

## Frequently Asked Questions about Measles:

### MEASLES CLINICAL PRESENTATION

**Q: What is the clinical presentation of measles?**

A: Measles is an acute viral respiratory illness. It is characterized by a prodrome of fever (as high as 105°F) and malaise, cough, coryza, and conjunctivitis -the three “C”s -, a pathognomonic enanthema (Koplik spots) followed by a maculopapular rash (see pictures of rash [HERE](#)). The rash usually appears about 14 days after a person is exposed; however, the incubation period ranges from 7 to 21 days. The rash spreads from the head to the trunk to the lower extremities. Of note, sometimes immunocompromised patients do not develop the rash.

**Q: When are patients with measles considered infectious?**

A: Patients are considered to be contagious from 4 days before to 4 days after the rash appears.

**Q: What are the complications from measles infection?**

A: Common complications from measles include otitis media, bronchopneumonia, laryngo-tracheobronchitis, and diarrhea. Even in previously healthy children, measles can cause serious illness requiring hospitalization.

- One out of every 1,000 measles cases will develop acute encephalitis, which often results in permanent brain damage.
- One or two out of every 1,000 children who become infected with measles will die from respiratory and neurologic complications.
- Subacute sclerosing panencephalitis (SSPE) is a rare, but fatal degenerative disease of the central nervous system characterized by behavioral and intellectual deterioration and seizures that generally develop 7 to 10 years after measles infection.

### MEASLES DIAGNOSIS

**Q: What testing should be performed on patients with suspected measles?**

A: Laboratory confirmation is essential for all sporadic measles cases and all outbreaks. Detection of measles-specific IgM antibody and measles RNA by real-time polymerase chain reaction (RT-PCR) are the most common methods for confirming measles infection. Healthcare providers should **obtain both a serum sample and a throat swab (or nasopharyngeal swab) from patients suspected to have measles at first contact with them.** Urine samples may also contain virus, and when feasible to do so, collecting both respiratory and urine samples can increase the likelihood of detecting measles virus. For more information click [HERE](#).

## MEASLES INFECTION PREVENTION

### **Q: How is the measles virus transmitted?**

**A:** **Measles is one of the most contagious of all infectious diseases;** approximately 9 out of 10 susceptible persons with close contact to a measles patient will develop measles. The virus is transmitted by direct contact with infectious droplets or by airborne spread when an infected person breathes, coughs, or sneezes. Measles virus can remain infectious on surfaces and in the air for up to two hours after an infected person leaves an area.

### **Q: What type of isolation precaution does a patient with suspected measles require?**

**A:** Such patients should be placed into **Airborne Precautions** (negative pressure room required).

**Regardless of presumptive immunity status, all healthcare staff entering the room should wear an N95 respirator or PAPR.**

## MEASLES EPIDEMIOLOGY

### **Q: Has measles been eliminated from the United States?**

**A:** Yes. In 2000, the United States declared that measles was eliminated from this country. The United States was able to eliminate measles because it has a highly effective measles vaccine, a strong vaccination program that achieves high vaccine coverage in children and a strong public health system for detecting and responding to measles cases and outbreaks.

### **Q: If measles is eliminated, why do people still get it in the United States?**

**A:** Every year, measles is brought into the United States by unvaccinated travelers (Americans or foreign visitors) who get measles while they are in other countries. They can spread measles to other people who are not protected against measles, which sometimes leads to outbreaks. This can occur in communities with unvaccinated people. Most people in the United States are protected against measles through vaccination, so measles cases in the U.S. are uncommon compared to the number of cases before a vaccine was available. Since 2000, when measles was declared eliminated from the U.S., the annual number of people reported to have measles ranged from a low of 37 people in 2004 to a high of 644 people in 2014.

### **Q: Where do cases of measles that are brought into the United States come from?**

**A:** Measles can be brought into the United States from any country where the disease still occurs or where outbreaks are occurring including Europe, Africa, Asia, and the Pacific. In recent years, many measles cases have been brought into the United States from common U.S. travel destinations, such as England, France, Germany, India, and, during 2014, from the Philippines and Vietnam.

**Q: Why have there been more measles cases in the United States in recent years?**

A: In 2008, 2011, 2013 and 2014, there were more reported measles cases compared with previous years. CDC experts attribute this to:

- More measles cases than usual in some countries to which Americans often travel (such as England, France, Germany, India, the Philippines and Vietnam), and therefore more measles cases coming into the US, and/or
- More spreading of measles in U.S. communities with pockets of unvaccinated people.

**MEASLES VACCINATION**

**Q: How effective is the measles vaccine?**

A: The measles vaccine is very effective. One dose of measles vaccine is about 93% effective at preventing measles if exposed to the virus and two doses is about 97% effective.

**Q: Could I still get measles if I am fully vaccinated?**

A: Very few people—about three out of 100—who get two doses of measles vaccine will still get measles if exposed to the virus. Experts aren't sure why; it could be that their immune systems didn't respond as well as they should have to the vaccine. But the good news is, fully vaccinated people who get measles are much more likely to have a milder illness, and they are also less likely to spread the disease to other people, including people who can't get vaccinated because they are too young or have weakened immune systems.

**Q: Do I ever need a booster vaccine?**

A: No. People who received two doses of measles vaccine as children according to the U.S. vaccination schedule are considered protected for life and do not ever need a booster dose. Adults need at least one dose of measles vaccine, unless they have evidence of immunity. Adults who are going to be in a setting that poses a high risk for measles transmission, including students at post-high school education institutions, healthcare personnel, and international travelers, should make sure they have had two doses separated by at least 28 days.

**Q: Am I protected against measles?**

A: You are considered protected from measles if you have written documentation (records) showing at least one of the following:

- You received two doses of measles-containing vaccine, and you are a(n)
  - School-aged child (grades K-12)
  - Adult who was not vaccinated as a child and will be in a setting that poses a high risk for measles transmission, including students at post-high school education institutions, healthcare personnel, and international travelers.
- You received one dose of measles-containing vaccine, and you are a(n)—
  - Preschool-aged child
  - Adult who was not vaccinated as a child and will not be in a high-risk setting for measles transmission
- A laboratory confirmed that you had measles at some point in your life
- A laboratory confirmed that you are immune to measles
- You were born before 1957

**Q: What should I do if I'm unsure whether I'm immune to measles?**

A: If you're unsure whether you're immune to measles, you should first try to find your vaccination records or documentation of measles immunity. If you do not have written documentation of measles immunity, you should get vaccinated with measles-mumps-rubella (MMR) vaccine. Another option is to have a doctor test your blood to determine whether you're immune, but this option is likely to cost more and will take two doctor's visits. (Occupational Health provides vaccination, not blood testing, for employees who can receive vaccination). There is no harm in getting another dose of MMR vaccine if you may already be immune to measles (or mumps or rubella).

**MORE INFORMATION**

**Q: Where can I get the latest information on measles?**

A: There are several good sources, including the following:

CDC: <http://www.cdc.gov/measles/index.html> and  
<http://www.cdc.gov/features/measles/index.html>

The World Health Organization: (<http://www.who.int/mediacentre/factsheets/fs286/en/>)