

**Cases, Rates and Case Fatality of Invasive Group B Streptococcal Disease
in Five-County Denver Metropolitan Area^ by Age Group, 2011**

Group B streptococcus	Cases (Rate)		Deaths	
	No.	(Rate)	No.	(% of cases)
Age Group (years)				
<1	11	(32.3)	0	.
1	.	.	0	.
2-4	1	(0.9)	0	.
5-17	3	(0.6)	0	.
18-34	14	(2.3)	0	.
35-49	35	(6.4)	2	(5.7)
50-64	78	(16.5)	7	(8.9)
65+	51	(19.6)	6	(11.7)
Total	193	(7.7)	15	(7.7)

*Rates are computed using 2011-based population estimates, State Demography Office - DOLA
^ Emerging Infections Program area: Adams, Arapahoe, Denver, Douglas, and Jefferson counties*

***Rates of Invasive Group B Streptococcal Disease by County
Denver Metropolitan Area[^], 2011***

Group B streptococcus	Cases (Rate)	
	No.	(Rate)
ADAMS	35	(7.7)
ARAPAHOE	46	(7.8)
DENVER	61	(9.8)
DOUGLAS	10	(3.4)
JEFFERSON	41	(7.5)

***Rates are computed using 2011-based population estimates, State Demography Office - DOLA
[^] Emerging Infections Program area: Adams, Arapahoe, Denver, Douglas, and Jefferson counties***

***Sites from which Invasive Group B streptococcus was Isolated
Denver Metropolitan Area[^], 2011***

Site of Isolation	No.*	(% of cases)
Blood	131	(67.8)
Joint	21	(10.8)
Bone	20	(10.3)
Peritoneal fluid	8	(4.1)
Other invasive site	8	(4.1)
Internal body site	7	(3.6)
CSF	5	(2.5)
Pleural fluid	2	(1.0)
Muscle	2	(1.0)
Wound**	1	(0.5)

****Not mutually exclusive; GBS was isolated from one site in 181 cases and multiple sites in 12 cases (Total cases=193)***

GBS was isolated only from blood in 120 cases (62.2%)

*****Placenta and amniotic fluid are included (as a maternal case) when accompanied by fetal demise***

[^] Emerging Infections Program area: Adams, Arapahoe, Denver, Douglas, and Jefferson counties

***Syndromes Associated with Invasive Group B Streptococcal Disease, by Age Group
Denver Metropolitan Area[^], 2011***

Clinical Syndrome		No.*	(% of cases)
Age Group (years)			
<=17	Bacteremia only	9	(60.0)
	Meningitis	3	(20.0)
	Chorioamnionitis	2	(13.3)
	Septic abortion	1	(6.6)
	Unknown	1	(6.6)
18-49	Bacteremia only	10	(20.4)
	Meningitis	1	(2.0)
	Chorioamnionitis	3	(6.1)
	Unknown	8	(16.3)
	Cellulitis	7	(14.2)
	Septic arthritis	7	(14.2)
	Osteomyelitis	7	(14.2)
	Peritonitis	5	(10.2)
	Septic shock	5	(10.2)
	Abscess (not skin)	3	(6.1)
	Other syndrome	3	(6.1)
	Pneumonia	1	(2.0)

(Continued)

**** Some cases had more than one syndrome***

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***Syndromes Associated with Invasive Group B Streptococcal Disease, by Age Group
Denver Metropolitan Area[^], 2011***

Clinical Syndrome		No.*	(% of cases)
Age Group (years)			
50+	Bacteremia only	41	(31.7)
	Meningitis	1	(0.7)
	Unknown	8	(6.2)
	Cellulitis	30	(23.2)
	Septic arthritis	15	(11.6)
	Osteomyelitis	18	(13.9)
	Peritonitis	3	(2.3)
	Septic shock	14	(10.8)
	Abscess (not skin)	3	(2.3)
	Other syndrome	10	(7.7)
	Pneumonia	10	(7.7)
	Endocarditis	4	(3.1)
	Necrotizing fasciitis	1	(0.7)

** Some cases had more than one syndrome*

[^] Emerging Infections Program area: Adams, Arapahoe, Denver, Douglas, and Jefferson counties

***Underlying Conditions Associated with Invasive Group B Streptococcal Disease
Denver Metropolitan Area[^], 2011***

Underlying Condition		No.*	(% of cases)
Age Group (years)			
<=17	None	7	(46.6)
	Premature birth	5	(33.3)
	Current smoker	1	(6.6)
	Immunoglobulin deficiency	1	(6.6)
18-49	None	6	(12.2)
	Current smoker	9	(18.3)
	Diabetes	17	(34.6)
	Alcohol abuse	5	(10.2)
	Cirrhosis/liver failure	4	(8.1)
	Renal Failure/Dialysis	3	(6.1)
	Asthma	2	(4.0)
	Organ transplant	2	(4.0)
	CVA/Stroke	1	(2.0)
	Emphysema/COPD	1	(2.0)
	Heart failure/CHF	1	(2.0)
	Immunosuppressive therapy	1	(2.0)

(Continued)

0% of cases in the <=17 age group, 29% of cases in the 18-49 age group, and 44% of cases in the 50+ age group had >1 underlying condition

[^] Emerging Infections Program area: Adams, Arapahoe, Denver, Douglas, and Jefferson counties

***Underlying Conditions Associated with Invasive Group B Streptococcal Disease
Denver Metropolitan Area[^], 2011***

Underlying Condition		No.*	(% of cases)
Age Group (years)			
18-49	IV drug use	1	(2.0)
	Leukemia	1	(2.0)
	Multiple myeloma	1	(2.0)
	Lupus	1	(2.0)
50+	None	13	(10.0)
	Current smoker	14	(10.8)
	Diabetes	66	(51.1)
	Alcohol abuse	9	(6.9)
	Cirrhosis/liver failure	9	(6.9)
	Renal Failure/Dialysis	4	(3.1)
	Asthma	3	(2.3)
	CVA/Stroke	13	(10.0)
	Emphysema/COPD	17	(13.1)
	Heart failure/CHF	19	(14.7)
	Immunosuppressive therapy	6	(4.6)
	IV drug use	2	(1.5)

(Continued)

0% of cases in the <=17 age group, 29% of cases in the 18-49 age group, and 44% of cases in the 50+ age group had >1 underlying condition

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***Underlying Conditions Associated with Invasive Group B Streptococcal Disease
Denver Metropolitan Area[^], 2011***

Underlying Condition		No.*	(% of cases)
Age Group (years)			
50+	Leukemia	1	(0.7)
	Atherosclerotic Cardiovascular Disease	29	(22.4)
	Organ malignancy	5	(3.8)
	Unknown	1	(0.7)
	Chronic skin breakdown	1	(0.7)
	Splenectomy/asplenia	1	(0.7)

0% of cases in the <=17 age group, 29% of cases in the 18-49 age group, and 44% of cases in the 50+ age group had >1 underlying condition

[^] Emerging Infections Program area: Adams, Arapahoe, Denver, Douglas, and Jefferson counties

***Invasive Group B Streptococcal Disease Serotypes
Denver Metropolitan Area[^], 2011***

Group B streptococcus	No.	(% of isolates)
Type		
IA	41	(24.6)
IB	35	(21.0)
III	33	(19.8)
V	17	(10.2)
II	16	(9.6)
IV	12	(7.2)
NT	12	(7.2)
Total	166	(100.0)

***Based upon reference lab testing of 166 isolates (Total cases=193)
Testing performed by the Centers for Disease Control and Prevention, Atlanta, GA
[^]Emerging Infections Program area: Adams, Arapahoe, Denver, Douglas, and Jefferson counties***