

IMMUNIZATION

I. Administer immunizations provided by the health department per the most current recommendations of the Advisory Committee on Immunization Practices (ACIP) and the Centers for Disease Control (CDC).

II. FOR MASS CLINIC ADMINISTRATION:

Do NOT prefill syringes or pre-open syringes/needles. This compromises sterility and vaccine competency. Refer to Pink Book, Appendix D.

III. IMMUNIZATION FOR INTERNATIONAL TRAVELERS:

Information concerning the specific recommendations and requirements for immunization of international travelers can be found in the Centers for Disease Control and Prevention (CDC) publication Health Information for International Travel, the "Yellow Book". This publication may be accessed online at <http://www.cdc.gov/travel/yb/index.htm>. For the most current information, travelers may be referred to CDC's website at www.cdc.gov/travel. CDC's toll free Traveler's Health hotline number is 1-800-232-4636. See APPENDIX 1 for a list of clinics in Oklahoma that routinely administer vaccines for travel outside the United States.

IV. CLIENT EDUCATION:

A. Advisory Committee on Immunization Practices (ACIP) no longer recommends prophylactic use of acetaminophen or other analgesics BEFORE or AT THE TIME of vaccinations. They may continue to be used after immunization, if fever of 101°F or higher occurs.

B. Prior to administration of any vaccine, "Vaccine Information Statements" describing the risks and benefits of each vaccine must be given to the client or guardian.

C. "After the Shots. . ." parent information sheet from the Immunization Action Coalition website - <http://www.immunize.org/catg.d/p4015.pdf> in English and Spanish. (<http://www.immunize.org/catg.d/p4015> or [d/p4014-01.pdf](http://www.immunize.org/catg.d/p4014-01.pdf)) may be provided to clients for help in dealing with discomfort after immunizations. Note: the new version of "After the Shots" does not recommend a rectal temperature.

D. Make sure individuals/parents know that they or their children will not be fully protected until the primary immunization series has been completed.

E. The PHN is to administer all immunizations due at the visit. If this does **not** occur, the PHN is to document the reason in the client record. The parent is to be educated on the safety concerns and issues raised by not immunizing their child as recommended.

V. ASSESSMENT FOR CONTRAINDICATIONS:

Assessment for contraindications must be made prior to administration of vaccines at each vaccination visit. Contraindications should be documented on a Progress Note or in the client's chart. If a significant reaction occurs the client's record must be marked in Oklahoma's State Immunization Information System (OSIIS). Contraindication screening forms for both children and adults are available from the Immunization Action Coalition website at <http://www.immunize.org/catg.d/p4060.pdf> and <http://www.immunize.org/catg.d/p4065.pdf>. The complete Guide to Vaccine Contraindications and Precautions by CDC can be found at <http://www.cdc.gov/vaccines/recs/vac-admin/downloads/contraindications-guide-508.pdf>.

VI. REFERRAL:

- A. Severe reactions should be referred to physician.
- B. Report severe reactions on Vaccine Adverse Event Reporting System (VAERS) on line at: <http://www.vaers.hhs.gov/> and to District Nurse Manager and mark the "Reaction" field in the client's record in OSIIS.
- C. Report inadvertent administration of varicella vaccine to pregnant women to the Varicella Vaccination in Pregnancy Registry 1-877-888-4231 and District Nurse Manager.
- D. Report inadvertent administration of Tdap vaccine to pregnant women of less than 20 weeks gestation to the appropriate registry: for BOOSTRIX[®] report to GlaxoSmithKline biologicals at 1-888-825-5249 and for ADACEL report to Sanofi Pasteur at to Sanofi Pasteur at 1-800-822-2463 (1-800-VACCINE).
- E. Report to Merck Vaccine **Pregnancy** Registry for Gardasil vaccine exposure: 1-877-888-4231. Report to GlaxoSmithKline Vaccine **Pregnancy** Registry for Cervarix vaccine exposure: 1-888-452-9622.

VII. FOLLOW-UP:

Determine tracking priority utilizing professional judgment.

VIII. TRANSPORTATION OF VACCINE TO AN OFF-SITE CLINIC – SEE NURSING SERVICE PROCEDURE MANUAL

IX. SPECIAL NOTES:

- A. If delay occurs between doses, regardless of the length, the series does not have to be restarted. Pick up the schedule where it was left off.
- B. TB skin testing is not a prerequisite to measles or varicella vaccines. If needed, a TB skin test can be given before or the same day as measles (or MMR) or varicella vaccine. If a booster TB skin test is indicated, delay the measles (or MMR) or varicella until the booster is administered or read.
- C. Provide parent/guardian/caregiver with a record of all immunizations including full dates and any contraindications identified or ongoing using approved ODH procedure.
- D. If live virus vaccines (MMR, Varicella, LAIV, and yellow fever) are NOT given on the same day, they should be given no less than 28 days apart. The 4-day grace period does not apply to this 4-week interval.
- E. Document all doses of vaccine in OSIIS (Oklahoma State Immunization Information System) at the time of administration.
- F. Children receiving expired vaccine should receive a repeat dose of the vaccine. Doses of expired vaccines that are administered inadvertently generally should not be counted as valid and should be repeated. Inactivated vaccines should be repeated as soon as possible. Live vaccines should be repeated after a 28-day interval from the invalid dose to reduce the risk for interference from interferon on the subsequent doses.
- G. Invalid doses of vaccine (given too early) should be repeated. The repeat dose should be spaced after the invalid dose by the recommended minimum interval established by the ACIP.
- H. Varicella virus vaccine is very fragile and must be stored frozen at an average temperature of 5° F. Once reconstituted, the vaccine must be used within 30 minutes or discarded and should not be refrozen.
- I. Incomplete doses of vaccine may be repeated immediately. For example if the patient moves

while the vaccine is being injected and the vaccine runs down the arm or leg, the nurse should decide if the quantity of vaccine injected constituted a dose. If it did not constitute a dose, the dose should be repeated immediately.

- J. For instructions regarding transferring vaccine between clinic sites, see Nursing Service Procedure Manual.
- K. Recommendations regarding route, site, and dosage of vaccine are derived from data from clinical trials, from practical experience, and from theoretical considerations. ACIP strongly discourages variations from the recommended route, site, volume, or number of doses of any vaccine. See attachment "Administering Vaccines: Dose, Route, Site, and Needle Size"
- L. Any vaccination using less than the standard dose should not be counted, and the person should be revaccinated according to age and minimum interval, unless serologic testing indicates that an adequate response has been achieved.
- M. There is no contraindication to the simultaneous administration of any vaccines. Simultaneous administration of the most widely used live and inactivated vaccines does not result in decreased antibody responses or increased rates of reactions.
- N. Any dose of vaccine administered 4 days or less before the minimum interval or minimum age listed for that vaccine will be counted as a valid dose.
- O. The STD Service Division provides Hepatitis A & B vaccine (Twinrix) for clients that have been diagnosed with Hepatitis C. When these clients are identified:
 - 1. The clinic should notify the STD Service Division of the need for the vaccine.
 - 2. Place the order for the vaccine through OSIS for Twinrix.
 - 3. Place "CDN" in the comment section of the ordering screen.

REFERENCES:

CDC. Epidemiology and Prevention of Vaccine Preventable Diseases, 12th ed. Second Printing, Revised May 2012. Public Health Foundation 2012.

Institute for Vaccine Safety, Johns Hopkins University. www.vaccinesafety.edu

Nursing Service Procedure Manual, Oklahoma State Department of Health.

Wexler, D. Ed., April 7, 2010. "Asks the Experts" Q & As on Current Immunization Issues. Message posted to IAC Express electronic mailing list, Immunization Action Coalition, archived at <http://www.immunize.org/askexperts>.

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“Recommended Childhood Immunization Schedule 0-6 Years” to be added in January 2015

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Guide to Immunization Requirements in Oklahoma - 2015-16 School Year

Please read the bullets below for essential information

	CHILDCARE Up-to-date for age	PRE-SCHOOL PRE-KG	KG-6th	7th - 11th	12th
VACCINES	Total doses		Total doses		
DTaP (diphtheria, tetanus, pertussis)	4 DTaP		5 DTP/DTaP★	1 Tdap booster	No additional doses are required
PCV (pneumococcal conjugate vaccine)	1-4 PCV◆	PCV is not required for pre-K, pre-school, or school		No additional doses are required once a child has completed the required number of doses. If a child or student has not completed all of the required doses by the time they enter pre-school, kindergarten, or any grade above kindergarten, the doses must be completed on schedule.	
IPV/OPV (inactivated polio/oral polio)	3 IPV/OPV		4 IPV/OPV◀		
MMR (measles, mumps, rubella)	1 MMR		2 MMR		
Hib (<i>Haemophilus influenzae</i> type b)	1-4 Hib◆●	Hib is not required for pre-K, pre-school, or school			
HepB (hepatitis B)	3 HepB		3 HepB■		
HepA (hepatitis A)	2 HepA				
Varicella (chickenpox)	1 Varicella				

- ★ If the 4th dose of DTP/DTaP is administered on or after the child's 4th birthday, then the 5th dose of DTP/DTaP is not required.
 - ◆ The number of doses of PCV and/or Hib may range from 1 to 4 depending on the age of the child when the first dose was given.
 - ◀ If the 3rd dose of IPV/OPV is administered on or after the child's 4th birthday, then the 4th dose of IPV/OPV is not required.
 - Children may be complete with 3 or 4 doses of Hib vaccine depending on the brand of vaccine used.
 - Students 11 through 15 years of age who have not received HepB vaccine may receive a 2 dose series of Merck® Adult Hepatitis B vaccine to comply with this requirement. All other children (younger or older) must receive 3 doses of pediatric hepatitis B vaccine.
- The table above lists the vaccines that are required for children to attend childcare, preschool, and kindergarten through twelfth grade in Oklahoma. Additional vaccines may be recommended, but are not required. For example, a 2nd dose of varicella vaccine is recommended before entering kindergarten, but not required by Oklahoma law.
 - **Children attending licensed childcare facilities must be up-to-date for their age for the vaccines listed in the "Childcare" column.** Refer to this web page for information on when doses are due for children attending childcare:
http://www.ok.gov/health/Disease_Prevention_Preparedness/Immunizations/Vaccines_for_Childcare/index.html.
 - **Hib and PCV vaccines are not required for students in pre-school, pre-kindergarten, or kindergarten programs operated by schools unless the facility is a licensed child care facility. They are required for children attending licensed child care facilities.**
 - Doses administered 4 days or less, before the minimum intervals or ages, are counted as valid doses.
 - The first doses of measles, mumps and rubella (MMR), varicella, and hepatitis A vaccines must be administered on or after the child's first birthday (or within 4 days before the birthday) or they must be repeated.
 - For doses given on or after Jan. 1, 2003, the 5th dose of DTaP must be given on or after the 4th birthday (or within 4 days before the 4th birthday). This rule does not apply to doses given before 2003.
 - If a parent reports that their child had chickenpox disease, the child is not required to receive varicella vaccine.
 - It is not necessary to restart the series of any vaccine if a dose was given late or if a dose is past due because longer than recommended intervals between doses do not affect final immunity.
 - **Children may be allowed to attend school and childcare if they have received at least one dose of all the required vaccines due for their age and the next doses are not yet due, but they must complete the remaining doses of vaccine on schedule. These children are "in the process" of receiving immunizations.**

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Quick Glance Recommended and Accelerated Schedules for Childhood & Adolescent Vaccines in Alphabetical Order by Type of Vaccine

Quick Reference Guide #111

DON'T GIVE DOSES AT LESS THAN THE MINIMUM INTERVALS USE THIS CHART

DTaP (Inactivated bacterial and toxoids vaccine given IM) *Minimum age: 6 weeks*

Recommended Schedule (5 doses)

2, 4, 6, 12-18 months, and 4-6 years

Minimum Intervals/Accelerated Schedule

4 weeks between doses 1, 2, and 3

6 months between doses 3 and 4

(If there are 4 months between doses 3 and 4, dose 4 does not have to be repeated. This is for evaluating doses already given not for scheduling doses to be given.)

Six months between doses 4 and 5 and dose 5 not before age 4 years

DTaP-HepB-IPV (Pediarix) (Inactivated bacterial, toxoid and viral vaccine given IM)

Minimum age: 6 weeks

Recommended Schedule (1st 3 doses in the series)

2, 4, and 6 months

Minimum Intervals/Accelerated Schedule

4 weeks between doses 1 and 2

8 weeks between doses 2 and 3 and

16 weeks between doses 1 and 3 and

3rd dose not before 24 weeks of age

DTaP-IPV/Hib (Pentacel) (Inactivated bacterial, toxoid and viral vaccine given IM)

Minimum age: 6 weeks

Recommended Schedule (3 doses)

2, 4, and 6 months; can be given for dose 4 at 12-18 months

Minimum Intervals/Accelerated Schedule

4 weeks between doses, 1, 2, and 3

4th dose no earlier than 12 months of age and at least 6 months after dose 3

(Do not use this vaccine after 5th birthday because the Hib component is not routinely recommended after age 5.)

DTaP/IPV (Kinrix) (Inactivated bacterial, toxoid and viral vaccine given IM)

Minimum age: 4 years

Recommended Schedule (1 dose)

5th dose of DTaP series and 4th dose of polio series

Minimum Intervals/Accelerated Schedule

6 months after dose 4 DTaP and 6 months after dose 3 polio vaccine

DTaP/Hib (TriHIBit) (Inactivated bacterial and toxoid vaccine given IM) *Minimum age: 12 months*

Recommended Schedule (1 dose)

12-15 months as 4th dose of DTaP and Hib series

Minimum Intervals/Accelerated Schedule

6 months after dose 3 DTaP and at least 8 weeks after previous dose of Hib - Use only if child has received at least one dose of Hib vaccine previously and TriHIBit will be the last dose in the Hib series

(Do not use this vaccine after 5th birthday because the Hib component is not routinely recommended after age 5.)

HepA (Inactivated viral vaccine given IM)

Minimum age: 12 months

Recommended Schedule (2 doses)

1st dose at 12-23 months

2nd dose 6-18 months after 1st dose

Minimum Intervals/Accelerated Schedule

6 months between doses 1 and 2

HepB (inactivated viral vaccine given IM)

Minimum age: Birth

Recommended Schedule (3 doses)

Birth, 1-2 months, 6-18 months

Minimum Intervals/Accelerated Schedule

4 weeks between doses 1 and 2

8 weeks between doses 2 and 3 and

16 weeks between doses 1 and 3 and

3rd dose not before 24 weeks of age

HepB/Hib (Comvax) (Inactivated bacterial and viral vaccine given IM) *Minimum age: 6 weeks*

Recommended Schedule (3 doses)

2, 4, and 12-15 months

Minimum Intervals/Accelerated Schedule

4 weeks between doses 1 and 2

3rd (booster) dose no earlier than 12 months of age and at least 8 weeks after dose 2

Hib (Inactivated bacterial vaccine given IM)

Minimum age: 6 weeks

Recommended Schedule (3 or 4 doses)

ActHIB - 2, 4, 6, and 12-15 months (4 doses)

PedvaxHIB - 2, 4, and 12-15 months (3 doses)

Minimum Intervals/Accelerated Schedule

ActHIB - 4 weeks between doses 1, 2, and 3

4th (booster) dose no earlier than 12 months of age and at least 8 weeks after dose 3

PedvaxHIB - 4 weeks between doses 1 and 2

3rd (booster) dose no earlier than 12 months of age and at least 8 weeks after dose 2

Hib (Hiberix) (Inactivated bacterial vaccine given IM)

Minimum age: 12 months

Recommended Schedule (1 dose)

No earlier than 12 months of age and at least 8 weeks after previous dose and as a booster (final) dose only

Human papillomavirus (HPV4 - Gardasil) (HPV2 - Cervarix) (Inactivated viral vaccine given IM)

Minimum age: 9 years

Recommended Schedule (3 doses)

1st dose at 11-12 years

2nd dose 1- 2 months after 1st dose, and

3rd dose 6 months after 1st dose

13-26 years - Catch-up recommended

Minimum Intervals/Accelerated Schedule

Routine schedule is recommended for catch-up

1st dose - 9 years of age,

4 weeks between doses 1 and 2

12 weeks between doses 2 and 3, and dose 3 at least 24 weeks after dose 1

IPV (Inactivated viral vaccine given SC or IM)

Minimum age: 6 weeks

Recommended Schedule (4 doses)

2, 4, 6-18 months, and 4-6 years

Minimum Intervals/Accelerated Schedule

4 weeks between doses 1, 2, and 3, 6 months between doses 3 and 4

The final dose should be administered at age ≥ 4 years regardless of the number of previous doses.

(Oklahoma school and childcare requirements allow all 4 doses to be given before age 4 years.)

Influenza (Inactivated viral vaccine given IM)

Minimum age: 6 months

Live attenuated viral vaccine given intra-nasally)

Minimum age: 2 years

Recommended Schedule (Annually - 1 or 2 doses depending on age and history of prior influenza vaccination)

Minimum Intervals/Accelerated Schedule

2 doses separated by 4 weeks to children <9 years of age who are receiving influenza vaccine for the first time or who were vaccinated for the first time last season but only received 1 dose

MMR (Live attenuated viral vaccine given SC)

Minimum age: 12 months

Recommended Schedule (2 doses)

12-15 months and 4-6 years

Minimum Intervals/Accelerated Schedule

1st dose not before 12 months of age

4 weeks between doses 1 and 2

MMRV (ProQuad) (Live attenuated viral vaccine given SC) **Minimum age: 12 months**

Recommended Schedule (2 doses)

12-15 months and 4-6 years

Minimum Intervals/Accelerated Schedule

Children 12 years and younger - 12 weeks between doses 1 and 2

(If there are 28 days between doses 1 and 2, dose 2 does not have to be repeated. This is for evaluating doses already given, not for scheduling doses to be given.)

The risk of febrile seizures is greater following MMRV when it is given as the first dose to children 12 through 47 months of age. MMRV is not licensed for and should not be given to individuals 13 years and older.

Pneumococcal Conjugate (PCV7 or PCV13) (Inactivated bacterial vaccine given IM)

Minimum age: 6 weeks

Recommended Schedule (4 doses)

2, 4, 6, and 12-15 months

Minimum Intervals/Accelerated Schedule

Notes:

The only vaccine that should be given before 6 weeks of age is single antigen Hepatitis B vaccine.

*Minimum Intervals/Accelerated Schedule should be used for children 4 months of age or older who start late, or are more than one month behind or in some cases when international travel is imminent. As soon as the child is caught up revert to the *Recommended Schedule*.*

If an interval or age is listed in months it should be calculated by counting calendar months. For example, the minimum interval between DTaP dose #3 and dose #4 is 6 months; so if dose #3 is given on Jan.15th, dose #4 should not be given before Jun.15th. This also applies to the 6 months between doses 1 and 2 of Hepatitis A vaccine.

The 4-day grace period applies to all the minimum intervals and ages listed above, except it does not apply to the 28 days between varicella or MMRV doses 1 and 2 given to children 12 years of age and younger and it does not apply to the 4-week minimum interval between 2 different live vaccines not administered on the same day, such as MMR and live influenza vaccine. These vaccines should be separated by 28 days.

4 weeks between doses 1, 2, and 3

4th dose no earlier than 12 months of age and at least 8 weeks after dose 3

For children and adults at high risk of pneumococcal disease consult the latest ACIP Recommendations.

Meningococcal (MCV4) (Menactra and Menveo) (Inactivated bacterial vaccine given IM)

Minimum age: 2 years

Recommended Schedule (2 doses)

1 dose at 11-12 years and a booster at 16 years

13-18 years – Catch-up recommended

Minimum Intervals/Accelerated Schedule

8 weeks

For revaccination of high risk children and children vaccinated before 11 years consult the latest ACIP Recommendations.

Rotavirus (Live viral vaccine given orally)

Minimum age: 6 weeks

Recommended Schedule (2 or 3 doses)

Rotateq - 2, 4, and 6 months (3 doses)

Rotarix - 2 and 4 months (2 doses)

Do not start the series later than 14 weeks 6 days *(Note: FDA licensure of Rotarix allows 1st dose to be given as late as 20 weeks of age.)*

ACIP Harmonized Minimum Intervals/Accelerated Schedule

Rotateq - 4 weeks between doses 1, 2, and 3

Rotarix - 4 weeks between doses 1 and 2

Do not give any doses after the infant reaches 8 months 0 days of age.

Tdap (Inactivated bacterial and toxoid vaccine given IM) **Minimum age: 10 years for Boostrix, 11 years for Adacel**

Recommended Schedule (1 dose)

1 dose at 11-12 years

13-18 years – Catch-up recommended

Minimum Intervals/Accelerated Schedule

*A 5-year interval from the last Td is recommended when Tdap is used as a booster dose; however, **Tdap can be administered regardless of the interval since the last tetanus & diphtheria toxoid-containing vaccine.***

Varicella (Live attenuated viral vaccine given SC)

Minimum age: 12 months

Recommended Schedule (2 doses)

12-15 months and 4-6 years

Minimum Intervals/Accelerated Schedule

Children 12 years and younger - 12 weeks between doses 1 and 2 *(If there are 28 days between doses 1 and 2, dose 2 does not have to be repeated. This is for evaluating doses already given, not for scheduling doses to be given.)*

Individuals 13 years and older - 4 weeks between doses 1 & 2

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QUICK REFERENCE GUIDE PROPER USE OF COMBINATION VACCINES – IMM 701

Brand Name	Antigens	Licensed for:	Recommended Schedule	Minimum & Maximum Ages	Special Notes
Pediarix®	DTaP- Hep B - IPV	1 st 3 doses of DTaP & IPV series & 3-dose HepB series	2, 4, & 6 mos.	6 weeks through 6 years of age	Cannot be used for the birth dose of Hep B or 4 th or 5 th dose of DTaP series or 4 th dose of IPV series
Pentacel® See Notes	DTaP-IPV/Hib	1 st 4 doses of DTaP, IPV and Hib series	2, 4, & 6, mos.	6 weeks through 4 years of age	Do not administer to children age 5 years or older
Kinrix®	DTaP-IPV	5 th dose of DTaP series and 4 th dose of polio series	4-6 yrs.	4 through 6 years of age	Not for use for the primary series at 2, 4, or 6 months of age or the 4 th DTaP at 12 –18 months of age
ProQuad® See Notes	MMRV	1 st & 2 nd doses of measles, mumps, rubella, and varicella	4-6 yrs.	12 months of age through 12 years of age	Do not administer to children, adolescents or adults age 13 years or older

Notes:

Pentacel (DTaP-IPV/Hib) Although Pentacel is licensed for the 1st four doses of the DTaP, IPV and Hib series, the 4th dose of polio is not recommended until age 4 through 6 years. Pentacel is not licensed for children age 5 years and older. Pink Book 12th Edition, Revised May 2012, pg.226

ProQuad (MMRV) - For the first dose of measles, mumps, rubella, and varicella vaccines at ages 12 through 47 months, either MMR and varicella vaccines or MMRV vaccine can be used. However:

- Compared with use of MMR and varicella vaccines at the same visit, use of **MMRV vaccine results in one fewer injection but is associated with a higher risk for fever and febrile seizures 5 through 12 days after the first dose among children aged 12 through 23 months*** (about one extra febrile seizure for every 2,300–2,600 MMRV vaccine doses).
- Use of MMR and varicella vaccines as two separate injections avoids this increased risk for fever and febrile seizures following MMRV vaccine.
- Providers who face barriers to clearly communicating these benefits and risks for any reason (e.g., language barriers) should administer separate MMR and varicella vaccines.

Providers who are considering administering MMRV vaccine should discuss the benefits and risks of both vaccination options with the parents or caregivers. **Unless the parent or caregiver expresses a preference for MMRV vaccine, CDC recommends that MMR vaccine and varicella vaccine should be administered for the first dose for children aged 12 - 47 months. For the first dose of measles, mumps, rubella, and varicella vaccines at ages 48 months and older and for dose 2 at any age (15 months through 12 years), use of MMRV vaccine generally is preferred over separate injections of its equivalent component vaccines (i.e., MMR and varicella vaccines).** Pink Book 12th Edition, Revised May 2012, pg.183

Precaution for MMRV Vaccine - A personal or family (i.e., sibling, parent) history of seizures is a precaution for MMRV vaccination for children of any age. Pink Book 12th Edition, Revised May 2012, pg.186

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IMM 701

For further information please call the Immunization Service at 405-271-4073 or 1-800-234-6196 or visit our website at <http://imm.health.ok.gov>.

Simplified Childhood Schedule Using Various Brands of Vaccines

Schedule Using Pediarix® (DTaP-HepB-IPV)

Vaccine	Birth	2 months	4 months	6 months	12 months	15 months	4-6 years
Hep B	Hep B	Pediarix* (DTaP-HepB-IPV)	Pediarix*	Pediarix*			
IPV							
DTaP						DTaP	Kinrix® (DTaP-IPV)
Hib		ActHIB® or PedvaxHib®	ActHIB or PedvaxHib	ActHib or None needed if 1 st 2 doses were both PedvaxHib	ActHIB or PedvaxHib (12-15 mos.)		
PCV13		PCV13	PCV13	PCV13	PCV13 (12-15 mos.)		
RV (PO)		RotaTeq® or Rotarix®	RotaTeq or Rotarix	RotaTeq or None needed if 1 st 2 doses were both Rotarix			
MMR					MMR**		ProQuad® (MMRV)
Varicella					Var**		
Hep A						Hep A (12-23 mos.)	2 nd dose 6 to 12 mos. after 1 st dose
Total # of injections at visit	1	3	3	2 or 3***	2, 3, or 4	2, 3 or 4	2
Influenza				2 doses 4 weeks apart if receiving for the first time****			

* Administration of a total of 4 doses of HepB vaccine is permitted when a combination vaccine containing HepB is administered following a birth dose. If a birth dose is not given only 3 doses are needed. (Recommended Immunization Schedules for Persons Aged 0 through 18 Years, HepB footnotes)

** Unless the parent or caregiver expresses a preference for MMRV vaccine, MMR and varicella vaccines should be administered for the first dose for children aged 12 - 47 months. (Pink Book 12th Edition, Revised May 2012, pg.183)

*** Total number of injections will vary based on the type of Hib used.

**** Administer influenza vaccine to all children 6 months through 18 years of age. (Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the ACIP)

All of the vaccines listed in the 15 month column may be given at 12 months. The 4th DTaP may be administered as early as age 12 months, provided at least 6 months have elapsed since the 3rd dose. (Recommended Immunization Schedules for Persons Aged 0 through 18 Years, DTaP footnotes)

Schedule Using Pentacel ® (DTaP-IPV/Hib)

Vaccine	Birth	2 months	4 months	6 months	12 months	15 months	4-6 years
HepB	HepB	HepB		HepB			
DTaP		Pentacel (DTaP- IPV/Hib)	Pentacel	Pentacel		DTaP	Kinrix (DTaP-IPV)
IPV							
Hib					ActHIB (12-15 mos.)		
PCV		PCV13	PCV13	PCV13	PCV13 (12-15 mos.)		
RV (PO)		RotaTeq or Rotarix	RotaTeq or Rotarix	RotaTeq or None needed if 1 st 2 doses were both Rotarix			
MMR					MMR*		ProQuad (MMRV)
Varicella					Var*		
HepA						Hep A (12-23 mos.)	2 nd dose 6 to 12 mos. after 1 st dose
Total # of injections at visit	1	3	2	3	2, 3, or 4	2, 3 or 4	2
Influenza				2 doses 4 weeks apart if receiving flu vaccine for the first time**			

* Unless the parent or caregiver expresses a preference for MMRV vaccine, MMR and varicella vaccines should be administered for the first dose for children aged 12 - 47 months. (Pink Book 12th Edition, Revised May 2012, pg.183)

** Administer influenza vaccine to all children 6 months through 18 years of age. (Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the ACIP)

All of the vaccines listed in the 15 month column may be given at 12 months. The 4th DTaP may be administered as early as age 12 months, provided at least 6 months have elapsed since the 3rd dose. (Recommended Immunization Schedules for Persons Aged 0 through 18 Years, DTaP footnotes)

Simplified Schedule without Combination Vaccines

Vaccine	Birth	2 months	4 months	6 months	12 months	15 months	4-6 years
HepB	HepB	HepB		HepB			
DTaP		DTaP	DTaP	DTaP		DTaP	DTaP
Hib		ActHIB or PedvaxHib	ActHIB or PedvaxHib	ActHib or None needed if 1 st 2 doses were both PedvaxHib	ActHIB or PedvaxHib (12-15 mos.)		
IPV		IPV	IPV	IPV			IPV
PCV13		PCV13	PCV13	PCV13	PCV13 (12-15 mos.)		
RV (PO)		RotaTeq or Rotarix	RotaTeq or Rotarix	RotaTeq or None needed if 1 st 2 doses were both Rotarix			
MMR					MMR*		MMR
Varicella					Var*		Var
HepA						Hep A (12-23 mos.)	2 nd dose 6 to 12 mos. after 1 st dose
Total # of injections at visit	1	5	4	4 or 5**	2, 3 or 4	2, 3 or 4	4
Influenza				2 doses 4 weeks apart if receiving flu vaccine for the first time***			

* Unless the parent or caregiver expresses a preference for MMRV vaccine, MMR and varicella vaccines should be administered for the first dose for children aged 12 - 47 months. (Pink Book 12th Edition, Revised May 2012, pg.183)

*** Administer influenza vaccine to all children 6 months through 18 years of age. (Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the ACIP)

** Total number of injections will vary based on the type of Hib used.

All of the vaccines listed in the 15 month column may be given at 12 months. The 4th DTaP may be administered as early as age 12 months, provided at least 6 months have elapsed since the 3rd dose. (Recommended Immunization Schedules for Persons Aged 0 through 18 Years, DTaP footnotes)

Our Clinic Schedule (Fill in the shaded areas with the vaccines your clinic prefers or routinely uses. One way to be sure children receive all of the recommended doses and to avoid administering extra doses is to decide which vaccines your clinic will use on a regular basis. This functions as an immunization plan. Additionally you can map the sites to give the recommended vaccine according to your plan.

Vaccine	Birth	2 months	4 months	6 months	12 months	15 months	4-6 years
HepB	HepB						
DTaP						DTaP	DTap
Hib					Hib (12-15 mos.)		
IPV							IPV
PCV13		PCV13	PCV13	PCV13	PCV13 (12-15 mos.)		
RV (PO)		RV	RV	RV			
MMR					MMR*		MMRV
Varicella					Var*		
HepA						Hep A (12-23 mos.)	2 nd dose 6 to 12 mos. after 1 st dose
Total # of injections at visit**	1						
Influenza				2 doses 4 weeks apart if receiving flu vaccine for the first time***			

Administration of a total of 4 doses of HepB vaccine is permitted when a combination vaccine containing HepB is administered following a birth dose. If a birth dose is not given only 3 doses are needed. (Recommended Immunization Schedules for Persons Aged 0 through 18 Years, HepB footnotes)

* Unless the parent or caregiver expresses a preference for MMRV vaccine, MMR and varicella vaccines should be administered for the first dose for children aged 12 - 47 months. (Pink Book 12th Edition, Revised May 2012, pg.183)

** Total number of injections will vary based on the type of Hib and combination vaccines used.

*** Administer influenza vaccine to all children 6 months through 18 years of age. (Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the ACIP)

All of the vaccines listed in the 15 month column may be given at 12 months. The 4th DTaP may be administered as early as age 12 months, provided at least 6 months have elapsed since the 3rd dose. (Recommended Immunization Schedules for Persons Aged 0 through 18 Years, DTaP footnotes)

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Quick Reference Guide #702 - Vaccine Age Limits by Licensure in the United States

Updated September 17, 2013

Note: These are the age limits by FDA licensure, not necessarily the ages recommended by the ACIP.

Vaccines and Trade Names	Minimum Age*	Maximum Age**
DTaP (Daptacel, Infanrix & Tripedia)	6 weeks	6 years
DTaP-HepB-IPV (Pediatrix)	6 weeks	6 years
DTaP-IPV/Hib (Pentacel)	6 weeks	4 years
DTaP-IPV (Kinrix)	4 years	6 years
DT (Pediatric)	6 weeks	6 years
Td (Adult) (Decavac & Generic)	7 years	No upper limit
Tdap – see note (Boostrix)	10 years	No upper limit
(Adacel)	11 years	64 years
Note: ACIP recommends Tdap for children 7-10 yrs. to complete DTaP series and adults 65 years and older		
HepA Pediatric (Vaqta & Havrix)	1 year	18 years
Adult (Vaqta & Havrix)	19 years	No upper limit
HepA & HepB (Twinrix)	18 years	No upper limit
HepB Pediatric (Engerix-B & Recombivax HB)	Birth	19 years
Merck Adult (2 doses) (Recombivax HB)	11 years	15 years
Adult (Engerix-B & Recombivax HB)	20 years	No upper limit
HepB & Hib (Comvax)	6 weeks	4 years
Hib (ActHIB & PedvaxHIB)	6 weeks	4 years
(Hiberix)	12 months	4 years
HPV (Gardasil)	9 years	26 years
(Cervarix)	10 years	25 years
Trivalent Inactivated Influenza (TIV) (Fluzone)	6 months	No upper limit
0.25-mL prefilled syringe	6 months	35 months
0.5-mL prefilled syringe	36 months	No upper limit
0.5-ml vial	36 months	No upper limit
5.0-mL multi-dose vial	6 months	No upper limit
(Fluzone High Dose)	65 years	No upper limit
(Fluzone Intradermal)	18 years	64 years
(Fluvirin)	4 years	No upper limit
(Agriflu)	18 years	No upper limit
(Afluria)	6 months***	No upper limit
(FluLaval)	18 years	No upper limit
(Fluarix)	3 years	No upper limit
Live Attenuated Influenza (LAIV) (Flumist)	2 years	49 years
IPV (Ipol)	6 weeks	No upper limit
Meningococcal MCV (Menactra)	9 months	55 years
MCV (Menveo)	2 years	No upper limit
MPSV (Menomune)	2 years	No upper limit
MMR (M-M-R-II)	1 year	No upper limit
MMRV (ProQuad)	1 year	12 years
Pneumococcal PCV13 (Pneumovax 13)	6 weeks	5 years & 50 years and older
PPV23 (Pneumovax23)	2 years	No upper limit
Rotavirus RV5 (RotaTeq) & RV1 (Rotarix)		
Dose #1	6 weeks	20 weeks****
Last dose		32 wks. RotaTeq, 24 wks. Rotarix
Varicella (Varivax)	1 year	No upper limit
Zoster - Shingles (Zostavax)	50 years	No upper limit

* **Minimum Age** is the earliest age at which the vaccine can be administered according to the vaccine's licensure.

** **Maximum Age** is the age through which the vaccine can be administered according to the vaccine's licensure.

Individuals **older or younger** than the listed ages should not receive the vaccine unless the Advisory Committee on Immunization Practices recommends administration of the vaccine, or if a physician orders the vaccine, outside the licensed ages.

Hepatitis B vaccine is the only vaccine that should be administered prior to 6 weeks of age.

*** ACIP recommends Afluria for persons 9 years of age and older and **not** for children 6 months through 8 years of age.

**** ACIP recommends first dose no later than 14 weeks, 6 days, however, Rotarix licensure allows first dose as late as 20 weeks of age

Vaccines with Diluents: How to Use Them

The following vaccines must be reconstituted correctly before they are administered. Reconstitution means that the lyophilized (freeze-dried) vaccine powder or wafer in one vial must be reconstituted (mixed) with the diluent (liquid) in another. Only use the diluent provided by the manufacturer for that vaccine as indicated on the chart. ALWAYS check the expiration date on the diluent and vaccine. NEVER use expired diluent or vaccine.

Vaccine product name	Manufacturer	Lyophilized vaccine (powder)	Liquid diluent (may contain vaccine)	Time allowed between reconstitution and use*	Diluent storage environment
ActHIB (Hib)	sanofi pasteur	Hib	0.4% sodium chloride	24 hrs	Refrigerator
Hiberix (Hib)	GlaxoSmithKline	Hib	0.9% sodium chloride	24 hrs	Refrigerator or room temp
Imovax (RAB _{HDCV})	sanofi pasteur	Rabies virus	Sterile water	Immediately	Refrigerator
M-M-R II (MMR)	Merck	MMR	Sterile water	8 hrs	Refrigerator or room temp
MenHibrix (Hib-MenCY)	GlaxoSmithKline	Hib-MenCY	0.9% sodium chloride	Immediately	Refrigerator or room temp
Menomune (MPSV4)	sanofi pasteur	MPSV4	Distilled water	30 min (single-dose vial) 35 days (multidose vial)	Refrigerator
Menveo (MCV4)	Novartis	MenA	MenCWY	8 hrs	Refrigerator
Pentacel (DTaP-IPV/Hib)	sanofi pasteur	Hib	DTaP-IPV	Immediately (i.e., within 30 minutes or less)	Refrigerator
ProQuad (MMRV)	Merck	MMRV [†]	Sterile water	30 min	Refrigerator or room temp
RabAvert (RAB _{PCECV})	Novartis	Rabies virus	Sterile water	Immediately	Refrigerator
Rotarix (RV1) [‡]	GlaxoSmithKline	RV1	Sterile water, calcium carbonate, and xanthan	24 hrs	Room temp
Varivax (VAR)	Merck	VAR	Sterile water	30 min	Refrigerator or room temp
YF-VAX (YF)	sanofi pasteur	YF	0.9% sodium chloride	60 min	Refrigerator or room temp
Zostavax (HZV)	Merck	HZV [§]	Sterile water	30 min	Refrigerator or room temp

Always refer to package inserts for detailed instructions on reconstituting specific vaccines. In general, follow these steps:

- For single-dose vaccine products (exceptions are Menomune in the multi-dose vial and Rotarix[‡]), select a syringe and a needle of proper length to be used for both reconstitution and administration of the vaccine. Following reconstitution, Menomune in a multidose vial will require a new needle and syringe for each dose of vaccine to be administered. For Rotarix, see the package insert.[‡]
- Before reconstituting, check labels on both the lyophilized vaccine vial and the diluent to verify the following:
 - that they are the correct two products to mix together
 - that the diluent is the correct volume (especially for Menomune in the multidose vial)
 - that neither vaccine nor diluent has expired
- Reconstitute (i.e., mix) vaccine *just prior to use*[‡] by
 - removing the protective caps and wiping each stopper with an alcohol swab
 - inserting needle of syringe into diluent vial and withdrawing entire contents
 - injecting diluent into lyophilized vaccine vial and rotating or agitating to thoroughly dissolve the lyophilized powder
- Check the appearance of the reconstituted vaccine.
 - Reconstituted vaccine may be used if the color and appearance match the description on the package insert.
 - If there is discoloration, extraneous particulate matter, obvious lack of resuspension, or cannot be thoroughly mixed, mark the vial as "DO NOT USE," return it to proper storage conditions, and contact your state or local health department immunization program or the vaccine manufacturer.
- If reconstituted vaccine is not used immediately or comes in a multidose vial (i.e., multi-dose Menomune),
 - clearly mark the vial with the date and time the vaccine was reconstituted
 - maintain the product at 35°–46°F (2°–8°C); do not freeze
 - protect reconstituted vaccines from light
 - use only within the time indicated on chart above

* If the reconstituted vaccine is not used within this time period, it must be discarded.

[†] MMRV contains seven times as much varicella component as does the single antigen VAR.

[‡] Rotarix vaccine is administered by mouth using the applicator that contains the diluent. It is not administered as an injection.

[§] HZV contains fourteen times as much varicella component as does the single antigen VAR.

Technical content reviewed by the Centers for Disease Control and Prevention

www.immunize.org/catg.d/p3040.pdf • Item #P3040 (12/12)



INTERNATIONAL TRAVEL CLINICS in OKLAHOMA

Altus

Rexco Drug
2101 N. Main
Altus, OK 73521
(580) 477-0381
By Appointment Only

Claremore

Claremore Physicians Immediate Care
1926 S. Highway 66
Claremore, OK 74010
(918) 343-2273
8:00 am – 8:00 pm Mon. through Fri.
10:00 am – 6:00 pm Saturdays
12:00 pm – 6:00 pm Sundays
Walk-in

Durant

Dr. Rao Surreddi
1400 Bryan Dr., Suite 300
Durant, OK 74701
(580) 924-1700
By Appointment Only

Enid

Garfield County Health Department
2501 Mercer Dr.
Enid, OK 73701-8602
(580) 233-0650
By Appointment Only
Website:
www.ok.gov/health/County_Health_Departments/Garfield_County_Health_Department/

Scheffe Rx, Inc.
127 E. Randolph Ave.
Enid, OK 73701
(580) 233-2152
8:00-6:00 Mon. through Fri.
Website: www.scheffe.net

Guymon

Texas County Health Department
1410 N.E. Street
Guymon, OK 73942-3397
(580) 338-8544
By Appointment Only

Norman

Kathleen E. Lewis, M.D.
900 N. Porter, Suite 202
Norman, OK 73071
(405) 321-0406
By Appointment Only
Website: www.travelclinicsofamerica.com

Physicians & Surgeons Pharmacy
900 N. Porter
Norman, OK 73071
(405) 364-5222
9:00-6:00 Mon. through Fri.
9:00-12:00 Saturday
Website: www.psparmacy.com

Oklahoma City Area

City-County Health Department of Oklahoma County
921 N.E. 23rd Street
Oklahoma City, OK 73105-7936
(405) 425-4362
By Appointment Only
Website: <http://www.cchdoc.com/>

Infectious Diseases Consultants of Oklahoma City
4221 S. Western Ave., Suite 4010
Integrus Southwest Medical Plaza
Oklahoma City, OK 73109
(405) 644-6464
8:30 – 4:30 Mon. through Fri.
By Appointment Only

Passport Health of Oklahoma
3330 N.W. 56th Street, #220
Oklahoma City, OK 73112
(405) 563-8961
9:00 – 5:00 Mon. through Fri.
By Appointment Only
Website: www.passporthealthok.com

University of Oklahoma Dept. of Family Medicine
900 N.E. 10th St.
Oklahoma City, OK 73104
(405) 271-2577
8:30 – 11:30 & 1:30 – 4:30 Mon., Tues., Wed., & Fri.
By Appointment Only

Valu-Med Pharmacy
1212-A South Douglas
Midwest City, OK 73130
(405) 741-1200
8:30 – 6:00 Mon. through Fri.
By Appointment Only

Visiting Nurse Association
3000 United Founders Blvd. #109G
Oklahoma City, OK 73112
(405) 848-9530
By Appointment Only
Website: www.vnatulsa.org

Stillwater

Razook's Drug
1518 W. 9th Ave.
Stillwater, OK 74074
(405) 377-4445
Call for information on hours of operation

Tiger Drug Company
825 S. Walnut
Stillwater, OK 74074
(405) 372-7900
By Appointment or Walk-in

Stilwell

Dr. Jimmie W. Taylor
735 W. Locust Highway 100 West
Stilwell, OK 74960
(918) 696-3155
By Appointment Only

Tulsa

Concentra Medical Centers
1541 North Sheridan
Tulsa, OK 74115
(918) 836-5406
By Appointment Only

Children & Adolescent Medical Services
8803 S. 101st East Ave. Suite 200
Tulsa, OK
(918) 307-2273
By Appointment Only

GlobalMed
A.G. Wallace, Jr., DO
717 South Houston, Suite 407
Tulsa, OK 74127
(918) 584-0700
By Appointment Only

International Travel Medicine
Dr. Stanley Grogg & Dr. Ruth Miller
8803 S. 101st East Ave.
Tulsa, OK 74133
(918) 633-2542
By Appointment Only
Website: www.travelmedicine.com

National Occupational Health Services
6848 E. 41st St.
Tulsa, OK 74145
(918) 794-4777
By Appointment Only
Website: www.nohs.com

Oklahoma State University Medical Clinic
700 North Greenwood
North Hall No. 265
Tulsa, OK 74106
(918) 594-8926
By Appointment Only

Passport Health of Oklahoma
1621 S. Eucalyptus Ave. #205
Broken Arrow, OK 74012
(918) 770-4290
By Appointment Only
Website: www.passporthealthok.com

Tulsa City-County Health Department Sites

315 South Utica
Tulsa, OK 74107
(918) 595-4146

James O. Goodwin Regional Health Center
5051 S. 129th E. Ave.
Tulsa, OK 74134
(918) 595-4107

North Regional Health and Wellness Center
5635 N. Martin Luther King Jr. Blvd.
Tulsa, OK 74126
(918) 595-4107

All Tulsa City-County Health Department Sites are by Appointment and Walk-Ins as Schedule Allows
Website: www.tulsa-health.org/

Tulsa (continued)

Visiting Nurse Association
7875 East 51st Street
Tulsa, OK 74145
(918) 743-9810
By Appointment Only
Website: www.vnatulsa.org

Weatherford

Weatherford Family Practice Medical Center
3739 Legacy
Weatherford, OK 73096
(580) 772-2400
By Appointment Only