

## Measles

Agent: Measles virus

Mode of Transmission: Primarily person-to-person transmission by inhalation of respiratory droplets or direct contact with nasal or throat secretions of infected people; however, airborne transmission via aerosolized droplet nuclei has been documented.

Signs/Symptoms: Fever, cough, conjunctivitis, coryza, and a typical rash on the third to seventh day after onset of symptoms.

Prevention: Measles vaccine should be given as part of the measles, mumps, and rubella (MMR) series beginning at 12-15 months of age followed by a second dose at age 4-6 years. Infants <12 months of age traveling internationally should be vaccinated with an additional dose if at least 6 months of age.

Other Important Information: Measles is highly communicable, with secondary attack rates greater than 90% among susceptible people who have close contact with the infected person. Measles was declared eliminated from the United States in 2000. Nonetheless, because measles remains endemic in much of the world, importations continue to result in sporadic cases and outbreaks in the United States, which can be costly to control.

Seven cases of measles were reported in Virginia during 2011, representing a significant increase from the previous five-year average of 1.0 case per year. Prior to 2011, one case was reported each year in 2008 and 2009 and three cases in 2010. Before 2008, the last reported case in Virginia occurred in 2001. This mirrors nationwide trends; the 220 cases reported in the U.S. during 2011 was the highest number reported since 1996.

Among the 2011 Virginia cases, the highest incidence occurred in the <1 year age group (1.0 per 100,000; 1 case). This was followed by the 1-9 and 30-39 year age groups, each with 2 cases and an incidence rate of 0.2 per 100,000. The remaining two cases occurred in the adolescent and young adult populations with 1 case each in the 10-19 and 19-20 years age groups. Of the seven cases, four were male. Race was reported for six of the seven cases, with the "other" race population having the highest incidence (0.2 per 100,000) followed closely by the white population (0.1 per 100,000). No cases were reported from the black population. Four cases occurred in the northwest region, two in the northern region and one in the eastern region.

All seven cases were either unvaccinated or had unknown vaccination status. Four of the cases were infected with measles while traveling internationally. The three remaining cases were infected by one of these cases upon that person's return to the U.S. and resulted in a person-to-person outbreak. Two of the outbreak cases occurred in children of parents who had deliberately refused vaccination based on personal, religious or philosophical beliefs. These data illustrate that importations of measles into the United States continue to occur, posing risks for measles among unvaccinated persons. Individuals planning international travel should be aware of their immune status and obtain a vaccination if necessary.