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*Recommended Childhood Immunization Schedule, United States, January - June 1996**

In January 1995, the recommended childhood immunization schedule was published in MMWR following issuance by the Advisory Committee on Immunization Practices (ACIP), the American Academy of Pediatrics, and the American Academy of Family Physicians.[1] This schedule was the first unified schedule developed through a collaborative process among the recommending groups, the pharmaceutical manufacturing industry, and the Food and Drug Administration. This collaborative process should assist in maintaining a common childhood vaccination schedule and enabling further simplification of the schedule. This notice presents the recommended childhood immunization schedule for January-June 1996 (see Table on page 2) to incorporate licensure of varicella zoster virus vaccine (Var) and recommendations for adolescent hepatitis B vaccination.

OPV remains the recommended vaccine for routine polio vaccination in the United States. IPV is recommended for persons with compromised immune systems and their household contacts and is an acceptable alternative for other persons. ACIP is developing recommendations for expanded use of IPV in the United States.

In This Issue:

General Changes

Footnotes have been shortened and simplified wherever possible. For detailed information and specific recommendations for administration of vaccines, practitioners should consult the Report of the Committee on Infectious Diseases (Red Book)[2], the vaccine-specific recommendations of the ACIP, and the official manufacturers' package inserts or the Physicians' Desk Reference (PDR).[3]

Date

The schedule is dated January-June 1996, and will be republished in July 1996 to revise or add recommendations and/or to include any changes resulting from licensure of new vaccines. Publishing an updated schedule will permit providers to be certain they are using the most current schedule.

Format Changes

A column has been added to the figure for age 1 month to indicate the second dose of hepatitis B vaccine may be given to infants as early as age 1 month. Shaded bars indicate ages at which adolescents should receive "catch-up" vaccinations if they have not received vaccinations before and, for chickenpox, lack a reliable history of the disease.

Vaccine Recommendation Changes

Hepatitis B, infant. Because of the availability of different formulations of hepatitis B vaccine, doses are presented in micrograms rather than volumes. In addition, the footnote includes recommendations for vaccination of infants born to mothers whose hepatitis B surface antigen status is unknown.

Hepatitis B, adolescent. A bar has been added to indicate that the three-dose series of hepatitis B vaccine should be initiated or completed for adolescents aged 11-12 years who have not previously received three doses of hepatitis B vaccine.

Poliovirus. A footnote has been added to indicate that, although oral poliovirus vaccine (OPV) is recommended for routine vaccination, inactivated poliovirus vaccine (IPV) is indicated for certain persons (i.e., those with a compromised immune system and their household contacts) and continues to be an acceptable alternative for other persons. The schedule for IPV is included in the footnote.

Measles-mumps-rubella vaccine. The footnote has been changed to indicate that although the second dose of measles-mumps-rubella vaccine is routinely administered at age 4-6 years or at age 11-12 years, it may be administered at any visit if at least 1 month has elapsed since receipt of the first dose.

Var vaccine. Var was licensed in March 1995 and has been added to the schedule. This vaccine is recommended for all children at age 12-18 months. The footnote indicates that it may be administered to susceptible persons any time after age 12 months, and that it should be given at age 11-12 years to previously unvaccinated persons lacking a reliable history of chickenpox (see additional information on page 3).

(continued on page 3)

Figure 1. Recommended childhood vaccination schedule* -- United States, January - June 1996

Vaccine	Age										
	Birth	1 Mo.	2 Mos.	4 Mos.	6 Mos.	12 Mos.	15 Mos.	18 Mos.	4-6 Yrs.	11-12 Yrs.	14-16 Yrs.
Hepatitis B[†]	Hep B-1										
		Hep B-2			Hep B-3					Hep B[§]	
Diphtheria and tetanus toxoids and pertussis vaccine[¶]			DTP	DTP	DTP	DTP (DTaP at ≥15 mos.)			DTP or DTaP	Td	
Haemophilus influenzae type b**			Hib	Hib	Hib	Hib					
Poliovirus[††]			OPV	OPV	OPV				OPV		
Measles-mumps-rubella[§§]						MMR			MMR		
Varicella zoster virus[¶¶]						Var				Var***	

Shading indicates range of acceptable ages for vaccination. Darker shading indicates "catch up" vaccination.[§]***

*Vaccines are listed under the routinely recommended ages.

[†]**Infants born to hepatitis B surface antigen (HBsAg)-negative mothers** should receive 2.5 µg of Recombivax HB® (Merck & Co.) or 10 µg of Engerix-B® (SmithKline Beecham). The second dose should be administered ≥1 month after the first dose. **Infants born to HBsAg-positive mothers** should receive 0.5 mL hepatitis B immune globulin (HBIG) within 12 hours of birth, and either 5 µg of Recombivax HB® or 10 µg of Energix-B® at a separate site. The second dose is recommended at age 1-2 months and the third dose at age 6 months. **Infants born to mothers whose HBsAg status is unknown** should receive either 5 µg of Recombivax HB® or 10 µg of Energix-B® within 12 hours of birth. The second dose of vaccine is recommended at age 1 month and the third dose at age 6 months.

[§]Adolescents who have not received three doses of hepatitis B vaccine should initiate or complete the series at age 11-12 years. The second dose should be administered at least 1 month after the first dose, and the third dose should be administered at least 4 months after the first dose and at least 2 months after the second dose.

[¶]The fourth dose of diphtheria and tetanus toxoids and pertussis vaccine (DTP) may be administered at age 12 months, if at least 6 months have elapsed since the third dose of DTP. Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP) is licensed for the fourth and/or fifth vaccine dose(s) for children ≥15 months and may be preferred for these doses in this age group. Tetanus and diphtheria toxoids, adsorbed, for adult use (Td) is recommended at age 11-12 years if at least 5 years have elapsed since the last dose of DTP, DTaP, or diphtheria and tetanus toxoids, absorbed, for pediatric use (DT).

**Three *Haemophilus influenzae* type b (Hib) conjugate vaccines are licensed for infant use. If PedvaxHIB® (Merck & Co.) *Haemophilus* b conjugate vaccine (Meningococcal Protein Conjugate) (PRP-OMP) is administered at ages 2 and 4 months, a dose at 6 months is not required. After completing the primary series, any Hib conjugate vaccine may be used as a booster.

[††]Oral poliovirus vaccine (OPV) is recommended for routine infant vaccination. Inactivated poliovirus vaccine (IPV) is recommended for persons - or household contacts of persons - with a congenital or acquired immune deficiency disease or an altered immune status resulting from disease or immunosuppressive therapy, and is an acceptable alternative for other persons. The primary three-dose series for IPV should be given with a minimum interval of 4 weeks between the first and second doses and 6 months between the second and third doses.

[§§]The second dose of measles-mumps-rubella vaccine (MMR) is routinely recommended at age 4-6 years or at age 11-12 years, but may be administered at any visit provided at least 1 month has elapsed since receipt of the first dose.

[¶¶]Varicella zoster virus vaccine (Var) can be administered to susceptible children any time after age 12 months.

***Unvaccinated children who lack a reliable history of chickenpox should be vaccinated at age 11-12 years.

Use of trade names and commercial sources is for identification only and does not imply endorsement.

Source: Advisory Committee on Immunization Practices, American Academy of Pediatrics, and American Academy of Family Physicians.

(continued from page 1)

References

1. CDC. Recommended childhood immunization schedule -- United States, January 1995. MMWR 1995;43:959-60.

2. American Academy of Pediatrics. Active and passive immunization. In:Peter G, ed. 1994 Red book: report of the Committee on Infectious Diseases. 23rd ed. Elk Grove Village, Illinois: American Academy of Pediatrics, 1994:1-67.

3. Medical Economics Data. Physicians' desk reference. 49th ed. Montvale, New Jersey: Medical Economics Company, Inc., 1995.

**SOURCE: MMWR 44(51&52);940-3. Jan 05, 1996*

The Varicella Vaccine

The following article includes some basic information regarding the varicella vaccine. Complete recommendations for the use of this newly licensed vaccine are still being developed. The Office of Epidemiology will make any additional information available as we receive it.

The varicella vaccine currently licensed in the United States is a live attenuated vaccine containing a cell-free preparation of the OKA strain of varicella-zoster virus (VZV). This preparation has been tested in U.S. clinical trials of more than 9,000 children and 1,600 adults. According to The Medical Letter, "In clinical trials, the main adverse reactions to the new varicella vaccine were tenderness and erythema at the injection site in about 25% of vaccinees and a sparse generalized maculopapular or vesicular rash occurring within one month after immunization in about 5%. Children with leukemia, however, have about a 50% incidence of rash. Inadvertent immunization of patients already immune to varicella did not increase the incidence or severity of adverse effects. Transmission of the vaccine virus from healthy vaccinees to others is possible but has not been documented. Spread of vaccine virus from vaccinees with leukemia who developed a rash has been reported; secondary cases were subclinical or mild."

Must be stored frozen

The recommended dose of the vaccine is 0.5 mL, which contains not less than 1,500 plaque-forming units of VZV and trace amounts of neomycin. The vaccine is licensed for subcutaneous injection. Intramuscular administration appears to result in similar seroconversion but is not routinely recommended.

The manufacturer recommends very strict storage and handling procedures for optimal effectiveness. The lyophilized preparation **MUST BE STORED FROZEN** in a freezer with a temperature of -15°C (+5°F) or colder, at which it will retain its activity for up to 18 months. Once the vaccine has been reconstituted, it **MUST BE USED WITHIN 30 MINUTES OR BE DISCARDED.**

Once reconstituted, must be used within 30 minutes

Further research is being done on the stability of the vaccine. If the above recommendations change, we will publish the new recommendations in a future issue of the *Bulletin.*

References

1. Recommendations for the use of live attenuated varicella vaccine, by the American Academy of Pediatrics Committee on Infectious Diseases, *Pediatrics,* 1995;95:791-796.

2. Varicella vaccine. *The Medical Letter,* 1995;37:55-57.

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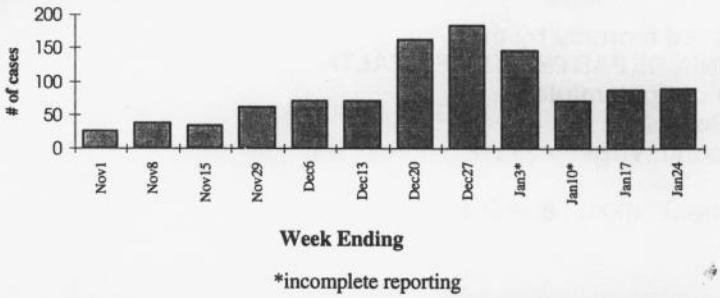
Influenza-like Illness, Virginia Sentinel Surveillance 95-96



*incomplete reporting

Reports of influenza-like illness are decreasing and activity as of the week ending January 24 is reported as regional. The sentinel surveillance system identified peak activity as occurring during late December and early January. Isolates have been identified from all regions of the state but the southwest and all have been identified as influenza A. This correlates with activity nationally where less than 1% of the isolates have been influenza B.

Cases of Selected Notifiable Diseases, Virginia, December 1 through December 31, 1995.*

Disease	Total Cases Reported This Month						Total Cases Reported to Date in Virginia		
	State	Regions					This Yr	Last Yr	5 Yr Avg
		NW	N	SW	C	E			
AIDS	174	2	53	8	11	100	1461	1209	976
Campylobacteriosis	58	14	12	12	11	9	648	824	685
Giardiasis§	46	8	14	12	5	7	318	337	379
Gonorrhea	456	42	38	43	142	191	10342	13414	15141
Hepatitis A	43	11	15	5	5	7	240	193	201
Hepatitis B	15	1	6	2	4	2	118	142	198
Hepatitis NANB	3	0	1	2	0	0	21	26	42
HIV Infection§	92	5	11	3	22	51	1268	1195	1349
Influenza	41	3	1	32	0	5	950	957	958
Legionellosis	3	1	0	1	0	1	21	17	17
Lyme Disease	1	0	1	0	0	0	54	131	126
Measles	0	0	0	0	0	0	0	3	28
Meningitis, Aseptic	29	9	6	2	3	9	781	337	368
Meningitis, Bacterial†	14	4	3	3	0	4	130	83	118
Meningococcal Infections	4	0	1	0	2	1	64	69	56
Mumps	3	0	0	0	2	1	28	48	65
Pertussis	0	0	0	0	0	0	31	37	36
Rabies in Animals	49	19	7	4	10	9	459	428	326
Rocky Mountain Spotted Fever	2	2	0	0	0	0	32	22	22
Rubella	0	0	0	0	0	0	0	0	0
Salmonellosis	238	27	93	22	44	52	1358	1135	1190
Shigellosis	89	9	21	1	2	56	412	656	445
Syphilis, Early‡	73	2	11	5	14	41	1144	1409	1440
Tuberculosis	13	0	4	3	3	3	297	372	409

Localities Reporting Animal Rabies: Accomack 1 cat, 4 raccoons; Arlington 1 raccoon; Augusta 1 fox; Bath 1 raccoon; Bedford 1 raccoon; Brunswick 1 cat; Buckingham 1 skunk; Campbell 1 skunk; Chesterfield 1 raccoon; Culpeper 1 raccoon, 1 skunk; Fairfax 1 bat, 2 raccoons; Fauquier 1 raccoon; Goochland 1 raccoon; Grayson 1 skunk; Halifax 1 raccoon; Hanover 1 skunk; James City 1 skunk; King George 1 cat; King William 1 raccoon; Loudoun 1 raccoon, 1 skunk; Madison 1 raccoon; Nelson 1 skunk; Page 2 skunks; Prince Edward 1 skunk; Prince William 1 raccoon; Richmond City 3 raccoons; Rockingham 1 cat, 1 horse, 4 raccoons, 2 skunks; Southampton 1 raccoon; Stafford 1 cat; Tazewell 1 raccoon; Virginia Beach 1 raccoon.

Occupational Illnesses: Asbestosis 12; Carpal Tunnel Syndrome 36; Coal Workers' Pneumoconiosis 9; Lead Poisoning 6; Loss of Hearing 20.

*Data for 1995 are provisional. †Other than meningococcal. ‡ Includes primary, secondary, and early latent.

§Note: Giardiasis and HIV infection have replaced Reye Syndrome and Kawasaki Syndrome in this table. This change was based on the current number of reports of these diseases and their public health significance.

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