

MEASLES

What Parents Need to Know



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1. WHAT IS MEASLES?

Measles is a self-limiting childhood viral infection.

- Measles symptoms include a prodromal (initial) phase of cough, runny nose, eye irritation and fever, followed by a generalized rash on days 4–10 of the illness.¹
- Measles is contagious during the prodromal phase and for 3-4 days after rash onset.¹
- Most measles cases are benign and not reported to public health departments.²
- Before the measles mass vaccination program was introduced, nearly everyone contracted measles and obtained lifetime immunity by age 15.¹
- In rare situations, measles can cause brain damage and death.^{3,4}

Centers for Disease Control and Prevention (CDC) publishes measles case-fatality rates based on reported cases. However, nearly 90% of measles cases are benign and not reported to the CDC.² Calculating case-fatality rates based on reported cases (that constitute only 10% of all cases) results in a case-fatality rate that is 10 times higher than what it actually is in the general population. Data analysis herein is based on total measles cases (both reported and unreported).



2. WHAT ARE THE RISKS?

In the modern era, it is rare to suffer permanent disability or death from measles in the United States. Between 1900 and 1963, the mortality rate of measles dropped from 13.3 per 100,000 to 0.2 per 100,000 in the population, due to advancements in living conditions, nutrition, and health care—a 98% decline (Fig. 1).^{2,5} Malnutrition, especially vitamin A deficiency, is a primary cause of about 90,000 measles deaths annually in underdeveloped nations.⁶ In the U.S. and other developed countries, 75–92% of hospitalized measles cases are low in vitamin A.^{7,8}

Research studies and national tracking of measles have documented the following:

- 1 in 10,000 or 0.01% of measles cases are fatal.³
- 3 to 3.5 in 10,000 or 0.03–0.035% of measles cases result in seizure.⁹
- 1 in 20,000 or 0.005% of measles cases result in measles encephalitis.⁴
- 1 in 80,000 or 0.00125% of cases result in permanent disability from measles encephalitis.⁴
- 7 in 1,000 or 0.7% of cases are hospitalized.¹⁰
- 6 to 22 in 1,000,000 or 0.0006–0.0022% of cases result in subacute sclerosing pan-encephalitis (SSPE).¹¹

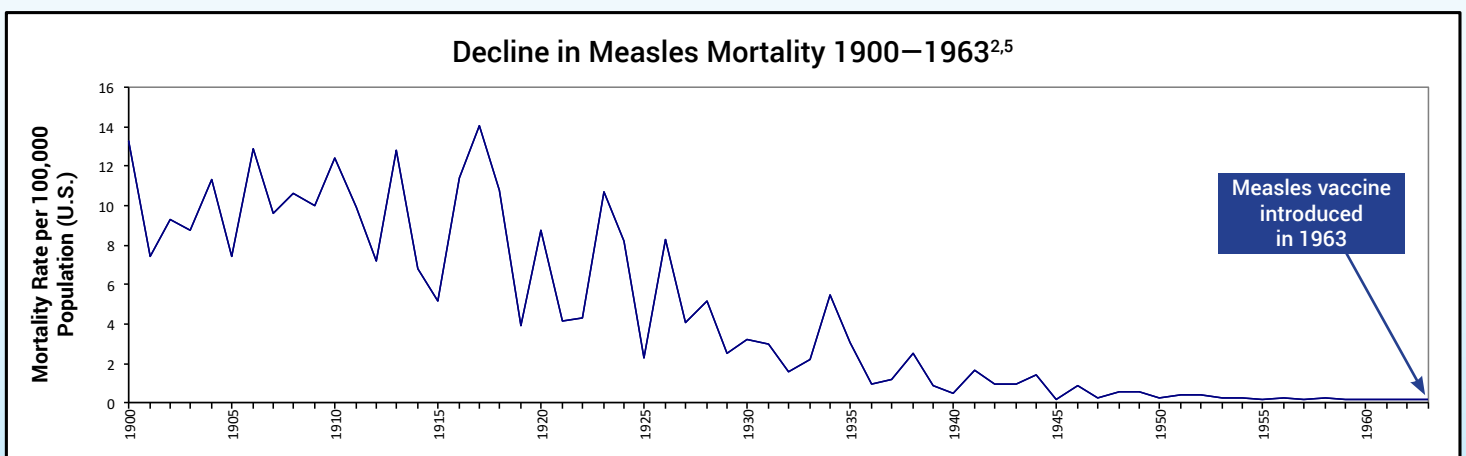


Figure 1: Measles death declined 98% from 1900 to 1963, before the measles vaccine was introduced.



3. WHAT TREATMENTS ARE AVAILABLE FOR MEASLES?

Since measles resolves on its own in almost all cases, usually only rest and hydration are necessary. When treatment is recommended, options include the following:

- High-dose vitamin A¹²
- Immune globulin (available for immunocompromised patients, such as those on chemotherapy)¹³
- The antiviral medication, ribavirin¹⁴⁻¹⁶



Vitamin A

The World Health Organization (WHO) recommends that serious measles cases be treated with high-dose vitamin A, 50,000–200,000 IU, orally on two consecutive days.¹³



4. ARE THERE ANY BENEFITS FROM GETTING MEASLES?

There are studies that suggest a link between naturally acquired measles infection and a reduced risk of Hodgkin's and non-Hodgkin's lymphomas, as well as a reduced risk of atopic diseases such as hay

fever, eczema and asthma.¹⁷⁻²¹ In addition, measles infections are associated with a lower risk of mortality from cardiovascular disease in adulthood.²² Moreover, infants born to mothers who have had naturally acquired measles are protected from measles via maternal immunity longer than infants born to vaccinated mothers.²³



5. WHAT ABOUT THE VACCINE FOR MEASLES?

The measles vaccine was introduced in the U.S. in 1963 and is now only available as a component of the measles, mumps, and rubella (MMR) vaccine. It has significantly reduced the number of reported measles cases; however, immunity from the vaccine wanes so that by age 15, about 60% of vaccinated children are susceptible to subclinical infection with measles virus, and by age 24–26, a projected 33% of vaccinated adults are susceptible to clinical infection.²⁴ The manufacturer's package insert contains information about vaccine ingredients, adverse reactions, and vaccine evaluations. For example, "M-M-R II has not been evaluated for carcinogenic or mutagenic potential, or potential to impair fertility."¹¹ Furthermore, the risk of permanent injury and death from the MMR vaccine has not been proven to be less than that of measles (Fig. 2).²⁵

Measles Mortality vs. Leading Causes of Death in Children Under Age 10 (per 100,000 Population)^{26,27}

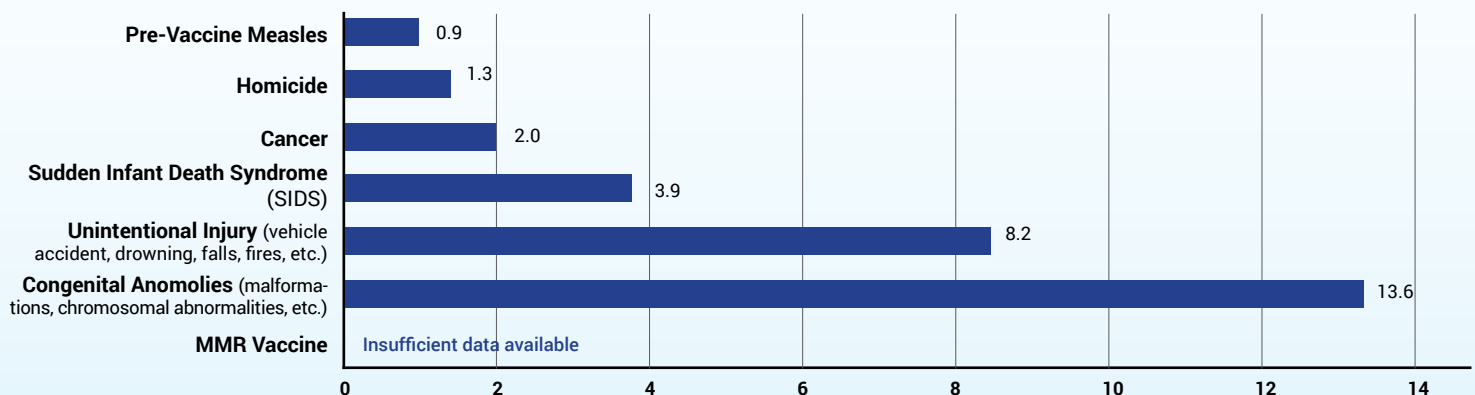


Figure 2: This graph shows the measles death rate before the vaccine was introduced, when measles was a common childhood viral infection, and compares it to the leading causes of death in children under age 10 today. Hence, in the pre-vaccine era, the measles death rate per 100,000 was 0.9 for children under age 10. In 2015, the death rate per 100,000 for homicide was 1.3, followed by cancer (2.0), SIDS (3.9), unintentional injury (8.2), and congenital anomalies (13.6). The rate of death or permanent injury from the MMR vaccine is unknown because the research studies available are not able to measure it with sufficient accuracy.²⁵

All references and the Measles Vaccine Risk Statement (VRS) are available at physiciansforinformedconsent.org/measles.

These statements are intended for informational purposes only and should not be construed as personal medical advice.

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