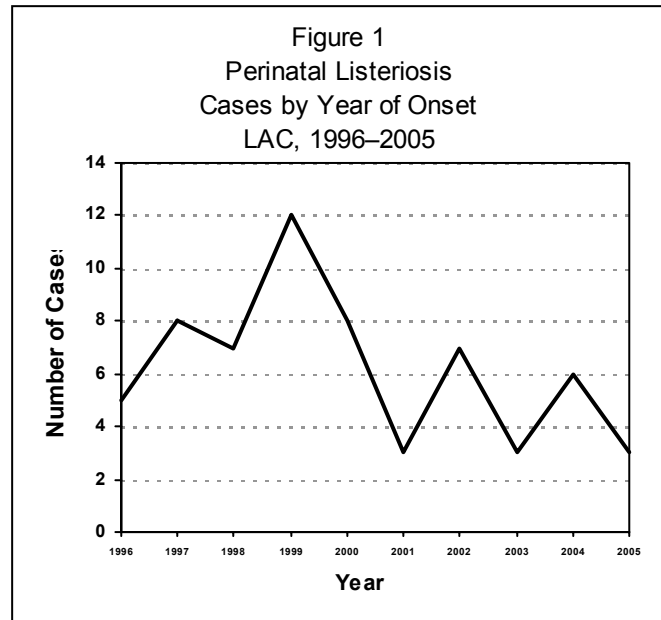




## LISTERIOSIS, PERINATAL

CRUDE DATA	
Number of Cases <sup>a</sup>	3
Annual Incidence <sup>b</sup>	
LA County	--- <sup>c</sup>
United States	N/A
Age at Onset	
Maternal:	
Mean	31.7 years
Median	29 years
Range	25-41 years
Infant Gestational:	
Mean	31 weeks
Median	28.3 weeks
Range	20-34 weeks
Case Fatality	
LA County	33% <sup>d</sup>
United States	N/A



<sup>a</sup> Cases are mother-infant pairs.

<sup>b</sup> Cases per 100,000 population.

<sup>c</sup> Rates based on less than 20 observations are unreliable.

<sup>d</sup> Among fetal/neonate cases only, no maternal deaths included.

### DESCRIPTION

Perinatal listeriosis is a disease transmitted transplacentally from infected pregnant women; these women may experience only mild flu-like symptoms or may be asymptomatic. A perinatal listeriosis case is defined as a mother-infant pair in which one or both persons has a positive *Listeria monocytogenes* culture from a normally sterile site. Neonatal/infant listeriosis is often divided into early onset (0–6 days after birth) and late onset (7–42 days after birth). Infection during pregnancy may lead to premature birth, stillbirth, or septicemia and/or meningitis in the neonate—even if the mother is asymptomatic. There is no vaccine to prevent listeriosis.

### DISEASE ABSTRACT

- Perinatal listeriosis increased from three cases in 2003 to six cases in 2004, and then declined back to three cases in 2005 (Figure 1).
- One case ended with fetal demise at 20 weeks of gestation. One male infant was born ill at 34 weeks of gestation. One case was treated at 31 weeks of gestation and carried the pregnancy to term.

### STRATIFIED DATA

**Trends:** Since 2002, the annual incidence of perinatal listeriosis has fluctuated, ranging from three to seven cases (Figure 1).



**Seasonality:** In 2005, the seasonality of perinatal listeriosis was slightly, though insignificantly, earlier than the average annual incidence of the previous five years; higher levels of incidence occurred between April and October, particularly in August (Figure 2).

**Age:** During 2005, the average maternal and gestational ages of perinatal cases at disease onset (31 years and 28 weeks, respectively) were lower compared to those in 2004.

**Sex:** In 2005, one infant was identified as male, the other two infants' genders are not known. In 2004 and 2003, the male to female ratios were 2:3 and 2:1, respectively.

**Race/Ethnicity:** Similar to both 2003 and 2004, in 2005 67% (n=2) of the cases were Latino and 33% (n=1) were White. In 2002, Latinos comprised 71% of the perinatal cases. 1999 U.S. Census data documented 62.2% and 19.0% of all LAC live births were by Latino and White mothers, respectively.

**Location:** In 2005, two cases resided in SPA 4 (Hollywood-Wilshire and Northeast health districts) and one resided in SPA 6 in the Southeast health district. Neither of these SPAs had any cases of perinatal listeriosis last year.

**Type of Delivery:** One infant (33%) was delivered by caesarian section. One stillbirth was delivered vaginally (33%). It is not known how the remaining case delivered her infant.

**Outcome:** There were no maternal fatalities. One (33%) neonate was stillborn at 20 weeks of gestation, one (33%) was delivered sick at 34 weeks of gestation, and one (33%) was delivered healthy at full term after treatment at 31 weeks of gestation.

**Culture Sites:** Listeriosis was culture confirmed in three mothers and one neonate. Among culture-positive mothers, three (100%) mothers had *L. monocytogenes* isolated from blood only. In one of those cases, both mother and infant had positive cultures of *L. monocytogenes* from blood.

**Maternal clinical signs/outcomes:** In 2005, all three mothers had fevers and three (100%) had sepsis. Similar to the previous two years, all mothers were symptomatic and no mothers had meningitis.

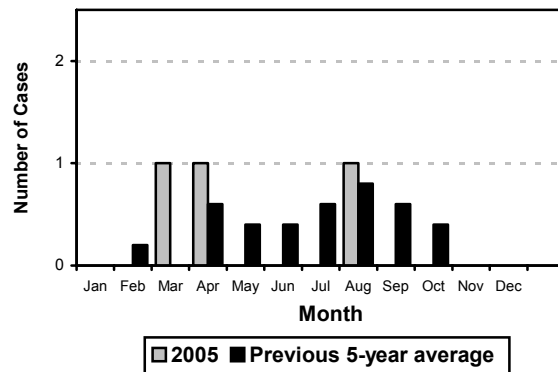
**Onset:** In 2005, one infant was born alive but sick, one was born alive and healthy, and one was stillborn.

**High-risk Foods:** All three mothers reported eating at least one potentially high-risk food. Two women (67%) ate Mexican-style cheese; the other woman reported eating unpasteurized gourmet cheese. Three (100%) ate raw vegetables, one (33%) ate cold cuts or deli meats, all (100%) ate soft cheese, and one (33%) ate yeast products (Table 1).

**Risk factors:** Only one mother had predisposing medical factors other than pregnancy. She had a history of urinary tract infections and took iron medication which might have helped the *L. monocytogenes* proliferate. The outcome of this case was stillbirth at 31 weeks of gestation.

Only one (33%) mother had traveled outside the United States during pregnancy. She was a recent immigrant from Mexico and had given birth to a sick infant male at 34 weeks of gestation.

Figure 2  
Number of perinatal listeriosis cases  
by month of onset  
LAC, 1999–2005





## PREVENTION

*L. monocytogenes* is found in soil and water. Animals can carry *Listeria* without appearing ill, which can result in contaminated foods of animal origin, such as meats and dairy products. In particular, studies have implicated unpasteurized milk or milk products; soft cheeses (Mexican-style, Brie, Feta, blue-veined, Camembert); undercooked meat, such as beef, pork, poultry, and pâté; and cold cuts from deli counters. Pregnant women should avoid these foods. In particular, cheese sold by street vendors, or obtained from relatives/friends in other countries where food processing quality assurance is unknown should be avoided by pregnant women.

Risk foods	Number	Percent
Raw Fruit	3	100
Mexican-style Cheese	2	67
Other Cheese	2	67
Raw Vegetables	3	100
Cold Cuts/ Deli Meats	1	33
Soft Cheese	2	67
Yeast Products	1	33
Raw Milk	1	33

In addition, fruits and vegetables should be thoroughly washed. Uncooked meats should be stored separately from vegetables, cooked foods, and ready-to-eat foods. Hands, utensils, and cutting boards should be washed after handling uncooked foods. Leftover foods or ready-to-eat foods, such as hot dogs, should be cooked until steaming hot before eating. Finally, although the risk of listeriosis associated with foods from deli counters is relatively low, pregnant women may choose to avoid these foods or thoroughly reheat cold cuts before eating.

Given the seasonality of perinatal listeriosis, prevention strategies should take effect before April. Possible preventive methods include education during prenatal checkups, outreach to Hispanic/Latino communities, and food safety notices at food and deli markets.

## COMMENTS

Incidence of perinatal listeriosis in LAC is less than ten cases per year for the fifth consecutive year. Prevention efforts should be targeted towards Hispanic and White women, especially with Hispanics being the fastest growing segment of the LAC population. There were no perinatal cases associated with outbreaks in 2005.

All isolates of *L. monocytogenes* are typed by pulsed-field gel electrophoresis (PFGE), a technique to detect matching strains of various pathogenic agents. When matches between isolates from patients or foods are detected, an investigation may be initiated. In addition, a solitary case occurring locally can be linked by PFGE results to an outbreak occurring on a wider geographical scale. In 2005, there were no cases of *L. monocytogenes* in LAC associated with a multi-jurisdictional outbreak identified in this manner.

## ADDITIONAL RESOURCES

General disease information is available from the CDC at:  
[www.cdc.gov/ncidod/dbmd/diseaseinfo/listeriosis\\_g.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/listeriosis_g.htm)

General information and reporting information about this and other foodborne diseases in LAC is available at: [www.lapublichealth.org/acd/food.htm](http://www.lapublichealth.org/acd/food.htm)