Interior Health

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IS0700: Invasive Group A Streptococcal Infections (IGAS)	**EFFECTIVE DATE:** September 2006 **REVISED DATE:** November 2010, September 2014 **REVIEWED DATE:**

1.0 PURPOSE

To prevent transmission of Invasive Group A Streptococcal infections to patients and staff.
To provide guidance to staff on how to report a case of Invasive Group A Streptococcal Disease.

2.0 DEFINITION

Invasive Group A streptococcal (invasive GAS) disease is caused by Streptococcus *pyogenes*, a gram-positive coccus. Certain strains of S. *pyogenes* are associated with **severe invasive disease**.
Clinical manifestation of **severe invasive disease** include: streptococcal toxic shock syndrome (STSS), soft-tissue necrosis, including necrotizing fasciitis (NF), myositis or gangrene, meningitis, pneumonia or death directly attributable to GAS infection. Case fatality rate overall is 15-20%. Mortality is reduced by early diagnosis with surgical intervention for NF, antibiotic treatment and supportive management.
Invasive GAS disease is confirmed through laboratory testing of specimens taken from normally sterile sites.

2.1 Mode of transmission

- Primarily by large droplet contact of the oral or nasal mucous membranes with infectious respiratory secretions or with exudates from wounds or skin lesions
- Or by direct or indirect contact with non-intact skin with exudates from skin or wound or infectious respiratory secretions
- Transmission by contaminated equipment has rarely been reported

2.2 Incubation Period

- The incubation period for invasive GAS infection has not been determined
- The incubation period for non-invasive GAS infection is usually 1-3 days

2.3 Period of communicability

- In untreated cases 10 – 21 days
- Transmissibility generally ends within 24 hours of appropriate antibiotic therapy
- Evidence to date suggests the use of prophylaxis in close contacts may prevent severe illness

2.4 Confirmed Case

- Laboratory confirmation of infection with or without clinical evidence of invasive disease
- Isolation of group A streptococcus (Streptococcus *pyogenes)* from a normally sterile site (blood, cerebrospinal fluid (CSF), pleural fluid, pericardial fluid, peritoneal fluid, deep tissue specimens taken during surgery [e.g. muscle collected during

debridement of necrotizing fasciitis], bone or joint fluid excluding the middle ear and superficial wound aspirates [e.g. skin and soft tissue abscesses]).
- When fetal demise occurs in association with a puerperal infection, isolation of group A streptococcus from the placenta, amniotic fluid and/or endometrium is also considered confirmatory for both the mother and the fetus.

2.5 Probable Case

- **Streptococcal toxic shock syndrome (STSS)** is characterized by hypotension (systolic blood pressure of ≤ 90 mmHg in adults **AND** at least two of the following signs: renal impairment, coagulopathy including disseminated intravascular coagulation, liver function abnormality, adult respiratory distress syndrome (ARDS), or generalized erythematous macular rash that may desquamate
- **Necrotizing fasciitis (NF)** is characterized by isolation of group A streptococci (Streptococcus *pyogenes)* from a normally sterile body site or taken under sterile conditions from deep tissue (aspirate) **AND** at least one of the following: histopathologic diagnosis (tissue necrosis) or clinical diagnosis; gross fascial edema and necrosis

2.6 HCW Close Contact

- Exposure to the case during the period from 7 days prior to onset of symptoms in the case to 24 hours after the case's initiation of antibiotics
- HCWs who have had direct mucous membrane contact with the oral or nasal secretions of a case (e.g. mouth-to-mouth resuscitation) or unprotected direct contact with an open skin lesion of the case
- Chemoprophylaxis is indicated only for close contacts of cases presenting with clinical evidence of severe invasive GAS disease

3.0 PROCEDURE

3.1 Additional Precautions

- Confirmed or suspected invasive cases must be placed on **Droplet/Contact Precautions.**

3.2 Discontinuing Precautions

- Precautions may be discontinued after the patient has received 24 hours of appropriate antimicrobial therapy.

3.3 Reporting

- Report case to Infection Control who will complete the Communicable Disease Notification Tool (*only available to Infection Control Practitioners*)
- If Infection Control is not available then report case to the CD Unit (1-877-778-7736) Monday to Friday 0830-1630 or the Medical Health Officer On-Call (1-866-457-5648) after hours.

3.4 Management of Contacts

- Community contacts will be identified and followed up by the CD Unit – see BCCDC guidelines.
- Chemoprophylaxis may be recommended for close contacts of severe invasive GAS cases under the direction of the Medical Health Officer
- Healthcare workers may qualify for close contact chemoprophylaxis if Droplet/Contact Precautions were not used during care of severe invasive GAS cases.

4.0 REFERENCE

BC Centre for Disease Control Communicable Disease Control Manual. Invasive Group A Streptococcal Disease. April 2014.