

Pertussis (Whooping Cough)

*****Note to clinicians: Please see last page for summary grid.*****

The Disease

- There is an ongoing outbreak of pertussis (whooping cough) in the City of Evanston. At least 10 cases have been confirmed.
- Pertussis is a mild disease in adolescents and adults but can be severe in infants.
- The main symptoms are those of a viral upper respiratory tract infection (a “cold”) for 1-2 weeks, followed by several months of coughing; in infants pertussis can present as apneic episodes.
- The incubation period (time from exposure to the start of symptoms) is generally about 7-10 days, **but can last as long as 21 days**.
- The diagnosis is made through special nasopharyngeal swab which is sent to the NorthShore University HealthSystem Molecular Diagnostics laboratory for PCR.
- Specimens should be collected by a nasopharyngeal swab – a metal shafted, Dacron tipped swab-- (same swab used for genital sampling for GC/Chlamydia). It can be sent dry in a sterile container by bending the metal shaft into the screw top container (it does not need to be broken – it can just be folded). You need to get a **deep nasopharyngeal specimen**
- The test is ordered in Epic **simply by typing “LAB1182”** under Order Entry.
- The laboratory will run this test 6 days a week and estimates that processing will take about 24 hours.

Treatment

- The recommended treatment for adults is a macrolide (azithromycin Z-pack (5 days), or erythromycin (500 qid x 14 days), or clarithromycin (500 bid x 7 days)); the alternative is bactrim (DS bid x 14 days). For details, see: www.cdc.gov/mmwr/preview/mmwrhtml/rr5414a1.htm
- Treatment is likely not effective at reducing symptoms unless given in the early stages of the illness, but it can help prevent disease spread when given at any point in the illness.

Infection Control

- Patients are most contagious when they are coughing, to individuals within 5 feet of them (so called “large-droplet” spread).
- Droplet precautions need to be worn for patients with **known or suspected** pertussis. This includes **everyone admitted for respiratory**

illness lacking clear diagnosis, and infants admitted with apneic episodes.

- Droplet precautions means surgical mask plus standard hand hygiene.

Post Exposure

- Post-exposure prophylaxis (PEP) is recommended for:
 - Household contacts of infected patients
 - Individuals who have had 'close' contact with an infected patient while they had symptoms (see Table)
- The recommended PEP for adults is a macrolide (azithromycin Z-pack (5 days), or erythromycin (500 qid x 14 days), or clarithromycin (500 bid x 7 days)); the alternative is bactrim (DS bid x 14 days).
- Vaccine does NOT prevent disease in someone who has already been exposed.

Infected Employees

- Infected employees must stay home. They can return to work after taking 5 days of any of the recommended antibiotics.

Vaccination

- There are several forms of pertussis vaccine, but only one is approved for adults: ADACEL™, manufactured by Sanofi-Pasteur.
- It also provides immunity against tetanus and diphtheria.
- It is thought to be roughly 85% effective in preventing severe disease.
- The optimal use of this vaccine is not yet determined. However, the individuals who most require this vaccine are **those who have significant contact with infants** aged <12 months, because infants can get very sick with pertussis.
- Contraindications to ADACEL are:
 - age >64
 - a history of anaphylaxis to vaccine components or severe reaction to past pertussis or tetanus vaccine
 - history of an unstable neurological condition
 - receipt of a tetanus booster within the past 2 years
 - Note that the CDC does not consider pregnancy a contraindication to the use of this vaccine, but does recommend that "health-care providers should weigh the theoretical risks and benefits before choosing to administer Tdap vaccine to a pregnant woman".
- Adverse effects of ADACEL
 - Common: pain at injection site, headache, body aches, diarrhea
 - Uncommon: fever, rash
 - Rare: severe headache or nerve palsies

FAQ

Note that many issues related to approaching patients with suspected pertussis or pertussis exposures are dealt with in the Table below.

Q. I have a patient with suspected pertussis in the office. What should I do in terms of infection control?

A. 1) Put a surgical mask on all health care providers who have contact with that patient.

2) Send the patient home if they do not require admission.

Q. I am a health care worker. I think I may have been exposed to pertussis. What should I do?

A. Immediately call Employee Health Services at 847.570.1060. They will assess you for the need for post exposure prophylaxis, and will follow you for symptoms for 20 days. If they cannot be reached, call Infection Control at 847.570.2420.

Q. I am a health care worker who has been diagnosed with suspected or definite pertussis. What do I do?

A. Your diagnosing physician should have begun you on treatment and sent off a test. You may not return to work unless your test comes back negative, or you have been on treatment for 5 days. If you have further questions, call Employee Health Services at 847.570.1060.

Q. I am a NorthShore employee who works with infants aged <12 months, so I think I am eligible to receive the vaccine. Who do I contact?

A. Contact your manager or Employee Health Services at 847.570.1060; they should provide you with a vaccine.

If there are further questions you can contact Dr. Stephen Schrantz in the Division of Infectious Diseases at 847.570.1502, NorthShore Infection Control at 847.570.2420, or Margaret Mathias, Communicable Disease Specialist, at the City of Evanston Health Department at 847.866.2962.

Table. Recommendations for managing patients with possible pertussis or pertussis exposures.

Symptoms [*]	Exposure	Action	PCR test	ADACEL	Antibiotics	Infection Control [†]
—	None		—	+ (see ^{**})	—	—
—	Low-risk [†]		—	+ (see ^{**})	—	—
—	High-risk [‡]		—	+ (see ^{**})	+	—
+	None		—	+ (see ^{**})	—	—
+	Low-risk [†]		+	+ (see ^{**})	+	+
+	High-risk [‡]		+	+ (see ^{**})	+	+

*“cold” +/- cough

[†]Low-risk exposure: a) household or ‘close’ contact (within 3 feet for at least 15 minutes) with someone who has cough but no proven pertussis; b) non-close, non-household contact with someone who *has* proven pertussis; b) letter from the Department of Health that they have had an exposure but are not a ‘close’ contact

[‡]High-risk exposure: a) household or ‘close’ contact (within 3 feet for at least 15 minutes) with someone who has proven pertussis; b) letter from the Department of Health that they have had ‘close’ contact with a pertussis patient

^{**}In the setting of a community outbreak, ADACEL vaccination is recommended for everyone aged 11 and older who has not received it in the past, so long as they have no contraindications (see above).

[†]See FAQ for details