

Group B Streptococcus

(Invasive Disease)
Infants Younger than 90 Days Old

DISEASE REPORTABLE WITHIN 24 HOURS OF DIAGNOSIS

Per N.J.A.C. 8:57, healthcare providers and administrators shall report by mail or by electronic reporting within 24 hours of diagnosis, confirmed cases of Group B Streptococcus to the health officer of the jurisdiction where the ill or infected person lives, or if unknown, wherein the diagnosis is made. A directory of local health departments in New Jersey is available at <http://localhealth.nj.gov>

If the health officer is unavailable, the healthcare provider or administrator shall make the report to the Department by telephone to 609.826.5964, between 8:00 A.M. and 5:00 P.M. on non-holiday weekdays or to 609.392.2020 during all other days and hours.



1 THE DISEASE AND ITS EPIDEMIOLOGY

A. Etiologic Agent

Group B streptococci (GBS), or *Streptococcus agalactiae*, are gram-positive cocci. They are divided into the serotypes Ia, Ib, and II through VIII, based on capsular polysaccharides. Serotype III is the predominant cause of early-onset meningitis and most late-onset infections in newborns.

B. Clinical Description

GBS is the most common cause of severe infections in newborns and is a major cause of perinatal bacterial infections, including bacteremia, endometritis, chorioamnionitis, and urinary tract infections in parturient women and systemic and focal infections in infants from birth until three or more months of age. Invasive disease in young infants is categorized into two entities based on time of onset after birth. Early-onset disease usually occurs within the first 24 hours of life (range: zero to six days) and is characterized by respiratory distress, apnea, shock, pneumonia, and, less often, meningitis. Late-onset disease, which typically occurs at three to four weeks of age (range: seven days to three months), frequently is manifested as occult bacteremia or meningitis; other focal infections, such as osteomyelitis, septic arthritis, and cellulitis, can occur. In adults with underlying medical conditions (e.g., diabetes mellitus, chronic liver disease, chronic renal disease, malignant neoplasm, or other immunocompromising conditions), GBS can cause sepsis and soft tissue infections. The case-fatality rate for GBS disease is estimated to be 5% to 20% for newborns and 8% to 25% for adults. Diagnosis is based on isolation of *S. agalactiae* from clinical specimens.

C. Reservoirs

GBS are common inhabitants of human gastrointestinal and genitourinary tracts. Less commonly, they colonize the pharynx.

D. Modes of Transmission

Transmission from mother to infant occurs shortly before or during delivery. After delivery, person-to-person transmission can occur. Although uncommon, GBS can be acquired in the nursery from colonized infants or hospital personnel (probably via hand contamination) or in the community.

E. Incubation Period

Early-onset disease, in which the bacteria are most often passed from mother to baby during delivery, has an incubation period of 1-7 days, most less than one day. The incubation period for late onset GBS disease in infants is unknown, as symptoms can occur from greater than seven days to several months, but typically within 3-4 weeks.

F. Period of Communicability or Infectious Period

The period of communicability is unknown but may extend throughout the duration of colonization. Infants can remain colonized for several months after birth and after treatment for systemic infection. Recurrent GBS disease affects an estimated 1% to 3% of appropriately treated infants. Administration of antibiotics during pregnancy only temporarily eradicates GBS from the vagina.

G. Epidemiology

Rates of serious GBS infection are much higher among newborns than among any other age group. Approximately 30% of all cases of severe group B strep infections reported annually occur in newborns. However, the rate of early-onset infection has decreased from 1.7 cases per 1,000 live births in 1993 to 0.24 cases per 1,000 live births in 2014. According to surveillance performed by CDC's Emerging Infections Program Network, 74.2 cases per 100,000 occurred in infants younger than one year old (compared with 40 cases per 100,000 in adults >18 years of age). The risk of early-onset disease is increased in preterm infants (i.e., born at less than 37 weeks' gestation), infants born after the amniotic membranes have been ruptured for more than 18 hours, and infants born to women with high genital GBS inoculum, intrapartum fever, chorioamnionitis, or GBS bacteriuria during pregnancy. A low or an absent concentration of serotype-specific serum antibody also is a predisposing factor. Other risk factors are maternal age younger than 20 years and African-American race or Hispanic ethnicity.

2 CASE DEFINITION

A. New Jersey Department of Health (NJDOH)

CONFIRMED

A clinically compatible case in infants younger than 90 days of age **AND**

Communicable Disease Service Manual

Isolation of group B streptococci (*S. agalactiae*) from a normally sterile site (e.g., blood or cerebrospinal fluid).

PROBABLE

Not used.

POSSIBLE

Not used.

B. Differences from CDC Case Definition

GBS is not included on CDC's nationally notifiable disease list.

3 LABORATORY TESTING AVAILABLE

A definitive diagnosis of infection with GBS generally relies on isolation of the organism from blood, cerebrospinal fluid, or other normally sterile body sites. Most hospital-based and commercial laboratories can identify the presence of GBS.

4 DISEASE REPORTING AND CASE INVESTIGATION

A. Purpose of Surveillance and Reporting

- To identify where GBS occurs in New Jersey
- To recognize areas in New Jersey where GBS incidence has changed (increased or decreased)
- To target preventive measures, including education

B. Laboratory Reporting Requirements

The New Jersey Administrative Code (NJAC 8:57) stipulates that laboratories report by electronic reporting via the Internet using the Communicable Disease Reporting and Surveillance System (CDRSS), electronic laboratory reporting (ELR) or by mail, all cases of GBS to the local health officer having jurisdiction over the locality in which the patient lives or, if unknown, to the health officer in whose jurisdiction the healthcare provider requesting the laboratory examination is located. The report shall contain, at a minimum, the reporting laboratory's name, address, and telephone number; the age, date of birth, gender, race, ethnicity, home address, and telephone number of person tested; the test performed; the date of testing; the test results; and the healthcare provider's name and address. Preferably, reports should be made electronically using the CDRSS.

C. Healthcare Provider Reporting Requirements

The New Jersey Administrative Code (NJAC 8:57) stipulates that healthcare providers report by mail or electronic reporting, cases of GBS to the local health officer having jurisdiction over the locality in which the patient lives or, if unknown, to the health officer in whose jurisdiction the healthcare provider requesting the laboratory examination is located. The report shall contain the name of the disease; date of illness onset; and name, age, date of birth, race, ethnicity, home address, and telephone number of the patient. In addition, name, address, institution, and telephone number of reporting official should be included in the report. NJDOH reserves the right to request additional information deemed necessary for appropriate public health surveillance and response.

D. Health Officer Reporting and Follow-up Responsibilities

The New Jersey Administrative Code (NJAC 8:57) stipulates that each local health officer must report the occurrence of any case of GBS within 24 hours of receiving the report. A written or electronic copy should be sent to the NJDOH Infectious and Zoonotic Diseases Program (IZDP).

5 CASE INVESTIGATION

A. Forms

It is requested that the local health department enter all relevant information into CDRSS as described in B below.

B. CDRSS

The mandatory fields in CDRSS include: disease, case name, address, county, municipality, gender, race, ethnicity, laboratory results, signs and symptoms, risk factors, case status and report status. Also, include, if applicable, the date of the mother's delivery and whether she received antibiotics before delivery.

C. Other Reporting/Investigation Issues

1. Once the LHD completes its investigation and assigns a report status of "**LHD CLOSED**," NJDOH will review the case. NJDOH will approve the case by changing the report status to "**DHSS APPROVED**." At this time, the case will be submitted to CDC and the case will be locked for editing. If additional information is received after a case has been placed in "**DHSS APPROVED**," you will need to contact NJDOH to reopen the case. This should be done only if the additional information changes the case status of the report.

2. Every effort should be made to complete the investigation within three months of opening a case. Cases that remain open for three months or more and have no investigation or update notes will be closed by NJDOH and marked as not a case.

6 CONTROLLING FURTHER SPREAD

A. Isolation and Quarantine Requirements (NJAC 8:57)

None.

B. Protection of Contacts of a Case

Routine cultures of infants to determine colonization with GBS are not recommended. Epidemiologic evaluation of late-onset cases in a special care nursery may be required to exclude a nosocomial source.

C. Managing Special Situations

1. Nursery

Placing ill and colonized infants in cohorts and the use of contact isolation during an outbreak are recommended. Other methods of control (e.g., treatment of asymptomatic carriers with penicillin) are impractical or ineffective. Routine hand washing by personnel caring for infants colonized or infected with GBS is the best way to prevent spread to other infants.

2. Reported Incidence Is Higher Than Usual/Outbreak Suspected

If the number of reported cases in a city/town is higher than usual, or if an outbreak is suspected in a nursery, please contact the NJDOH IZDP immediately at 609.826-5964 (609-392-2020 after hours). This situation may warrant an investigation of clustered cases to determine a course of action to prevent further cases. The IZDP staff can also perform surveillance for cases that cross several jurisdictions, which may be difficult to identify at a local level.

D. Preventive Measures

1. Chemoprophylaxis

Recommendations for prevention of early-onset GBS infection are as follows:

Obstetric care practitioners should adopt a strategy for prevention of early-onset GBS disease, including a screening approach by means of culture or assessing clinical risk factors to identify candidates for intrapartum antibiotic prophylaxis. Recent studies show advantages of the screening approach. Patients should be informed about the available strategies for

prevention of GBS. For more information about GBS prevention, refer to CDC guidelines: “Prevention of Perinatal Group B Streptococcal Disease: Revised guidelines from the CDC,” available at <https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5910a1.htm>

References

- American Academy of Pediatrics. *Red Book 2015: Report of the Committee on Infectious Diseases*. 30th ed. Elks Grove Village, Illinois: American Academy of Pediatrics; 2015.
- Centers for Disease Control and Prevention. Prevention of perinatal group B streptococcal disease: revised guidelines from CDC. *MMWR Morb Mortal Wkly Rep*. 2002;51(RR-11):1-22.
- Chin J, ed. *Control of Communicable Diseases Manual*. 20th ed. Washington, DC: American Public Health Association; 2015.