

**Poliovirus: Refugees arriving in your state may have been exposed.****Date: Monday, Oct. 16, 2006****African refugees who have arrived or will arrive in your state may have been exposed to poliovirus.**

**Summary:** On October 16, 2006, CDC was notified of a case of poliomyelitis (polio) in a 3-year-old Somali girl residing in Dadaab refugee camp in Kenya. The girl became ill on September 18, 2006. Laboratory confirmation of poliovirus type 1 infection came on October 13, 2006. This is a wild type virus and not a vaccine type.

**Epidemiology:** It is not clear whether the infection was acquired in the camp or imported from Somalia. The virus isolated from the girl corresponds to a strain of wild type 1 currently circulating in Somalia. An investigation on the extent of transmission of poliovirus within the camp, if any, is on-going.

**INTERIM RECOMMENDATIONS.** These recommendations are provisional and subject to change.

**1. Refugees en route:** Refugees from the affected camp arrived in the U.S. today (Monday, Oct. 16, 2006) and are scheduled to arrive in Texas, Washington, Kentucky, and Pennsylvania soon. For these 4 states, a booking notification with names of refugees will be posted in your state-specific Epi-X conference. For each of these refugees, our interim recommendations are:

- a. **Collect one stool sample from each refugee as soon as possible after arrival** for polio isolation to identify current infections. CDC laboratories will process samples, if desired. Contact Steve Oberste with shipping or testing questions.
- b. **Vaccinate each refugee of any age with one dose of IPV as soon as possible after arrival.** Note: Although four pediatric polio vaccination campaigns were conducted in the camp in the past year, coverage rates are unknown and vaccination records may not be available. It is likely that a number have not been fully vaccinated and so a full series may be required as per current practices for newly arrived refugees.
- c. **Conduct active surveillance for illness consistent with polio once per week for one month.** Signs and symptoms of polio can include fever, severe muscle aches or spasms in the limbs or back, any sign of weakness or paralysis, and any sign or symptom of meningitis (fever, severe headache, stiff neck, eye sensitivity to bright lights, drowsiness or confusion, and nausea and vomiting).

If a refugee leaves your state within one month of arrival, **notify the receiving state.**

- d. We request that you provide feedback on the follow-up status of each refugee to Annelise Dickerson.

2. **ALL states that have received refugees since September 1<sup>st</sup>, 2006:** Potentially exposed refugees may have already arrived in your state in the past month. For all refugees arriving from the Nairobi transit center in Kenya since September 1, 2006, our interim recommendations are to **vaccinate, conduct active surveillance, and provide feedback** on any refugees with illness suggestive of poliovirus infection as described in points 1b, 1c, and 1d above. The collection of stool samples for these refugees is optional.

**POINTS OF CONTACT FOR CDC:**

For general questions and feedback:  
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For laboratory questions:  
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General information on poliovirus infection can be found at <http://www.cdc.gov/nip/publications/pink/polio.pdf> and is reproduced below.

### Clinical Features

The **incubation period** for poliomyelitis (polio) is commonly 6–20 days with a range of 3–35 days.

The response to poliovirus infection is highly variable and has been categorized on the basis of the severity of clinical presentation.

Up to 95% of all poliovirus infections are **inapparent or asymptomatic**. Estimates of the ratio of inapparent to paralytic illness vary from 50:1 to 1,000:1 (usually 200:1). Infected persons without symptoms shed virus in the stool and are able to transmit the virus to others.

Approximately 4%–8% of poliovirus infections consist of a **minor, nonspecific illness** without clinical or laboratory evidence of central nervous system invasion. This clinical presentation is known as abortive polio, and is characterized by complete recovery in less than a week. Three syndromes observed with this form of poliovirus infection are upper respiratory tract infection (sore throat and fever), gastrointestinal disturbances (nausea, vomiting, abdominal pain, constipation or, rarely, diarrhea), and influenza-like illness. These syndromes are indistinguishable from other viral illnesses.

**Nonparalytic aseptic meningitis** (symptoms of stiffness of the neck, back, and/or legs), usually following several days after a prodrome similar to that of minor illness, occurs in 1%–2% of poliovirus infections. Increased or abnormal sensations can also occur. Typically these symptoms will last from 2 to 10 days, followed by complete recovery. Fewer than 1% of all poliovirus infections result in **flaccid paralysis**. Paralytic symptoms generally begin 1 to 10 days after prodromal symptoms and progress for 2 to 3 days. Generally, no further paralysis occurs after the temperature returns to normal. The prodrome may be biphasic, especially in children, with initial minor symptoms separated by a 1- to 7-day period from more major symptoms. Additional prodromal signs and symptoms can include a loss of superficial reflexes, initially increased deep tendon reflexes and severe muscle aches and spasms in the limbs or back. The illness progresses to flaccid paralysis with diminished deep tendon reflexes, reaches a plateau without change for days to weeks, and is usually asymmetrical. Strength then begins to return. Patients do not experience sensory losses or changes in cognition. Many persons with paralytic polio recover completely and, in most, muscle function returns to some degree. Weakness or paralysis still present 12 months after onset is usually permanent.

Paralytic polio is classified into three types, depending on the level of involvement. **Spinal polio** is most common, and during 1969–1979, accounted for 79% of paralytic cases. It is characterized by asymmetric paralysis that most often involves the legs. **Bulbar polio** leads to weakness of muscles innervated by cranial nerves and accounted for 2% of cases during this period. **Bulbospinal polio**, a combination of bulbar and spinal paralysis, accounted for 19% of cases. The death-to-case ratio for paralytic polio is generally 2%–5% among children and up to 15%–30% for adults (depending on age). It increases to 25%–75% with bulbar involvement.

**Transmission** Person-to-person spread of poliovirus via the fecal-oral route is the most important route of transmission, although the oral-oral route may account for some cases.

**Communicability** Poliovirus is highly infectious, with seroconversion rates among susceptible household contacts of children nearly 100%, and greater than 90% among susceptible household contacts of adults. Persons infected with poliovirus are most infectious from 7 to 10 days before and after the onset of symptoms, but poliovirus may be present in the stool from 3 to 6 weeks.

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