LEGIONELLOSIS FACT SHEET
(Legionnaires' disease, Pontiac fever)

(updated April 2008)

Agents: *Legionella pneumophila* and other *Legionella* species.

Brief Description: Legionellosis has two clinically and epidemiologically distinct manifestations: **Legionnaires' disease** and **Pontiac fever**. Both illnesses are characterized by anorexia, malaise, myalgia, headache, and fever; however, **Legionnaires' disease** is associated with pneumonia, while **Pontiac fever** is a milder, non-pneumonic illness.

Reservoir: Primarily aqueous. Drinking water from approximately 30% of municipal water systems in the United States will grow *Legionella* when cultured. *Legionella*-containing water that has been aerosolized by showers, air-conditioning cooling towers, evaporative condensers, humidifiers, respiratory therapy devices, whirlpool spas and decorative fountains have been implicated epidemiologically during outbreaks. There is evidence to suggest that locations in which the municipal water system is disinfected with monochloramine are less likely to have outbreaks of legionellosis. The organism has also been isolated from environmental sources such as water in creeks and ponds and soil along their banks. Potting soil has also been implicated as a source of *Legionella* in human cases of Legionnaires' disease.

Mode of Transmission: Transmission is by **i**nhalation of contaminated aerosols; person-to-person transmission does not occur. Outbreaks occur when two or more people develop symptoms after exposure to the same source.

Risk Groups: Illness occurs most frequently among the elderly, cigarette smokers, persons with chronic lung or immunocompromising disease, and persons receiving immunosuppressive drugs.

Incubation Period: For Legionnaires' disease: 2 to 10 days, most often 5 to 6 days. For Pontiac fever: 5-66 hours, most often 24-48 hours.

Diagnostic Testing:
Culture Referral
1. Specimen: Pure Culture
2. Outfits: (culture referral)
3. Lab Form: 3410
4. Lab Test Performed: Culture identification, confirmation, and/or serotyping
5. Lab: Bacteriology, Georgia Public Health Laboratory (GPHL) and CDC

NOTE: All isolates from human cases may be forwarded to GPHL for confirmation & identification. GPHL will forward to CDC for serotyping.

Treatment: Erythromycin is the drug of choice. Clarithromycin and azithromycin may be effective. Rifampin may be a valuable adjunct but should not be used alone.

Investigation: Patient interview should focus on potential sources of infection, particularly related to common areas. A thorough travel history is required. Determine if other cases have occurred, indicating the possibility of a common source outbreak.

Case Classification:

Legionellosis	
Clinical Criteria: a.) ***Legionnaires' disease:*** fever, myalgia, cough, and clinical or radiographic pneumonia, or b.) ***Pontiac fever:*** a milder illness without pneumonia.	
Confirmed	**Suspect**
A **confirmed** case meets the clinical criteria and the following laboratory criteria: ▪ Detection of *Legionella pneumophila* serogroup 1 antigen in urine using validated reagents, **or** ▪ Isolation of any *Legionella* organism from respiratory secretions, lung tissue, pleural fluid, or other normally sterile fluid, **or** ▪ Fourfold or greater rise in specific serum antibody titer to *Legionella pneumophila* serogroup 1 using validated reagents.	A **suspect** case meets the clinical criteria and the following laboratory criteria: ▪ Fourfold or greater rise in antibody titer to specific species or serogroups of *Legionella* other than *L. pneumophila* serogroup 1 *(*e.g., *L. micdadei*, *L. pneumophila* serogroup 6), **or** ▪ Fourfold or greater rise in antibody titer to multiple species of *Legionella* using pooled antigen and validated reagent, **or** ▪ Detection of specific *Legionella* antigen or staining of the organism in respiratory secretions, lung tissue, or pleural fluid by direct fluorescent antibody (DFA) staining, immunohistochemstry (IHC), or other similar method, using validated reagents, **or** ▪ Detection of *Legionella* species by a validated nucleic acid assay.

Reporting: Report cases **WITHIN 7 DAYS** to the local health department, District Health Office, or the Epidemiology Section electronically through the State Electronic Notifiable Disease Surveillance System (SENDSS) at http://sendss.state.ga.us, or complete and mail CDC Form 52.56 (revised Aug. 1999), ***Legionellosis Case Report*** http://www.health.state.ga.us/pdfs/epi/notifiable/legionella.crf.02.pdf for each reported case.

Reported Cases of Legionellosis in Georgia, 1993-2007

Year	Number of Cases
1993	35
1994	118
1995	19
1996	3
1997	6
1998	8
1999	5
2000	10
2001	12
2002	19
2003	35
2004	43
2005	39
2006	38
2007	43

References:

1. Aspen Reference Group. Legionellosis (Legionnaires' Disease) In: Infectious Disease Resource Manual. Nell Di Lima S, and Eutsey D, Eds. Aspen Publishers, Inc. 1999: p. 3:73.
2. Beneneson, A, ed. In: Control of Communicable Diseases Manual. 16th ed. Washington, DC: American Public Health Association, 1995: pp. 256-258.
3. Centers for Disease Control and Prevention. Legionellosis 2005 Case Definition. http://www.cdc.gov/ncphi/disss/nndss/casedef/legionellosis_current.htm.
4. Centers for Disease Control and Prevention. Sustained Transmission of Nosocomial Legionnaires Disease — Arizona and Ohio. *MMWR* 1997; 46(19): 416-421.
5. Chin J, ed. Legionellosis. In: Control of Communicable Diseases Manual. 17th ed. Washington, DC: American Public Health Association, 2000: pp. 281-283.

Links:

- CDC Legionellosis Fact Sheet-- www.cdc.gov/ncidod/dbmd/diseaseinfo/legionellosis_g.htm.