Group A Streptococcus
Objectives

1. Describe the types of GAS
2. Discuss the public health concern for HAI’s in facilities
3. Discuss the steps of both a GAS sentinel and outbreak investigation in a healthcare facility
4. Describe methods to mitigate GAS
Group A Strep (GAS)

- A group of gram-positive bacteria
- Spherical shape and divide by fission, but remain attached and grow in beadlike chains
- Commonly found in the throat and on the skin
- Illness varies depending on site of infection
Infections Caused by GAS

• Strep throat

• Impetigo

• Scarlet fever

• Can cause severe and sometimes life-threatening (invasive) infections
  — Bacteria can invade normally sterile locations of the body, such as the blood, CSF, joint or pleural fluid
  — Post-Streptococcal Glomerulonephritis
Rare, But Deadly…

**Streptococcal toxic shock syndrome (TSS)** - is a rapidly progressing infection
- Usually infects people in their 20s or 30s
- Causes blood pressure to fall rapidly and organs to fail

**Necrotizing fasciitis** - quickly spreading infection of the flesh and muscle
- Caused by toxins released by *S. pyogenes* "Flesh-eating bacteria."
Why is GAS important to me?

- It is an infection that may be transmitted from person to person in a confined setting, which includes long term care.
The Path of GAS Spread

- Inadequate infection control
  - Improper hand hygiene
  - Inadequate environmental cleaning

- Poor wound care technique
Burden of Invasive GAS

• Invasive group A strep (e.g. cellulitis with blood infection, pneumonia, or necrotizing fasciitis)

• CDC estimates that approximately 11,000 to 13,000 cases occur annually in the US

• LTCF residence is an independent risk factor for invasive disease

• Incidence 3–8 times higher among LTCF residents
LTCF Mortality Risks

• Between 1,100 and 1,600 people *die* as a result of invasive GAS disease annually in the US

• LTCF residents 1.5 times more likely to die from invasive GAS infections than the average population

• 10-15% of LTCF residents who acquire a GAS infection will die.
**Recent GAS Outbreak Vignette**

- 2 Facilities in County X, North Carolina
- 2 Healthcare workers worked at both facilities
- 24 Total cases to date
  - **Facility A**: 10 cases (among eight residents and 2 employees)
  - **Facility B**: 14 cases (among 12 residents and 2 employees)
- 6 residents died (case fatality rate 25%)
LHD Investigation Steps

Investigation steps for single and multiple cases

- Retrospective chart review
- Survey healthcare workers for GAS symptoms
- Culture close contacts
- 4 months active surveillance
Public Health Response to GAS

Investigation of One Culture-Confirmed Invasive GAS Infection

Given the potential severity of GAS in residential healthcare facilities, even one case of invasive GAS should prompt an epidemiological investigation by the facility and the local health department.

Invasive GAS infection identified in a resident in a residential healthcare facility:
Laboratory, Facility or Hospital Action

1. Report case to local public health authorities
   Notify EPI on call to arrange shipments to SLPH

Facility or public health agency action:

I. Identification of Additional Cases
   A. Retrospective chart review to identify other invasive GAS cases among facility residents over

II. Identification of Potential Carriers
   Screen for culture-positive residents

III. Infection Control
   Review hand hygiene practices and cleaning procedures with facility staff

3. Save isolate and contact CDB epidemiologist on call to arrange shipment to state public health laboratory
   **Isolate to be saved for 1 year**
The Response

Investigation of One Culture-Confirmed Invasive GAS Infection

Given the potential severity of GAS in residential healthcare facilities, even one case of invasive GAS should prompt an epidemiological investigation by the facility and the local health department.

Invasive GAS infection identified in a resident in a residential healthcare facility:
Laboratory, Facility or Hospital Action

1. Report case to local public health authorities
   Notify EPI on call to arrange shipments to SLPH

2. Notify facility of patient’s positive results

3. Save isolate and contact CDB epidemiologist on call to arrange shipment to state public health laboratory
   **Isolate to be saved for 1 year**

Facility or public health agency action:

I. Identification of Additional Cases
   A. Retrospective chart review to identify other invasive GAS cases among facility residents over
      Screen for culture-positive residents

II. Identification of Potential Carriers

III. Infection Control
   Review hand hygiene practices and cleaning procedures with facility staff
Prevention is critical:

Two of the best methods to prevent the spread of this infection:
- Strict attention to hand hygiene and
- Keeping staff out while ill (i.e. sore throats)
Infection Risk Factors

- Increased staff contact linked to illness
  - Significant nursing needs
  - Non-intact skin/wound care
  - Immobility/bed baths

- Link to inadequate infection control
  - Poor hand hygiene
  - Staff working while sick
Do’s & Don’ts for Wearing Gloves

- Gloves prevent contamination of healthcare worker’s hands and help reduce the spread of pathogens only if:
  - They are used properly; and
  - Hand hygiene is performed before and after wear.

http://professionals.site.apic.org/10-ways-to-protect-patients/using-ppe-the-right-way/
Masking during wound care?

- Not required, may be best practice
- Recent outbreak linked to healthcare
Hand Hygiene

- Alcohol-based hand sanitizers are the **most effective** products for reducing the number of germs on the hands of healthcare providers.
  - They are the **preferred** method for cleaning your hands in the healthcare setting, when hands are not visibly soiled
  - Soap and water are recommended for cleaning visibly soiled hands

https://www.cdc.gov/handhygiene/providers/index.html
References

• https://www.cdc.gov/groupastrep/diseases-public/index.html

• http://professionals.site.apic.org/10-ways-to-protect-patients/using-ppe-the-right-way/

• https://www.cdc.gov/handhygiene/providers/index.html
Thank you!!

NC SHARPPS Team