PHA Duty Room as necessary.

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