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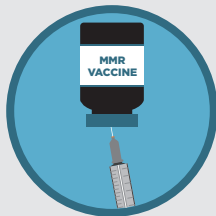
MEASLES, MUMPS, RUBELLA (MMR)

WHAT YOU NEED TO KNOW

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ARE YOU SURE YOU USE THE RIGHT MEASURES
TO PROTECT YOURSELF AGAINST MEASLES, MUMPS OR RUBELLA?

GET INFORMED! GET VACCINATED! GET PROTECTED!



DID YOU KNOW ABOUT MEASLES, MUMPS AND RUBELLA?

- Measles used to cause hundreds of thousands of cases in children before the introduction of systematic measles vaccination in the 60s.
- Measles is extremely effective in human to human transmission; it is transmitted via respiratory droplets.
- Adults need to have proof of immunity against measles, mumps or rubella or proof of receiving 2 doses of MMR vaccine.
- All women of child bearing age should know if they are immune to rubella (e.g. they have passed the disease or they have received the vaccine).

THE DISEASES IN SHORT

As the coverage with the MMR vaccine has decreased in many EU countries, a number of outbreaks of measles, mumps and rubella have been reported in the last years:

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The introduction of the measles vaccine in the 60's led to >99% decrease in the number of cases until about 2001. Since then a significant number of measles cases is reported in EU countries in late winter and early spring, which peaked in 2011 (>30,000).

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Mumps still occurs frequently in the EU countries, where almost 950,000 cases of mumps were notified between 2001-2008.

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Incidence of rubella in the EU countries peaked in 2008, but cases occur annually. In 2013-2014 large outbreaks were reported in Poland.

MEASLES

SYMPTOMS

Measles is caused by a virus and usually starts with cough, runny nose, red eyes, and fever about 10-12 days after infection. A reddish rash appears 2-4 days after the initial symptoms and spreads from the head to the rest of the body. Bad outcome, even death, is more common in young infants, in malnourished children, and among immune compromised patients. Adults are more likely to suffer complications.

TREATMENT

There is no specific treatment for measles; supportive care is needed.

MUMPS

SYMPTOMS

Mumps presents with swollen salivary glands (mainly the parotids), fever, headache, pain in the muscles and joints, loss of appetite about 15 days after exposure to the virus. A significant number of patients may exhibit no symptoms.

TREATMENT

There is no specific treatment for mumps; supportive care is needed.

RUBELLA

SYMPTOMS

Rubella presents with a rash, swollen lymph nodes, temporary joint pain (mostly in women), upper respiratory infection and sometimes mild fever, usually after 14 days of exposure. Up to 1 in 2-4 cases of cases may be without symptoms. Rubella has serious consequences during early pregnancy, when the disease causes serious defects to the unborn baby (eyes, heart, brain) called congenital rubella syndrome. A significant number of patients (up to 1 in 2) may exhibit no symptoms.

TREATMENT

There is no specific treatment for rubella; supportive care is needed.

WHO NEEDS AN MMR VACCINE?

- Health care workers (HCWs) before starting clinical work, as well as supporting services and volunteers before contact with patients.
- Any susceptible HCW exposed to measles, mumps or rubella can receive the MMR vaccine within 72hrs of the exposure in order to prevent or modify the disease in some cases.

MMR is given subcutaneously or intramuscularly in a 2- dose schedule at least 4 weeks apart.

**MMR
VACCINE**

If you have received at least one dose of the vaccine in the past (on or after 12 months of age), one more dose can be administered at any time.

MMR vaccine contains live attenuated measles, mumps and rubella viruses.

**MMR
VACCINE**

COMPLICATIONS ASSOCIATED WITH MEASLES, MUMPS & RUBELLA

MEASLES

- about 1 in 3 patients develops a complication
- Adults are at higher risk for complications
- Ear infection, 1 in 15 cases
- Secondary pneumonia or severe bronchitis, 1 in 15 cases
- Diarrhea, 1 in 12 cases
- Seizures (fits), 1 in 140 -170 cases
- Neurological complications can involve the spinal cord (transient paralysis) or the brain (encephalitis, 1/1,000-2,000 cases) leading frequently to permanent neurologic sequelae
- Subacute Sclerosing Panencephalitis (SSPE) is a very rare complication, which follows 7-10 years after the disease (1/100,000 cases) causing complete disorganization of the brain
- Death, up to 1-3 in 1,000 infants, especially if immune-compromised or malnourished.

MUMPS

- Adults at higher risk for complications
- Inflammation of the testicles, 1 in 10-30 men after puberty
- Inflammation of the ovaries, 1 in 100 women after puberty
- Inflammation of breasts
- Inflammation of joints
- Inflammation of the heart muscle
- Inflammation of pancreas, up to 1 in 30 cases
- Inflammation of thyroid gland
- Nephritis
- Meningitis or inflammation of the brain (encephalitis) up to 1 in 300 to 1 in 6,000 cases
- Hearing loss due to nerve inflammation up to 1 in 20,000 cases

RUBELLA

- Joint pain and arthritis up to 1 in 15 women
- Febrile seizures
- Ear infection
- Vomiting and diarrhea
- Pneumonia
- Decreased platelets in the blood, which help clotting (Thrombocytopenia, 1 in 3,000 cases)
- Inflammation of the brain (encephalitis 1 in 6,000 cases)
- Infection during the 1st trimester of pregnancy may lead up to 1 in 5 babies to develop Congenital Rubella Syndrome (CRS) with eye, ear and heart problems. In addition, rubella may cause fetal death, spontaneous abortion, and premature labor.

EFFECTIVENESS OF THE MMR VACCINE



on or after 12 months of age



- 95% protection against measles
- 80% protection against mumps
- 90% protection against rubella, probably long-lasting.



administered 4-6 weeks apart



- 99.7% protection against measles; however up to 5% of immunized persons may lose immunity over time.
- 80-95% protection against mumps; however some immunized persons lose their immunity over time.

SIDE EFFECTS ASSOCIATED WITH THE MMR VACCINE

Mild

(most frequent)

- Mild rash (1 in 25 cases)

Moderate

- Seizures with fever (1/3,000 doses in infants)
- Temporary joint pain (1 in 5 doses) or arthritis (1 in 10 cases -mostly in small peripheral joints of teenage and adult women 7-21 days after immunization)
- Temporary decrease of platelets in the blood, which assist in clotting (1 in 24,000 doses)

Severe

- Itching
- Transient swelling of salivary glands and lymph nodes.
- Inflammation of the brain (encephalitis) or the brain covering (meningitis), up to 1/
- Temporary pain and tingling sensation in extremities
- Febrile seizures
- Very rare: inflammation of the testicles (orchitis)
- Severe allergic reaction: this may occur with any of the vaccines (< 1/1,000,000 doses)

WHERE CAN I FIND MORE INFORMATION?

1. BZgA, Germany: www.impfen-info.de
2. ECDC- Communication Toolkit on Immunisation: ecdc.europa.eu/en/healthtopics/immunisation/Pages/Communication-toolkit.aspx
3. WHO Europe: Vaccines and immunization, www.euro.who.int/en/health-topics/disease-prevention/vaccines-and-immunization
4. NIH, USA: www.vaccines.gov
5. Immunization Action Coalition, USA: www.immunize.org
6. National Centre for Immunisation Research & Surveillance, Australia: www.ncirs.edu.au



HProImmune
Promotion of Immunization for Health Professionals in Europe
www.hproimmune.eu

Disclaimer: The consortium partners declare no relevant conflict of interest with direct bearing on the subject matter of the HproImmune project. This pertains to relationships with pharmaceutical companies, biomedical device manufacturers and other companies with relation to vaccines.



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