



UK Health
Security
Agency

Guidelines for the public health management of scarlet fever outbreaks in schools, nurseries and other childcare settings

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1. Summary of key changes to the guideline

New appendices for use in:

- outbreaks of co-circulating scarlet fever and influenza
- outbreaks of co-circulating scarlet fever and chickenpox

2. Background and epidemiology

Scarlet fever is a common childhood infection caused by *Streptococcus pyogenes* (also known as group A *Streptococcus* [GAS]). These bacteria may be found on the skin, throat and other sites where they can live without causing problems. Under some circumstances GAS can cause non-invasive infections such as pharyngitis, impetigo and scarlet fever. On rare occasions they can cause severe disease, including streptococcal toxic shock syndrome, necrotising fasciitis, and septicaemia.

Scarlet fever was once a very common and dangerous disease in the UK, but antibiotic treatment means it is now much less serious. Following marked decreases in incidence over the last century, 3,000 to 4,000 cases were diagnosed each year in England during the early 2000s. In 2014, an unusual increase in incidence occurred with over 14,000 cases diagnosed in England with high incidence continuing into subsequent years, reaching 30,000 in 2018 [1, 2]. The characteristics of patients remained the same as in previous years with the infection affecting all ages but most commonly children between the ages of 2 and 8 years (median 4 years). Outbreaks of scarlet fever have always occurred in nurseries and schools but these have become considerably more common, with the exception of the coronavirus (COVID-19) pandemic period, with over 1000 outbreaks and clusters recorded in 2018.

Routine national surveillance data for invasive and non-invasive GAS infections suggests a cyclical pattern with higher incidence peaks evident in notifications approximately every 4 years [1]. Incidence of invasive disease can mirror that of superficial manifestations of GAS infection [3]. The strains types associated with scarlet fever and those causing invasive GAS disease are very similar [4, 5]. Monitoring scarlet fever cases nationally can provide an early warning of potential increases in invasive disease. Cases of scarlet fever occur throughout the year but typically have a seasonal pattern with highest incidence between December and May, peaking in March or April.

Statutory notifications of scarlet fever, based on clinical symptoms consistent with this diagnosis, are submitted to local [health protection teams](#) (HPTs). During periods of increased incidence, when there is sustained local transmission, HPTs may see an escalation in reports of suspected cases and outbreaks from health professionals and schools, nurseries and other childcare settings.

3. Purpose

These guidelines were first developed by the national Incident Management Team (IMT) in response to the upsurge in scarlet fever in April 2014 and subsequently updated by a subgroup of the IMT in 2016/17 to reflect the changing epidemiology, evidence and feedback on implementation in practice, with further refresh in 2019 and 2022. The aim of the guidelines is to support HPTs to control outbreaks of scarlet fever in schools, nurseries and child care settings.

4. Case management

4.1 Signs and symptoms

The symptoms of scarlet fever can be non-specific in early illness and may include sore throat, headache, fever, nausea and vomiting. Within 48 hours, a characteristic pinkish-red, generalised pinhead rash develops, typically first appearing on the chest and stomach, rapidly spreading to other parts of the body, giving the skin a sandpaper-like texture [6]. On more darkly-pigmented skin, the scarlet rash may be harder to spot, although the 'sandpaper' feel should be present. Patients typically have flushed cheeks and pallor around the mouth. This may be accompanied by a 'strawberry tongue'. During convalescence, peeling of the skin may occur at the tips of fingers and toes and less often over wide areas of the trunk and limbs.

4.2 Complications

Although scarlet fever is usually a mild illness, some patients may require hospital admission to manage symptoms or complications. These include ear infection, throat abscess (quinsy), cellulitis, pneumonia, sinusitis or meningitis. Whilst such complications arise in the early stages, sequelae including acute glomerulonephritis and acute rheumatic fever can arise at a later stage. A proportionate increase in scarlet fever hospital admissions has been identified during the recent upsurge period with 1 in 30 cases being seen in secondary care for management of scarlet fever or allied complications [1]. Prompt treatment with appropriate antibiotics significantly reduces the risk of complications. Of note, household contacts of scarlet fever cases have been found to have an increased risk of invasive GAS disease in the 2 months after scarlet fever onset, although remaining relatively low (35.3 cases/100,000 person-years) [7]. Clinicians should advise patients, or their parents/guardians, to be vigilant for any symptoms which might suggest these complications and to seek medical help immediately if concerned.

4.3 Case definitions

Confirmed case: clinical diagnosis of scarlet fever by a health professional and GAS detected on a throat swab

Probable case: clinical diagnosis of scarlet fever by a health professional

Possible case:

- case reported by a reliable source (for example nursery manager, school secretary), presenting with signs and symptoms consistent with scarlet fever, and a close epidemiological link for example household contact of a confirmed case; or attending school where there is a confirmed scarlet fever outbreak
- cases reported by a health professional where scarlet fever is part of a differential diagnosis and other infections may be just as likely

4.4. Notification and public health action

In England, Wales and Northern Ireland, Registered Medical Practitioners have a legal requirement to notify all suspected cases of scarlet fever (and invasive GAS infection). Most notifications in England are received by post, email from GPs within a few days of diagnosis. HPTs are required to record all cases reported by a health professional as “notified” in the HPZone notification panel, as per routine. This is essential for national surveillance of scarlet fever. HPTs are not expected to actively follow up notifications of single, sporadic cases.

Where there is an opportunity to do so, for example notifications made by phone, HPTs should remind clinicians to:

- prescribe an appropriate treatment course of antibiotics
- advise exclusion from nursery, school or work for at least 24 hours after the commencement of appropriate antibiotic treatment
- consider taking a throat swab to assist with differential diagnosis or if the patient is
 - thought to be part of an outbreak, to confirm aetiology
 - allergic to penicillin, to determine antimicrobial susceptibility – GAS can be resistant to non-penicillin options such as macrolides and clindamycin
 - in regular contact with vulnerable individuals (for example healthcare workers) such as the immunocompromised, the comorbid, or those with compromised skin integrity [8] – this will facilitate prompt public health action by differentiating from mimicking illnesses such as rubella and measles

Children or nursery/school staff who refuse treatment with antibiotics should be excluded until resolution of symptoms. Untreated infection increases risk of complications such as acute rheumatic fever, and can lead to long-term carriage [9, 10]. Healthcare staff and others in

regular contact with vulnerable individuals who have not been treated should have a throat swab taken to ensure clearance of carriage.

Further information on clinical management of scarlet fever can be found in the [NICE CKS for Scarlet Fever](#).

For scarlet fever reports (not from a health professional), HPTs are asked to advise that the case should be clinically assessed by a health professional in order to establish a diagnosis, treat and notify HPT as appropriate.

4.5 Communication with local nurseries, schools and health professionals

Increases in scarlet fever can be expected during late winter and spring of each year, reflecting its normal seasonal pattern, although cases and outbreaks will occur throughout the year. During seasons when scarlet fever activity is particularly high at the national or local level, HPTs should cascade information on the management of scarlet fever cases and suspected outbreaks to:

- nurseries, schools and school nurses
- local clinicians including GPs, and microbiologists, infectious disease consultants, paediatricians

Standard letters for health professionals, schools, and microbiology laboratories (Appendices 1, 2, 3) are provided which can be adapted to reflect local arrangements.

5. Control of scarlet fever outbreaks

5.1 Reporting scarlet fever outbreaks

Schools, nurseries and other child care settings should promptly notify their local HPT of suspected scarlet fever outbreaks. GPs and other health practitioners caring for patients with scarlet fever should also report suspected outbreaks to their local HPT.

5.2 Outbreak definition

For the purpose of these guidelines an outbreak of scarlet fever is defined as a credible report of 2 or more probable or confirmed scarlet fever cases attending the same school / nursery or other childcare setting notified within 10 days of each other (2 maximum incubation periods) with an epidemiological link between cases, for example they are in the same class or year group.

5.3 Risk assessment

5.3.1 Initial actions to confirm the outbreak

Initial investigation of the outbreak should begin within one working day of notification to the HPT. Key facts must be established to inform all subsequent decisions and actions.

It is good practice to establish whether this is truly an outbreak of scarlet fever or another childhood infection. Differential diagnoses will include measles, glandular fever and slapped cheek infections (see [NICE CKS for Scarlet Fever](#)). Details of the clinical presentation of the first few suspected cases should be obtained and the cases classified as confirmed, probable or possible (see 4.3). A checklist has been developed to support HPTs conducting a risk assessment (see Appendix 4).

Parents should be encouraged to take their child to see their GP for a clinical diagnosis and appropriate testing. Mass swabbing of children in an outbreak is not recommended. However, clinicians can play an important role in confirming the aetiology of outbreaks by taking a throat swab for culture of GAS from the first few suspected scarlet fever cases they see with a link to a school or nursery. In some circumstances, (for example where there are children with more serious infection/hospitalisation or high levels of concern) the HPT may wish to follow up the results of such samples, to inform decisions around outbreak management. For microbiology advice in outbreaks, you can contact the Consultant in Public Health Infection for the relevant region.

5.3.2 Assess risk of spread

Preliminary information should assess the epidemiological link between cases, for example cases in the same nursery, class or year group. At the initial risk assessment, describe the epidemiology including:

- approximate number of cases
- age of cases
- class and year group affected
- date of onset of symptoms (or use date reported to school as a proxy)
- date of next school holiday
- numbers at risk, age breakdown

5.3.3 Assess risk of severe cases

Schools, nurseries and other childcare settings have on rare occasions been the focus for clusters of iGAS disease, especially when there are concomitant outbreaks of chickenpox or influenza with GAS infection. Evidence suggests that chickenpox is the most common risk factor for iGAS disease in children [12 to 15].

As part of the initial risk assessment the HPT should ask the school/nursery specifically whether there is co-circulation of chickenpox or influenza (at least 2 or more cases contemporaneous to the scarlet fever) or if they are aware of any complications or hospitalisations, which may trigger a stepped-up response (see section 6).

If influenza co-circulation is suspected outside of a period when seasonal influenza is known to be circulating in the community (as reported in the weekly UKHSA flu bulletin), the HPT should consider arranging the collection of samples from symptomatic cases for laboratory confirmation of influenza infection.

Schools should be asked to contact the HPT for additional advice if the outbreak does not appear to be subsiding over the next 3 weeks, or if they are concerned for any other reason.

5.4 Record keeping

The following actions should be taken:

- HPTs should record outbreaks of scarlet fever in any setting as a situation on HPZone
- all specific contexts such as a school or nursery should also be recorded
- cases that are reported by a health professional should be recorded as “notified” in the HPZone notification panel, as per routine (see 4.4) – these cases can be linked to the school or nursery situation
- more detailed line listing is not routinely required as it will not influence the management of most outbreaks

5.5 Outbreak control

5.5.1 Infection control advice

In schools and nurseries infections can be spread through close contact between children and staff and through shared contact with physical surfaces such as table tops, toys, taps, and handles [16]. As recommended in the current ‘Guidance on Infection Control in Schools and other Child Care Settings’ [17], staff and parents should be reminded that children and adults with scarlet fever should not return to nursery or school until at least 24 hours after starting treatment with an appropriate antibiotic.

Hand washing remains the most important step in preventing such infections. Good hand hygiene should be enforced for all pupils and staff and a programme should be put into place that encourages children to wash their hands at the start of the school day, after using the toilet, after play, before and after eating, and at the end of the school day. It is important that hands are washed correctly (see Resources for link to hand hygiene resources for schools). Liquid soap via a soap dispenser should be made available and there should be a plentiful supply of paper towels.

Children and adults should be encouraged to cover their mouth and nose with a tissue when they cough and sneeze and to wash hands after sneezing and after using or disposing of tissues. Spitting should be discouraged.

Breaching the skin barrier provides a portal of entry for the organism, therefore children and staff should be reminded that all scrapes or wounds, especially bites, should be thoroughly cleaned and covered.

5.5.2 Communication with school staff and parents or guardians

In outbreak situations, HPTs should provide a standard letter (Appendix 5) and [Scarlet Fever Frequently Asked Questions](#) for schools to cascade to parents or guardians and staff, advising on the signs and symptoms of scarlet fever and the need for symptomatic children to stay off school, see their GP and remain at home until they have taken at least 24 hours of antibiotics.

6. Stepping up public health actions

The HPT should review the need for an Outbreak Control Team (OCT) if:

- there is co-circulating chickenpox or influenza
- the outbreak does not appear to be subsiding within 3 weeks or if the school raise other concerns
- complications and or hospitalisations are reported
- iGAS infection is reported

If it is deemed necessary to set up an OCT then the additional control measures outlined here should be considered in turn, depending on the particular scenario.

6.1 Escalation of infection control measures

The environment can play a significant part in transmission as GAS can be found to remain in dust as well as on furniture and equipment [18 to 24].

Cleaning of the environment, including toys and equipment, should as a minimum be carried out daily during the outbreak and a very thorough terminal clean should be undertaken when the outbreak is declared over.

Touch points such as taps, toilet flush handles, and door handles, should be cleaned regularly throughout the day.

Hypochlorite at 1000 ppm of available chlorine, preceded by cleaning if any dirt is visible, is recommended for cleaning of equipment, hard surfaces, hard toys and sleep mats. Horizontal

surfaces should be kept clear of unnecessary equipment and ornaments to allow thorough cleaning to occur.

Carpets and soft furnishings should be vacuumed daily; the vacuum cleaner should have a high efficiency filter on its exhaust. Single use cloths or paper towel should be used for cleaning. Where soft toys cannot be avoided, they should be machine washed; hard surface toys are more easily washed and disinfected. Consider replacing low cost items that may be difficult to clean thoroughly for example pencils, crayons, play dough and plasticine.

During the terminal clean, carpets and rugs should be cleaned with a washer-extractor. Curtains, soft furnishing covers and all linen should be removed, and washed at the hottest compatible temperature. After this they should not be placed in the same laundry basket or other container that was used for the uncleaned items. Soft furnishings without removable covers should be steam cleaned taking care to hold the nozzle of the steam cleaner sufficiently close to the surface and for long enough for all surfaces (particularly contact areas) to ensure they heat up thoroughly.

6.2 Further information for staff, parents or guardians and health professionals

If there is co-circulating chickenpox or influenza, or if complications or hospitalisations are reported, additional information may need to be included in the standard letter for parents/guardians (Appendices 5 to 7).

The OCT should consider sending a letter to local health professionals to alert them of the outbreak and request that cases related to the outbreak are swabbed and treated, with samples clearly labelled to connect them to the outbreak.

The local microbiology laboratory should be alerted to the outbreak and requested to send isolates (clearly labelled with outbreak details) to the Antimicrobial Resistance and Healthcare Associated Infections (AMRHAi) reference unit for emm typing using the [H4 request form](#).

For microbiology advice, contact the Consultants in Public Health Infection for the relevant region or AMRHAi on 020 8327 7887.

6.3 Chemoprophylaxis

In school and nursery settings, antibiotic chemoprophylaxis is not routinely recommended for contacts of non-invasive GAS infection. Chemoprophylaxis can eradicate carriage in those who may be at risk of infection or pose a risk to others through onward transmission. However there is no good evidence of its effectiveness in routine outbreak control in this setting. It can be considered in exceptional circumstances by the OCT, for example when there are reports of severe outcomes, or hospitalisations. Advice should be sought from the national team (see contact details in the Resources section). The recommended antibiotic regimen is the same as for treatment (see Appendix 1).

If a case of iGAS infection is reported in a school where there is an outbreak of scarlet fever, please refer to the relevant guidance on the gov.uk website [25].

6.4 Varicella vaccination

Varicella is not currently included in the routine UK childhood immunisation schedule. It is recommended for those in regular or close contact with those at risk of severe infection including susceptible healthcare workers and close contacts of immunocompromised individuals. Evidence suggests that chickenpox (varicella) is the most common risk factor for iGAS disease in children [8]. Sentinel surveillance data for chickenpox and a sero-prevalence study (unpublished data) conducted in England shows that by the age of 5, 65% of children will already have had chickenpox, therefore the majority of children susceptible to chickenpox are in the younger age groups [26]. In a UK and Ireland study using British Paediatric Surveillance Unit methodology, 112 children under 16 years of age were found to be hospitalised with severe complications of chickenpox during a 13 month period in 2002/03. Fifty-two (46%) of these had secondary bacterial infections and of these, where an organism had been identified (49/52), 26 had evidence of GAS infection [27]. An analysis of Office for National Statistics (ONS) mortality data from 2001 to 2007 in England and Wales identified 5 chickenpox deaths where co-infection or secondary infection with GAS was a risk factor; all of these were in children under 5 years (unpublished data).

If chickenpox is co-circulating with scarlet fever in a nursery or pre-school setting, the OCT could consider post-exposure prophylaxis with varicella vaccine. Advice can be sought from the national team on a case by case basis (see contact details in the Resources section). Varicella vaccine administered within 3 days of exposure may be effective in preventing further spread and its use has been documented in a number of iGAS outbreaks in this setting [12, 28]. Children from 9 months of age and staff with no clear history of chickenpox could be offered 2 doses of varicella vaccine, 4 to 8 weeks apart. Early administration of the first dose is important in an outbreak setting.

The following documents have been developed to support the outbreak response if vaccination is indicated (see Appendix 7):

- letter offering vaccination
- frequently asked questions (FAQs)
- consent form

6.5 Antivirals and flu vaccination

Influenza has been identified as a risk factor for iGAS disease including amongst children [29 to 34]. Severe cases of GAS disease, including deaths, in school influenza outbreaks have been reported although the risk of iGAS infection in this context has not been quantified. Flu vaccination is not routinely recommended as post-exposure prophylaxis in this context. Two

weeks are required for the immune response to vaccination to develop and so this is unlikely to prevent secondary cases.

Detailed recommendations about the use of antiviral neuraminidase inhibitors (that is 'antivirals') can be found in the [UKHSA guidance on use of antiviral agents for the treatment and prophylaxis of seasonal influenza](#) [35]. In keeping with current recommendations by NICE [36], UKHSA recommends the targeted use of antivirals 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

Although post-exposure prophylaxis is normally considered in relation to household settings, it may also be considered for individuals in at-risk groups who have not received seasonal influenza vaccine more than 14 days previously and who have been exposed to a localised seasonal influenza outbreak; however, this would be outside the routine NICE recommendations.

There may be rare outbreak situations when wider use of post-exposure prophylaxis with antivirals in the nursery or school settings could be considered. Ideally swabbing of a small number of recent cases should be used to confirm influenza (and GAS) circulation. Advice should be sought from the national team on a case by case basis (see contact details in the Resources section).

Resources

[Scarlet fever: symptoms, diagnosis and treatment](#)

[Health protection in education and childcare settings](#)

[NICE CKS for scarlet fever](#)

[Hand hygiene resources for schools](#)

[Varicella immunisation information for public health professionals](#)

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35. [PHE guidance on use of antiviral agents for the treatment and prophylaxis of seasonal influenza](#) Public Health England 2016

36. [Amantadine, oseltamivir and zanamivir for the treatment of influenza](#) NICE technology appraisal guidance 2009

Appendix 1. Increased incidence of scarlet fever – letter for health professionals

Dear Colleagues,

Re: Increase in scarlet fever notifications

We are writing to inform you of a national increase in notifications of scarlet fever to the UK Health Security Agency (UKHSA), above seasonally expected levels. Scarlet fever is a notifiable disease, and we would like to take this opportunity to remind practitioners of the signs and symptoms and the actions to be taken if you see a case.

Signs and symptoms of scarlet fever

Scarlet fever is a common childhood infection caused by *Streptococcus pyogenes*, or group A streptococcus (GAS). **The symptoms are non-specific in early illness and may include sore throat, headache, fever, nausea and vomiting.** After 12 to 48 hours the characteristic red, generalised pinhead rash develops, typically first appearing on the chest and stomach, rapidly spreading to other parts of the body, giving the skin a sandpaper-like texture. On more darkly-pigmented skin, the scarlet rash may be harder to spot, although the 'sandpaper' feel should be present. Patients typically have flushed cheeks and pallor around the mouth. This may be accompanied by a 'strawberry tongue'. During convalescence desquamation of the skin occurs at the tips of fingers and toes, less often over wide areas of the trunk and limbs.

The differential diagnosis will include measles, glandular fever and slapped cheek infections.

Complications of scarlet fever

Although scarlet fever is usually a mild illness, patients can develop complications such as an ear infection, throat abscess, cellulitis, pneumonia, sinusitis or meningitis in the early stages and acute glomerulonephritis and acute rheumatic fever at a later stage. Patients, or their parents, should keep an eye out for any symptoms which might suggest these complications and if concerned advised to seek medical help immediately. Household contacts have a low but increased risk of invasive GAS infections in the 2 months after scarlet fever case onset – this should be borne in mind in any subsequent clinical assessment.

Recommended actions

- Suspected scarlet fever can be confirmed by taking a **throat swab** for culture of Group A *Streptococcus*, although a negative throat swab does not exclude the diagnosis. Consider taking a throat swab to:
 - assist with differential diagnosis,
 - if you suspect that the patient may be part of an **outbreak**
 - if the patient is allergic to penicillin or
 - in regular contact with vulnerable individuals (for example healthcare worker)

- **Prescribe antibiotics** without waiting for the culture result if scarlet fever is clinically suspected:

| Choice | Drug | Age | Dose (by mouth) | Frequency and duration |
|--------|----------------|----------------|------------------------|---------------------------|
| 1 | Penicillin V* | <1m | 12.5mg/kg (max 62.5mg) | Every 6 hours for 10 days |
| | | 1m to <1yr | 62.5mg | |
| | | 1 to <6yrs | 125mg | |
| | | 6 to <12yrs | 250mg | |
| | | 12 to 18yrs | 250-500mg | |
| | | Adults | 500mg | |
| 2** | Azithromycin** | 6mto <12yrs*** | 12mg/kg (max 500mg) | Once a day for 5 days |
| | | 12yrs and over | 500mg | |

*For children who are unable to swallow tablets, or where compliance to Penicillin V is a concern, Amoxicillin 50 mg/kg once daily (max = 1000 mg) or 25 mg/kg (max = 500 mg) twice daily may be used as an alternative

**if allergic to penicillin

***unlicensed indication

- Advise **exclusion** from nursery / school / work for **24 hours** after the commencement of appropriate antibiotic treatment
- **Notify** your [Health Protection Team](#), including information on the school/nursery attended if relevant.

Clinicians should be mindful of a potential increase in **invasive GAS (iGAS)** infection which can follow trends in scarlet fever. It is important to maintain a high index of suspicion, especially in relevant patients (such as those with **chickenpox**, and women in the puerperal period). Early recognition and prompt initiation of specific and supportive therapy for patients with iGAS infection can be lifesaving.

Yours sincerely,

Appendix 2. Increased incidence of scarlet fever – letter to schools

Dear Colleagues,

Re: Increase in scarlet fever

We are writing to inform you of a recent [national/local] increase in notifications of scarlet fever to the UK Health Security Agency (UKHSA), above seasonal expected levels.

We would like to take this opportunity to remind you of the signs, symptoms and the actions to be taken if you become aware of an outbreak at your school or nursery.

Signs and symptoms of scarlet fever

Scarlet fever is a common childhood infection caused by *Streptococcus pyogenes*, or group A *Streptococcus* (GAS). The early symptoms of scarlet fever include sore throat, headache, fever, nausea and vomiting. After 12 to 48 hours the characteristic red, pinhead rash develops, typically first appearing on the chest and stomach, then rapidly spreading to other parts of the body, and giving the skin a sandpaper-like texture. The scarlet rash may be harder to spot on darker skin, although the 'sandpaper' feel should be present. Patients typically have flushed cheeks and pallor around the mouth. This may be accompanied by a 'strawberry tongue'. As the child improves peeling of the skin can occur.

Infection control advice

In schools and nurseries it is recognised that infections can be spread through direct physical contact between children and staff and through shared contact with surfaces such as table tops, taps, toys and handles. During periods of high incidence of scarlet fever there may also be an increase in outbreaks in schools, nurseries and other child care settings.

As per national 'Guidance on Infection Control in Schools and other Child Care Settings', children and adults with suspected scarlet fever should be **excluded** from nursery / school / work for **24 hours** after the commencement of appropriate antibiotic treatment. Good hygiene practice such as hand washing remains the most important step in preventing and controlling spread of infection.

Recommended actions if you suspect an outbreak at your school or nursery

- **Contact** your Health Protection Team on [] for advice
- Your Health Protection Team will provide you with a **letter** and **Frequently Asked Questions** to cascade to staff and parents if appropriate

Although scarlet fever is usually a mild illness, patients can develop complications and if you have any concerns please contact your local Health Protection Team for advice.

Yours sincerely,

Public health management of scarlet fever in schools, nurseries and other childcare settings

Resources

[Scarlet fever: symptoms, diagnosis and treatment](#)

[Health protection in education and childcare settings](#)

[Hand hygiene resources for schools](#)

Appendix 3. Increased incidence of scarlet fever – letter for microbiologists

Dear Colleagues,

Re: Increase in scarlet fever notifications

We are writing to inform you of the continued national increase in notifications of scarlet fever to the UK Health Security Agency (UKHSA), above seasonally expected levels. Scarlet fever is a notifiable disease and this is a reminder for laboratory professionals of the actions to be taken for suspected or laboratory confirmed scarlet fever cases.

Recommended actions

- Please notify cases to your local Health Protection Team, including information on the school/nursery attended if those details are provided.
- For suspected or confirmed cases in healthcare workers, the affected individual should be excluded from work until 24 hours after commencing appropriate antibiotics.
- When unusual outbreaks of scarlet fever occur, for example there are reports of complications or hospitalisations (see Section 6 of UKHSA public health management guidance) isolates should be clearly labelled and retained for emm typing. Please liaise with the Respiratory and Vaccine Preventable Bacteria Reference Unit (RVPBRU) on 020 8327 7887 for advice.

Microbiologists should be mindful of a potential increase in **invasive GAS (iGAS)** infection which may follow trends in scarlet fever. It is important to maintain a high index of suspicion, especially in relevant patients (such as those with **chickenpox**, and women in the puerperal period). Early recognition and prompt initiation of specific and supportive therapy for patients with iGAS infection can be lifesaving.

Yours sincerely,

Appendix 4. HPT risk assessment and action checklist – scarlet fever outbreak in nursery or school

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Name of school/nursery | |
| Checklist completed by | |
| Date completed | |
| Risk assessment | Checked |
| Assess extent of spread: number of cases and onset dates; age; class; year group and denominators? | |
| Is there co-circulation of chickenpox and/or influenza? | |
| Have any children/staff members been hospitalised due to scarlet fever or potentially related conditions? | |
| Have any children/staff suffered severe complications as a result of scarlet fever? | |
| General advice | Advised |
| Advise parents of children with suspected scarlet fever to take the child to their GP for assessment, investigation (throat swab) and treatment as appropriate | |
| EXCLUSION: Children with scarlet fever should not return to school/nursery, and adults to work, until a minimum of 24hrs after starting antibiotic treatment | |
| Cascade letter and FAQ to all staff and parents/guardians | |
| Please inform the HPT if the outbreak does not subside over the next 3 weeks or there are reports of complications / hospitalisations and so on | |
| Infection control | Advised |
| Good hand hygiene should be enforced for all pupils and staff and a programme should be put in place that encourages children to wash their hands: at the start of the school day, after using the toilet, after play, before and after eating, and at the end of the school day. | |
| Liquid soap via a soap dispenser should be made available and there should be a plentiful supply of paper towels | |

Public health management of scarlet fever in schools, nurseries and other childcare settings

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Children and adults should be encouraged to cover their mouth and nose with a tissue when they cough and sneeze and to wash hands after using or disposing of tissues | |
| Breaching the skin barrier provides a portal of entry for the organism, therefore children and staff should be reminded that all scrapes or wounds should be thoroughly cleaned and covered while at school | |
| Record keeping on HPZone | |
| Record outbreaks of scarlet fever in any setting as a “situation” | |
| Record the context (school/nursery) | |
| Communication | |
| Fax or email the nursery/school, reiterating the above advice and with the suggested parameters for “if” and “when” to call the HPT with an update. Include link to the guidance and the template letter for parents and factsheet (FAQ). | |
| Consider stepping up public health action (discuss with CCD/C/HP) | Yes/No |
| If the outbreak does not appear to be subsiding within 3 weeks or if the school raises other concerns (for example special needs school with many vulnerable individuals) | |
| If there is co-circulating chickenpox or influenza (contemporaneous to the scarlet fever) | |
| If severe infections, hospitalisations or a case of iGAS arises | |

Appendix 5. Scarlet fever outbreak – letter for parents/guardians

Dear Parent / Guardian,

We have been informed that a small number of children who attend [] school / nursery have been diagnosed with suspected / confirmed scarlet fever.

Although scarlet fever is usually a mild illness, it should be treated with antibiotics to minimise the risk of complications and reduce the spread to others.

The symptoms of scarlet fever include a sore throat, headache, fever, nausea and vomiting. This is followed by a fine red rash which typically first appears on the chest and stomach, rapidly spreading to other parts of the body. On more darkly-pigmented skin, the scarlet rash may be harder to spot, but it should feel like 'sandpaper'. The face can be flushed red but pale around the mouth.

If you think you, or your child, have scarlet fever:

- see your GP or contact NHS 111 as soon as possible
- make sure that you/your child takes the full course of any antibiotics prescribed by the doctor
- stay at home, away from nursery, school or work for **at least 24 hours after starting the antibiotic treatment**, to avoid spreading the infection

Complications

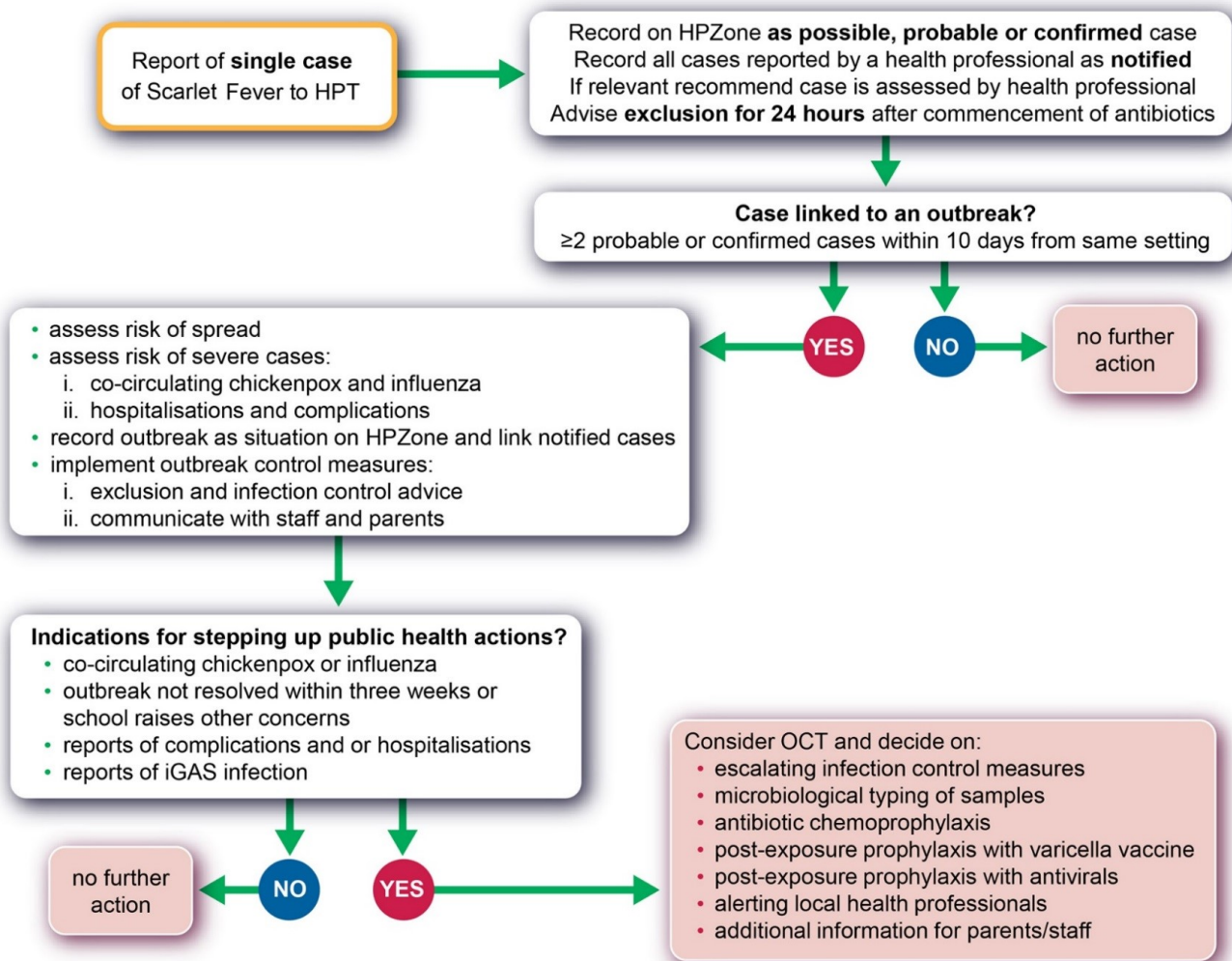
Children who have had **chickenpox** recently are more likely to develop more serious infection during an outbreak of scarlet fever and so parents should remain vigilant for symptoms such as a persistent high fever, cellulitis (skin infection) and arthritis (joint pain and swelling). If you are concerned for any reason please seek medical assistance immediately.

If your child has an underlying condition which affects their immune system, you should contact your GP or hospital doctor to discuss whether any additional measures are needed.

You can find more information in the guidance [Scarlet fever: symptoms, diagnosis and treatment](#), and further advice can also be obtained from the Health Protection Team on [] during office hours.

Yours sincerely,

Appendix 6. Algorithm for public health management of scarlet fever cases and outbreaks in schools, nurseries and other childcare settings



Text version of algorithm for public health management of scarlet fever cases and outbreaks in schools, nurseries and other childcare settings

Following a report of single case of scarlet fever to a HPT:

1. Record on HPZone as a possible, probable or confirmed case. Record all cases reported by a health professional as notified. If relevant, recommend case is assessed by a health professional.
2. Advise exclusion for 24 hours after commencement of antibiotics.

Question 1: Is the case linked to an outbreak?

- Yes:
 - assess risk of spread
 - assess risk of severe cases –
 - i. co-circulating chickenpox and influenza
 - ii. hospitalisations and complications
 - record outbreak as a situation on HPZone and link notified cases
 - implement outbreak control measures –
 - i. exclusion and infection control advice
 - ii. communicate with staff and parents
- No: no further action

Question 2: Indications for stepping up public health actions?

- co-circulating chickenpox or influenza
 - outbreak not resolved within 3 weeks or school raises other concerns
 - reports of complications and or hospitalisations
 - reports of iGAS infection
-
- Yes: Consider OCT and decide on:
 - escalating infection control measures
 - microbiological typing of samples
 - antibiotic chemoprophylaxis
 - post-exposure prophylaxis with varicella vaccine
 - post-exposure prophylaxis with antivirals
 - altering local health professionals
 - additional information for parents/ staff
 - No: no further action/ end of questions

Appendix 7. Outbreak pack: co-circulating scarlet fever and chickenpox in a nursery when varicella vaccination is recommended

7a) Letter for parents and staff – offering varicella vaccination

Dear Parent / Guardian,

We have been informed that a small number of children who attend [_____ nursery] have been diagnosed with suspected / confirmed scarlet fever and or chickenpox.

Children who have had **chickenpox** recently are more likely to develop more serious 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). **If you are concerned for any reason please seek medical assistance immediately.**

To reduce the chance of complications arising we would like to offer the chickenpox vaccine to all children over the age of 9 months at [_____ nursery] **who have not had chickenpox or chickenpox (varicella) vaccine in the past.** A team of nurses will come to the nursery on [date and time] to offer the chickenpox vaccine.

Attached to this letter you will find a:

- Frequently Asked Questions (FAQs) sheet with more information
- Consent Form: if you want your child to have the chickenpox vaccine a parent or guardian must sign and return the form to nursery by [date and time]

It is important to be aware that your child may still develop chickenpox after vaccination as they may have already caught it before receiving the vaccine. If given early enough the vaccine may still help offer some protection to the child who may develop a much milder illness.

A second dose of vaccine is given about 6 to 8 weeks after the first dose to complete the course. This may be given at the nursery or at your child's GP. Letters will be circulated about this at a later date.

If your child has an underlying condition which affects their immune system, you should contact your GP or hospital doctor to discuss whether any additional measures are needed.

We are working with the nursery to reduce the risk of infection to all children and have put additional measures in place to encourage good hand hygiene at all times and increase daily cleaning throughout the nursery.

You can find more information on chickenpox and scarlet fever on **www.nhs.uk** Further advice can also be obtained from the Health Protection Team on [### #####] during office hours.

Yours sincerely,

7b) Frequently asked questions

Chickenpox is a common and usually mild childhood infection (although you can get it at any age). The majority of children will have caught chickenpox by the time they turn 5 years old. It usually gets better by itself within a week without needing to see a GP. It causes a rash of red, itchy spots that turn into fluid-filled blisters that crust over to form scabs.

To prevent spreading the infection, children should stay away from nursery or school. It is very easy to catch chickenpox by touching other children or staff or shared surfaces such as table tops, taps, toys and handles. Good hygiene and hand washing is the most important way to prevent the infection spreading.

More information on [chickenpox](#).

Scarlet fever is usually a mild childhood illness that is caused by bacteria and should be treated with antibiotics to minimise the risk of complications and reduce the spread to others. The symptoms of scarlet fever include a sore throat, headache, fever, nausea and vomiting. This is followed by a fine red rash which typically first appears on the chest and stomach, rapidly spreading to other parts of the body. On more darkly-pigmented skin, the scarlet rash may be harder to spot, but it should feel like 'sandpaper'. The face can be flushed red but pale around the mouth.

If you think you or your child have scarlet fever:

- see your GP or contact NHS 111 as soon as possible
- make sure that you/your child takes the full course of any antibiotics prescribed by the doctor
- stay at home, away from nursery, school or work for at least 24 hours after starting the antibiotic treatment, to avoid spreading the infection

More information on [scarlet fever](#).

Complications

Children who have had chickenpox recently are more likely to develop more serious 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). If you are concerned for any reason please seek medical assistance immediately.

Why my child is being offered the chickenpox vaccine

In order to reduce the chance of complications, the chickenpox vaccine is being offered to all children attending the nursery (aged 9 months and above) who have not had chickenpox or chickenpox (varicella) vaccine in the past.

The chickenpox vaccine is a safe and effective vaccine that helps protect children from this infection and its complications.

The chickenpox vaccine

The chickenpox vaccine protects against the varicella zoster virus that causes chickenpox. It is not part of the routine childhood vaccination schedule.

There are 2 chickenpox vaccines currently available. The brand names of the chickenpox vaccine are VARIVAX and VARILRIX.

The chickenpox vaccine is a live vaccine and contains a small amount of weakened chickenpox-causing virus. The vaccine stimulates your immune system to produce antibodies that will help protect against chickenpox.

The vaccine is given as an injection, usually into the upper arm.

The number of doses of the chickenpox vaccine needed

Two doses of chickenpox vaccine are required to give the best protection. The second vaccine dose will be offered 6 to 8 weeks after the first, either at the nursery or through your GP.

Effectiveness of the chickenpox vaccine

It's been shown that 9 out of 10 children vaccinated with a single dose of chickenpox vaccine will develop immunity against chickenpox. Two doses are recommended, as this gives an even better immune response.

It is important to be aware that as chickenpox is already circulating at the nursery your child may still develop chickenpox after vaccination as they may have already caught the infection beforehand. If given early enough however, the vaccine may still help offer some protection to these children who may go on to develop a much milder illness.

Who should not get the chickenpox vaccine

People who should not have the chickenpox vaccine include:

- anyone with a weakened immune system
- anyone who has had a serious allergic reaction (anaphylactic reaction) to a previous dose of the vaccine or to any of the ingredients in the vaccine
- babies under 9 months of age
- pregnant women
- anyone who is seriously unwell – they should delay having the vaccination until they recover
- anyone who has had their MMR vaccine in the previous 4 weeks

The possible side effects of the chickenpox vaccine

The most common side effects of the chickenpox vaccine are mild and resolve quickly:

- soreness and redness around the site of the injection – this happens in around one in 5 children
- a mild rash – this happens in 1 in 10 children

More serious side effects such as a serious allergic reaction (anaphylaxis), are rare. They occur in around one in a million vaccinated people.

Although the chickenpox vaccine is not part of the routine NHS childhood immunisation schedule in the UK, it is in some other countries, such as the US and Germany. Millions of doses of the vaccine have been given around the world.

For the full details of the potential side-effects you can read the patient information leaflet (PIL):

- PIL for the [VARIVAX chickenpox vaccine](#)
- PIL for the [VARILRIX chickenpox vaccine](#)

Additional information

If your child is due their MMR vaccine (the first dose is usually given at age one year and the second dose is given at 3 years 4 months) this will need to be postponed until 4 weeks after the chickenpox vaccine

7c) Consent form

Consent form for Chickenpox (Varicella) Immunisation

Please read the enclosed frequently asked questions.

| | | | |
|----------------------------------------------------------------------------------------------------------------------|--|------------------------------------------|-----------|
| Name: Male/Female: | | Date of Birth: | |
| Address: Postcode: | | Name of Parent/ Guardian: | |
| | | Daytime telephone number: | |
| Nursery: | | Nursery room/class: | |
| Name and address of GP/ Health Centre: | | | |
| TO BE COMPLETED BY PARENT/ GUARDIAN | | | |
| | | YES (please give further details) | NO |
| <i>Does the child have any medical conditions or are they on any medication that can weaken their immune system?</i> | | | |
| <i>Has the child ever had a severe allergic reaction to any other vaccine?</i> | | | |
| <i>Has the child ever had a chickenpox vaccine previously?</i> | | | |

PARENT/GUARDIAN CONSENT (For *EACH* vaccination please tick only **ONE** box)

| |
|----------------------------------------------------------------------------------------------------------------------------|
| <p>• I confirm that all those with parental responsibility consent to the proposed immunisations</p> |
| <p>I want the child named above to receive the CHICKENPOX (Varicella) vaccine</p> <p>AGREE _____ DISAGREE _____</p> |
| <p>Name (of parent/ carer)</p> |
| <p>Relationship to the child</p> |
| <p>Signature</p> |
| <p>Date</p> |

If, after discussion, you decide that you do not want him/her to have the vaccine; it would be helpful if you would give the reasons for this in the comment box and return the form to the nursery. Thank you.

| |
|---------------------------|
| <p>COMMENT BOX</p> |
|---------------------------|

| FOR OFFICE USE ONLY | | | | | |
|----------------------------------------------------------------------|------------------------|--------------------------------------|--------------------------|------------------|---------------------------------------------------------|
| Has the parent answered the standard questions prior to immunisation | | | | | Yes / No |
| Vaccination | Date & Time | Batch number/ Expiry date | Site of injection | Immuniser | Where administered (school, college, GP etc) |
| | | | | | |

Appendix 8. Co-circulating flu and scarlet fever – letter for parents/guardians

Dear Parent / Guardian,

We have been informed that a number of children who attend the [_____ school / nursery] have been diagnosed with suspected / confirmed **scarlet fever and / or influenza**. Where both diseases are circulating at the same time there is a slight increased risk of more serious infection.

Influenza

Most children will have a mild illness and will recover at home without needing treatment. Children with flu-like symptoms: fever (38°C or greater), cough, sore throat, runny nose, or headache, should stay off school until they are free of symptoms.

The children's flu vaccine is offered as a yearly nasal spray to young children to help protect them against flu. [add info on the offer of vaccine at the school and uptake recorded]. The nasal spray flu vaccine will not only help protect your child against flu, the infection will also be less able to spread from them to their family, carers and the wider population. [amend paragraph for outbreaks affecting children outside age group covered by the influenza programme]

Children with a complex medical history

It is important that you seek advice from your GP if your child has a complex medical history (such as asthma or immunosuppression), which potentially increases their risk of severe disease if they get flu and they have not received this season's flu vaccine more than 14 days ago; your GP will advise if they require prompt preventative antiviral prophylaxis. In addition if your child has a complex medical history and develops any flu-like symptoms your GP can advise whether they should receive antiviral treatment.

Scarlet fever

Scarlet fever is also a mild childhood illness but unlike influenza, it requires antibiotic treatment. Symptoms include a sore throat, headache, fever, nausea and vomiting, followed by a fine red rash which typically first appears on the chest and stomach, rapidly spreading to other parts of the body. On more darkly-pigmented skin, the scarlet rash may be harder to spot, but it should feel like 'sandpaper'. The face can be flushed red but pale around the mouth. As the rash fades the skin on the fingertips, toes and groin area can peel.

If you think you, or your child, have scarlet fever:

- see your GP or contact NHS 111 as soon as possible
- make sure that you/your child takes the full course of any antibiotics prescribed by the doctor
- stay at home, away from nursery, school or work for **at least 24 hours after starting the antibiotic treatment**, to avoid spreading the infection

Complications

Children who have recently had **influenza** are more at risk of developing serious 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 redness, pain or swelling). If you are concerned for any reason please seek medical assistance immediately.

If your child has an underlying condition which affects their immune system, you should contact your GP or hospital doctor to discuss whether any additional measures are needed.

You can find more information on influenza and scarlet fever on **www.nhs.uk**. Further advice can also be obtained from the Health Protection Team on [### #####] during office hours.

Yours sincerely,

About the UK Health Security Agency

UKHSA is responsible for protecting every member of every community from the impact of infectious diseases, chemical, biological, radiological and nuclear incidents and other health threats. We provide intellectual, scientific and operational leadership at national and local level, as well as on the global stage, to make the nation health secure.

[UKHSA](#) is an executive agency, sponsored by the [Department of Health and Social Care](#).

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