OHIO DEPARTMENT OF HEALTH

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John R. Kasich / Governor

MEMORANDUM

DATE: May 1, 2014

TO: Ohio school nurses

FROM: Mary DiOrio, MD, MPH
State Epidemiologist
Medical Director, Division of Prevention and Health Promotion

SUBJECT: Measles in multiple Ohio counties

The Ohio Department of Health (ODH); the health departments for Ashland, Coshocton, Holmes, Knox, Richland, and Wayne counties; and the Centers for Disease Control and Prevention (CDC) are investigating an outbreak of measles that is occurring in several counties in Ohio. As measles has only rarely been seen in Ohio in the past several decades, the following information is being provided to assist Ohio schools with understanding measles and what school nurses and school administrators can do to protect their students and staff. Information in this guidance was adapted from material developed by the CDC, the Immunization Action Coalition, and the Washington State Department of Health.

KEY ACTION POINT: ***What school nurses should do now***
School nurses should review the immunization records of the children and identify those who are not up-to-date with their measles-mumps-rubella (MMR) vaccine. It is recommended that parents be contacted and advised to vaccinate their children if there is not a medical contraindication. The parents should be informed that if their child is not vaccinated and a case of measles occurs in the school, their child will be excluded until 21 days after rash onset in the last case of measles.

What causes measles?
Measles is caused by a virus.

How does measles spread?
Measles is spread from person to person through the air by infectious droplets; it is highly contagious.

How long does it take to show signs of measles after being exposed?
It takes an average of 10-12 days (range 7-21 days) from exposure to the first symptom, which is usually fever. The measles rash doesn't usually appear until approximately 14 days after exposure, 2-3 days after the fever begins.

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What are the symptoms of measles?
Symptoms include fever, runny nose, cough, loss of appetite, conjunctivitis, and a rash. The rash usually lasts 5-6 days and begins at the hairline, moves to the face and upper neck, and proceeds down the body.

How serious is measles?
Measles can be a serious disease, with 30% of reported cases experiencing one or more complications. Death from measles occurs in 2 to 3 per 1,000 reported cases in the United States. Complications from measles are more common among very young children (younger than 5 years) and adults (older than 20 years).

What are potential complications of measles?
Diarrhea is the most common complication of measles (occurring in 8% of case-patients), especially in young children. Ear infections occur in 7% of reported case-patients. Pneumonia, occurring in 6% of reported case-patients, accounts for 60% of measles-related deaths. Approximately one out of one thousand infected persons will develop acute encephalitis, an inflammation of the brain. This serious complication can lead to permanent brain damage. Measles during pregnancy increases the risk of premature labor, miscarriage, and low-birth-weight infants, although birth defects have not been linked to measles exposure. Measles can be especially severe in persons with compromised immune systems. Measles is more severe in malnourished children, particularly those with vitamin A deficiency. In developing countries, the fatality rate may be as high as 25%.

How long is a person with measles contagious?
Measles is highly contagious and can be transmitted from four days before the rash becomes visible to four days after the rash appears.

What should be done if someone is exposed to measles?
Notification of the exposure should be communicated to a healthcare provider and the local health department. If the person has not been vaccinated, measles vaccine may prevent disease if given within 72 hours of exposure. Immune globulin (a blood product containing antibodies to the measles virus) may prevent or lessen the severity of measles if given within six days of exposure.

What is recommended if a case of measles occurs among employees or attendees at a school or child care facility?

- The school or child care center should exclude persons with suspected measles from school or child care until 4 days have passed since rash onset (that is they can return on the fifth day after the day of rash onset) if not immunocompromised.

- All students and school staff born in or after 1957 who cannot provide adequate evidence of immunity (**see footnote one**) should be vaccinated unless there is a valid contraindication. Exposed persons receiving their second MMR dose and previously unvaccinated persons receiving their first dose as part of the outbreak control program may be immediately readmitted to school. However, these individuals should be monitored for signs and symptoms of measles.

- If a person without evidence of measles immunity chooses not to be vaccinated or is unable to be vaccinated due to medical reasons, that individual should be excluded from school or child care until 21 days after rash onset in the last case of measles.

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- Daily active surveillance of all school or child care contacts should be maintained by the local health department to assess for early signs and symptoms of rash illnesses compatible with measles for 21 days from the last possible exposure in the school. (Early symptoms of illness with measles include fever, cough, runny nose, and conjunctivitis.)

For additional information about measles, visit the Ohio Department of Health website at www.odh.ohio.gov or the CDC website at www.cdc.gov.

Footnote One: Acceptable presumptive evidence of immunity to measles includes:

- Documentation of age-appropriate vaccination with live measles virus-containing vaccine:
  - Preschool-aged children: one dose
  - School-aged children in grades K-12: two doses
  - Adults not at high risk: one dose
- Laboratory evidence of immunity (measles IgG)
- Laboratory confirmation of disease
- Born before 1957

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