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Communicable Disease
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Environmental Health
(630) 682-7979, ext. 7046

Immunizations
(630) 682-7400

Sexually Transmitted Diseases
(630) 682-7979, ext. 7575

HIV/AIDS
(630) 682-7979, ext. 7310

Tuberculosis
(630) 682-7522

School Health
(630) 682-7979, ext. 7300

Travel Clinic
(630) 682-7979, ext. 7590

Animal Control
(630) 407-2800

Please contact Peggy Iverson, BS at (630) 682-7979, ext. 7534 or piverson@dupagehealth.org to send suggestions or to be added to the distribution list.

The purpose of this two-page surveillance update is to promote the control and prevention of **communicable disease (CD)** by providing clinically relevant information and resources to healthcare professionals in DuPage County.



Under the Microscope

Group A *Streptococcus* (GAS), Invasive Disease

For questions or to report suspect or known cases of group A *Streptococcus* (GAS), invasive disease, please call the DuPage County Health Department at (630) 682-7979, ext. 7553.

Group A *Streptococcus* (GAS), also known as *Streptococcus pyogenes*, may cause a wide range of infections, including **noninvasive** disease (e.g., strep throat, cellulitis, impetigo), **invasive** disease (which may manifest as necrotizing fasciitis [NF], bacteremia, pneumonia), **streptococcal toxic shock syndrome** (STSS), and **nonsuppurative sequelae** (e.g., rheumatic fever, post-streptococcal glomerulonephritis).¹

Invasive GAS infections may initially manifest as any of several clinical syndromes, including pneumonia, bacteremia in association with cutaneous infection (e.g., cellulitis, erysipelas, or infection of a surgical or nonsurgical wound), deep soft-tissue infection (e.g., myositis or necrotizing fasciitis), meningitis, peritonitis, osteomyelitis, septic arthritis, postpartum sepsis (i.e., puerperal fever), neonatal sepsis, and nonfocal bacteremia.² In order to meet the case definition (established in 1995), group A *Streptococcus* must be **isolated by culture from a normally sterile site** (e.g., blood or cerebrospinal fluid, or, less commonly, joint, pleural, or pericardial fluid).²

Incidence: Approximately 9,000 cases of invasive disease (3.2/100,000 population) occurred in the U.S. in 2002; STSS and NF each accounted for approximately 6% of cases. In contrast, over 10 million noninvasive GAS infections (primarily throat and skin infections) occur annually.¹ Mortality in all invasive cases is 10%-13%; 45% in STSS cases, and 25% in NF cases. Organ system failure (STSS) and amputation (NF) also may result.¹

Early recognition and treatment with appropriate antibiotics may reduce the risk of death from invasive group A streptococcal disease. However, even the best medical care does not prevent death in every case. For those with very severe illness, supportive care in an intensive care unit may be needed. For persons with NF, surgery often is needed to remove damaged tissue.⁴

Reporting: In Illinois, the rules governing the reporting of communicable diseases require that **cases of invasive streptococcal disease be specifically reported to public health officials.**³

Transmission occurs by person-to-person contact with infectious secretions (e.g., throat mucus, nasal discharge, and saliva). Asymptomatic pharyngeal carriage occurs among all age groups, but is most common among children.¹

Persons at greatest risk of acquiring invasive group A streptococcal disease include the elderly, immunosuppressed, and persons with chronic cardiac or respiratory disease, diabetes, and/or skin lesions (i.e., children with varicella [chicken pox], intravenous drug users).¹ Severe group A strep disease may also occur in healthy people who have no known risk factors.⁵

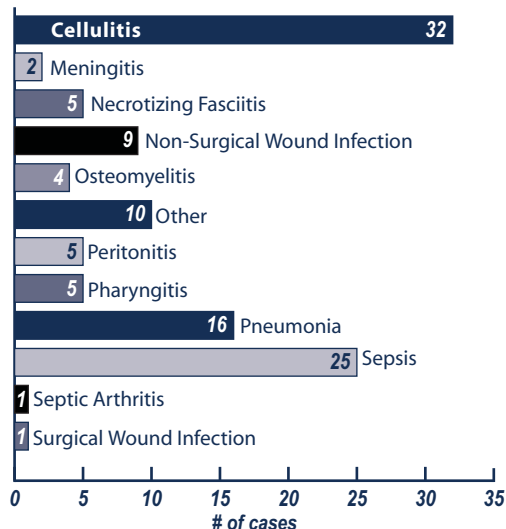
Prevention: The spread of all types of GAS infection can be reduced by good **hand washing**, especially after coughing and sneezing and before preparing foods or eating. Persons with sore throats should be seen by a doctor who can perform tests to find out whether the illness is strep throat. If the test result shows strep throat, the person should **stay home from work, school, or day care until 24 hours after taking an antibiotic.**⁴

All **wounds should be kept clean and watched for possible signs of infection** such as redness, swelling, drainage, and pain at the wound site. A person with signs of an infected wound, especially if fever occurs, should **seek medical attention** as soon as possible.⁴ In the hospital setting, **Contact Precautions** are advised for skin or wound infections in which an abscess or draining wound cannot be covered, and **Droplet Precautions** for infants and young children with respiratory tract-associated GAS infections.⁶

References:

1. http://www.cdc.gov/ncidod/dbmd/diseaseinfo/groupastreptococcal_t.htm
2. <http://www.cdc.gov/epo/dphsi/casedef/streptococcusacurrent.htm>
3. <http://www.idph.state.il.us/public/hb/hbstrepa.htm>
4. http://www.cdc.gov/ncidod/dbmd/diseaseinfo/groupastreptococcal_g.htm
5. <http://www.niaid.nih.gov/factsheets/strep.htm>
6. http://www.cdc.gov/ncidod/dhqp/gl_isolation.html

Clinical Presentation of Group A *Streptococcus*, Invasive Disease Cases in DuPage County, 2002 - 2006 (n=77)*



*Cases may have more than one clinical presentation

DUPAGE COUNTY HEALTH DEPARTMENT

CASES¹ OF REPORTABLE DISEASES*

Required by the Illinois Department of Public Health (IDPH)

* Last updated July 2002

			2006	2005	2004	2003	2002	Median
Vaccine Preventable Diseases	Report Within	Dec 2006	Total	Total	Total	Total	Total	Total ('02-'06)
Chickenpox in those < 20 yrs old	7 days	22	244	225	273	342	939	273
Chickenpox in those ≥ 20 yrs old	24 hrs	0	8	7	13	10	28	10
Diphtheria	24 hrs	0	0	0	0	0	0	0
<i>Haemophilus influenzae</i>	24 hrs	0	7	10	6	4	11	7
Hepatitis A	24 hrs	1	9	9	27	20	11	11
Hepatitis B	7 days	1	5	6	8	12	7	7
Hepatitis B (carriers)	7 days	2	139	147	146	136	199	146
Measles	24 hrs	0	0	0	0	0	0	0
Mumps	7 days	6	129	0	1	3	3	3
<i>Neisseria meningitidis</i>	24 hrs	0	2	4	1	1	5	2
Pertussis	24 hrs	1	25	29	127	12	12	25
Poliomyelitis	24 hrs	0	0	0	0	0	0	0
Rubella	7 days	0	0	0	0	0	1	0
Streptococcus pneumoniae, invasive disease	7 days	9	67	64	62	97	65	66
Tetanus	7 days	0	0	0	0	0	0	0
Other Communicable Diseases								
Amebiasis	7 days	0	2	0	3	2	5	2
Anthrax	3 hrs	0	0	0	0	0	0	0
Blastomycosis	7 days	0	6	5	5	8	5	5
Botulism, foodborne	3 hrs	0	0	0	0	0	0	0
Botulism, other	24 hrs	0	0	0	0	0	0	0
Brucellosis	7 days	0	0	0	0	0	1	0
Campylobacteriosis ³	7 days	8	105	151	143	136	146	143
Cholera	24 hrs	0	0	0	0	1	0	0
Cryptosporidiosis	7 days	0	9	3	2	4	4	4
Cyclosporiasis	7 days	0	0	2	23	0	0	0
Diarrhea of the newborn	24 hrs	0	0	0	0	0	0	0
Ehrlichiosis	7 days	0	2	0	0	1	0	0
Encephalitis ²	7 days	0	14	7	0	1	2	2
Enteric <i>E. coli</i> infections ³	24 hrs	1	11	17	11	4	25	11
Giardiasis	7 days	1	43	47	64	88	79	64
Glomerulonephritis	24 hrs	0	0	0	0	0	0	0
Hantavirus pulmonary syndrome	7 days	0	0	0	0	0	0	0
Hemolytic uremic syndrome	24 hrs	0	0	0	0	0	0	0
Hepatitis C (cases & carriers)	7 days	3	239	238	189	193	223	223
Hepatitis, viral, other ⁴	7 days	0	0	0	1	0	0	0
Histoplasmosis	7 days	0	1	0	6	2	4	2
Legionnaires' disease	7 days	0	8	4	5	8	5	5
Leprosy	7 days	0	1	0	0	0	0	0
Leptospirosis	7 days	0	0	1	0	0	1	0
Listeriosis	7 days	1	6	2	2	2	0	2
Lyme disease	7 days	0	11	12	9	8	6	9
Malaria	7 days	1	6	5	8	4	3	5
Meningitis, aseptic ²	7 days	8	102	123	116	174	122	122
Ophthalmia neonatorum	7 days	0	0	0	0	0	0	0
Plague	3 hrs	0	0	0	0	0	0	0
Psittacosis	7 days	0	0	0	0	0	0	0
Q fever ⁵	3 hrs	0	0	0	1	0	1	0
Rabies, human case	24 hrs	0	0	0	0	0	0	0
Rabies, potential exposure	24 hrs	0	27	24	18	10	26	24
Reye syndrome	7 days	0	0	0	0	0	0	0
Rheumatic fever	24 hrs	0	1	1	0	0	0	0
Rocky Mountain spotted fever	7 days	0	1	0	1	0	0	0
Salmonellosis	7 days	3	98	120	107	99	111	107
Shigellosis	7 days	0	26	35	15	44	44	35
Smallpox	3 hrs	0	0	0	0	0	0	0
<i>Staphylococcus aureus</i> (in those < 28 days old)	7 days	0	4	3	4	2	1	3
<i>Staphylococcus aureus</i> (vancomycin-resistant)	24 hrs	0	0	0	0	0	0	0
Streptococcal infections, group A invasive	24 hrs	0	17	10	15	23	12	15
Streptococcal infections, group B invasive (in those < 3 mos old)	7 days	0	2	5	3	3	1	3
Toxic shock syndrome ⁶	24 hrs	0	1	3	6	4	2	3
Trichinosis	7 days	0	0	0	0	0	0	0
Tuberculosis	7 days	2	47	29	46	62	32	46
Tularemia	3 hrs	0	0	0	0	0	0	0
Typhoid fever	24 hrs	0	2	2	2	1	3	2
Typhus	24 hrs	0	0	0	0	0	0	0
West Nile disease	7 days	0	42	47	5	3	51	42
Yersiniosis	7 days	0	0	2	2	0	1	1
STDs, HIV and AIDS								
AIDS ⁷	7 days	--	22	30	20	22	28	22
Chancroid	7 days	0	0	0	0	0	0	0
Chlamydia	7 days	76	1310	1215	948	939	904	948
Gonorrhea	7 days	11	183	205	210	209	234	209
HIV infection ⁷	7 days	--	22	38	29	31	22	29
Syphilis	7 days	1	24	15	9	18	10	15

CD REVIEW

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DuPage County healthcare providers and hospitals **must report any suspected or confirmed case of these diseases** to the local health authorities within the number of hours or days indicated.

REPORTING NUMBERS:

Communicable Diseases
(630) 682-7979, ext. 7553
24 hours: (630) 682-7400

Tuberculosis
(630) 682-7522

STDs
(630) 682-7979, ext. 7575

HIV/AIDS:
(630) 682-7979, ext. 7310

- ¹ Provisional cases, based on date of onset
- ² Excludes West Nile disease
- ³ O157:H7, STEC, EHEC, ETEC, EPEC
- ⁴ Includes hepatitis D and E
- ⁵ Q fever cases in 2002 and 2004 not related to any suspected bioterrorism threat or event
- ⁶ Includes streptococcal (reportable within 24 hours) and presumed staphylococcal (reportable within 7 days)
- ⁷ HIV/AIDS data are provided quarterly by IDPH and are provisional, based on date of diagnosis

Websites

CDC:
www.cdc.gov

IDPH:
www.idph.state.il.us

DuPage:
www.dupagehealth.org

Archived issues of *CD Review* are available at:

www.dupagehealth.org/health_data/cd-review.html