



Issue date

15 September 2023

Distributed to:

Chief Executives
Directors of Clinical Governance
Director, Regulation and Compliance Unit

Action required by:

Chief Executives
Directors of Clinical Governance

We recommend you also inform:

Directors, Managers and Staff of:

- Emergency
- Infectious Diseases
- Paediatrics
- General Medicine
- Maternity and Neonatal services
- Public Health Units
- Nursing

Other relevant staff, departments and committees

Deadline for completion of action – COB 18 Sept 2023

Expert Reference Group

Content reviewed by:

A/Chief Health Officer
Experts in Infectious Diseases
Paediatricians
Obstetricians
Neonatologists

Clinical Excellence Commission

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Review date

September 2024

Updated: Clinician Alert - Invasive group A streptococcal disease

What is updated in the Safety Alert from SA:006/23?

The notice has been updated to include additional considerations for paediatric populations. It includes communication of risk of morbidity and mortality and information to parents and carers.

Situation: Increase in iGAS Disease in NSW

There continues to be an increasing number of cases of invasive group A streptococcal (iGAS) disease in New South Wales, including in children and pregnant women. There have been several deaths from iGAS sepsis in the past few months. iGAS tends to be more common where there are increases in respiratory viruses, including influenza. Children who develop varicella (chicken pox) are at increased risk of iGAS disease.

Clinicians need to be alert to a child or adolescent who is more unwell than would be expected from a viral illness, or who has had a recent viral illness and is now more unwell.

As signs and symptoms of early sepsis may be subtle, any concerns by parents or family members that their child is getting worse, or concerns from members of the treating team of deterioration must be escalated through local Clinical Emergency Response System (CERS) protocols.

Early resuscitation, empiric antibiotics and rapid escalation may be lifesaving. Deterioration may be sudden. The NSW [Sepsis Pathways](#) are to be used to guide the management of (suspected or confirmed) sepsis.

Who is at risk?,

The overall risk of iGAS for the general population remains low. People most at risk of severe group A streptococcal infections include:

- Infants and young children
- Adults over the age of 65
- Peripartum women
- Recent diagnosis of impetigo, pharyngitis, or scarlet fever
- Recent viral infection
- People who have been in close contact with someone with group A streptococcal infection in the past 30 days
- People living in crowded households
- Aboriginal and Torres Strait Islander people
- People who inject drugs
- People who are immunocompromised

Clinical picture

iGAS is caused by infection with the bacterium *Streptococcus pyogenes* (also known as group A Streptococcus (GAS)). GAS most commonly causes non-invasive infections, such as pharyngitis, impetigo, and scarlet fever. However, GAS can also cause invasive disease (iGAS) including blood stream infection and sepsis, streptococcal toxic shock syndrome, necrotising fasciitis, maternal sepsis, meningitis, bone/joint infections, and pneumonia. Patients with iGAS can deteriorate very quickly.



Symptoms of iGAS vary depending on age group and the site of infection. The initial symptoms are often non-specific and may be difficult to distinguish from a viral infection. However, the persistence of these signs and symptoms, or their severity signals likely serious bacterial infection rather than a common viral syndrome.

General features:

- fever and chills
- shortness of breath and chest pain
- severe pain or muscle aches and tenderness
- red, warm, painful, and rapidly spreading skin infection which may have pus or ulceration
- redness or flushing of the skin (which looks like sunburn)
- dizziness or light headedness
- nausea, vomiting, abdominal pain, or diarrhoea

In post-partum women, bleeding or purulent discharge from the vagina with or without lower abdominal pain can occur.

Specific considerations for children

Signs and symptoms of iGAS in children are non-specific but can include fever, sunburn-like rash, cold or mottled limbs, limb pain, not wanting to walk, poor feeding, abdominal pain, vomiting, or diarrhoea, lethargy, throat infection, increased work of breathing, tachycardia, and reduced urine output.

Parental or carer concern should be taken seriously. Parents and carers should be provided with verbal and [written information](#) about what to be alert for in their child and when and where to seek urgent medical attention. Communication should be culturally appropriate including the use of interpreters particularly where written information may not be available in the family's first language.

Specific considerations for peripartum women and neonates

Signs of severe sepsis in peripartum women, particularly with confirmed or suspected iGAS, should be regarded as an obstetric emergency.

Where either a mother or neonate develops iGAS in the neonatal period, antibiotic prophylaxis should be offered to the other of the pair (and other neonates for multiple births) and commenced as soon as possible, in accordance with [NSW Control Guidelines for Invasive Group A Streptococcus](#) and the [Antibiotic Therapeutic Guidelines](#).

It is important to consider the wellbeing of the fetus while treating pregnant women with sepsis. Fetal monitoring should be performed in accordance with *Maternity – Fetal Heart Rate Monitoring* ([GL2018_025](#)).

Early birth may be indicated for the benefit of the woman and/ or the neonate.

Neonates under 10 days of age whose mother has been admitted for sepsis (suspected or confirmed) must also be admitted and undergo appropriate clinical review in accordance with *Clinical Determination for Boarder Baby Registration* ([PD2020_020](#)).

For neonates equal to or greater than 10 days not requiring clinical care, the mother and baby can be cared for together.

Transmission

GAS bacteria are usually spread from one person to another by sneezing, coughing, or kissing. It can also spread by direct contact with other people with GAS on their skin, or from mother to baby during pregnancy and birth.

Some people carry GAS in their throat or on their skin and have no symptoms but can spread the disease. Droplet and contact precautions are recommended in caring for those with iGAS.



Clinical management

For patients with any signs of sepsis, follow the appropriate [sepsis pathway](#). If there is clinical deterioration, escalate as per the local CERS, in line with the NSW Health policy directive *Recognition and management of patient who are deteriorating* ([PD2020_018](#)).

Concerns by the patient, any member of the family or carer should be escalated, including through the [REACH](#) program.

Laboratory investigations of suspected sepsis should include:

- blood and other relevant cultures
- full blood examination
- biochemistry, including electrolytes and creatinine
- blood lactate/venous blood gas
- Blood glucose levels

Management of suspected sepsis should include:

- early fluid resuscitation
- empiric antibiotics
- urgent escalation to assess most appropriate location for management (e.g., ICU, in the case of children, retrieval to a specialist children's hospital).

Notification and Public Health intervention

Household contacts should be counselled and [provided written information](#) regarding their increased risk of infection with GAS, including severe disease, to ensure early intervention occurs if a household member becomes unwell. Management (including potential chemoprophylaxis) of household contacts should be discussed with infectious disease clinicians or other local experts.

If a clinician becomes aware of two or more cases in institutions such as residential aged care facilities, hospitals, or childcare centres within a three-month period they should contact their local public health unit.

Further information

NSW Factsheet

<https://www.health.nsw.gov.au/Infectious/factsheets/Pages/Invasive-group-A-streptococcus.aspx>

NSW control guideline

<https://www.health.nsw.gov.au/Infectious/controlguideline/Pages/invasive-group-a-strep.aspx>

Required actions for the Local Health Districts/Networks

1. Distribute this Safety Alert to all relevant clinicians, clinical departments for awareness
2. Include this Safety Alert in relevant handovers and safety huddles
3. Notify your Public Health Unit of any suspected or confirmed clusters to facilitate management and prevent further transmission
4. Confirm receipt and distribution of this Safety Alert within 72 hours to cec-recalls@health.nsw.gov.au