Multiple Cases of Measles After Exposure During Air Travel — Australia and New Zealand, January 2011

In January 2011, measles was diagnosed in three New Zealand residents recently returned from a 17-day trip to Singapore and the Philippines. On January 11, they had flown on a 7.5-hour flight from Singapore to Brisbane, Australia, remained in a transit lounge for 9.5 hours, and then continued on a 4-hour flight to Auckland, New Zealand. Searches in Australia and New Zealand for secondary cases among passengers on either flight resulted in the identification of three cases among passengers on the Singapore-to-Brisbane flight and five cases among passengers on the Brisbane-to-Auckland flight.

The three index cases had rash onsets occurring January 11–15 and tested positive for measles immunoglobulin M (IgM). One Australian case and one New Zealand case were diagnosed clinically, but the remaining six secondary cases, with rash onsets occurring January 21–26, were positive for measles RNA by nucleic acid amplification testing. Each specimen was genotype D9 with the same genetic sequence. Only three of the eight secondary cases were in persons seated within two rows of a person with an index case: two in unvaccinated persons and one in a person whose measles vaccination status was unknown. One secondary case was in a person of unknown vaccination status seated four rows away from the nearest person with an index case, one was in a person with a history of having been vaccinated against measles twice who was seated six rows away, and three were in unvaccinated children 11 rows away, in a separate cabin. The three index cases were in unvaccinated children aged 12–17 years.

Australian contact investigation guidelines for exposure to a single passenger with infectious measles aboard an aircraft focus on the seats within two rows of persons with index cases (1); five of the eight secondary cases in this outbreak were in persons who were farther away. Three persons likely were infectious aboard the aircraft, not one, and recent literature suggests that exposure might extend farther than two rows (2,3). In addition, because measles is readily transmissible through airborne transmission, the opportunity for exposure existed in the jetways, the arrival and departure terminals, and the transit lounge. This outbreak highlights the transmissibility of measles and the risk for exposure during international travel, which might start at the airport before departure, and the need for travelers to be protected against measles by vaccination.

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References