

TITLE

PREVENTION OF PERIPARTUM ACQUIRED GROUP A STREPTOCOCCUS**SCOPE**

Provincial: Intrapartum, Postpartum, Emergency Departments

DOCUMENT

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NOTE: The first appearance of terms in bold in the body of this document (except titles) are defined terms – please refer to the Definitions section.

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OBJECTIVES

- To provide guidance to **health care providers (HCP)** working with pregnant and postpartum **patients** (including newborns) and their **support person(s)**.
- To prevent the spread of **Group A Streptococcus (GAS)** through the utilization of effective PPE by HCP's when within two (2) meters of the perineum area.
- Further information about infection transmission can be found on the Alberta Health Services (AHS) Infection Prevention and Control (IP&C) page.

PRINCIPLES

GAS is responsible for a number of invasive and non-invasive infections, and is generally spread through droplet transmission from oropharyngeal secretions or mucus, or through direct or indirect contact from the skin. Droplet transmission occurs when droplets that contain an infectious agent, including many respiratory viruses and bacteria such as GAS, are propelled a short distance (i.e., within two [2] metres) through the air and are deposited on the mucous membranes of eyes, nose, mouth or vaginal tissue of a host or onto other sites which may secondarily come into contact with vulnerable host tissues.

Invasive GAS is a notifiable communicable disease in Alberta. There is a risk of transmission of microorganisms (mainly viruses and bacteria) via respiratory tract from the HCP to the patient, newborn or support person, or vice versa from the patient or support person to the HCP or newborn during the intrapartum and postpartum period and for up to six (6) weeks post birth. Any transmission event creates a subsequent risk for invasive infection.

APPLICABILITY

Compliance with this document is required by all Alberta Health Services employees, members of the medical and midwifery staffs, Students, Volunteers, and other persons acting on behalf of Alberta Health Services (including contracted service providers as necessary).

ELEMENTS

1. Points of Emphasis

- 1.1 Infections with GAS may vary from:
 - a) mild, localized conditions known as non-invasive GAS; to
 - b) severe, invasive life-threatening diseases known as invasive GAS.
- 1.2 In the obstetrical setting, these infections include the severe consequences such as puerperal sepsis, endometritis and death.

2. Identification

2.1 Non-Invasive GAS

- a) Symptoms:
 - (i) fever;
 - (ii) chills or flu-like symptoms (muscle or joint aches and malaise);
 - (iii) sore throat; and/or
 - (iv) skin infection or rash (with or without pain), sores/scabs or fluid filled blisters.

2.2 Invasive GAS

- a) Symptoms and signs of Invasive GAS include any symptoms of non-invasive GAS noted in Section 2.1 above, in addition to any of the following:
 - (i) swelling;
 - (ii) low blood pressure;
 - (iii) confusion;
 - (iv) seizures;
 - (v) nausea, vomiting, diarrhea;
 - (vi) soft tissue necrosis; and/or

- (vii) pain out of proportion to visible findings (consider necrotizing fasciitis).

2.3 Puerperal Sepsis

- a) Puerperal sepsis is sepsis that occurs from intrapartum up to any time in the first six (6) weeks postpartum. Pregnancy and the puerperium are a time of significant physiological changes and patients may not meet the traditional definitions of sepsis despite the presence of severe infection.
- a) Sepsis should be suspected in the presence of fever greater than or equal to 38.0 degrees Celsius (°C) in combination with one (1) or more of the following symptoms:
 - (i) rigors regardless of documented fever;
 - (ii) diarrhea and/or vomiting;
 - (iii) rash;
 - (iv) abdominal/pelvic pain and tenderness;
 - (v) abnormal vaginal discharge;
 - (vi) cough;
 - (vii) urinary symptoms – frequency, urgency, dysuria;
 - (viii) signs of mastitis – breast engorgement, tenderness, erythema;
 - (ix) wound infection – wound erythema, purulent discharge;
 - (x) delay in uterine involution;
 - (xi) heavy and/or foul-smelling lochia; and/or
 - (xii) non-specific signs including fatigue, decreased appetite and mental obtundation.
- b) The presence of any of these symptoms outlined in Sections 2.2 or 2.3 above warrants an assessment as soon as possible by the **most responsible health practitioner (MRHP)** and consideration for a septic workup, including sending blood cultures, urine cultures, wound cultures or other samples as deemed clinically appropriate.

3. Notification

- 3.1 The MRHP shall request an urgent consultation with an Infectious Disease Specialist and /or Internal Medicine, preferably with expertise in maternal medicine, if puerperal sepsis is suspected.

- 3.2 The HCP shall report any confirmed or probable cases to the Medical Officer of Health (MOH) by the fastest means possible (i.e., by direct voice communication).

4. Prevention

4.1 Required PPE

- a) The HCP shall use routine practice for every patient, every time.
- b) The HCP shall wear personal protective equipment (PPE), and take all reasonably practical measures to prevent exposure to blood and body fluids.
- (i) Refer to AHS *Occupational Exposure to Blood and Body Fluids* Policy for more information.
- c) The HCP shall don at a minimum, a surgical or procedure mask when within two (2) meters of perineum.
- (i) When indicated by the point of care risk assessment other PPE including **eye protection** shall be donned when within two (2) meters of perineum.
- d) The HCP shall don PPE within two (2) meters of perineum:
- (i) from the time of active pushing and perineal exposure and until:
- the baby is born and placenta is delivered; and/or
 - any required perineal repair is completed.
- (ii) when providing care at or within two (2) meters of the perineum before and after delivery for up to six (6) weeks postpartum, which may (according to clinical judgement) require an extended period of time and thus a prolonged risk of exposure; and
- (iii) when assessing other wounds with suspected tissue compromise, such as non-intact caesarean section incisions and deep nipple trauma requiring extensive skin care.
- e) In the setting of a critical event, where time is of the essence (e.g., precipitous delivery), patient safety is the primary concern. Application of the mask and other PPE may be delayed until it is safe to apply.
- f) Teaching for patients and support person(s) regarding **hand hygiene** should be conducted by the HCP on **admission** and with ongoing reinforcement throughout the hospital stay.

4.2 Identification of HCPs with Respiratory Tract Symptoms

- a) HCPs should perform daily self-assessments and should not provide direct patient care if they are experiencing symptoms and signs of an active respiratory tract infection (RTI).
- b) The HCP self-assessment of illness should include the presence of fever. A temperature of greater than or equal to 38.0 degrees Celsius ($^{\circ}\text{C}$) is one (1) of the criteria for both streptococcal pharyngitis and influenza-like-illness . Refer to Section 2.1 above for additional symptoms of non-invasive GAS.
- c) If a HCP presents for work with signs and symptoms of an active RTI such as fever, cough, sore throat or runny nose or exhibits other symptoms as listed in Section 2 above, and no alternate care professional is available, hand hygiene shall be practiced and the following PPE shall be worn when interacting with patients:
 - (i) mask, covering the mouth and nose;
 - (ii) gloves; and
 - (iii) gown.
- d) The HCP with signs of RTI who is required to provide direct patient care shall replace PPE (including masks) in between interactions with different patients, and whenever soiled, wet or damaged or if otherwise compromised; including use for an extended period of time (greater than two [2] hours).
- e) The HCP with a confirmed diagnosis of GAS shall not report to work.
 - (i) HCPs with a confirmed GAS infection should only return to work once they have completed at least 24 hours of effective antibiotic treatment, as per the Alberta Health, *Public Health Disease Management Invasive Group A Streptococcus* Guideline.
- f) If a HCP or support provider develops symptoms while on duty, they should immediately report their illness to their supervisor and if possible leave the work setting.

4.3 HCPs Exposed to IGAS

- a) If a HCP has been exposed to a documented case of invasive GAS without appropriate PPE donned, the HCP shall consult with a Workplace Health and Safety (WHS) Occupational Health Nurse regarding possible prophylaxis or other recommendations.

- b) If any symptoms occur within 21 days of exposure: The HCP should seek medical attention, and report to WHS.

4.4 Support Persons with Symptoms of an Active RTI

- a) It is important for patients to have their desired support person(s) in attendance for labour and delivery.
- b) If a support person exhibits symptoms and signs of an active RTI or any symptoms described in Section 2 above, the HCP shall educate the support person and the patient on:
 - (i) the risks of remaining in the room;
 - (ii) use of a face mask while in the patient's room particularly when near the birthing person during delivery or invasive procedures; and
 - (iii) hand hygiene.
- c) If a support person(s) has signs and symptoms of an active RTI the HCP should advise against handling the newborn.
- d) If the guardian(s) provides consent for the support person to hold the newborn the HCP should advise the support person to don appropriate PPE as outlined in AHS *Infection Prevention and Control Guidelines*.
- e) Limitations by AHS to support persons who are symptomatic with an active RTI should only be implemented as a last resort and in accordance with the AHS *Visitation with a Family Presence Focus Policy*.

5. **Interventions: Symptomatic Patients**

5.1 Symptomatic Pharyngitis

- a) A patient with symptomatic pharyngitis where GAS is strongly considered should have a throat swab for GAS collected in Amies Transport Media.
 - (i) Results are generally available one (1) day after submission.
 - (ii) In accordance with AHS *Consent to Treatment/Procedures Policy Suite*, if the throat swab is positive for GAS, the patient shall be treated with appropriate antimicrobial therapy.
 - (iii) When clinically indicated, testing for additional pathogens (Corynebacterium diphtheriae, Enteroviruses) may be required.
- b) Droplet precautions shall be used for adults with documented GAS pharyngitis who have not completed 24 hours of effective antimicrobial therapy. Otherwise, routine practices are advised.

- (i) Following 24 hours of effective antimicrobial therapy, droplet precautions should be discontinued.

5.2 Symptomatic Influenza

- a) A patient with a symptomatic influenza-like illness (ILI) should have a nasopharyngeal swab collected in Universal Transport Media for Respiratory Infection Panel Testing.
 - (i) Symptoms include cough plus one (1) or more of the following:
 - temperature greater than or equal to 38.0 degrees celsius (°c);
 - sore throat;
 - joint pain;
 - muscle aches; and/or
 - severe exhaustion/weakness.
 - (ii) Pending results of testing, contact and droplet precautions should be implemented per applicable AHS *IPC* Guidelines.
 - (iii) If a newborn is delivered while the birth mother has confirmed influenza, a consultation with a Pediatric Infectious Disease Specialist is recommended.

5.3 Symptomatic Upper RTI

- a) A patient with symptomatic upper RTI suspected viral pneumonia or unknown cause of pneumonia should be placed on contact and droplet precautions for the duration of symptoms per IPC policy.
 - (i) Symptoms may include fever, cough, sore throat, runny nose or shortness of breath.
- b) Where additional precautions are needed, they apply to both health care providers and visitors/support people. Refer to *Contact and Droplet Precautions Information*.

5.4 Suspected or Confirmed GAS

- a) Newborns of patients who have suspected or confirmed GAS should remain with their birth parent and droplet precautions should be implemented, unless either requires ICU/NICU care.
 - (i) The newborn is potentially infectious, so should not be cared for in common areas like nurseries.

- b) The HCP should advise the patient to wear a mask when handling the newborn, until after 24 hours of effective therapy.
- c) If a patient has symptoms of an active RTI, they should be encouraged to practice hand hygiene frequently, especially before handling the newborn.
 - (i) Gloves and gowns are not routinely recommended for holding the newborn, as they may inhibit skin to skin contact.
- d) The HCP should advise patients to practice hand hygiene and wear a mask when outside of their room.

DEFINITIONS

Admission means the process by which a patient enters the health-care system.

Eye protection means personal protective equipment to protect eyes, e.g., goggles, face shields, visors attached to masks.

Hand Hygiene means proper practices which remove micro-organisms with or without soil from the hands (refers to the application of alcohol-based hand rub or the use of plain/antimicrobial soap, and water hand washing).

Health Care Provider (HCP) means any person who provides goods or services to a patient, inclusive of health care professionals, staff, students, volunteers and other persons acting on behalf of or in conjunction with Alberta Health Services.

Group A Streptococcus (GAS) disease means conditions caused by *Streptococcus pyogenes*, a gram positive cocci. *S. pyogenes* can cause a variety of invasive and non-invasive infections and can also be associated with asymptomatic colonization.

- Non-invasive GAS: mild, localized conditions
- Invasive GAS: severe, invasive life-threatening diseases

The most frequently encountered illnesses caused by *S. pyogenes* are sore throat (strep throat) and skin infections such as impetigo or pyoderma. *S. pyogenes* can also cause scarlet fever, puerperal fever, erysipelas, septicemia, cellulitis, mastoiditis, otitis media, pneumonia, peritonitis, wound infections, necrotizing fasciitis and streptococcal toxic shock syndrome.

Most Responsible Health Practitioner (MRHP) means the health practitioner who has responsibility and accountability for the specific treatment/procedure(s) provided to a patient and who is authorized by Alberta Health Services to perform the duties required to fulfill the delivery of such a treatment/procedure(s) within the scope of their practice.

Patient means an adult or child who receives or has requested health care or services from Alberta Health Services and its health care providers or individuals authorized to act on behalf of Alberta Health Services. This term is inclusive of residents, clients and outpatients.

Personal Protective Equipment (PPE) means any specialized clothing or safety items worn by individuals prior to contact with potential or identified hazards, such as from a direct exposure to blood, tissue, and/or body fluids.

Support person means any individual who is identified by the patient as a person who may remain with them to provide support throughout labor, birth and postpartum/newborn phases of care.

REFERENCES

- Appendix A: *References*
- Alberta Health Services Governance Documents:
 - *Hand Hygiene Policy (#PS-02)*
 - *Hand Hygiene Procedure (#PS-02-01)*
 - *Visitation with a Family Presence Focus Policy (#HCS-199)*
- Alberta Health Services Resources:
 - *IPC Four Moments of Hand Hygiene*
 - *IPC Contact and Droplet Precautions Information*
- Non-Alberta Health Services Documents:
 - Alberta Health *Public Health Disease Management Guidelines, Streptococcal Disease – Group A, Invasive.*

VERSION HISTORY

Date	Action Taken
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APPENDIX A

References

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