SHHD/CAMO(88)3

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Your ref

Our ref

Date 1 March 1988

To: Chief Administrative Medical Officers

Copy to: Community Medicine Specialists
(Communicable Diseases and Environmental Health)

Dear Doctor

MEASLES, MUMPS AND RUBELLA IMMUNISATION

As you are aware it is intended that immunisation against measles, mumps and rubella will be introduced in Scotland with effect from 1 October 1988.

We have now received an advance copy of the section of the revised Memorandum on Immunisation against Infectious Disease which relates to measles, mumps and rubella immunisation and a copy is enclosed for your information. The Scottish Health Education Group are considering appropriate publicity, and information regarding this will be sent to you later.

Yours sincerely

I S MACDONALD
Chief Medical Officer

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10. MEASLES/MUMPS/RUBELLA VACCINE

10.1 INTRODUCTION

Rubella vaccine was introduced in the UK in 1970 for the vaccination of pre-pubertal girls and non-immune women. The aim of this selective policy was to protect women of child-bearing age from the risks of rubella in pregnancy. It was not intended to prevent the circulation of the rubella virus which was considered necessary to provide natural immunity and to boost vaccine-induced antibody. Selective vaccination increased the proportion of ante-natal women with rubella antibody from 85-90% before 1970 to 97-98% in 1987. However over 2% of susceptible pregnant women still contract rubella; in 1986 and 1987, 362 infections in pregnancy were confirmed by laboratories in England and Wales. Many such pregnancies are terminated when infection is diagnosed in time. When this is not possible, Congenital Rubella Syndrome (CRS) may result, particularly in the first 9 weeks when fetal damage occurs in up to 90% of infections. On average 20 cases of CRS are still notified annually.

10.1.2 Rubella is most common among children aged 4 to 9 years who thus present a risk of infection to non-immune pregnant women, particularly their mothers. To eliminate the circulation of rubella amongst young children, the EXISTING rubella vaccination policy will be REINFORCED with the mass vaccination of young children of both sexes.

10.1.3 A combined measles/mumps/rubella vaccine (MMR) will be introduced with the aim of ELIMINATING rubella, CRS, measles and mumps. To achieve this, the target uptake for MMR vaccine for children aged 1-2 must be that already set for measles vaccine; 90% by 1990. The target for children aged 4-5 must also be 90%; until the first cohort to receive MMR vaccine aged 1-2 years reaches school age, A HIGH UPTAKE OF MMR MUST BE ACHIEVED IN CHILDREN AGED 4-5.

10.1.4 The mumps vaccine component will be included because of the morbidity resulting from mumps. It is the cause of about 1200 hospital admissions each year in England and Wales (about half the number for measles and whooping cough). In the under 15 age group it is the most common cause of viral meningitis; it can also cause permanent deafness. In the USA where mumps vaccine (as MMR) has been routinely used for over 20 years, there has been a dramatic decrease in reported cases of mumps and complications at all ages. The vaccine has been popular wherever it has been introduced and has increased the uptake of measles vaccine when the two have been combined.

10.1.5 From October 1st 1988, MMR vaccine will replace measles vaccine for all eligible children. Single antigen measles vaccine will not be given routinely after this date; single antigen rubella vaccine WILL still be used for school-girls aged 10-14 years and non-immune women (10.2.4 and 10.2.5).

10.1.6 Health Authorities will have an obligation to ensure that every child has received MMR vaccine by the time of entry to primary school, unless there is a valid contra-indication, parental refusal, or laboratory evidence of previous infection. Vaccination records should be checked; where there is no record of MMR vaccination or where the child has received single antigen measles vaccine, parents will be advised that their children should receive MMR vaccine.

10.1.7 MMR vaccine can be given to children of ANY age whose parents request it, and also to non-immune adults. However since measles, mumps and rubella are most common before the age of entry to secondary school, mass vaccination after the age of 11 when 80-90% have already acquired antibody would have little effect on the incidence. For maximum effect, vaccine must be given soon after the 1st birthday, and at the latest before the age of 5.

10.2 RECOMMENDATIONS

10.2.1. CHILDREN OF BOTH SEXES AGED 1-2 YEARS

MMR vaccine will replace measles vaccine in the second year of life, or after this age if appointments have been missed. For children whose parents refuse MMR vaccine, single antigen measles vaccine will be available.

10.2.2 CHILDREN OF BOTH SEXES AGED 4-5 YEARS BEFORE STARTING PRIMARY SCHOOL.

MMR vaccine will be given to children whose parents consent, unless there is one of the following:

A) A documented record of MMR vaccination.
B) A valid contra-indication. (10.5)
C) Laboratory evidence of immunity to measles, mumps and rubella.

MMR VACCINE SHOULD BE GIVEN IRRESPECTIVE OF PREVIOUS MEASLES VACCINE OR A HISTORY OF MEASLES, MUMPS OR RUBELLA INFECTION.

10.2.3 MMR vaccine can be given at the time of the booster dose of diphtheria/tetanus and poliomyelitis vaccines. Because the DT injection can be more painful, MMR vaccine should be injected first. The DT booster should be given with a separate syringe and needle in the opposite limb; alternatively a second appointment can be made.

10.2.4. RUBELLA VACCINATION FOR GIRLS AGED 10-14 YEARS.

This will continue unchanged with single antigen rubella vaccine and the present target of 95%. When a high uptake of MMR vaccine in young children has been achieved and maintained and the elimination of rubella has been demonstrated, the decision may be taken to stop the vaccination of schoolgirls. Vaccination of boys at this age is not proposed for reasons given in 10.1.7. There is evidence that vaccine-induced antibody is long-lasting even in the absence of endemic rubella; it is not therefore envisaged that booster injections of rubella vaccine will be necessary.

10.2.5 RUBELLA VACCINATION OF NON-IMMUNE WOMEN BEFORE PREGNANCY AND AFTER DELIVERY.

This will continue unchanged with single antigen rubella vaccine; every effort should be made to ensure the vaccination of all non-immune women before and after pregnancy.

10.2.6 HIV-positive individuals may be given MMR vaccine in the absence of contra-indications (10.5)

10.3. MMR VACCINE.

This is a freeze-dried preparation supplied with separate ampoules of fluid. It should be stored in a refigerator at 2-8o C and protected from light. It should be reconstituted with the diluent supplied by the manufacturer and used within 1 hour. The dose of 0.5 ml given by intramuscular or deep subcutaneous injection. The vaccine will be available from 2 manufacturers, Smith Kline and French (SKF) and Merieux UK; both vaccines contain the same strains and tissue culture dose of virus:

Measles; Schwartz strain, as in Mevilin and Rimevax measles vaccine.
Rubella; RA 27/3, as in Almevax rubella vaccine.
Mumps; Urabe AM/9. This has been in use in the SKF vaccine throughout the world for many years.

10.4. ADVERSE REACTIONS

As with measles vaccine, a febrile response and/or a rash may occur, most commonly about a week after vaccination and lasting about 48 hours. Swelling of the face occasionally occurs in the third week after vaccination; children with vaccination symptoms are not infectious. Parents will be given written information and advice for reducing fever, including the use of paracetemol in the period 5-10 days after vaccination.

10.4.1 Serious reaction should be reported to the Committee on Safety of Medicines using the yellow card system.

10.5 CONTRAINDICATIONS

See Sections 1.2.2 and 1.2.3 of Introduction.

i) Children with untreated malignant disease or altered immunity; those receiving immunosuppressive or X-ray therapy or high-dose steroids.

ii) Children who have received another live vaccine by injection within 3 weeks.

iii) Children with allergies to neomycin or kanamycin or a history of anaphylaxis due to any cause.

iv) Children with acute febrile illness when they present for vaccination; this should be deferred.

v) If MMR vaccine is given to adult women, pregnancy should be avoided for one month, as for rubella vaccine. (9.3.2 and 9.5.1,b)

vi) MMR vaccine should not be given within 3 months of an injection of immunoglobulin.

10.5.1. Children with a personal or close family history of convulsions SHOULD be given MMR vaccine, provided the parents understand that there may be a febrile reponse. As for all children, written advice for reducing fever will be given. IMMUNOGLOBULIN AS USED WITH MEASLES VACCINE MUST NOT BE GIVEN WITH MMR VACCINE SINCE THE IMMUNE RESPONSE TO RUBELLA AND MUMPS MAY BE INHIBITED. Doctors should seek specialist pediatric advice rather than refuse vaccination.

10.5.2 ALLERGY TO EGG

This is only a contraindication if the child has had an anaphylactic reaction (generalised urticaria, swelling of the mouth and throat, difficulty in breathing, hypotension or shock) following food containing egg. Dislike of egg or refusal to eat it is NOT a contra-indication.

10.6. POST-EXPOSURE PROPHYLAXIS FOR MEASLES.

Either single antigen measles vaccine or MMR vaccine can be used for prophylaxis after exposure to MEASLES; to be effective it must be given within 72 hours of contact. The antibody response to the rubella and mumps components is too slow for effective prophylaxis after exposure to these infections.

10.7 SURVEILLANCE.

The effect of the addition of mass MMR vaccine to selective rubella vaccination of girls and non-immune women will be monitored by the following methods;-

10.7.1 A continuing study to monitor the proportion of ante-natal women susceptible to rubella by age and parity.

10.7.2 Continued monitoring of the number and outcome of rubella infections in pregnancy, rubella terminations and notified cases of CRS.

10.7.3 Surveillance of antibody to measles, mumps and rubella by age.

10.7.4 Uptake of vaccine at each age by District.

10.7 BIBLIOGRAPHY

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