Texas Preventable Disease NEWS

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ACIP: NEW RECOMMENDED SCHEDULE FOR ACTIVE IMMUNIZATION OF NORMAL INFANTS AND CHILDREN*

Until now, the recommended schedule for active immunization of normal infants and children called for administering combined measles-mumps-rubella (MMR) vaccine at 15 months and giving the fourth dose of diphtheria and tetanus toxoids and pertussis vaccine (DTP) and the third dose of oral poliovirus vaccine (OPV) at 18 months. Two visits have been needed to receive these vaccines in the second year of life because the safety and efficacy of administering all three simultaneously had not been proven.** A large, randomized, double-blind trial has recently been completed, and sufficient data are now available to recommend the simultaneous administration of MMR, DTP, and OPV to all children 15 months old or older who are eligible to receive these vaccines (Table 1).

In this trial, serologic response and clinical reaction rates following primary immunization with MMR were compared in a test group of 405 children given MMR simultaneously with DTP and OPV and a control group of 410 children given MMR followed by doses of DTP and OPV vaccine two months later. Seroconversion rates to each MMR component exceeded 96% in both groups, and the geometric mean titers achieved against the other six antigens were also similar in both groups. Rates of most of the common vaccine-associated clinical reactions to DTP and MMR were not augmented by simultaneous administration of these two vaccines. Some minor side effects were reported more frequently in the simultaneous-administration group; however, these differences were judged to be related to artifacts of the study design rather than to differences in the safety of the two vaccine schedules.

Data from CDC's Monitoring System for Adverse Events Following Immunization (MSAEFI) have been reviewed, particularly the information from Idaho, Louisiana, and Tennessee, where policies to administer MMR, DTP, and OPV simultaneously have been in effect for periods ranging from several months to years. Although there are limitations to the use of the MSAEFI data set for this purpose, the evidence suggests no increased risk of reactions associated with the simultaneous administration of these antigens.

Although the overall implications of simultaneous administration have not been fully defined, it is anticipated that implementation of this new schedule will result in at least three benefits: 1) a decrease in the number of health-care-provider visits required for immunization during the second year of life, 2) an accompanying decrease in costs, and 3) an increase in the percentage of children who will be fully or partially immunized by 24 months of age.

Some health-care providers may continue to prefer administering MMR at 15 months followed by DTP and OPV at 18 months, especially for patients who are known to be compliant with health-care recommendations or if other purposes are served by the additional visit. Such a schedule remains an acceptable alternative to the newly proposed schedule involving simultaneous administration of DTP, MMR, and OPV in a single visit.

*Reprinted from: CDC MMWR 1986;35:577-9.

**It should be noted that simultaneous administration of MMR, DTP, and OPV was previously recommended for children who were behind schedule in receiving their immunizations. This recommendation was based on the demonstrated safety and efficacy of other vaccine combinations (eg, DTP and measles, or MMR and OPV).

PDN Editorial Note: As policy, the Texas Department of Health recommends the simultaneous administration of DTP/OPV boosters and MMR vaccine at 15 months of age. This will assure a better compliance rate for patients and result in one less visit to the health clinic. Revisions of the "Suggested Schedule For Routine Immunizations In Public Health Clinics in Texas" (Form #6-106) will soon be available. The revised schedule will include the recommendation to simultaneously administer DTP/OPV boosters and MMR vaccine at 15 months of age.

These recommendations are compatible with existing American Academy of Pediatrics (AAP) recommendations published in the 1986 *Red Book* (page 10). In addition, informal conversations with the chairman of the AAP's Committee on Infectious Diseases indicate that the committee is in agreement with the ACIP recommendations and is expected to issue a more formal statement of support for the simultaneous administration of DTP/OPV and MMR at 15 months of age.

REFERENCES:

1. ACIP: General recommendations on immunization. MMWR 1983;32:1-17.

2. Deforest A, Long FF, Lischner HW, et al. Simultaneous administration of measles-mumps-rubella (MMR) with booster doses of diphtheria-tetanus-pertussis (DTP) and poliovirus (OPV) vaccines (unpublished data).

TABLE 1. New recommended schedule for active immunization of normal infants and children*

Recommended age†	Vaccine(s)§	Comments
2 months	DTP-1¶, OPV-1**	Can be given earlier in areas of high endemicity.
4 months	DTP-2, OPV-2	6-week to 2-month interval desired between OPV doses to avoid interference.
6 months	DTP-3	An additional dose of OPV at this time is optional for use in areas with a high risk of polio exposure.
15 months††	MMR,§§ DTP-4, OPV-3	Completion of primary series of DTP and OPV.
24 months	HbPV¶¶	Can be given at 18-23 months for children in groups who are thought to be at increased risk of disease, e.g., day-care-center attendees.
4-6 years***	DTP-5, OPV-4	Preferably at or before school entry.
14-16 years	Td†††	Repeat every 10 years throughout life.

*See Reference 1 for the recommended immunization schedules for infants and children up to their seventh birthday not immunized at the recommended time in early infancy and for persons 7 years of age or older.

†These recommended ages should not be construed as absolute, i.e., 2 months can be 6-10 weeks, etc.

§For all products used, consult manufacturer's package enclosure for instructions for storage, handling, and administration. Immunobiologics prepared by different manufacturers may vary, and those of the same manufacturer may change from time to time. The package insert should be followed for a specific product.

¶DTP-Diphtheria and Tetanus Toxoids and Pertussis Vaccine Adsorbed.

**OPV-Poliovirus Vaccine Live Oral; contains poliovirus strains Types 1, 2, and 3.

††Provided at least 6 months have elapsed since DTP-3 or, if fewer than three DTPs have been received, at least 6 weeks since last previous dose of DTP or OPV. MMR vaccine should not be delayed just to allow simultaneous administration with DTP and OPV. Administering MMR at 15 months and DTP-4 and OPV-3 at 18 months continues to be an acceptable alternative.

§§MMR-Measles, Mumps, and Rubella Virus Vaccine, Live.

¶¶Hemophilus b Polysaccharide Vaccine.

***Up to the seventh birthday.

†††Td-Tetanus and Diphtheria Toxoids Adsorbed (For adult use)—contains the same dose of tetanus toxoid as DTP or DT and a reduced dose of diphtheria toxoid.

* * *

1986 SURGEON GENERAL'S REPORT: THE HEALTH CONSEQUENCES OF INVOLUNTARY SMOKING*

Inhalation of tobacco smoke during active cigarette smoking remains the largest single preventable cause of death and disability in the United States. The health consequences of cigarette smoking and of the use of other tobacco products have been extensively documented in the 18 previous Surgeon General's reports issued by the Public Health Service. More than 300,000 premature deaths that are directly attributable to tobacco use -- particularly cigarette smoking -- occur each year in the United States. The magnitude of the disease risk for active smokers, secondary to their high dose exposure to tobacco smoke, suggests that the lower doses of smoke received by involuntary smokers also puts them at risk. The 1986 Surgeon General's Report explores the health consequences incurred by involuntary smokers. It was developed by the Office on Smoking and Health, Center for Health Promotion and Education, Centers for Disease Control (CDC) as part of the US Department of Health and Human Services' responsibility under Public Law 91-222 to report new and current information on smoking and health to the US Congress.

Data in the 1986 report present evidence that the chemical composition of sidestream smoke (smoke emitted into the environment by a smoker between puffs) is qualitatively similar to the mainstream smoke inhaled by the smoker and that both mainstream and sidestream smoke act as carcinogens in bioassay systems. Data on the environmental levels of the components of tobacco smoke and on nicotine absorption in nonsmokers suggest that nonsmokers are exposed to levels of environmental tobacco smoke (ETS) that would be expected to generate a lung cancer risk. In addition, epidemiological studies of populations exposed to ETS have documented an increased risk for lung cancer in those nonsmokers with increased exposure. Of the 13 epidemiological studies that were available for review in the scientific literature, 11 reported a positive relationship, and six of these observed statistically significant results. It is rare to have such detailed exposure data or human epidemiologic studies on disease occurrence when attempting to evaluate the risk of low-dose exposure to an agent with established toxicity at higher levels of exposure. The relative abundance of data reviewed in the report, their cohesiveness, and their biologic plausibility allow a judgment that involuntary smoking can cause lung cancer in nonsmokers.

The 1986 Surgeon General's Report comes to three major conclusions:

- Involuntary smoking is a cause of disease, including lung cancer, in healthy nonsmokers.
- Compared with children of nonsmoking parents, children whose parents smoke have an increased frequency of respiratory symptoms and infections. They also have slightly smaller rates of increase in lung function as the lung matures.
- Simple separation of smokers and nonsmokers within the same air space may reduce, but does not eliminate, ETS exposure.

The report also reviews policies restricting smoking in public places and the workplace and states that, in the 1970s, an increasing number of public and private sector institutions began adopting policies to protect individuals from ETS exposure by restricting the circumstances in which smoking is permitted. Local governments have been enacting smoking ordinances at an increasing rate since 1980. Restrictions on smoking at the workplace have resulted from both governmental action and private initiative, and an increase in workplace smoking policies has been a trend of the 1980s. Laws restricting smoking in public places have been implemented with few problems and at little cost to state and local governments. Public opinion polls document strong and growing support for restricting or banning smoking in a wide range of public places.

*Reprinted from: CDC. MMWR 1986;35:769-70.

The Surgeon General, in his preface to the report, states, "Cigarette smoking is an addictive behavior, and the individual smoker must decide whether or not to continue that behavior; however, it is evident from the data presented in this volume that the choice to smoke cannot interefere with the nonsmoker's right to breathe air free of tobacco smoke."

MMWR Editorial Note: A review recently published by the National Academy of Sciences states that approximately 20% of the estimated 12,200 lung cancer deaths occurring annually in nonsmokers are attributable to environmental tobacco smoke. This estimate falls close to the mid-point of the range published by Repace and Lowery, who state that between 500 and 5,000 lung cancer deaths may occur annually as a result of nonsmokers' exposure to tobacco smoke. By comparison, figures published in the *Journal of the Air Pollution Control Association* estimate that between 1,300 and 1,700 total cases of cancer resulting from other air pollutants in the general environment occur each year in the United States. Thus, while the number of lung cancer deaths that may be related to ETS exposure is small compared with those caused by active smoking, the actual number of lung cancer deaths caused annually by involuntary smoking is large. In addition, ETS causes more cases of cancer annually than many other agents in the general environment that are regulated because of their potential to cause disease.

1986 Communicable Disease Reports Due

The official statistical cut-off date for communicable disease reports from 1986 will be **February 28, 1987.** Please forward all reports of cases with dates of onset in 1986 to the Bureau of Epidemiology, 1100 W. 49th Street, Austin, Texas 78756-3180, before that date.

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