Invasive Group A Strep Resources

Background Information

- Group A Streptococci (GAS) or *Streptococcus pyogenes* are bacteria that cause a wide variety of illness
- Infection with invasive GAS may present initially as throat or skin infections
- Noninvasive infections caused by GAS are more prevalent than invasive infections and include strep throat (pharyngitis) and impetigo
- Incubation period is not well defined for invasive GAS. For the purposes of investigation, the exposure period if considered to be 3 days prior to symptom onset
- GAS can be spread person to person through direct control with secretions from the nose or throat of an infected person or infected skin lesions/wounds. Persons can also carry GAS in their nasal passages and be asymptomatic

CDC NNDSS Case Definition

https://wwwn.cdc.gov/nndss/conditions/streptococcus-disease-invasive-group-a/

- **Clinical Description**
  - Invasive group A streptococcal infections may manifest as any of several clinical syndromes, including pneumonia, bacteremia in association with cutaneous infection (e.g., cellulitis, erysipelas, or infection of a surgical or nonsurgical wound), deep soft-tissue infection (e.g., myositis or necrotizing fasciitis), meningitis, peritonitis, osteomyelitis, septic arthritis, postpartum sepsis (i.e., puerperal fever), neonatal sepsis, and nonfocal bacteremia.

- **Laboratory Criteria for Diagnosis**
  - Isolation of group A *Streptococcus* (*Streptococcus pyogenes*) by culture from a normally sterile site (e.g., blood or cerebrospinal fluid, or, less commonly, joint, pleural, or pericardial fluid)
  - Normally Sterile Sites for Invasive Bacterial Diseases
    - https://www.health.state.mn.us/diseases/invbacterial/sterile.html
  - Exceptions for Group A Streptococcus if the source is:
    - Muscle
      - A tissue or biopsy that is surgically obtained
      - Any site (even non-sterile sites) in the case of toxic shock syndrome (TSS) or necrotizing fasciitis (NF)
- **Case Classification**
  - Confirmed = A case that is laboratory confirmed

CDC Outbreaks & Public Health Response

https://www.cdc.gov/groupastrep/outbreaks.html

- Most common clusters investigated in the United States are those occurring in LTCFs. Other outbreak investigations include:
    - Clusters of pharyngitis (strep throat) among school-aged children
    - HAIs such as postpartum and post-surgical infections
    - Foodborne outbreaks of pharyngitis, although these are rare in the US
- Outbreak Control Measures
    - Vaccination: Currently no vaccine to prevent GAS infections
    - Prophylaxis: Most people who are exposed to someone with a GAS infection should not receive prophylaxis. However, in some situations, providers may recommend prophylaxis for someone exposed to an invasive GAS infection (such as pneumonia, NF, streptococcal TSS)

PDPH Actions and Control Measures Overview

- For cases residing in congregated living situation or similar closed environment or attend a childcare setting, identify a facility contact and follow up to review infection control practices and implement surveillance activities
- Children with invasive GAS are to be excluded from school or childcare setting until they receive at least 24 hours of antibiotics
- Prophylaxis may be recommended for:
    - Household contacts > 65 years of age or with invasive GAS risk factors
    - Roommates of cases residing in LTCF
- Old document that outlines PDPH & LTCF response actions: \\DPH-DDC-FS2\aShared$\DDC\ACD\Disease Conditions\Strep group A\Guidelines\GAS LTCF summary.doc

PDPH Resources for LTCFs (include in an email to the facility)

- **Wound cart recommendations:** \\DPH-DDC-FS2\aShared$\DDC\ACD\Disease Conditions\Strep group A\Guidelines\ Wound Cart Recommendations_01102019.pdf
- **Gas Linelist Template:** \\DPH-DDC-FS2\aShared$\DDC\ACD\Disease Conditions\Strep group A\Guidelines\ GAS_LineList_Template.xls
- **Surveillance Log:** \\DPH-DDC-FS2\aShared$\DDC\ACD\Disease Conditions\Strep group A\Guidelines\Surveillance Log.doc

PDPH Recommendations for Single Invasive Group A Streptococcal Infection

Hi (LTCF CONTACT, ie. Nurse manager or infection preventionist),

Per our discussion earlier today, I wanted to be sure you were aware of a resident who was diagnosed with invasive Group A Streptococcus (GAS) infection while hospitalized at (HOSPITAL NAME). While GAS commonly causes noninvasive infections such as strep throat, impetigo, and wound infections, it can sometimes cause more severe invasive infections. The bacteria are spread through direct contact with mucus from the nose or throat of persons who are infected, or through contact with infected wounds on the skin. In order to prevent the spread of GAS within residential facilities, it is important that long-term care facilities work proactively to promote GAS prevention and control when even a single case of invasive GAS is identified.

For this reason, PDPH recommends the following actions:

- Review health records of residents for the previous month (MONTH) to determine if any additional cases of GAS (noninvasive and invasive) have been identified
- Establish a means to identify additional cases of GAS (recommended for the next 3 months)
    - Surveillance should consist of asking staff to inform you of patients with fever, sore throat, etc. that may require culture.
    - A checklist/template linelist is available if needed (see attached)
    - Maintain surveillance for any additional non-invasive or invasive GAS infections identified in residents through hospital and/or physician visits
    - Monitor lab reports from your contract lab to determine if there are any non-invasive GAS cases; invasive cases are reported to PDPH and PDPH will continue to make you aware of such cases
- Consider screening any residents who are close contacts (e.g. roommates) of the identified case for GAS
- Additional recommendations that you may wish to consider include hand hygiene and wound care audits to ensure appropriate compliance with infection prevention guidelines
    - Hand hygiene is the best measure to prevent the spread of GAS. PDPH offers several hand hygiene posters.

Please notify our department of any additional cases identified in your review of reports and ongoing surveillance. We are happy to assist with implementing these recommendations and can provide any tools mentioned above via email.

Please let me know if you have any follow-up questions.

Best regards,

(YOUR NAME)

PDPH Recommendations for Multiple Cases of Invasive Group A Streptococcal Infections

Hi (LTCF CONTACT, ie. Nurse manager or infection preventionist),

Thank you for taking the time to speak with me earlier. As we discussed, a second resident at your facility was recently diagnosed with invasive Group A Streptococcus (GAS) infection. This patient had a positive blood culture that grew *S. pyogenes* at (HOSPITAL) on (DATE). GAS infections are transmitted by person-to-person contact or by respiratory droplets and can result in severe invasive infection. As two residents of your facility have now been diagnosed with invasive GAS within a three-month period (DATE 1 and DATE 2), (LTCF NAME) meets the CDC definition of an invasive GAS outbreak. In response to two or more cases of GAS within a three-month period, PDPH recommends the following actions:

- Review health records of residents for the previous month (MONTH) to determine if any additional cases of GAS (noninvasive and invasive) have been identified.
- Establish a means to identify additional cases of GAS for the 4 months following the most recent outbreak-linked case (through DATE).
    - Surveillance should consist of asking staff to inform you of patients with fever, sore throat, etc. that may require culture (a checklist/template linelist is available if needed).
- Monitor lab reports from your contract lab to determine if there are any non-invasive GAS cases; invasive cases are reported to PDPH and PDPH will continue to make you aware of such cases.
- Perform handwashing and wound care audits to ensure appropriate compliance with infection prevention guidelines.
    - Handwashing is the best measure to prevent the spread of GAS. PDPH offers several handwashing posters.
- As your facility meets CDC's outbreak definition of having two or more cases of invasive Group A Strep within a three-month period, CDC recommends that your facility screen both residents and health care staff for GAS infection, including wound care staff.
    - Screening residents and healthcare workers providing direct patient care, and thus identifying individuals who may be carrying this bacterium, will facilitate appropriate treatment and eradication of the bacteria and help minimize transmission to the employee, the patient, their household or roommates, and to residents of the facility.
    - Screening consists of a throat swab along with a swab of any hand lesions.
        - Those individuals found to be carriers of GAS subsequently should be offered treatment in a confidential manner.
    - We **strongly recommend** taking this additional measure to ensure that all residents are protected from infection.

Please let us know when your review of this information is complete. If you have any questions or concerns, please email me or call 215-685-6742.

Thank you,

(YOUR NAME)

Including HAI Team for ICAR Evaluation

- For invasive GAS cases associated with LTCF, the HAI team may be interested in providing an ICAR. Feel free to reach out to Tiina or Susy to see if they may be interested/have the funding to do so
- Also, feel free to include Tiina and Susy in any phone calls to the LTCFs, as they may be able to provide additional infection control guidance and recommendations

> As also mentioned during our call, the PDPH Healthcare Associated Infections program is working with a number of long-term care and skilled nursing facilities in Philadelphia to conduct Infection Control Assessment and Response (ICAR) evaluations. These ICAR assessments provide facilities with an assessment of current infection control practices and can help guide quality improvement. If you'd like to hear more about this program, I've cc'd my colleagues Tiina Peritz and Susy Rettig.

Documenting LTCF GAS Cases

- Add any LTCF associated GAS cases to the linelist: \\DPH-DDC-FS2\aShared$\DDC\ACD\Disease Conditions\Strep group A\Outbreaks\LTCF GAS cases.xlsx
  - Document CDMS ID, associated LTCF, contact information, and any actions taken
  - Create a facility folder in the Outbreak folder to save documents/emails/etc.
- For LTCFs/childcare centers with 2 or more cases, be sure to add the cluster to the Cluster codes in CDMS spreadsheet. GAS can be listed under the “Misc Disease” tab./ Create a cluster code and include it in the CDMS records.
  - \\DPH-DDC-FS2\aShared$\DDC\ACD\New Surveillance\ClusterOutbreak Codes\Cluster codes in CDMS.xls
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