Measles outbreaks in Japan

Dear Doctor

I am writing to advise you of a measles outbreak in Japan and to ask you to be vigilant for symptoms of measles in visitors and returning travellers from Japan. To help protect Australians travelling abroad I am also providing you with information that should be provided to people wishing to visit Japan during the current measles outbreak.

Background
An outbreak of measles originated in Tokyo in February 2007 and has spread through central and northern Japan. Over 1000 cases have been reported in Japan this year and the number of new cases is continuing to rise. The current outbreak in Japan is not confined to only children. A third of the reported cases are aged 15 years old or above.

Taiwan and the United States have both reported cases of measles imported from Japan.

Although single dose measles vaccine has been used in Japan for many years, the routine use of a second booster dose was only introduced in 2006 for primary school children. Japanese people of secondary school age and older will not therefore have routinely received two doses of measles vaccine. Low second dose vaccine coverage rates may be contributing to the current outbreak in Japan. Authorities in Japan are actively managing this outbreak, increased surveillance is in place and community vaccination campaigns have begun.

Need for increased vigilance in Australia
Measles has been essentially eradicated in Australia. In 2007, Australia reported only 11 cases of measles and most of these were associated with overseas travel. Australia maintains very high measles vaccination rates, with 93.6% coverage in 24-27 month-old children and 88.9% in 72-75 month-olds (31 March 2007 figures).

However, measles still poses a threat to certain population groups in Australia, and the early detection and management of suspected measles cases is required to ensure that local transmission does not occur.

The current outbreak in Japan and its close proximity to Australia increases the need for vigilance for symptoms of measles particularly in visitors, of all ages, from Japan and those returning from visits in Japan. A list of other countries with high prevalence of measles is provided for your general information.

I take this opportunity to remind you that, as a notifiable disease, all suspected cases of measles should be reported to your local health authority. A list of your State public health contact numbers and an information sheet on measles is attached for your information.

Advice to travellers
Please see attached advice on measles vaccination for travellers to areas where measles is endemic. Until the outbreak in Japan is controlled, it would be appreciated if this advice could be provided to all persons wishing to travel to Japan.

Further information on the situation in Japan will be provided in due course.

Thank you for your assistance with this issue.

Yours sincerely

Dr Julie Hall  MBE
A/g Australian Government Chief Medical Officer
Department of Health & Ageing
Ph:  61 2 6289 8408
Fax: 61 2 6285 1994
MEASLES: BACKGROUND INFORMATION
(Extract from the Department’s Draft 9th Edition Australian Immunisation Handbook)

Virology
Measles is a paramyxovirus, genus *Morbillivirus*. The measles virus can survive up to two hours in air, but is rapidly inactivated by heat, light and extremes of pH.

Clinical features
Measles is a highly infectious, acute viral illness which is spread by respiratory droplets. It is infectious from the beginning of the prodromal period and up to four days after the appearance of the rash. The incubation period is usually 10 to 14 days. The prodrome, lasting two to four days, is characterised by fever and malaise followed by a cough, coryza and conjunctivitis. The maculopapular rash typically begins on the face and upper neck, and then becomes generalised. Measles is often a severe disease, frequently complicated by otitis media (in ~9%), pneumonia (in ~6%) and diarrhoea (in ~8%). Acute encephalitis occurs in one per 1000 cases, and has a mortality rate of 10 to 15%, with 15 to 40% of survivors suffering permanent brain damage. Subacute sclerosing panencephalitis (SSPE) is a late complication of measles, occurring on average 7 years after infection in approximately 0.5 to one per 100 000 measles cases. SSPE causes progressive brain damage and is always fatal. Complications from measles are more common and more severe in the chronically ill, in children <5 years of age, and in adults. Approximately 60% of deaths from measles are attributed to pneumonia, especially in the young, while complications from encephalitis are more frequently seen in adults. Measles infection during pregnancy can result in miscarriage and premature delivery but has not been associated with congenital malformation.

Epidemiology
Measles is near eradication in Australia and most recent cases have been imported or traced to contact with an imported case.

A person is considered not susceptible to measles if they meet one of the following criteria:
Persons born during or since 1966 who have documented evidence of receiving two doses of a measles-containing vaccine, when both doses of vaccine have been given at ≥12 months of age and at least four weeks apart. This applies unless serological evidence indicates otherwise
Persons born before 1966 (unless serological evidence indicates otherwise)
Documented evidence of immunity
Documented evidence of laboratory confirmed measles infection

Vaccines
One measles-mumps-rubella (MMR) vaccine is currently available in Australia. Measles immunity induced by single-dose vaccination provides long-term immunity in most recipients. However, approximately 5% of recipients fail to develop immunity to measles after one dose. Following a second vaccine dose, approximately 99% of subjects overall will be immune to measles.

Persons born before 1966:
No vaccination is required (unless serological evidence indicates otherwise) as circulating virus and disease were prevalent before this time suggesting most persons would have acquired immunity from natural infection. However, recent confirmed cases of measles have occurred in persons born before 1966 and, if doubt exists, it may be more expedient to offer vaccination than serological testing.

Persons born during or since 1966:
Infants ≥12 months to 18 months of age should have documented evidence of one dose of MMR; or serological evidence of protection for measles. Persons ≥18 months of age should have documented evidence of two doses of MMR administered at least four weeks apart, with both doses administered at or over 12 months of age; or serological evidence of protection for measles, mumps and rubella. Catch-up vaccination of children who have not received MMR at 18 months of age should occur at the four-year-old schedule point, until all the relevant children have reached four years of age. There are no increased adverse events from vaccinating those with pre-existing immunity to one or more of the vaccine components.

ADVICE TO TRAVELLERS VISITING MEASLES ENDEMIC AREAS
Those born during or since 1966 should be encouraged to complete the measles-mumps-rubella (MMR) vaccination schedule before embarking on international travel if they do not have evidence of receipt of two doses of MMR vaccine.

Note that Australians aged between 23 and 40 years of age are unlikely to have received two doses of measles vaccine as the
two dose regime was not part of their childhood immunization programme and it would be unlikely that they were included in any catch up campaigns.

Infants travelling to endemic countries may be vaccinated with MMR between nine and 12 months of age. In these cases, another dose of MMR should be given at 12 months of age or four weeks after the first dose, whichever is later. This should be followed by the routine administration of the next dose of MMR at 18 months of age. This is because maternal antibodies to measles are known to persist in many infants until 11 months of age and may interfere with active immunisation before 12 months of age.

Public Health Contact List

Commonwealth
Chief Medical Officer – 02 6289 8408
Communicable Diseases Network of Australia Secretariat – 02 6289 3832

State and Territory Public Health and Communicable Disease Units
The following numbers should be contacted by medical practitioners for the reporting of communicable disease cases and for assistance in the management of disease outbreaks:

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<tr>
<th>Territory</th>
<th>Number</th>
<th>Other Numbers</th>
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<tr>
<td>Australian Capital Territory</td>
<td>(02) 6205 2155</td>
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<tr>
<td>New South Wales</td>
<td>See public health unit list below</td>
<td></td>
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<tr>
<td>Northern Territory</td>
<td>(08) 8922 8044 a/h Royal Darwin Hosp: (08) 8922 8888</td>
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<tr>
<td>Queensland</td>
<td>(07) 3234 1155</td>
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<tr>
<td>South Australia</td>
<td>(08) 8226 7177</td>
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<tr>
<td>Tasmania</td>
<td>0408 532 708</td>
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<tr>
<td>Victoria</td>
<td>1300 651 160</td>
<td></td>
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<tr>
<td>Western Australia</td>
<td>(08) 9388 4999 (bh) (08) 9328 0553 (ah)</td>
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WHO Measles Priority countries
In their joint Global Plan for Reducing Measles Mortality, 2006-2010, WHO and UNICEF have identified 47 priority countries to target for implementation of accelerated sustainable measles mortality reduction activities. These countries account for more than 95% of global measles deaths; they are:

**African Region:** Angola, Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo, Côte d’Ivoire, Democratic Republic of the Congo, Eritrea, Equatorial Guinea, Ethiopia, Gabon, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Madagascar, Mali, Mozambique, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, United Republic of Tanzania, Togo, Uganda and Zambia;

**Eastern Mediterranean Region:** Afghanistan, Djibouti, Pakistan, Somalia, Sudan and Yemen;

**South-East Asia Region:** Bangladesh, India, Indonesia, Myanmar, Nepal and Timor-Leste; and

**Western Pacific Region:** Cambodia, Lao People's Democratic Republic, Papua New Guinea and Viet Nam.