

Measles infection and encephalitis

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Encephalitis can occur in children either during or after a measles infection. This can happen as a result of the brain becoming infected with the virus during the rash phase of the illness or by an immune-mediated brain inflammation subsequent to measles infection. Measles is also the cause of a disease called subacute sclerosing panencephalitis (SSPE). This is a rare condition that can develop years after natural measles infection. SSPE is a degenerative neurological condition which progressively destroys nerve cells in the brain and almost always leads to mental deterioration and death. More information on SSPE is available on our website www.encephalitis.info.

Measles, mumps and rubella (MMR) vaccine

The MMR vaccine is a very effective way to prevent against measles, mumps and rubella. These infections are important causes of encephalitis, and before MMR vaccine was introduced all three infections were common in the UK. There is a wide range of credible information available on the good safety record of MMR vaccine at

www.gov.uk/government/uploads/system/uploads/attachment_data/file/147968/Green-Book-Chapter-21-v2_0.pdf

It is clear that the vaccine is safer than letting children catch the diseases. The example below compares the risk of measles with the risk of MMR vaccine.

Measles

- 1-3 in 1,000 children contracting measles will develop encephalitis concurrent with the measles infection. 10–15% of those children will die and a further 25% of patients will be left with permanent neurological damage.
- 1 in 1,000 children with measles will develop post-infectious encephalitis.
- 1 in 25,000 of children (1 in 5,500 children if they are under 1) with measles will develop subacute sclerosing panencephalitis (SSPE) which has a fatal (death) outcome.
- 1-2 in 1,000,000 children who had vaccination will develop encephalitis from the vaccination which is less than the incidence of all types of encephalitis.

In the past decade, coverage of measles, mumps and rubella vaccination in the UK has not been high enough. Many countries across Europe are currently experiencing large epidemics of measles as a result of not enough children having the MMR vaccine. In 2013, outbreaks of measles were reported in the North-West of England (376 cases) and

Swansea (664 cases). Acute encephalitis contributed to two of three measles related deaths reported in Europe in 2012. This highlights how important it is to make sure that children are protected from this preventable disease.

Measles encephalitis caused the death of Roald Dahl's daughter, Olivia, in 1962. He became an ardent supporter of measles vaccination as a result of the tragic loss of his daughter. He wrote a letter to parents encouraging them to get their children vaccinated.

<https://www.roalddahl.com/roald-dahl/timeline/1960s/november-1962>

For information on encephalitis and its effects, please see our information on what is encephalitis and recovery after encephalitis (www.encephalitis.info).

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Thank you!

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