Centers for disease control issues a measles health advisory

Although measles is no longer an endemic disease in the United States, it remains prevalent in most countries of the world, including some countries in Europe. Large outbreaks are currently occurring in Switzerland and Israel [1, 2; (see Fig. 1)]. Once dreaded by children in Europe, measles is communicated very easily, spreading from person to person through droplets emitted during sneezing or coughing. It is one of the most contagious diseases known, according to the World Health Organization (3). In the United States from 1 January through 28 March, 2008, 24 confirmed cases of measles resulting from importations from endemic countries have been reported to the Centers for Disease Control and Prevention (CDC) (4). These cases highlight the ongoing risk of measles transfer, the risk of spread in susceptible populations, and the need for a prompt and appropriate public health response to measles cases around the world.

Because of the severity of the disease, people with measles often appear in physician's offices or emergency rooms and pose a risk of passing the disease to other patients and healthcare personnel. Healthcare providers should be cognizant that transmission risks can be minimized by ensuring that all healthcare personnel have evidence of measles *immunity* and that appropriate *infection control practices* are followed.

The diagnosis of measles should be considered in any person with a generalized maculopapular rash lasting more than 3 days, a temperature of greater than 101°F (38.3°C), cough and coryza (symptoms of a head cold) or conjunctivitis (5). Coryza is classically used in association with the 'three Cs' of measles infection: coryza, conjunctivitis and cough (6). Immunocompromised patients may not exhibit rash or may exhibit an atypical rash. Healthcare facilities, including dental offices and clinics, should strongly consider recommending one dose of MMR vaccine (the MMR vaccine is a mixture of three live attenuated viruses, administered via injection for immunization against measles, mumps and rubella) (7) to unvaccinated healthcare personnel born before 1957 who do not have serological evidence of immunity or physician documentation of measles disease. The Organization for Safety and Asepsis Procedures has developed a special page on its website in response to the April 3, CDC Health Advisory on recent measles outbreaks in US. The page includes information specific to dental professionals, including photographs of the oral cavities of infected patients (8) (Figs 2 and 3).

To prevent transmission of measles in healthcare settings, air-borne infection control precautions should be followed stringently (6, 9). Suspected measles patients and people with febrile rash illness should be removed from emergency department, clinic and office waiting areas as soon as they are identified. They should be placed in a private room with the door closed and asked to wear a surgical mask, if tolerated. In hospital settings, patients with suspected measles should be placed immediately in an air-borne infection (negative-pressure)

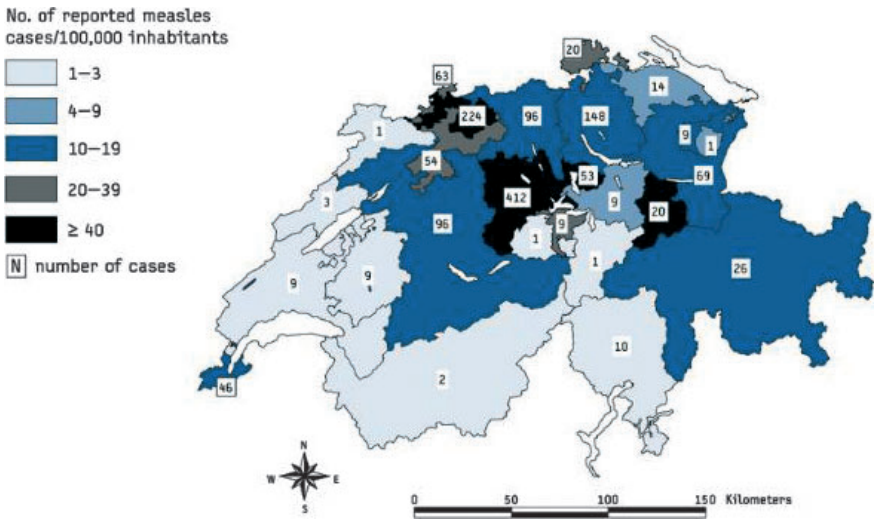

Fig. 1. Cumulative measles incidence rate and number of cases reported through the national mandatory notification system by canton, Switzerland, November 2006 to 13 February 2008 (n = 1405). Richard JL, Masserey-Spicher V, Santibanez S, Mankertz A. Measles outbreak in Switzerland – an update relevant for the European football championship (EURO 2008). Euro Surveill 2008;13 (8). Available at: http://www.eurosurveillance.org/edition/v13n08/080221_1.asp (Accessed 18 April, 2008).

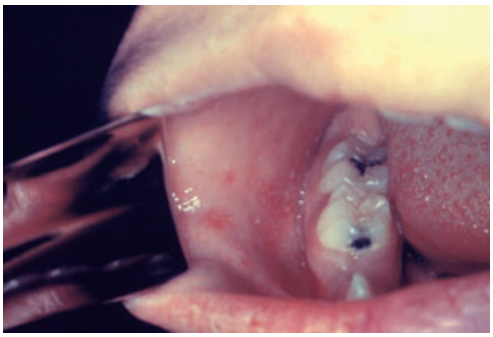

Fig. 2. This patient presented on the third pre-eruptive day with 'Koplik spots' indicative of the beginning onset of measles. In the prodromal or beginning stages, on the signs of the onset of measles is the eruption of 'Koplik spots' on the mucosa of the cheeks and tongue, which appear as irregularly shaped, bright red spots often with a bluish-white central dot.

isolation room if one is available and, if possible, should not be sent to other parts of the hospital for examination or testing purposes (10).

All healthcare personnel should have documented evidence of measles immunity on file at their work location. Having high levels of measles immunity among healthcare personnel and such documentation on file minimizes the work needed in response to measles exposures which cannot be anticipated. Recent measles exposures in hospital settings in three US states necessitated verifying records of measles immunity for hundreds or thousands of hospital staff, drawing blood samples for serological evidence of immunity when documentation was not on file at the work site and vaccinating personnel without evidence of immunity.

Dental healthcare personnel should be aware of the following information:

1 Measles is a highly contagious disease that is transmitted by respiratory droplets and air-borne spread. The disease can result in severe complications, including pneumonia and encephalitis.

Fig. 3. A patient who presented with Koplik's spots on palate because of pre-eruptive measles on day 3 of the illness.

2 The incubation period for measles ranges 7–18 days.

3 All dental healthcare personnel (DHCP) should have documented evidence of measles immunity on file at their work location.

4 Dental healthcare personnel unable or unwilling to be vaccinated as required or recommended should be educated regarding their exposure risks, infection control policies and procedures for the facility and the management of work-related illness and work restrictions, if appropriate, for exposed or infected DHCP.

5 During a measles outbreak, additional vaccine recommendations should be considered: health-care facilities, including dental and dental hygiene offices and clinics should strongly consider recommending one dose of MMR vaccine to unvaccinated healthcare personnel born before 1957, who do not have serological evidence of immunity or physician documentation of measles disease.

6 Healthcare providers should maintain vigilance for measles importations and have a high index of suspicion for measles in persons with a clinically compatible illness who have travelled abroad or who have been in contact with travellers.

The measles virus is highly infectious. The recent outbreaks illustrate the risk for measles transmission in healthcare settings. Measles morbidity and mortality can be reduced through vaccination with MMR vaccine, and vaccination of travellers can reduce measles transfer from one country to another country. Sustained high population immunity through vaccination, effective surveillance and robust public health preparedness and response capacity are needed to keep different countries free from indigenous measles transmission and control any outbreaks associated with importations. Oral healthcare professionals can play a role in reducing the numbers of people with this dreaded disease.

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Acknowledgements

All photos courtesy of the Centers for Disease Control and Prevention Public Health Image Library.

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