MARCH 2024

INVASIVE PNEUMOCOCCAL DISEASE (IPD) QUICKSHEET

Kentucky Public Health
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CLINICAL FEATURES

ADULTS

- Pneumococcal pneumonia
  - Most common clinical presentation
  - Incubation period 1 to 3 days
  - Symptoms: fever, chills, pleuritic chest pain, cough, rusty sputum, dyspnea, tachypnea, hypoxia, tachycardia, malaise, weakness
- Pneumococcal bacteremia
  - Can lead to arthritis, meningitis, and endocarditis
  - 12% overall case fatality ratio
- Pneumococcal meningitis
  - Symptoms: headache, lethargy, vomiting, irritability, fever, nuchal rigidity, cranial nerve signs, seizures, coma
  - 14% case fatality ratio

CHILDREN

- Pneumococcal pneumonia
  - Accounts for 25% to 30% of invasive disease in children age 2 years or younger
- Pneumococcal bacteremia
  - Accounts for 40% of invasive disease in children age 2 years or younger
- Pneumococcal meningitis
  - *S. pneumoniae* leading cause of bacterial meningitis among children younger than age 5 years
- Pneumococci common cause of acute otitis media

EXCLUSION

Children with a fever from any infectious cause should be excluded from school and daycare for at least 24 hours after fever has subsided without the use of fever-suppressing medications.

ETIOLOGIC AGENT

Streptococcus pneumoniae (bacteria)

TRANSMISSION

- *direct person-to-person contact via respiratory droplets*
- *autoinoculation in persons carrying the bacteria in their upper respiratory tract.*

INCUBATION

varies by type of infection and can be as short as 1 to 3 days

COMMUNICABILITY

Presumably transmissible as long as organism is in respiratory secretions

PNEUMOCOCCAL VACCINE

- PPSV23 (Pneumovax 23)
- PCV13 (Prevnar 13)

TREATMENT

antibiotics

KENTUCKY INVASIVE PNEUMOCOCCAL OCCURRENCE

MMWR Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Confirmed Case Count	88	218	258	195	235	263	380	424	387	203	142	331
Probable Case Count	0	3	2	0	2	1	3	4	2	2	7	25

KENTUCKY DEPARTMENT OF PUBLIC HEALTH
ON CALL PHONE: (888) 9REPORT
IMMUNIZATION BRANCH: (502) 564-4478

INVASIVE PNUEMOCOCCAL DISEASE QUICKSHEET

CASE CLASSIFICATION

LABORATORY CRITERIA

Supportive: Identification of *S. pneumoniae* from a normally sterile body site by a culture independent diagnostic tests (CIDTs) like polymerase chain reaction (PCR) without isolation of the bacteria.

Confirmatory: Isolation of *S. pneumoniae* from a normally sterile body site

PROBABLE CASE

A case that meets the supportive laboratory evidence.

CONFIRMED CASE

A case that meets the confirmatory laboratory evidence.

SPECIMEN COLLECTION FOR LABORATORY TESTING

Test Name	Specimens to take	Timing for specimen collection	Transport requirements
Culture **Preferred specimen*	Normally sterile site (blood, CSF, etc.)	As soon as possible after onset of clinical illness but before administration of antibiotics	Blood culture bottles w/broth or lysis-centrifugation tube or, if from another sterile site, a sterile, screw-capped tube
PCR	Normally sterile site	ASAP, soon after administration of antibiotics is a viable option	Send specimen frozen on blue ice packs

CDC's Streptococcus Laboratory Information

CASE INVESTIGATION & MANAGEMENT

1. Confirm that laboratory results meet the case definition
2. Review medical records or speak to an infection preventionist or physician to verify that the case meets case definition, identify underlying health conditions and describe the course of illness
3. Determine vaccination status of the case
4. Provide education on *Streptococcus pneumoniae* as needed
5. Recommend that anyone experiencing symptoms be evaluated by a healthcare provider
6. Promote droplet isolation for all cases, respiratory etiquette, and hand hygiene
7. Encourage vaccination per ACIP guidance
    a. Pneumococcal conjugate vaccine (PCV13) is recommended for all children younger than 5 years old, all adults 65 years or older, and people 6 years or older with certain risk factors
    b. Pneumococcal polysaccharide vaccine (PPSV23) is recommended for all adults 65 years or older. People 2 years through 64 years of age who are at high risk of pneumococcal disease should also receive PPSV23
8. A single case should be defined as a health event with a specimen collection date that occurs more than 30 days from the last known specimen with a positive lab finding.

Streptococcus pneumoniae Surveillance Worksheet

CASE IS A SUSPECTED HEALTHCARE-ASSOCIATED (NOSOCOMIAL) INFECTION

If one or more nosocomial (healthcare-associated) cases occur in patients of the same hospital, residential care facility, or other long-term care facility; and the cases have no other identified plausible source of infection; or if other circumstances suggest the possibility of nosocomial infection, notify KDPH.

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