



**Communicable Disease and Epidemiology News**

Published continuously since 1961

Shelly McKeirnan, MPH Editor (shelly.mckeirnan@kingcounty.gov)

*Return Services Requested*

**Vol. 49, No. 8**

**November 2009**

- **Influenza Update**
- **Influenza Treatment Pearls**
- **Wound Botulism Case in King County**

**Influenza Update**

After peaking the last week of October, the weekly counts of emergency department (ED) visits for influenza-like illness (ILI) have been decreasing. The age groups with the highest counts have been children aged five to 17 years and adults aged 18 to 44 years.

The weekly number of admissions for laboratory-confirmed influenza has also been decreasing. Between October 4, 2009, and November 19, 2009, there were 270 admissions for laboratory-confirmed influenza. During that time period there were eight deaths, six among hospitalized patients and two out-of-hospital deaths.

2009 H1N1 has been the predominant strain circulating in the community. For a complete surveillance report, see <http://www.kingcounty.gov/health/H1N1> (scroll down to "Important Links" on the bottom right).

Despite the recent downturn in case counts, influenza season is far from over. It's likely that 2009 H1N1 will continue to circulate for a few more months and the potential for a second late-winter peak this season still exists. A strain of seasonal influenza could also circulate later this season.

Healthcare providers should continue to suspect influenza in patients with ILI, consider early treatment for high risk and severely ill patients, and continue vaccination efforts against 2009 H1N1 and seasonal influenza.

Clinicians should also be sure to give pneumococcal vaccine to all patients for whom it is indicated, particularly those under 65 years with risk factors, to reduce the risk for post-influenza pneumococcal pneumonia.

**Influenza Treatment Pearls**

Early empiric treatment of high-risk and hospitalized patients is an important strategy to reduce morbidity and mortality from influenza. Following are three recent influenza cases in our community and the treatment pearls that they highlight.

*Case 1: A male in the 45 to 64 year old age group with a history of diabetes presented to a health care provider with two days of ILI. He was diagnosed with the flu, discharged with supportive care, and was not prescribed antiviral medication. Two days later he was found dead in his room at his group home. A viral culture obtained at autopsy grew out influenza A and viral subtyping is pending.*

**Pearl: When a patient with severe illness or risk factors for influenza complications presents with ILI, consider starting empiric antiviral treatment as soon as possible. Antivirals are most effective against influenza if started within 48 hours of symptom onset.**

*Case 2: A female in the 45 to 64 year old age group with a history of asthma and obesity presented with shortness of breath after approximately six days of symptoms. She was diagnosed with pneumonia and started on antibiotics and oral steroids. Five days later she was admitted to the hospital with worsening symptoms. A specimen obtained on admission was positive for 2009 H1N1 by polymerase chain reaction (PCR). She was started on antiviral medications, but deteriorated and died six days after admission.*

**Pearl: In a patient with ILI who is a candidate for early empiric antiviral therapy, consider starting antiviral medication even if more than 48 hours has passed since symptom onset.**

*Case 3: A male in the 20 to 44 year old age group with a history of asthma was admitted one day after onset of illness, and was intubated for status asthmaticus. Specimens were obtained for rapid influenza testing, which was negative, and 2009 H1N1 testing. The 2009 H1N1 specimen came back positive by PCR. The patient was started on antiviral medication three days after admission, and recovered.*

**Pearl: Because rapid tests for influenza have poor sensitivity for 2009 H1N1, do not rely on the results of rapid influenza testing to guide treatment decisions. Suspect influenza in a patient with ILI even if rapid testing is negative and do not withhold treatment pending test results.**

**Wound Botulism Case in King County**

**Case History**

On November 5th, 2009, a suspected case of wound botulism was reported to Public Health in an adult, homeless male who was a black tar heroin injection drug user (IDU). The patient had presented to a local hospital emergency room on November 4, 2009, with weakness and decreased mental status. He had evidence of infected upper extremity wounds. A wound culture was obtained, and a chest X-ray and head CT were normal. The patient was discharged after improving with intravenous (IV) hydration and was treated with an antibiotic.

The following day the patient was brought back to the emergency room, and dysphagia (difficulty swallowing) and dysarthria (difficulty speaking) were noted. After admission he had a respiratory arrest and was intubated. The patient died on November 8, 2009. Serum samples sent to the Washington State Department of Health Public Health Laboratory before death confirmed the presence of *Clostridium botulinum* toxin type A. The patient did not receive botulinum antitoxin because the symptoms at the time of diagnosis had already progressed to paralysis requiring intubation.

In response to this report, Public Health increased outreach to IDUs including distributing a brochure on wound botulism to clients at Needle Exchange sites in King County, available online (see link for resources below).

**Clinical Features**

Wound botulism is transmitted via inoculation of *C. botulinum* spores during trauma, or via intramuscular injection or snorting of drugs, particularly black tar heroin. Clinicians should consider the diagnosis of wound botulism in illicit drug users presenting with neurological complaints. A careful neurological exam should be done to look for the clinical hallmarks of botulism: ptosis, blurred vision and the “4 Ds”: diplopia, dysarthria, dysphonia, and dysphagia. Botulism patients classically have a clear sensorium. These symptoms are followed by symmetric, descending weakness and paralysis. If botulism is suspected, a thorough physical exam for evidence of cellulitis and abscesses should be performed, as well as examination of the paranasal sinuses. A history of injecting or inhaling black tar heroin should be determined, as well as a dietary history (for clues to potential food borne botulism) and whether there are any ill contacts with similar symptoms for prompt evaluation and treatment if indicated.

Cerebral spinal fluid (CSF) protein is normal in botulism; electromyography (EMG) may help differentiate peripheral nervous system causes of paralysis. Brain imaging should be obtained to rule out central nervous system (CNS) causes of paralysis, including stroke and intracranial hemorrhage.

**Treatment**

Treatment with botulinum antitoxin should be initiated as soon as possible based on the clinical diagnosis and should not await laboratory confirmation. Because antitoxin prevents but does not reverse neuromuscular blockade due to botulinum toxin, early treatment with antitoxin is important to prevent progression to respiratory failure, the most frequent cause of death. Wounds suspected of being

contaminated with *C. botulinum* should be widely debrided and irrigated, ideally after the administration of botulinum antitoxin. Anaerobic cultures should be obtained. Mechanical ventilation is the main supportive therapy for severe cases of botulism.

**Reporting**

Wound botulism is likely underreported and underdiagnosed. Two previous cases of laboratory-confirmed wound botulism (toxin type A) were reported in King County residents since 2004. Both were male IDUs with a history of heroin use, and both survived their illnesses. For details on these cases, please see the 2004 and 2007 volumes of the *Epi-Log* available at: <http://www.kingcounty.gov/healthservices/health/communicable.aspx>

Immediately report suspected cases of botulism to Public Health at 206-296-4774. Public Health will: 1) facilitate laboratory confirmation of the diagnosis, 2) assist in obtaining antitoxin from the Centers for Disease Control and Prevention (CDC), 3) investigate and respond to likely sources of transmission, and 4) identify other persons at risk for illness. Additionally, health care providers should educate IDU patients about wound botulism, its symptoms, the need to seek medical care promptly, and prevention.

**Resources**

- Wound botulism patient education brochure: <http://www.kingcounty.gov/~media/health/publichealth/documents/hiv/WoundBotulismWarning091110.ashx>
- CDC botulism information: <http://www.cdc.gov/DiseasesConditions/>

<b>Disease Reporting</b>	
AIDS/HIV .....	(206) 296-4645
STDs.....	(206) 744-3954
TB .....	(206) 744-4579
All Other Notifiable Communicable Diseases (24 hours a day) .....	(206) 296-4774
Automated reporting line for conditions not immediately notifiable	(206) 296-4782
<b>Hotline</b>	
Communicable Disease .....	(206) 296-4949
<b>Public Health-Seattle &amp; King County Online Resources</b>	
<b>Home Page:</b> <a href="http://www.kingcounty.gov/healthservices.aspx">www.kingcounty.gov/healthservices.aspx</a>	
<b>The EPI-LOG:</b> <a href="http://www.kingcounty.gov/health/epilog">www.kingcounty.gov/health/epilog</a>	
<b>Communicable Disease listserv (PHSKC INFO-X) at:</b> <a href="mailto:mailman.u.washington.edu/mailman/listinfo/phskc-info-x">mailman.u.washington.edu/mailman/listinfo/phskc-info-x</a>	
<b>Influenza Updates, Vaccine Information, and Current Testing Guidelines:</b> <a href="http://www.kingcounty.gov/health/h1n1">www.kingcounty.gov/health/h1n1</a>	

**Reported Cases of Selected Diseases, Seattle & King County 2009**

	Cases Reported In October		Cases Reported Through October	
	2009	2008	2009	2008
Campylobacteriosis	25	20	237	264
Cryptosporidiosis	7	3	26	34
Chlamydial infections	355	551	4858	6002
Enterohemorrhagic <i>E. coli</i> (including <i>E. coli</i> O157:H7 and non-O157)	9	10	58	42
Giardiasis	9	11	85	97
Gonorrhea	70	102	855	1137
<i>Haemophilus influenzae</i> (cases <5 years of age)	0	0	1	2
Hepatitis A	1	1	13	16
Hepatitis B (acute)	0	0	10	28
Hepatitis B (chronic)	58	80	546	754
Hepatitis C (acute)	0	0	4	9
Hepatitis C (chronic)	155	163	1344	1546
Herpes, genital (primary)	39	36	453	441
HIV and AIDS (includes only AIDS cases not previously reported as HIV)	15	20	269	288
Measles	0	0	0	0
Meningococcal Disease	0	0	3	5
Mumps	0	0	1	1
Pertussis	0	6	33	64
Rubella	0	0	0	0
Rubella, congenital	0	0	0	0
Salmonellosis	21	58	220	224
Shigellosis	8	2	55	38
Syphilis	15	18	129	177
Syphilis, congenital	0	0	0	0
Syphilis, late	3	9	71	75
Tuberculosis*	9 (9)	7 (12)	88 (120)	88 (101)

\*A new system for counting TB cases was initiated January 1, 2009, and it is difficult to compare monthly case counts from 2009 to prior years. For this and future editions, TB case counts will include the monthly case count including cases reported at death and the number of high suspects started on TB treatment in parentheses.

The *Epi-Log* is available in alternate formats upon request.