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Opinion Article

A Brief Explanation of MMR and the Necessity of Immunization

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DESCRIPTION

Immediate information on Measles, Mumps and Rubella (MMR) is required by the local health protection team to ensure that community health measures can be taken immediately. The notice should be based on clinical suspicion and should not wait for laboratory confirmation. Since 1994, a number of cases have been identified in the clinic and confirmed as measles, mumps, or rubella. Assurance levels are rising, however, in the event of an outbreak and epidemic. Diagnosis of measles, mumps and rubella can be confirmed by non-invasive methods. Detection of a specific IgM or viral RNA in oral fluid samples, taken as soon as possible after the onset of a rash or parotid inflammation, has been shown to be very sensitive and clear to confirm these diseases. Samples of oral fluids should be obtained from all notified cases.

As the antibody caused by vaccination grows much faster than that following a natural infection, MMR should be given to any healthy person who is not fully vaccinated or completely immunized, and who has never had measles in the past. To work against this exposure, the vaccine should be given as soon as possible, well within three days. Even when it is too late to provide MMR with effective post-exposure prophylaxis, the vaccine can provide protection against future exposure to all three diseases. Therefore, contact with suspected measles or rubella provides a good opportunity to give the MMR vaccine to people who have not been vaccinated before.

If a person is already infected with measles, mumps or rubella, the MMR vaccine will not make the symptoms worse. In these cases, people should be aware that a smallpox-like disease that occurs immediately after vaccination may be the result of an environmental infection. If there is any doubt about the status of an individual vaccine, MMR should still be given as there are no adverse effects of vaccination on those who are already immune. Where immediate measles protection is required, for example after exposure, MMR may be given from six months of age. Since the response to MMR in infants is low, when the vaccine is given before 12 months, vaccination with two additional doses of MMR should be given at normal age. When children who have received the first dose of MMR need immediate protection against measles, the interval between the first and second doses can be reduced to one month. If the child is less than 15 months old when a second dose is given, then a standard booster dose (third dose) should be given to ensure full protection.

Children and adults with compromised immune systems who come in contact with measles should be considered for normal immunoglobulin as soon as possible after exposure. A local risk assessment of the index case (based on current epidemiology information) and exposure should be performed. If the index case is confirmed, linked epidemiologically or is considered measles by the local health protection team, then the need for post exposure prophylaxis should be addressed immediately. Many adults and older children with immunosuppression will be immune to previous infections or vaccinations. Ordinary immunoglobulin is therefore less likely to provide additional benefits to people with the available antibodies as their immune levels may be higher than those obtained in preventative doses. Most people with disabilities should be able to develop and maintain adequate antibody levels from a previous infection or vaccine. The use of immunoglobulin is therefore limited to those who are known or likely to have a negative antibody to measles.

Immediate examination is required, and hospitalization for intravenous immunoglobulin may follow. Although babies born to vaccinated mothers may have antibody levels up to six months of age, half of babies born to vaccinated mothers may not have protective tairs even from birth. Normal intramuscular immunoglobulin may be needed in newly infected children depending on the age of the mother, the mother's history of measles infection or immunization and pregnancy of the baby. Measles infection in pregnancy can lead to intra-uterine death and premature birth, but it is not associated with congenital infection or injury. Pregnant women who are exposed to measles may be considered as immuscular normal immunoglobulin. A very high proportion of pregnant women will not be protected and as a result immunoglobulin is only given to women who may be at risk due to a combination of age, history and/or IgG measles antibody tests. When diagnostic status is uncertain, this test should be performed as part of an investigation into exposure to pregnancy.

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M-M-RVaxPRO-manufactured by Merck Sharp Dohme Ltd and Priorix manufactured by GlaxoSmithKline, UK are the best-selling vaccines on the NHS as part of a national immunization program and can only be ordered through ImmForm. Vaccines to be used as part of the national immunization program are provided free of charge. Vaccines for private instructions, occupational health or travel use are not provided free of charge and must be ordered from manufacturers. Details of this are available at Scottish Healthcare Supplies. In Northern Ireland, resources must be obtained from child-vaccination centers. Details of this are available from the Regional Pharmaceutical Procurement Service.

Normal human immunoglobulin Subcutaneous Human Normal Immunoglobulin (HNIG) of England and Wales Subgam HNIG can be released by the Rabies and Immunoglobulin Service (RIgS) at PHE Colindale and PHE shareholders. Some HNIG products are available at local hospital pharmacies. Scotland Health Protection Scotland, Glasgow Northern Ireland Belfast Health and Social Care Trust, Royal Victoria Hospital Pharmacy Department (via switchboard and request Royal Pharmacy) Normal intravenous immunoglobulin request applications will need to be passed to the hospital pharmacist.