



2014 Child Care Guide to Immunizations in Oklahoma



Child Care Guide to Immunizations in Oklahoma

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INTRODUCTION

Enforcement of the child care immunization law is the responsibility of child care and Head Start directors. It is one of the most important responsibilities they encounter. The diseases that vaccines prevent are very dangerous and can be deadly. Vaccines are the best way to protect children from these diseases. Enforcement of the immunization requirements is one of the best ways to make sure that all children are vaccinated on time.

Before vaccines were available, diseases such as polio, measles, pertussis (whooping cough), and diphtheria were common in the United States. Many children suffered serious illnesses and died from these diseases. We rarely see these diseases now because almost all children are vaccinated. Child care immunization laws help maintain high vaccination levels. If we don't maintain high vaccination levels the diseases will come back.

This guide was created to help child care staff understand and enforce the immunization requirements. Oklahoma's child care immunization requirements and related policies and procedures are summarized and explained in this guide.

Immunization Field Consultants and Immunization Service staff are available to help answer any questions you have about the immunization requirements or vaccines in general. Immunization Field Consultants also assist child care facilities by visiting and conducting immunization record reviews. Immunization Field Consultants may be reached by calling your local county health department.

The Immunization Service may be reached by calling the numbers listed below.

Telephone: (405) 271-4073

Toll free: 800-234-6196

Information is also available online at the Immunization Service website at:

<http://www.health.state.ok.us/program/imm/index.html>.

The Oklahoma State Department of Health Immunization Service recognizes that enforcement of the immunization requirements is complicated and takes time, and we thank you for helping to ensure Oklahoma children are protected from infectious diseases.

Immunization Service

Oklahoma State Department of Health

1000 N.E. 10th St.

Oklahoma City, Oklahoma 73117-1299

Email address: immunize@health.ok.gov

OKLAHOMA'S CHILD CARE IMMUNIZATION LAW

Oklahoma's Child Care Facilities Licensing Act (Title 10, Sections 411-415) was amended by the state legislature on April 30, 1979, to establish immunization requirements for children attending Oklahoma child care centers, Head Start programs and child care homes. The amendment also clarified that child care and Head Start directors are responsible for its implementation. The text of the law, reproduced below, can be found in Title 10 of the Oklahoma Statutes, Sections 411-415, at www.lsb.state.ok.us.

OKLAHOMA'S CHILD CARE IMMUNIZATION LAW

SENATE BILL NO 143 SIGNED INTO LAW MAY 3, 1979

An act relating to children; prescribing certification as to immunization of a child against certain diseases as a condition for his initial admission in a day care center or day care home; providing for exceptions; providing for immunization of children at public expense under certain circumstances; prohibiting children with reportable contagious disease from attending day care centers or day care homes until free there from; directing codification; and declaring an emergency.

BE IT ENACTED BY THE PEOPLE OF THE STATE OF OKLAHOMA

10 O.S. 1979, Section 411 No person, firm, corporation, partnership or other legal entity operating a day care center or day care home in the State of Oklahoma shall cause or permit a minor child two (2) months of age or older to be admitted to such facility unless the parent or guardian of said child presents certification from a licensed physician or authorized representative of any state or local department of public health that such child has received or will receive immunization at the medically appropriate time against diphtheria, pertussis, tetanus, measles, mumps, rubella, poliomyelitis, hepatitis B, hepatitis A, and varicella (chicken pox); or presents such certification that the child is likely to be immune as a result of the disease. Provided, however, that in the event the parent, guardian, or other person presenting a child for admission to a day care center or day care home or Head Start center certifies in writing that a family emergency exists, the requirement imposed by this section may be waived for a period not to exceed thirty (30) days. Such certification shall be made prior to the provision of care. No such waiver shall be knowingly permitted more than once for any child.

10 O.S. 1979, Section 412 (A) The immunization required by this act, and the manner and frequency of their administration, as prescribed by the State Board of Health, shall conform to the recognized standard medical practices in this state. The State Department of Health shall supervise and secure the enforcement of the required immunization program.

(B) The Department of Institutions, Social and Rehabilitative Services shall render reasonable assistance to the State Department of Health in the enforcement of the provisions of this act. This assistance shall be in the form of revocation of the license or the refusal to renew the license of any facility not in compliance with this act.

10 O.S. 1979, Section 413 Any minor child, through his parent or guardian, may submit to the health authority charged with the enforcement of the immunization laws, a certificate of a licensed physician stating that the physical condition of the child is such that immunization would endanger the life or health of the child; or upon receipt of a written statement by the parent or guardian objecting to such immunizations because of religious or other reasons, then said child shall be exempt from the provisions of this act.

10 O.S. 1979, Section 414 The immunizations shall be administered by, or under the direction of, a licensed physician, or by any local or state health department. If the parent or guardian is unable to pay, the State Department of Health shall provide, without charge, the immunization materials required by this act.

10 O.S. 1979, Section 415 Any child afflicted with a reportable contagious disease shall be excluded from attending a day care center or day care home, or a Head Start center until such time as the period of communicability has elapsed as determined by a licensed physician or health department official. Such exclusion shall be reportable to a local health department official.

It being immediately necessary for the preservation of the public peace, health and safety, an emergency is hereby declared to exist, by reason whereof this act shall take effect and be in full force from and after its passage and approval.

OKLAHOMA STATE DEPARTMENT OF HEALTH IMMUNIZATION REGULATIONS

Oklahoma's Child Care Facilities Licensing Act states the Oklahoma State Board of Health will prescribe which vaccines and how many doses will be required by the law. To accomplish this, the State Board of Health has approved the following regulations. These regulations are changed by the Board of Health as new vaccines are needed and as vaccine recommendations change.

SUBCHAPTER 1. CHILDHOOD IMMUNIZATIONS

Section

310:535-1-1. Purpose

310:535-1-2. Criteria for Immunizations required

310:535-1-3. Criteria for Immunizations required for day care

310:535-1-1. Purpose

The rules in this Chapter implement the Immunization Regulations, 70 O.S 1981, Section 1210.191 et seq.

310:535-1-3. Criteria for immunizations required for day care

(a) Each child two months of age or older shall present certification that he or she has received or is receiving the immunizations as specified below before he or she is admitted to, and while enrolled in, a day care center or day care home.

(b) Certification shall include the following:

(1) 5 DTaP/DTP doses at 2, 4, 6, and 12 to 18 months and 4 to 6 years or beginning at 6 weeks of age with minimum intervals of 4 weeks between doses 1 and 2 and doses 2 and 3 and 4 months between doses 3 and 4 and 6 months between doses 4 and 5, with all fifth doses given on or after January 1, 2003 given on or after the fourth birthday; the fifth DTaP/DTP is not required if the fourth DTaP/DTP is administered on or after the fourth birthday;

(2) 4 Polio doses at 2, 4 and 6 to 18 months and 4 to 6 years or beginning at 6 weeks of age with minimum intervals of 4 weeks between all doses; the fourth Polio is not required if the third dose is given on or after the fourth birthday;

(3) 1 to 4 Haemophilus influenzae type B (Hib) doses at 2, 4, 6, and 12 to 15 months of age or older depending upon age at first Hib immunization and type of vaccine used or beginning at 6 weeks of age with minimum intervals of 1 month between doses 1, 2, and 3, if a third dose is part of the primary series, and the booster dose no earlier than 12 months of age and at least 2 months after the previous dose;

(4) 2 Measles, Mumps, Rubella doses with the first dose on or after the first birthday and the second dose at 4 to 6 years or at anytime after the first dose provided at least 4 weeks have elapsed since the receipt of the first dose;

(5) 1 Varicella dose on or after the first birthday;

(6) 2 Hepatitis A doses with the first dose on or after the first birthday and the second dose six to eighteen months later and for all doses given on or after January 1, 2003, 6 months will be defined as 6 calendar months;

(7) 3 Hepatitis B doses with minimum intervals as follows: 1 month (4 weeks) between doses 1 and 2, two months (8 weeks) between doses 2 and 3, four months (16 weeks) between doses 1 and 3, and dose 3 no earlier than 24 weeks of age;

(8) Vaccine doses administered 4 days or less before the minimum intervals or ages listed in the preceding sections will be counted as valid.

(c) In the event that the parent, guardian, or responsible adult presenting a child for admission to a child care facility certifies in writing that a family emergency exists, the immunization requirements shall be waived for a period not to exceed thirty days. No such waiver shall be knowingly permitted more than once for any child.

(d) Immunization records for children attending school-age programs are not required if those records are maintained by the school and are readily available.

(e) A child, through his parent or guardian, may apply for an exemption from this requirement by submitting a form to the day care center or day care home. The day care center or day care home shall maintain a copy of the application in the child's records and send a copy to the Department for approval.

(1) A request for exemption for medical reasons shall contain a certificate signed by a physician stating that the physical condition of the child is such that the immunization would endanger the life or health of the child and that the child should be exempt for immunization.

(2) A request for exemption for religious or other personal reasons shall contain a signed written statement from the parent or guardian stating a summary of the objections. Lost or unobtainable immunization records are not a ground for a personal exemption.

(f) The Department may grant exemptions or substitutions in the immunization schedule based on a medical history of a physical condition such that the immunization would endanger the life or health of the child or a medical history stating the child is likely to be immune as a result of having had a vaccine-preventable disease if the following are met:

(1) A history of having had diphtheria and/or tetanus is not acceptable as proof of immunity since infection with diphtheria or tetanus may not render an individual immune to either of these diseases;

(2) A history of having had polio, pertussis, rubella, mumps, or hepatitis A must be supported by laboratory evidence to be acceptable as proof of immunity to these diseases;

(3) A history of having had measles must be accompanied by a statement from a physician, public health authority, or laboratory evidence to be acceptable as proof of immunity to measles;

(4) A parental history of having had varicella is acceptable evidence of immunity to varicella;

(5) A history of having had Hib before age two years is not acceptable as proof of immunity since infection with Hib prior to age two years may not render an individual immune.

[Source: Amended at 16 Ok Reg 1400, eff 5-27-99; Amended at 19 Ok Reg 2919, eff 7-26-2002 (emergency); Amended at 20 Ok Reg 1661, eff 6-12-2003; Amended at 22 Ok Reg 1132, eff 5-26-2005]

HOW TO ENFORCE THE IMMUNIZATION REQUIREMENTS BASIC PROCEDURES IN BRIEF

1. Obtain the child's immunization record.
2. Check to be sure that the child's recorded immunizations match those listed in the table "When Required Vaccines for Child Care in Oklahoma Are Due" on page 11. Keep a copy of each child's immunization record on file and return the parent's copy to them. Never keep the parent's personal record.
3. Refer children who have not received all the required immunizations for their age to their primary care provider to get an updated record, receive the vaccines due, or obtain a schedule indicating when the child is eligible and will receive the next doses due. These children are "in the process" of receiving immunizations. If the family does not have a primary care provider or doctor, refer the parent to the local county health department.
4. Provide *Certificate of Exemption* Forms (Oklahoma Department of Health Form No. 216A) to parents who request them. When parents have completed the Certificate of Exemption Form send the original copy to the Oklahoma State Department of Health and file the other copy in place of the immunization record or along with the immunization record for the child.
5. Obtain the proper documentation for children who have had a vaccine-preventable disease or who have a family emergency.
6. Track the immunization status of children who have not completed immunizations and get updated records from parents.
7. Do not allow children whose parents do not bring them into compliance with the requirements to continue to attend your child care center or home.
8. Make immunization records available for review by representatives of the Oklahoma State Department of Health and the Oklahoma Department of Human Services upon request.

Measles Fact: the term "measles" probably comes from a Latin word meaning "miserable."

BASIC PROCEDURES

OBTAIN THE CHILD'S IMMUNIZATION RECORD

Oklahoma law states: No person, firm, corporation, etc., operating a day care center or day care home in Oklahoma shall allow a child 2 months of age or older to enter or attend such facility until the parent or guardian submits written documentation (*an acceptable immunization record*) from a licensed physician or county health department that the child has received immunization at the medically appropriate time (*the recommended immunization schedule for the United States*) or that the child is likely to be immune as a result of having had the disease(s).

If a family emergency exists, a parent or guardian may so certify in writing and the requirements may be waived for up to 30 days. No child, however, may receive this waiver more than once. An example of a family emergency is the death of a parent or guardian.

Parents are responsible for providing immunization records for their children; however, child care staff may also use Oklahoma's State Immunization Information System (OSIIS) to obtain records for children. Refer to page 26 for information on OSIIS.

What is an Acceptable Record?

An acceptable or adequate immunization record is a record provided by a licensed physician, or public health authority that clearly indicates:

- Which immunizations have been received,
- The dates they were administered, and
- The signature or stamp of the physician or clinic that administered the vaccines or recorded the child's vaccination record from another official record.

Types of Records:

The following types of records are acceptable.

- State of Oklahoma Official Vaccination Record (Oklahoma Department of Health Form 218B) (Hospitals, physicians, county health departments, or any other licensed health care provider may provide parents or guardians with a copy of the Oklahoma Official Vaccination Record as a personal record of each child's immunization history);
- Records provided by licensed physicians;
- A record from OSIIS, which maintains the vaccination records of all people whose health care provider has recorded the record in OSIIS; and
- Official immunization records provided by other states.

Vaccines might make infants cry,
but they can also save lives.

Records without All the Dates:

- Sometimes a record may be missing dates for some vaccinations.
- The Immunization Service of the Oklahoma State Department of Health considers records adequate if a date is listed for at least the final dose in a vaccine series.
 - For example, a record may have dates listed for the second and third doses of Hepatitis B vaccine, but none for the first dose.
 - This policy is based on accepted medical procedures in which health care providers have the responsibility for accurately recording the dose numbers of the vaccines they administer. This means the health care provider who administered the latest dose in a series of doses, had knowledge of previous doses.
 - This does not apply to all vaccine doses. The date (month, day and year) must be accurately recorded for MMR (measles, mumps and rubella vaccine) and varicella vaccine because these vaccines must be given on or after the first birthday to be in compliance with the law.

Records from Foreign Countries:

- Vaccines administered outside the United States generally can be accepted as valid doses and count toward fulfilling the child care immunization requirements in Oklahoma if the schedule is similar to the recommended schedule for the United States. If you have a concern, call your Immunization Field Consultant at your local county health department.
- Some countries give more doses of vaccines than are given in the United States; extra doses are not a concern in this circumstance.
- Different vaccines are licensed and available in other countries that are not available in the United States and these vaccines are acceptable. For example, a combined hepatitis A and hepatitis B vaccine, called Twinrix Jr., is licensed in Europe, Asia and other areas, but not in the United States.
- If you have any questions about vaccines administered outside the United States, contact your Immunization Field Consultant at your local county health department.

Translating Foreign Records

Parents of children with records in languages other than English are responsible for having the record translated; however, if they are having difficulty help may be available.

- Parents can seek help in their local community. There may be other parents from the same country in the community.
- The *Binational Immunization Resource Tool for Children from Birth through 18 Years* is very helpful in translating records from Mexico. It is available at: <http://www.cdc.gov/vaccines/schedules/downloads/child/binational-schedule-pr.pdf> or from the Immunization Service at 800-234-6196.

- Local health departments may be able to help. A list of the county health departments in Oklahoma with their telephone numbers is available on the Oklahoma State Department of Health web site at:
http://www.ok.gov/triton/modules/health/map/county_map.php.
- *Foreign Language Terms* is a list containing the brand names of vaccines used in other countries. It is available at the Centers for Disease Control and Prevention web site:
<http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/foreign-products-tables.pdf>

The Immunization Service is not able to translate immunization records from foreign languages.

Children Attending as “Drop-Ins”

Many child care centers accept “drop-ins,” children who may not be officially enrolled but occasionally attend child care centers or homes for various reasons. The child care immunization law does not exempt “drop-ins” from the immunization requirements. Therefore, no child care operator should allow any child to attend a child care facility without an immunization record unless a genuine family emergency exists.

Children with Lost or Unavailable Immunization Records

Sometimes parents cannot find their children’s immunization records and cannot obtain copies. Whenever this occurs the parent should be referred to their health care provider or local health department to obtain a copy or receive the vaccines. If a record cannot be found a health care provider or nurse can review the immunization schedule with the parent or guardian and immunizations can be started at that time. It is safe for children to be vaccinated, even if they have already received the vaccines, but not preferred. Vaccines can be started and the parent may continue to look for the record until the next doses are due.

Keep a Copy of Each Child’s Immunization Record on File

You can make a copy of the child’s record or you can transcribe the record and keep it on a different form or in a computer. You should never keep the parent’s copy. The family may need the record in the future.

However they are kept, records must be available when state health department personnel come to review the records.

MMR Vaccine Fact: About one child in five who receives MMR vaccine will get a mild rash or fever beginning a week or two after vaccination. This reaction will usually last one to two days. This is a normal reaction which will go away on its own.

Required Vaccines and When They are Due

The child care law says children must be up-to-date for their age with the required vaccines.

The required vaccines are:

- Hepatitis B vaccine (HepB)
- Diphtheria, tetanus and pertussis (whooping cough) vaccine (DTaP)
- *Haemophilus influenzae* type b vaccine (Hib)
- Pneumococcal conjugate vaccine (PCV)
- Polio vaccine (IPV or OPV)
- Measles, mumps and rubella vaccine (MMR)
- Varicella (chickenpox) vaccine (VAR)
- Hepatitis A vaccine (HepA)

For a list of brand names see the previous page.

Check the record to make sure the child has the number of doses of each vaccine listed in the chart below for their age.

First, determine the child’s current age.

Second, find the corresponding line in the chart below.

Third, count the number of doses on the child’s immunization record to make sure the child has had the required number of doses of each vaccine for the ages listed.

When Required Vaccines for Child Care in Oklahoma Are Due

BY THIS AGE	CHILDREN ARE REQUIRED TO HAVE:
3 - 4 months	1 dose each of DTaP, Polio, HepB, Hib and PCV
5 - 6 months	2 doses each of DTaP, Polio, HepB, Hib and PCV
7 - 15 months	3 doses of DTaP and PCV, 2 doses of Polio, HepB and Hib
16 - 18 months	3 doses each of DTaP and Polio 2 doses of HepB 1 dose each of MMR and VAR 1 to 4 doses of Hib and PCV*
19 - 23 months	4 doses of DTaP 3 doses each of Polio and HepB 1 MMR + 1 VAR 1 to 4 doses of Hib and PCV*
2 - 3 years	All of above plus 1 dose of HepA
3 years to kindergarten	All of the above plus 2 doses of HepA
By kindergarten entry	5 doses of DTaP 2 doses of MMR 4 doses of Polio 2 doses of HepA 3 doses of HepB 1 dose of VAR

*Hib and PCV vaccines are special cases. If a child starts late or falls behind with Hib or PCV he or she may not need as many doses. See pages 13 and 14 for more information.

The chart above shows the ages when children must have the vaccines. Children may receive some doses earlier than the ages listed above because some vaccines may be given over a range of months based on the *Recommended Childhood Immunization Schedule for Required Vaccines* on the next page.

Recommended Childhood Immunization Schedule for Required Vaccines

Age	Birth	1 month	2 months	4 months	6 months	12 months	15 months	18 months	2 years	4-6 years
HepB	Dose 1	Dose 2			Dose 3					
DTaP			Dose 1	Dose 2	Dose 3		Dose 4			Dose 5
Hib			Dose 1	Dose 2	Dose 3*	Dose 3 or 4*				
PCV			Dose 1	Dose 2	Dose 3	Dose 4				
Polio			Dose 1	Dose 2	Dose 3					Dose 4
MMR						Dose 1				Dose 2
Varicella						Dose 1				Dose 2
HepA						Dose 1			Dose 2	

*depending on the type of Hib vaccine given – see page 14

The schedule in the table above follows the recommended childhood immunization schedule for the United States.

The Special Case of Hib and PCV Vaccines:

- The number of doses of PCV and Hib vaccines required depends on the age of the child when the vaccine series was started and whether or not the child stays on schedule. See the Hib and PCV Schedules on the next two pages.
- The number of doses of Hib vaccine required also depends on the type or brand of Hib vaccine used.
- If a child starts late or falls behind with Hib or PCV vaccines, follow the schedules on the next two pages (13 and 14).
- **Once a child reaches age 5, Hib and PCV vaccines are no longer required, because these diseases are not usually serious in children 5 and older.**

Help is available

Determining if a child has received all of the required vaccines at the appropriate time can be confusing. **If you have any questions about a child's record or the requirements, please call your local county health department and ask for your Immunization Field Consultant.** A list of the Immunization Field Consultants is available on the Immunization Service website at: [http://www.ok.gov/health/Disease_Prevention_Preparedness/Immunizations/Vaccines for Childcare/index.html](http://www.ok.gov/health/Disease_Prevention_Preparedness/Immunizations/Vaccines_for_Childcare/index.html).

All 50 states in the U.S. have laws requiring immunizations for child care and school attendance.

Number of Doses of PCV Vaccine Required

Children who start PCV vaccine on time and stay on schedule will receive a total of four doses of PCV vaccine. To determine the number of doses of PCV required:

First, determine the child's current age.

Second, determine the age of the child when the first dose of PCV was administered.

Third, use the chart below to determine the number of doses required for the child.

PCV Vaccine Requirements

Age of Child	Number of Doses Required
Younger than 2 months of age	None
3 months of age	One dose
5 months of age	Two doses
7 months of age	Three doses
12 months of age	Three doses if the child received the first dose before 7 months of age
	OR Two doses if the child received the first dose at 7 through 11 months of age
16 months of age	Four doses if the child received the first dose before 7 months of age
	OR Three doses if the child received the first dose at 7 through 11 months of age
24 months of age through 4 years of age	Four doses if the child received the first dose before 7 months of age
	Three doses if the child received the first dose at 7 through 11 months of age
	Two doses if the child received the first dose at 12 through 23 months of age
	OR One dose if the child was 2 years of age or older when the first dose of PCV was given
5 years of age and older	PCV vaccine is not required for children 5 years of age and older regardless of the number of doses received previously, even if they did not receive any PCV vaccine

Some children who are at high risk from pneumococcal disease because of their medical condition may receive PCV and another type of pneumococcal vaccine when they are 5 years of age or older, but these doses are not required for child care attendance.

Number of Doses of Hib Vaccine Required

Children who start Hib vaccine on time and stay on schedule will receive a total of 3 or 4 doses of Hib vaccine depending on the brand of vaccine used. See the schedule below. Children may receive more than one brand of Hib vaccine and that is acceptable. Those children will usually receive 4 doses total.

Routine Hib Schedule by Brand of Vaccine Used

Vaccine	2 months	4 months	6 months	12 to 15 months
ActHIB, MenHibrix or Pentacel	Dose 1	Dose 2	Dose 3	Dose 4
PedvaxHIB or Comvax	Dose 1	Dose 2		Dose 3
Hiberix				Dose 3 or 4

Hiberix is licensed for the final dose in the Hib series (dose 3 or dose 4), but if it is given as dose 1, 2, or 3, it does not have to be repeated.

If you do not know which brand of Hib vaccine a child received, you should make sure the child has received at least three doses of any Hib vaccine. Fewer doses may be required if the child received the first dose at 12 months of age or older. See the chart below.

Hib Vaccine Requirements

Age of Child	Number of Doses Required
Younger than 2 months of age	None
3 months of age	One dose
5 months of age	Two doses
7 months of age	Two doses
16 months of age up to age 5 years:	Three doses if the child received the first dose of Hib vaccine before 12 months of age
	OR
	Two doses if the child received the first dose at 12 -14 months of age
	OR
	One dose if the child received the first dose of Hib vaccine on or after 15 months of age
5 years of age or older	Hib vaccine is not required for children 5 years of age and older regardless of the number of doses received previously, even if they did not receive any Hib vaccine

Whew! You made it through checking Hib and PCV. Congratulations!

REFER CHILDREN WHO NEED IMMUNIZATIONS (CHILDREN WHO HAVE NOT RECEIVED ALL OF THE REQUIRED IMMUNIZATIONS FOR THEIR AGE)

Children who are “past due” for one or more doses of vaccine must receive those doses before they are allowed to enroll or they must be “in the process” of receiving the doses. For children already enrolled, the parents must bring an updated record before or when the child reaches the “past due” age.

WHEN DOSES ARE PAST DUE*

Age when doses are PAST DUE	Vaccine Doses							
	HepB	DTaP	PCV	Hib	IPV	MMR	Varicella	HepA
3 months	Dose 1	Dose 1	Dose 1	Dose 1	Dose 1			
5 months	Dose 2	Dose 2	Dose 2	Dose 2	Dose 2			
7 months		Dose 3	Dose 3					
16 months			Dose 4	Dose 3		Dose 1	Dose 1	
19 months	Dose 3	Dose 4			Dose 3			
24 months (2 years)								Dose 1
19 months after first dose**								Dose 2
Kindergarten entry or age 7 years		Dose 5	PCV & Hib are NOT required for children 5 years of age and older		Dose 4	Dose 2		

*This chart is based on the Recommended Childhood Immunization Schedule for the United States.

**Second dose of HepA vaccine is past due 19 months *after* the first dose is given (*not* 19 months of age).

DO NOT ALLOW CHILDREN TO START ATTENDING YOUR FACILITY IF THEY DO NOT HAVE ALL OF THE REQUIRED VACCINES, EXCEPT THOSE CHILDREN WHO ARE “IN THE PROCESS OF RECEIVING THE REQUIRED VACCINES.”

For example, if a child is 3 months of age or older and has not received at least one dose of HepB, DTaP, PCV, Hib or polio vaccine, the child should not be allowed to enroll or continue to attend a child care facility until they have received the dose or doses.

What does “In the process of receiving vaccines” mean?

“In the process of receiving vaccines” means that a child has to wait before they can receive the next dose in a vaccine series because they recently received the previous dose. Doses in a *vaccine series* must be spaced appropriately or they won’t be effective. If a child is more than one dose behind in a *vaccine series*, such as DTaP, the child cannot catch up in one visit to a clinic, because there must be a certain amount of time between each dose of vaccine in the series. The Catch-Up Schedule on page 16 is based on the shortest time allowed between doses in a series.

Children who fall behind in the schedule do not need to start over at the beginning of the schedule. The schedule should be continued from the point where the child fell behind.

However, schedules that delay vaccines beyond the recommended intervals between doses are not acceptable even if the schedule is provided by a physician or clinic. These are often called “alternative or delayed schedules.” See page 17 for more information on alternative schedules.

Children who are “in the process of receiving vaccines” do not need an exemption. Children who are behind or past due for vaccines must follow the **Catch-Up Schedule**. Parents should be informed that the schedule must be followed or the child may no longer be allowed to attend the center or home.

**CATCH-UP SCHEDULE FOR CHILDREN 4 MONTHS THROUGH 6 YEARS OF AGE
WHO START LATE OR ARE MORE THAN 1 MONTH BEHIND**

As soon as a child is back on schedule for their age they can return to the routine schedule.

Vaccine	Schedule			
	Give second dose	Give third dose	Give fourth dose	Give fifth dose
DTaP	4 weeks after first dose	4 weeks after second dose	6 months after third dose	6 months after fourth dose
IPV	4 weeks after first dose	4 weeks after second dose	4 weeks after third dose	Finished
HepB	4 weeks after first dose	8 weeks after second dose <u>and</u> at least 16 weeks after first dose	Finished	
MMR	4 weeks after first dose	Finished – no more doses needed		
VAR	3 months after first dose			
HepA	6 calendar months after first dose			
For Hib and PCV vaccines refer to the schedules on pages 13 and 14.				

The Catch-Up Schedule is different for children 7 years of age and older. If you have children 7 years of age and older who do not have all the required vaccines, ask the parents to bring a schedule from their health care provider (doctor, nurse practitioner, county health department, or clinic) that shows when the child will receive the required vaccines.

Once the child is back on schedule they can go back to the recommended schedule.

Doses should not be given sooner than the time periods listed above.

Doses given too early may have to be repeated. Vaccines work best when they are properly spaced and given at the proper age. The required spacing between vaccine doses is based on the body’s ability to respond to the immunization. If this minimum spacing is not maintained, the body may not be able to properly respond and the child will not be protected. Therefore, when representatives of the Oklahoma State Department of Health conduct audits and determine children received immunizations at less than the minimum intervals, the immunizations are not counted and must be repeated.

Alternative or Delayed Schedules

Some parents choose to follow a delayed or alternative schedule. However, ***schedules that delay vaccine doses beyond the recommended ages are not allowed for children attending child care in Oklahoma.*** Children in child care in Oklahoma must follow the Recommended Childhood Immunization Schedule for Required Vaccines on page 12.

It is not safe to delay vaccines — it leaves children (and people around them) at risk of catching the diseases, often during the time when a child is most at risk of severe infection.

One of the reasons parents choose an alternate schedule is the false belief that too many vaccines overwhelm the immune system and may lead to chronic health problems. The best scientific information we have shows this is not the case. Baby's immune systems can easily respond to many vaccines given on the same day.

Another reason parents choose to delay vaccines is they think it will lessen the side effects if fewer vaccines are given on the same day. Studies of the effects of giving several vaccines on the same day show that it does not result in more side effects or more serious side effects. There is no greater risk for side effects when several vaccines are given on the same day than when they are given separately.

Some parents think their children are not at risk of catching some diseases until they are older. One example is hepatitis B. Although hepatitis B is often thought of as a disease that affects people who are sexually active or who inject drugs, in fact, the source of hepatitis B is unknown for nearly one out of three people who get hepatitis B. These people probably got it from someone they were close to who didn't know they had it. Hepatitis B can be transmitted by very small amounts of blood too tiny to be seen, such as on a toothbrush. Everyone is at risk.

Flexibility is already built into the recommended immunization schedule. For example, the third dose of HepB vaccine may be given anytime from 6 through 18 months of age. The same is true for the third dose of polio. MMR and Varicella vaccines may be given anytime from 12 through 15 months of age. The fourth dose of DTaP may be given from 15 through 18 months of age and can be given as early as 12 months of age. HepA vaccine may be given anytime from 12 through 23 months of age and is not past due until 24 months of age.

Delayed schedules often result in more shots for the child because nurses and health care providers cannot use the combination vaccines available if some vaccines are being delayed. Combination vaccines help reduce the number of shots a child must receive.

It is very important for infants to receive vaccines on time, because they are not protected against the diseases until they have received the vaccine.

For more information on the safety of the childhood immunization schedule visit these websites:

<http://www2.aap.org/immunization/families/Vaccineschedule.pdf>

<http://www.cdc.gov/vaccinesafety/vaccines/multiplevaccines.html>

PROVIDE EXEMPTION FORMS

Exemptions from the immunization requirements are allowed for medical, religious or personal belief reasons.

- Exemptions are for children whose cannot receive a vaccine or vaccines or whose parents do not vaccinate for religious or personal reasons.
- Exemptions are not for children who have had a vaccine-preventable disease or for children who have received the vaccines, but whose records cannot be found.
- Child care facilities and Head Start centers should keep a small supply of *Certificate of Exemption* forms (Oklahoma Department of Health Form No. 216A) on hand for parents who want to request exemptions for their children.
- ***Exemption forms are available for child care facilities from the Immunization Service of the Oklahoma State Department of Health by calling (405) 271-4073.***
- ***Do not refer parents to the Immunization Service to obtain an exemption form.*** Parents should obtain the exemption form from the child care center, complete it, obtain any necessary signatures, and return it to the child care facility.
- ***It is important to inform parents at the time the Certificate of Exemption is accepted by the facility that children with exemptions might be excluded from the child care facility if there is an outbreak of a vaccine-preventable disease.*** The period of exclusion can be lengthy.
- Child care and Head Start officials must review the exemption form to make sure the form has been completed and signed and is legible.
- Child care staff do not have to decide if the exemption is valid; the Immunization Service will make that decision.
- Forms that are not legible or not signed will not be approved and will be returned to the child care facility to be completed.
- Keep the completed and signed *Certificate of Exemption* form on file in place of an immunization record.
- If a child has an exemption to only one or more vaccines, but not all vaccines, the child should also have a record on file showing immunization for the other vaccines.
- Send the carbon copy of the *Certificate of Exemption* to the Oklahoma State Department of Health, Immunization Service for approval.
- The Oklahoma State Department of Health, Immunization Service reviews all exemption forms to determine if they are valid.
- If an exemption is not approved, the Immunization Service will notify the child care facility by letter. The letter will include the reason why the exemption was not approved. Child care directors are responsible for telling the parent if an exemption is not approved. The parent must correct the exemption form or vaccinate the child.
- Once you have an exemption form on file, the child may attend your child care center or home. You do not have to wait for approval from the Immunization Service.

Medical:

- Medical exemptions are allowed when the physical condition of the child is such that a particular vaccine or vaccines would endanger the life or health of the child.
- The parent or guardian is responsible for taking the form to a physician to be completed.
- Exemptions based on medical reasons must be signed by a licensed physician and the physician must specify which vaccines the child cannot receive and the reason why the child cannot receive the vaccine or vaccines.

Religious:

- Religious exemptions are allowed when the parents' religious beliefs or practices prohibit vaccinations.
- A religious exemption may be signed by a religious leader or the parent or guardian.

Personal:

- Exemptions are allowed for children whose parents or guardians object to immunizations based on personal beliefs contrary to the practice of immunization.
- The parent or guardian must write a brief statement summarizing his or her objections to immunizations and sign the form.

Exclusion of Exempted Children During Disease Outbreaks

- Unimmunized children attending child care facilities on the basis of an exemption or family emergency are at high risk for disease if they are exposed. For their protection and for the protection of the other children in the facility, these children might be excluded from the child care facility for the duration of any outbreak of a vaccine-preventable disease.
- ***The decision to exclude children with exemptions is made by the Commissioner of Health.***

Common Reasons Why Exemptions are Not Approved

- Lost or unobtainable immunization records are listed as a reason for a personal exemption and this is not a valid reason for a personal exemption. The record must be located or the child must receive the required vaccines.
- A medical exemption is not signed by a licensed physician.
- The parent gives a medical reason for a personal exemption.
- The parent or physician states that the child has had the disease. Children who have had a disease do not need an exemption.
- Children are behind in the immunization schedule but are in the process of receiving the required vaccines. These children do not need an exemption.
- Parents are waiting for a record. This is not a valid reason for an exemption.
- The form is not complete. The parent has not filled out all of the appropriate sections on the *Certificate of Exemption Form*.

CHILDREN WHO HAVE HAD A VACCINE-PREVENTABLE DISEASE

History of Disease

Oklahoma's child care law allows vaccine requirements to be waived if a child has had the disease the vaccine protects against. These children are likely to be immune from having had the disease.

Children who have had a disease do not need an exemption for the vaccine for that disease; simply record in the child's record that the child had the disease and keep any documents needed as described below for each disease.

A history of having had a vaccine-preventable disease must meet the guidelines listed below for a particular disease for the vaccine requirement to be waived.

Varicella (chickenpox)

The varicella requirement may be waived if a parent, health care provider or nurse states that the child has had chickenpox disease. Record that the child had the disease in the child's record in place of a vaccination date.

Polio, Pertussis (whooping cough), Rubella, Mumps, Hepatitis B and Hepatitis A

A history of having had polio, pertussis, rubella, mumps, hepatitis B or hepatitis A must be confirmed by laboratory evidence to be accepted as proof of immunity to these diseases. To have the requirements for these diseases waived, a parent must bring a copy of the laboratory results.

Since hepatitis may be caused by a number of viruses and other substances such as drugs and toxins, it is important to establish what type of hepatitis caused the disease. If a child has had hepatitis the parents must bring a copy of the laboratory results obtained at the time the child was ill. This will enable child care officials to document whether the child had hepatitis A or hepatitis B and will ensure that the child receives any needed immunizations.

Measles

A history of having had measles must be accompanied by a signed statement from a health care provider, public health authority or laboratory evidence to be acceptable as proof of immunity to measles.

Hib

A history of having had Hib before the age of two is not acceptable as proof of immunity since a child can get Hib disease again.

Diphtheria and Tetanus

A history of having had diphtheria and/or tetanus at any age is not acceptable as proof of immunity since people of any age can get these diseases again.

FAMILY EMERGENCY

Oklahoma law allows children to attend child care without an immunization record in the case of a family emergency. An example of a family emergency would be the death of a parent or guardian. Normally this provision will not apply, but in those rare instances when a genuine family emergency exists a child care operator may allow a child to enter and remain for up to 30 calendar days without an immunization record. The parent or guardian should provide a record for the child as soon as possible. If at the end of the 30-day period the parent/guardian has not produced a record for the child, the child must be excluded from the facility or begin receiving the vaccines. Admission based on a family emergency may be allowed only one time.

TRACK THE IMMUNIZATION STATUS OF CHILDREN WHO HAVE NOT COMPLETED THEIR IMMUNIZATIONS AND GET UPDATES FROM PARENTS

Since Oklahoma law requires children to be up-to-date for their age, checking immunization records and obtaining updated records from parents is a routine job for child care staff. Records must be checked when a child enrolls and on a regular basis until the child completes the required doses. Some child care facilities have a computer program to check children's immunization records and alert them when a child needs a vaccine, but if you don't have such a system, you can create any kind of system that works for you. Following are some ideas to help you keep up with immunization records.

Train all child care workers to know when vaccines are due for the children in their care.

Post an immunization schedule in each room for easy reference. You can download a schedule from the Centers for Disease Control and Prevention website at:

<http://www.cdc.gov/vaccines/parents/downloads/parent-ver-sch-0-6yrs.pdf>

or call the Immunization Service at 1-800-234-6196 and we will send one to you.

Create an Immunization Schedule for Each Child

The Centers for Disease Control and Prevention (CDC) website has a feature which creates a personalized vaccination schedule for children from birth through age 5 years. This schedule provides the dates when a child is due for all of the vaccines based on the child's date of birth. The Immunization Scheduler is at: http://www2a.cdc.gov/nip/kidstuff/newscheduler_le/. No identifying information is required to use the scheduler.

Create a Tickler File

A simple index card tickler file may be used. Set up a file with a card labeled for each month of the year. Write the names of all the children who are not yet 3 years old on a card. Place each child's card behind the month when the next vaccines are due based on the schedule created at one of the websites listed above or according to the Recommended Childhood Immunization Schedule on page 12. When a child has completed all the required vaccine doses, you can remove their card from the file.

Use a Calendar

Hang a calendar in each classroom. When a child enrolls, write the child's name on the months when the child will be 2, 4, 6, 12, 15, 18, and 24 months old. At the beginning of each month, check the calendar for children due for shots that month and remind the parents that you will need an updated record for their child at the end of the month.

Check Shot Records Monthly

No matter what type of system you use, you will probably need to check shot records monthly. You can do this at the beginning of the month to remind parents that their child has a shot coming due and at the same time review the records of children who needed a shot during the previous month to be sure the parent has brought an updated record.

Celebrate the First Birthday

Mark a calendar in the classroom with the names of all the children on the month of their first birthday and note that MMR, varicella, and HepA vaccines are due starting at 12 months of age. MMR and varicella vaccines are not past due until the child reaches 16 months of age, so the parents have four months to get those vaccines. The first dose of HepA vaccine is not past due until the child reaches the second birthday.

Don't Rush.

Vaccines given too early may not work, so there is no need to rush parents. The important point is that you need to ask parents regularly for updated records for infants and toddlers, since vaccines are due at 2, 4, 6, 12 through 18 months, and 23 months of age and again before kindergarten.

Rubella Fact: The last major rubella epidemic in the United States was in 1964-1965. An estimated 12.5 million people got the disease including 20,000 babies who were born with congenital rubella syndrome.

DO NOT ALLOW CHILDREN WHO DO NOT HAVE ALL OF THE REQUIRED VACCINES TO CONTINUE TO ATTEND YOUR CHILD CARE CENTER OR HOME

There are many reasons why it may be difficult for parents to take their children for immunizations, but it must be done if the children attend child care.

- If parents do not have health insurance and cannot afford to pay for vaccines, county health departments are available to give the vaccines at no charge.
- Many county health departments will try to accommodate parents who cannot bring their children to regularly scheduled immunization clinics due to work or other obligations.
- Parents should call their local health department to find out what options are available.

Caring Van Program

In some areas of Oklahoma the Blue Cross and Blue Shield Caring Van is an option. The Oklahoma Caring Van program is a mobile immunization program that provides vaccines at child care facilities, schools and other community locations throughout Oklahoma. Vaccines are provided at no charge to children who are Medicaid (SoonerCare) eligible, uninsured or American Indian. For information about the Caring Vans, visit their website at www.oklahomacaringfoundation.org or call (405) 316-7170 or (918) 551-3404.

Unimmunized Children May Introduce Diseases

Sometimes child care operators must tell parents they cannot bring their children back to the facility until they have received the required vaccines. This may be the most difficult part of enforcing the immunization law, but it is very important, as children who have not received the required vaccines are not protected against the diseases and may bring the diseases into your facility and infect other children. Measles, whooping cough, mumps, rubella, diphtheria, Hib, and chickenpox are all transmitted through the air and can very quickly infect all susceptible children.

The Plague Among Children

A terrifying diphtheria epidemic hit New England in 1735 and in one New Hampshire town 32 percent of the children under 10 died of diphtheria.

Noah Webster said, "It was literally the plague among children."

(Courtesy of historyofvaccines.org)

MAKE IMMUNIZATION RECORDS AVAILABLE FOR REVIEW

Oklahoma law requires the Oklahoma State Department of Health to supervise and secure the enforcement of the immunization requirements. Immunization record audits are one method the Oklahoma State Department of Health uses to meet this obligation.

- Immunization record audits are conducted regularly by health department representatives.
- Immunization record audits benefit child care staff because they provide an opportunity for staff to talk to a knowledgeable Immunization Field Consultant and ask any questions they may have about the child care immunization law.

Child care officials must keep immunization records accessible for review by health department officials during normal business hours.

Who conducts the audits and when?

- Representatives of the Oklahoma State Department of Health or local county health departments conduct immunization record audits. Usually one person conducts the audit, but in the case of large child care centers or Head Start programs two or more representatives may conduct the audit.
- The representative will call the child care director and make an appointment for the audit at least two weeks before the date of the audit.
- Immunization representatives are as flexible as possible when scheduling audits to accommodate the schedules of child care directors, since the director needs to be present when the audit is completed. However, immunization representatives may be limited as to the days they have available to schedule a particular center as they travel to several counties.
- Audits can take from one to several hours depending on the number of children enrolled in the facility.
- Sometimes audits will require the auditor to return the next day to complete the audit.

Child care facility directors are responsible for preparing the records and information needed for an audit.

Auditors will need:

- A list of all the children enrolled in the facility in alphabetical order.
- Total number of children enrolled in the facility.
- Immunization records, exemption forms, and any statements of family emergencies for all the children.
- A place to work with a chair.

What happens on the day of the audit?

On the day of the audit the following will happen:

- Upon arrival, the auditor will provide identification.
- The director will supply the auditor with the immunization records and the list of children enrolled in the center or home and a place to work.
- The auditor will review each immunization record and exemption certificate.
- When the auditor has reviewed all of the records and completed the audit forms, the auditor will explain the results to the child care director and answer any questions.
- The child care director and auditor will sign and date the audit form.
- The auditor will give the director a list of children who do not have immunization records or exemptions on file or who are not up-to-date for their age.
- The auditor will provide the director with an example of a letter that can be used to notify parents that their children need vaccines and which vaccines are needed.
- The auditor will leave a copy of the audit form with the director.
- If less than 90 percent of the children enrolled in the facility have up-to-date immunization records or exemptions on file the auditor will schedule a return visit to the child care center at least 30 days later to check the records of those children not up-to-date.

What happens after the audit?

- The health department representative will provide a copy of the audit form to the Oklahoma Department of Human Services licensing worker responsible for the child care facility.
- Child care directors must then notify the parents of children who need vaccines.
- The results of all audits are reported to the Immunization Service of the Oklahoma State Department of Health.

The Oklahoma Department of Human Services is responsible for: providing reasonable assistance to the Oklahoma State Department of Health in the enforcement of the immunization requirements by revoking the license or refusing to renew the license of any facility not in compliance with the law.

THE OKLAHOMA STATE IMMUNIZATION INFORMATION SYSTEM

The Oklahoma State Immunization Information System (OSIIS) is an online information system designed to collect and maintain complete and current immunization records for Oklahoma residents. Health care providers and clinics record immunizations they have administered in an individual's record in OSIIS. The individual's record then contains vaccines received from all healthcare providers who use OSIIS. OSIIS provides official immunization records for parents to give to schools and child care facilities and any other facilities, such as summer camps, that require vaccinations.

Please note that OSIIS may not contain all immunization records because some health care providers and clinics do not use OSIIS. Also, children who have moved into Oklahoma from other states may not have records in OSIIS until they receive vaccines from a health care provider in Oklahoma that uses the system. There is a chance a child's record may not be found in OSIIS, or the record may have incomplete information. In this case, the record from OSIIS should be used along with the parent's personal record for the child.

Licensed child care centers, but not family child care homes, can obtain access to OSIIS to check for vaccination records for children attending their facility.

Confidentiality of patient records is addressed by providing log-on identifications and passwords for user access. The OSIIS confidentiality policy is provided upon enrollment.

To obtain access to OSIIS, visit this website:

http://www.ok.gov/health/Disease_Prevention_Preparedness/Immunizations/Oklahoma_State_Immunization_Information_System_-_OSIIS/index.html and follow the directions to enroll or call the Immunization Service at (405) 271-4073 or toll free at 800-234-6196.

Pneumococcal disease, the illness prevented by PCV vaccine may be hard to treat because some strains have become resistant to antibiotics.

This is why the PCV vaccine is one of the most important weapons we have against this disease.

PUBLIC IMMUNIZATION SERVICES IN OKLAHOMA

Parents whose children have health insurance (including SoonerCare) should take their children to their regular health care provider to receive vaccines. If they cannot receive vaccines from their regular health care provider they can be referred to the local health department. Some vaccines, such as PCV, may not be available to them at the local health department.

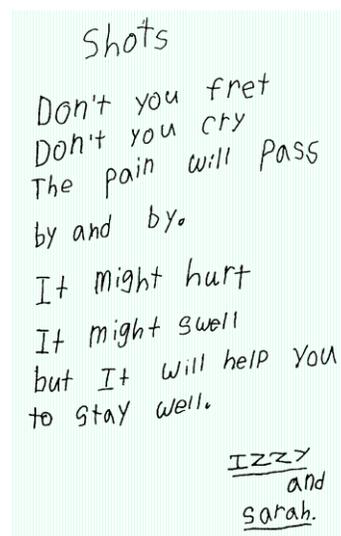
Parents who don't have health insurance for their children or a regular health care provider, or whose health insurance does not pay for vaccines should go to a county health department or other public clinic such as a tribal or Indian Health Service clinic, if they qualify, or another clinic. A list of the county health departments along with their telephone numbers is posted on the Oklahoma State Department of Health website at:

http://www.ok.gov/triton/modules/health/map/county_map.php.

Other clinics that offer vaccines in Oklahoma are listed on the Oklahoma State Department of Health website on the Office of Primary Care & Rural Health Development website:

http://www.ok.gov/health/Community_Health/Community_Development_Service/Primary_Care_&_Rural_Health_Development/index.html. From this web page you can find a list of Federally Qualified Health Centers, which are public and private healthcare clinics serving people across the state and a list of free health care clinics.

- Web addresses for the lists and maps:
<http://www.ok.gov/health2/documents/FEDERALLY%20QUALIFIED%20HEALTH%20CENTERS%20IN%20THE%20STATE%20OF%20OKLAHOMA11-20-13.pdf>.
- A map of these clinics:
<http://www.ok.gov/health2/documents/FQHCs%20and%20Satellites.pdf>.
- A list of the free clinics:
http://www.ok.gov/health2/documents/Copy%20of%20FreeClinicListing_June2013.pdf
- A map: http://www.ok.gov/health2/documents/FreeClinics_Oct2013.pdf



shots
Don't you fret
Don't you cry
The pain will pass
by and by.
It might hurt
It might swell
but It will help you
to stay well.
Izzy
and
Sarah.

GENERAL VACCINE INFORMATION

The Importance of Immunizations

It is difficult to exaggerate the value of vaccines, but the enormous value of vaccines is hard to understand for those of us who have not seen these diseases or lived with the consequences. Consider the following points.

1. Vaccination saves the lives of more than 3 million people worldwide each year and prevents millions of others from suffering and permanent disabilities. “Before vaccines, parents in the United States could expect that every year:
 - Polio would paralyze 10,000 children.
 - Rubella (German measles) would cause birth defects and mental retardation in as many as 20,000 newborns.
 - Measles would infect about 4 million children, killing about 500.
 - Diphtheria would be one of the most common causes of death in school-aged children.
 - A bacterium called *Haemophilus influenzae* type b (Hib) would cause meningitis in 15,000 children, leaving many with permanent brain damage.
 - Pertussis (whooping cough) would kill thousands of infants.”

Source: Children’s Hospital of Philadelphia, Vaccine Education Center:

<http://www.chop.edu/service/vaccine-education-center/home.html>

“Vaccines are a miracle -- with just a few doses, they can prevent deadly diseases for a lifetime,” said Melinda Gates. “We’ve made vaccines our number-one priority at the Gates Foundation because we’ve seen firsthand their incredible impact on children’s lives.”

[http://www.gatesfoundation.org/Media-Center/Press-Releases/2010/01/Bill-and-Melinda-Gates-Pledge-\\$10-Billion-in-Call-for-Decade-of-Vaccines](http://www.gatesfoundation.org/Media-Center/Press-Releases/2010/01/Bill-and-Melinda-Gates-Pledge-$10-Billion-in-Call-for-Decade-of-Vaccines)

2. Vaccines work well, but, no vaccine is 100 percent effective. This means that some people will not develop immunity to the disease even after receiving the vaccine. However, even though vaccines do not protect everyone from all vaccine-preventable diseases, they protect most of the people who receive them and vaccine protection is much better than no protection at all. There is a chance that a vaccinated person will still get the disease, however, vaccines usually protect people from the serious complications of vaccine-preventable diseases even if they do get the disease.
3. Many vaccine-preventable diseases, rarely seen in the United States, are still common in other parts of the world. Some of these diseases, such as whooping cough, are still occurring in the U.S., and for some the risk is always present. For example, tetanus bacteria live in the soil all over the world. Tetanus (lockjaw) can infect anyone who has a cut in the skin, even a cut as small as the prick of a thorn, which is contaminated with dirt or soil. Anyone who is not vaccinated is at risk of tetanus and the other vaccine-preventable diseases. Measles and other diseases continue to infect children in the U.S. because

people who are not vaccinated travel to other countries and bring these diseases back to the U.S.

4. Vaccines work well and have few side effects. As with any drug or medicine, there is a risk of side effects with vaccines, although serious side effects are rare. Side effects from vaccines are usually mild and short; whereas the consequences of the diseases can be permanent, such as loss of an arm or leg, brain damage, paralysis, deafness and even death.

Every vaccine in the recommended schedule is evaluated to ensure that the benefits of preventing the disease outweigh the risks of the vaccine before the vaccine is added to the schedule. This means that the protection a vaccine provides against a certain disease is worth far more than the side effects associated with the vaccine. Another way to say it: the risk of the vaccine side effects is very small compared to the risk of suffering and dying from one of the vaccine-preventable diseases.

5. If children aren't vaccinated, they can spread diseases to other children who are too young to be vaccinated or whose medical conditions (for example, leukemia, other forms of cancer, or immune system problems) prevent them from being vaccinated. This can result in long-term problems and even death for these children.
6. Immunization protects future generations. Vaccines have reduced and, in some cases, eliminated diseases that killed or severely disabled people just a few generations before. For example, smallpox vaccine led to the eradication of smallpox worldwide. Children don't have to get smallpox vaccine anymore because no one has the disease to pass around. If we keep vaccinating now, we may be able to eliminate polio and measles and other diseases, and then we can stop vaccinating against them. In the future, children may not have to face the risk of being crippled or killed by diseases like polio and measles.

Did You Know?

About half of all infants who get whooping cough (pertussis) are hospitalized.

To hear what whooping cough sounds like, visit this website: <http://www.cdc.gov/pertussis/pubs-tools/audio-video.html>

Information on the Diseases Prevented by Vaccines

Vaccine-preventable diseases can be serious. Following is information on some of the diseases that vaccines prevent.

Diphtheria



Membranes caused by diphtheria covering the tonsils and uvula

© Copyright American Academy of Pediatrics

This photo shows a child with the grayish blue membrane caused by diphtheria. If the membrane gets big enough it can block the airway, especially in babies. Attempts to remove the membrane cause bleeding.

About 1 in every 20 people who get diphtheria will die from the disease.

DTaP vaccine protects infants and children from diphtheria.

Tdap vaccine protects adolescents and adults.

Diphtheria was a major cause of death among children in the U.S., even as late as the 1920s.

In the year 2000, 30,000 cases and 3,000 deaths due to diphtheria were reported worldwide, but this may be only a fraction of the actual number of deaths caused by diphtheria.

For more information on diphtheria visit this website: <http://www.immunize.org/catg.d/p4203.pdf>

Tetanus



Photo courtesy of the Centers for Disease Control and Prevention

This baby has newborn tetanus with complete rigidity. The baby's mother did not have immunity to tetanus when the baby was born.

Tetanus (often called lockjaw) is an extremely painful disease that causes uncontrollable muscle spasms in the neck, arms, legs and stomach. The spasms can be strong enough to break a person's bones. Muscle spasms of the throat can block the windpipe and cause instant death from suffocation.

The tetanus poison (toxin) can cause severe damage to the heart. Two out of every 10 people who get tetanus die from it. Tetanus is caused by a bacterium that lives in the soil. It can enter the body through cuts, puncture wounds, burns, ear infections, tooth infections and animal bites.

One dose of Tdap (tetanus, diphtheria and pertussis) vaccine is recommended for all adults especially those who have contact with infants to protect the infants from pertussis (whooping cough).

Pregnant women should talk to their health care provider about receiving one dose of Tdap vaccine (tetanus/diphtheria/pertussis) to protect the baby against tetanus and pertussis (whooping cough).

For more information on tetanus, visit this web site: <http://www.immunize.org/catg.d/p4220.pdf>

Chickenpox (Varicella)



© Copyright American Academy of Pediatrics

Chickenpox causes a rash of itchy blisters. It starts on the face, chest, back and stomach. A person can have 250 to 500 blisters. The rash can spread over the whole body, including inside the mouth, eyelids or genital area. Chickenpox also causes fever, headache and tiredness. People are usually sick for 5 to 10 days.

Chickenpox is usually mild, but can be serious, especially in young infants and adults. It can lead to severe skin infections, scars, pneumonia, brain damage or death.

You can still get chickenpox if you have been vaccinated against the disease. But it is usually milder with less than 50 blisters and little or no fever.

After a person has chickenpox the virus stays in the body. Years later it can cause a painful disease called shingles.

Approximately 1 out of every 500 children who get chickenpox must be hospitalized and approximately 1 in every 100,000 people who get chickenpox will die from it.

For more information on chickenpox, visit this website:

<http://www.immunize.org/catg.d/p4202.pdf>

Polio



Photo courtesy of the World Health Organization

Polio has caused paralysis in millions of children around the world for centuries.

Usually paralysis affects a child's legs, but it can also affect other muscles, including those that control breathing.

There is no cure for polio.

Four doses of polio vaccine can provide protection for life. Polio has been eliminated from most of the world due to widespread use of the polio vaccine. But, it still exists in a few countries and can easily spread to unvaccinated children or adults. In 2009 and 2010, 23 previously polio-free countries were re-infected when the virus spread to unvaccinated children. As long as a single child remains infected, children in all countries are at risk of contracting polio.

Why should you vaccinate your child against polio if this disease has been eliminated from the Western Hemisphere since 1991?

Because polio still exists in parts of Africa and Asia and can easily be brought back to the U.S. by travelers.

When polio is eliminated from the world we will no longer need to vaccinate against polio, but until then we must vaccinate our children if we want them to be protected.

Polio can only be prevented by immunization.

For more information on polio, visit this website:

<http://www.immunize.org/catg.d/p4215.pdf>

Measles

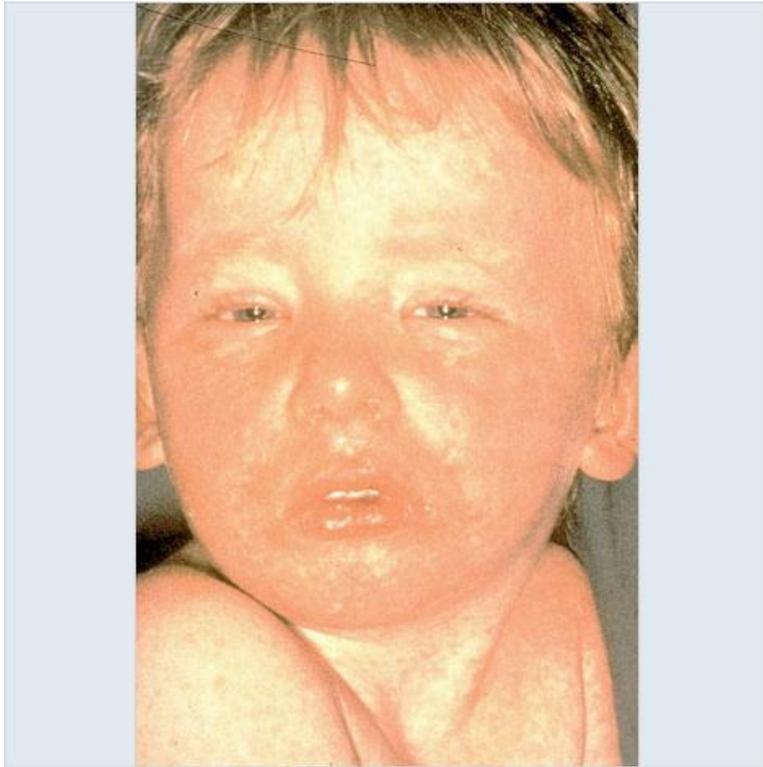


Photo courtesy of the Centers for Disease Control and Prevention

This child has a bad rash caused by measles with runny nose, high fever, and conjunctivitis (inflammation of the lining of the eye).

The typical measles fever is 104°F.

Measles is so contagious almost everyone who is not vaccinated will get it if they are exposed.

There is no cure for measles. Health care providers can only treat the symptoms.

Measles can be dangerous, especially for babies and young children. In the United States in 2011, 38 percent of children younger than 5 years old who had measles had to be treated in a hospital.

Measles can lead to pneumonia, a serious lung infection, and it can also cause brain damage, deafness and death. One to three out of every 1,000 children in the U.S. who get measles will die from the disease, even with the best care.

About 150,000 to 175,000 people die from measles each year around the world -- mostly in places where children do not get the measles vaccine.

For more information on measles visit this website: <http://www.immunize.org/catg.d/p4209.pdf>

Rubella



Photo courtesy of the Centers for Disease Control and Prevention

This infant has “blueberry muffin” skin lesions a symptom or sign of congenital rubella. It is hard to believe that rubella can have such terrible consequences because it is such a mild disease in most people. Many people don’t even know they have it.

Rubella can infect anyone of any age who is not immune and there is no specific treatment for rubella. Rubella is a mild rash illness that can have devastating effects on a baby if the mother gets rubella while she is pregnant.

Rubella during early pregnancy may cause fetal death or congenital rubella syndrome (CRS), which is characterized by multiple birth defects including:

- Blindness
- Deafness
- Heart defects
- Mental retardation

Up to 85 percent of babies born to mothers who have rubella in the first three months of pregnancy will be born with one or more birth defects.

For more information on rubella, visit this website: <http://www.immunize.org/catg.d/p4218.pdf>

Pneumococcal Disease



Pneumococcal disease is an illness caused by the pneumococcus bacteria.

About 4,000 cases of serious pneumococcal disease (meningitis and sepsis) occur each year in children under 5 in the U.S.

These illnesses can lead to disabilities like deafness, brain damage, or loss of arms or legs.

The pneumococcal vaccine (PCV13) protects against this disease.

There are many types of pneumococcal disease.

© Copyright American Academy of Pediatrics
Child with pneumococcal disease

Pneumococcal pneumonia (lung infection) is the most common serious form of pneumococcal disease. It causes fever and chills, cough, rapid breathing or difficulty breathing, and chest pain.

Pneumococcal meningitis is an infection of the covering of the brain and spinal cord. It causes stiff neck, fever and headache, pain from bright lights, and confusion. In babies, meningitis may cause poor eating and drinking, low alertness, and vomiting. About one out of every 10 children who gets pneumococcal meningitis will die even with treatment.

Blood infection (bacteremia and sepsis) causes fever, chills and low alertness.

Pneumococcal disease causes up to half of middle ear infections (otitis media). However, other bacteria also cause ear infections in this age group. The pneumococcal vaccine prevents about seven of every 100 ear infections and about 20 of every 100 severe ear infections requiring tubes.

For more information on pneumococcal disease, visit this website:
<http://www.cdc.gov/vaccines/vpd-vac/pneumo/fs-parents.html>.

Rotavirus



Photo courtesy of the Centers for Disease Control and Prevention
Doctor examining a dehydrated child.

Before the use of rotavirus vaccine, nearly all children in the U.S. got rotavirus before age five. Rotavirus can cause severe diarrhea, high fever and vomiting. Because the diarrhea and vomiting can be severe, a child can quickly become dehydrated (suffer a dangerous loss of body fluid) from rotavirus disease and have to be hospitalized.

Rotavirus is unpredictable. While most children will have a mild case, some can have a severe case. There's no reliable way to tell what kind of experience a child will have.

Rotavirus can be serious. In the U.S. before the vaccine, 20 to 60 children died because of rotavirus disease each year.

For more information on rotavirus visit this website: <http://www.immunize.org/catg.d/p4217.pdf>

For information on other vaccine-preventable diseases such as whooping cough (pertussis), Hib, hepatitis A, hepatitis B and mumps, visit these websites:

<http://www.vaccineinformation.org/diseases/>

<http://www.immunizationinfo.org/vaccines>

<http://www2.aap.org/immunization/illnesses/illnesses.html>

Vaccine Side Effects

It is helpful for child care staff to know what vaccine side effects to expect in children. Most side effects such as soreness, redness and swelling at the place where the shot was given are mild and last only a few days. These are the side effects child care staff will most likely notice.

The types of side effects and how often they can be expected are listed below for the vaccines recommended for children from birth through 6 years of age so you will know what to expect.

DTaP Vaccine

- About 50 percent of children who receive DTaP vaccine will have no side effects.
- Up to 25 percent (one out of four) of children will develop a fever and redness or swelling where the shot was given. These problems occur more often after the fourth and fifth doses of the DTaP series than after the first three doses.
- Up to 33 percent (one out of three) children vaccinated with DTaP will be fussy for one to three days after the shot.
- About 10 percent will be tired or have a poor appetite for one to three days after the shot.
- About 2 percent (two out of every 100) will have vomiting usually occurring one to three days after the shot.
- Less than 1 percent one percent of children experience moderate reactions such as:
 - About one child out of 1,000 will have prolonged crying (three hours or more)
 - About one child out of 14,000 will have a high fever and febrile seizure
 - About one child out of 16,000 will becoming limp, pale, less alert or have a high fever (over 105°F)
- Serious allergic reactions happen less than one out of 1 million doses.
- Severe reactions are very rare but can include:
 - Long-term seizures, coma, or lowered consciousness
 - Permanent brain damage

These severe reactions are so rare it is hard to tell if they are caused by the vaccine or if they were caused by something else.

Hib Vaccine

- Approximately 75 percent of children who receive Hib vaccine will have no side effects.
- About 10 to 25 percent will have pain and tenderness where the shot was given which lasts two to three days.
- Mild fever occurs in 2 percent of children who receive Hib vaccine.
- Hib vaccine is not known to cause serious adverse events.

Hepatitis A Vaccine

- About 50 percent of the children who receive hepatitis A vaccine will experience no side effects.
- One out of five children (20 percent) will have a mild reaction at the injection site, such as tenderness, pain or swelling.
- Less common side effects include headache and loss of appetite. Low-grade fever and tiredness are reported in less than 10 percent of people vaccinated. When these problems happen, they usually start three to five days after vaccination and usually last for one or two days.

Hepatitis B Vaccine

- More than 65 percent of children who receive hepatitis B vaccine will experience no side effects. The side effects that do occur are primarily mild reactions such as tenderness where the shot was given or low-grade fever.
- Severe allergic reactions occur in about one case per 600,000 doses given.

Inactivated Poliovirus Vaccine (IPV)

- Most children experience no side effects after receiving IPV.
- Some children may experience pain and tenderness where the shot was given within 24 hours of vaccination. These reactions are generally mild and last two to three days.
- IPV vaccine is not known to cause serious side effects.

Measles, Mumps, Rubella Vaccine (MMR)

- More than 80 percent of children who receive MMR will experience no side effects.
- The majority of side effects that do occur will be mild and include tenderness, redness or swelling at the injection site.
- A rash, low-grade fever and swelling of the lymph glands can follow MMR vaccine.
- Temporary joint pain, stiffness or swelling also can occur, especially in adult women.
- A mild rash develops in 2 percent of measles vaccine recipients and lasts about two days.
- The fever and rash associated with the MMR vaccine usually occur seven to 10 days after the vaccination and usually last only one to two days.
- Moderate fever (103°F) can occur in up to 5 percent of recipients usually beginning eight to nine days after vaccination and lasting one to two days.
- In about three or four out of every 10,000 MMR doses given, high fever will result in a seizure. Most of these are simple febrile seizures. Simple febrile seizures are over in moments with no lasting consequences but they can be very scary.
- About 60 out of every 10,000 children who get measles disease will have a febrile seizure.
- Encephalopathy (brain inflammation) occurs approximately once for every 2 million doses of measles vaccine distributed. Encephalopathy following measles vaccine is much less frequent than encephalopathy after measles disease. About one in every 2,000 children who gets measles disease develops encephalopathy.

Pneumococcal Conjugate Vaccine (PCV, PCV7, or PCV13)

- Up to eight out of 10 children will become fussy or irritable and have temporary loss of appetite.
- About 50 percent will have redness or tenderness where the shot was given.
- One out of every three children who receive PCV will have a mild fever.
- Less than 1 percent will have a fever over 102.2°F.
- No serious adverse events have been associated with PCV vaccine.

Rotavirus Vaccine

- More than 90 percent of children who get rotavirus vaccine will have no side effects.
- Children who receive rotavirus vaccine are 1 to 3 percent more likely to have mild temporary diarrhea or vomiting within seven days after getting a dose of rotavirus vaccine than children who did not receive a dose of rotavirus vaccine.
- Moderate or severe reactions have not been associated with this vaccine.

Varicella (chickenpox) Vaccine

- Pain and redness at the injection site are experienced by 19 percent of children who receive varicella vaccine.
- Seven to 21 days after the shot 7 percent experience fever.
- Within the first two weeks following immunization, a small percentage of children (6 percent) may develop a rash that looks like a mild case of chickenpox; 3 percent of children develop a rash at the injection site similar to the chickenpox rash. These rashes usually occur eight to 21 days after vaccination and last a few days.
- A chickenpox-like rash develops on other areas of the body of 5.5 percent of people who receive varicella vaccine.

Severe Reactions

With any medicine, including vaccines, there is a risk of a severe allergic reaction. Severe allergic reactions to vaccines occur at the rate of approximately one in a million doses. It is unlikely that you will ever see a serious reaction, but it is good to know about the possibility. If an allergic reaction occurs, it will usually happen within a few minutes to a few hours after the vaccination. Health care providers are prepared to treat these reactions when they do happen. Signs of a severe allergic reaction can include difficulty breathing, dizziness, swelling of the throat and mouth, hives, fast heartbeat, hoarseness or wheezing. If a child or any person is experiencing serious side effects after receiving a vaccine, call a health care provider right away, or if it appears life-threatening, call 911. You can help the health care provider by writing down what happened and the date and time it happened.

Febrile Seizures

Even though febrile seizures are very rare, it is important for parents to know they are a possibility following some diseases and the vaccines that protect against these diseases.

A febrile seizure is a convulsion in a child triggered by a fever. A febrile seizure can be very frightening for any parent or caregiver. However, most of the time, they do not cause any harm and do not mean the child has a more serious long-term health problem.

Febrile seizures can occur regardless of whether or not a vaccine has been received in otherwise healthy children, usually between ages 9 months and 5 years; most commonly in toddlers. Febrile seizures often run in families.

- During a febrile seizure a child might shake uncontrollably, become unresponsive or even lose consciousness.
- Seizures usually last less than one minute.
- About 2 to 5 percent of young children will have at least one febrile seizure during his childhood, usually between the ages of 6 months and 3 years whether or not the child has received a vaccine.
- Febrile seizures do not cause brain damage, nervous system problems, paralysis, mental retardation or death.
- Ear infections or any cold or viral illness, such as the flu, may trigger a febrile seizure.

Important Points to Consider about Febrile Seizures and Vaccines

- Two vaccines, MMR and DTaP, commonly cause fever, and in a small number of children they cause febrile seizures.
- Febrile seizures occur more frequently in children who have measles and pertussis (whooping cough) than in children who receive the vaccines.
- Sixty out of every 10,000 children who get measles will have a seizure, compared to three or four out of every 10,000 children who receive measles vaccine.
- One out of every 125 children with whooping cough will develop a seizure compared to one seizure out of every 14,000 doses of DTaP vaccine.

You can learn more about febrile seizures at the National Library of Medicine website, Medline at: <http://www.nlm.nih.gov/medlineplus/ency/article/000980.htm>

Sources of Information for this Section - Vaccine Side Effects:

Immunization Action Coalition at: <http://www.immunize.org/>

The National Partnership for Immunization Reference Guide on Vaccines and Vaccine Safety, Second Edition, Copyright 2003

Parent's Guide to Childhood Immunizations Centers for Disease Control and Prevention:

World Health Organization Information Sheets at:

<http://www.who.int/mip2001/files/2127/SuppInfoOnVaccineSafetyPart2.PDF>

Use of Combination Measles, Mumps, Rubella, and Varicella Vaccine Recommendations of the Advisory Committee on Immunization Practices, May 7, 2010 / Vol. 59 / No. RR-3

<http://www.cdc.gov/mmwr/pdf/rr/rr5903.pdf>

Vaccine Safety

The question of vaccine safety is very important for everyone: parents, health care providers, public health officials, scientists, and children. If we don't trust the safety of vaccines obviously we won't use them and the diseases will come back. Despite a constant flow of negative media stories, scientific studies have shown time after time that vaccines are safe and effective for millions of people.

Vaccine safety is a top priority for the vaccine experts who make the recommendations for the use of vaccines in the U.S. "Vaccines have contributed greatly to the health and wellbeing of the people of our nation; however, we must nonetheless be vigilant of any potential safety concern related to vaccines." (Quote from statement of Lester M. Crawford, D.V.M., Ph.D., Acting Commissioner of Food and Drugs before the Senate Committee on Energy and Commerce Nov. 18, 2004)

Steps Taken to Ensure Vaccines are Safe.

First Step: Licensure

Before a vaccine is licensed the U.S. Food and Drug Administration (FDA) sets rules for three phases of clinical trials (testing) to find out:

- If the vaccine works
- If there are any side effects
- If any of the side effects are serious

The FDA reviews the results of the clinical trials to decide if the vaccine can be licensed. When a vaccine is licensed, the FDA also licenses the manufacturing plant or plants where the vaccine will be produced.

Second Step: Continued Safety Monitoring after Licensure

Two systems are used to continually monitor the safety of all vaccines after they are licensed.

1. The Vaccine Adverse Event Reporting System (VAERS).

- This system is used to collect any and all adverse events (possible side effects) that happen after people receive a vaccine.
- An adverse event is any health problem, mild or serious, that occurs after vaccination.
- Anyone can report to this system and people are encouraged to report any event they are concerned about whether or not they think the vaccine caused the event.
- Health care providers, parents and patients are all encouraged to report so that very rare vaccine side effects that occur only once after a million doses or more will be found.
- Not all events reported to the system are caused by vaccines. For example, a person might catch a cold on the day they receive a vaccine and the cold symptoms the person has the next day may be reported to the system, but are not necessarily caused by the vaccine. Further study must be done to determine whether or not a specific event is related to the vaccine or vaccines.

- For more information on the VAERS system, visit the website at: <http://vaers.hhs.gov/index>.

2. The Vaccine Safety Datalink Project

- This project is built on a network of healthcare providers from all across the U.S.
- The system has access to the health care information of approximately 9 million people. The system does not use any identifying information, because it doesn't need any identifying information.
- It has information on the age of the patient, what vaccines a person received and when, what health problems the person has, when the person visits a clinic or a hospital or an emergency room.
- This system is used to monitor all new vaccines. It can identify problems very quickly because the information is updated and reviewed weekly to identify any increased number of problems following vaccinations.
- Every week the rate of adverse events in people who have received a particular vaccine are compared with the rate of adverse events in a similar group of people who did not receive the vaccine.

For more information on the Vaccine Safety Datalink project, visit this website:

http://web.texaschildrens.org/carecenters/vaccine/Vaccines_VSD.aspx.

Common Questions about Vaccine Safety

The following information addresses some of the most common questions about vaccines:

Do vaccines cause autism?

Extensive research has not found a link between vaccines and autism, no matter whether or not the child receives one vaccine or multiple vaccines on the same day. It is true that more American children are being diagnosed with autism, and scientists have not yet determined what causes autism, but the results of studies are very clear; the data show no relationship between vaccines and autism.

- Ten years ago, most people agreed that we needed to study vaccines in relation to autism. We had to find out if the increase in the number of cases of autism was related to the increase in the number of vaccines that children are receiving.
- Autism is one of several neurological disorders that can occur in childhood along with attention deficit hyperactivity disorder (ADHD), cerebral palsy and traumatic brain injury.
- A neurological disorder is a disorder of the nervous system, which includes the brain, spinal cord and nerves.
- Scientists looked at children who received vaccines and those who didn't, or who received them on a different, slower schedule.
- There was no difference in the rate of neurological disorders, such as autism, in children who received vaccines compared to those who didn't receive vaccines.
- This tells us that vaccines are most probably not causing the increase in autism and we need to look for other possible causes.

- Multiple studies have investigated the measles, mumps and rubella vaccination in relation to autism and no link was found.
- Researchers have also studied thimerosal, a mercury-based preservative, to see if it is connected to autism and no connection or relationship has been found.

(Adapted from information provided by the Autism Science Foundation at: <http://www.autismsciencefoundation.org/autismandvaccines.html>, accessed 8-14-2013.)

Do kids get too many vaccines?

No, infants are exposed to thousands of germs (virus and bacteria) from the time they are born. Vaccines simply expose children to weakened viruses and bacteria or parts of a virus or bacteria. Even though the number of shots given has increased over the years, individual vaccines are safer than ever before because they contain fewer components.

Consider this quotation from “*A Parents’ Guide to Kids’ Vaccines*,” published by the U.S. Food and Drug Administration:

“Because of advances in science and manufacturing, it is easier than in the past to be sure that vaccines are highly pure. Vaccines represent only a minor stimulation of the infant immune system compared to the large number of potentially dangerous bacteria and viruses babies routinely encounter: starting immediately after a baby is born; thousands of different bacteria begin to live on the skin and the lining of the nose, throat and intestines. The baby’s immune system rapidly launches immune responses to these bacteria that prevent them from invading the blood stream.”

Source:

<http://www.fda.gov/BiologicsBloodVaccines/ResourcesforYou/Consumers/ucm345587.htm#parents> accessed on 8-12-2013.

Are some ingredients in vaccines dangerous?

No. Remember, all vaccines undergo extensive safety testing before licensure. The three ingredients that are most often questioned are: aluminum, formaldehyde and thimerosal.

Aluminum Information

- Aluminum is the most common metal found in nature, and we eat, drink and breathe tiny amounts daily.
- Aluminum in the form of aluminum salts is added to vaccines to help the body produce a better immune response to a vaccine.
- Aluminum does not build up in the body to a significant level.
- Most of the aluminum that enters the body is filtered by the kidneys and quickly eliminated in urine.
- About half of the aluminum from vaccines is eliminated from the body within one day.
- Aluminum has been used safely in vaccines for more than 70 years.

The amount of aluminum in vaccines is very small. For example, in the first six months of life, infants receive about 4 milligrams* of aluminum total if they get all of the recommended vaccines. However, during this same period they will get about 10 milligrams of aluminum if they are breastfed, 40 milligrams if they are fed regular infant formula, and up to 120 milligrams if they are fed soy-based infant formula.

*A milligram is one-thousandth of a gram and a gram is the weight of one-fifth of a teaspoon of water. So a milligram is one-fifth of a teaspoon divided into 1,000 parts.

Source: <http://www.chop.edu/export/download/pdfs/articles/vaccine-education-center/vaccine-ingredients.pdf> accessed on 8-15-2013.

Formaldehyde Information

- At room temperature, formaldehyde is a colorless, flammable gas that has a distinct, pungent smell.
- Formaldehyde is naturally produced in small amounts in our bodies and in some plants.
- Formaldehyde is used in the production of fertilizer, paper, plywood and formaldehyde resins.
- It is used in many industries and in hospitals and laboratories.
- It is also used as a preservative in some foods and in many products around the house such as antiseptics, medicines and cosmetics.
- Everyone is exposed to small amounts of formaldehyde in the air and some foods and products.
- The most common way people are exposed to formaldehyde is by breathing it. The highest potential exposure occurs in the formaldehyde-based resins industry.
- Formaldehyde is given off as a gas from the manufactured wood products used in new mobile homes.
- People can also be exposed to formaldehyde from fiberglass, carpets, permanent press fabrics, paper products, and some household cleaners. (*Washing new permanent press clothing before wearing can help lower exposure.*)
- Smog is a major source of formaldehyde exposure.
- Cigarettes and other tobacco products, gas cookers and open fireplaces are also sources of formaldehyde exposure.
- The amount of formaldehyde in foods is very small.
- The amount of formaldehyde in vaccines is extremely small.
- Formaldehyde does not build up in plants, animals and humans.
- The quantity of formaldehyde normally found in human blood is 10 times greater than that found in any vaccine.

Source: <http://www.chop.edu/export/download/pdfs/articles/vaccine-education-center/vaccine-ingredients.pdf>

Sources of Information on Formaldehyde

The Children's Hospital of Philadelphia:

<http://www.chop.edu/service/vaccine-education-center/vaccine-safety/vaccine-ingredients/formaldehyde.html>

Agency for Toxic Substances and Disease Registry <http://www.atsdr.cdc.gov/tfacts111.pdf>

Thimerosal Information

- Thimerosal is a preservative containing mercury used since the 1930s to insure the safety of many drug products including vaccines.
- Thimerosal is used in vials containing 10 or more doses of vaccine to prevent bacteria from growing in the vial if it gets in when doses are withdrawn from the vial.
- We know that mercury at high levels is toxic to humans, but people can handle small amount of mercury because our bodies eliminate it.
- ***We also know that we are all exposed to mercury through water, air and by eating certain fish, but the level of mercury must be high enough to cause damage to the nervous system before it is a health concern.***
- People can be exposed to two types of mercury: methyl mercury and ethyl mercury.
- Methyl mercury, the type of mercury found in fish builds up in the body faster than it leaves the body, so levels of mercury in the body can reach toxic levels. This is usually only a concern for pregnant women.
- ***The type of mercury used in vaccines is ethyl mercury. Ethyl mercury does not accumulate in the human body the way methyl mercury does.*** It leaves the body in urine.
- The amount of mercury that was present in some childhood vaccines prior to 2003 was not enough to cause harm to children or adults.
- ***Currently thimerosal is not used as a preservative in any of the vaccines routinely given to children except flu vaccines packaged in multi-dose vials.***
- Flu vaccine without thimerosal is available if parents are worried about their child receiving thimerosal.
- There are trace amounts of thimerosal (less than 0.3 micrograms) in some vaccines, including some childhood vaccines, but this amount is so tiny it has no effect on humans.
- ***Infants who are exclusively breast-fed will consume more than twice the quantity of mercury than was ever contained in vaccines, but breastfeeding is safe and beneficial.***

For more information on vaccine safety, aluminum, formaldehyde, thimerosal and mercury, visit the following websites:

American Academy of Pediatrics Vaccine Safety:

<http://www2.aap.org/immunization/families/safety.html>

National Institute of Allergies and Infectious Diseases: Mercury Levels in Infants Receiving Routine Immunizations:

<http://www.niaid.nih.gov/topics/vaccines/research/pages/immunizations.aspx>

Vaccine Information Websites

A huge amount of information about vaccines is available on the Internet. Unfortunately, some of the information is not correct. This is especially true in the area of vaccine safety. Some websites provide misleading information and sometimes nothing more than rumors. This can cause parents to be afraid of vaccinating their children for no good reason.

Part of the problem is that there are few controls on what people say on the Internet. Anyone can create a blog or a website and say anything they want to say without having to back it up. So, how do you know who to believe?

One solution to this problem is to use websites that comply with **good information practices** for vaccine safety web sites. The World Health Organization (WHO) has established criteria for **good information practices for vaccine safety websites** and publishes a list of the sites that comply with good information practices. The criteria include: credibility, quality of content, accessibility and design. The following websites located in the United States are on the WHO list of websites that comply with good information practices:

- The National Network for Immunization Information <http://www.immunizationinfo.org/>
- Vaccine Education Center at The Children’s Hospital of Philadelphia
<http://www.chop.edu/consumer/jsp/microsite/microsite.jsp?id=75918>
- Immunization Action Coalition <http://www.vaccineinformation.org/>
- Childhood Immunization Support Program <http://www2.aap.org/immunization/>
(American Academy of Pediatrics website)
- Centers for Disease Control and Prevention <http://www.cdc.gov/vaccines/parents/index.html>
- Institute for Vaccine Safety (Johns Hopkins Bloomberg School of Public Health)
<http://www.vaccinesafety.edu/>

In addition, the following websites are recommended by the Oklahoma State Department of Health Immunization Service:

- Vaccinate Your Baby: <http://www.vaccinateyourbaby.org/>
- Texas Children’s Hospital Center for Vaccine Awareness and Research:
<http://www.texaschildrens.org/vaccine/>
- The History of Vaccines: <http://www.historyofvaccines.org/>
- National Institutes of Allergy and Infectious Diseases:
<http://www.niaid.nih.gov/topics/vaccines/understanding/Pages/vaccineBenefits.aspx>
- California Immunization Coalition: ShotByShot.org: <http://shotbyshot.org/>
- Smithsonian National Museum of American History:
<http://amhistory.si.edu/polio/americanepi/index.htm>



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