



IMMUNICATIONS

Vaccinate at Every Life Stage

Fall 2014

Influenza Is Coming to Town

By Karen Lewis, MD, AIPO Medical Director

Influenza viruses are predictably unpredictable. We know that influenza infections circulate every winter. What we don't know is the month in which influenza will start to appear. Influenza can start circulating in Arizona as soon as November or as late as February. Once influenza surges, it usually continues to cause infections for several months. Some years, influenza can still be circulating through April or May.

The best way to protect patients from influenza is to start giving them influenza vaccines as soon as vaccines are available, so they have time to build immunity before the influenza season starts. Influenza vaccine should continue to be offered to unvaccinated patients until influenza stops circulating in the spring.¹

The Centers for Disease Control and Prevention (CDC) recommends that everyone 6 months and older receive yearly influenza vaccination.¹ However, many people do not receive an influenza vaccine. In the U.S. during the 2013–14 influenza season, influenza vaccine coverage for children 6 months–17 years was 58.9%, while 42.2% of adults 18 years and older received influenza vaccine. In contrast, during the 2013–14 influenza season in Arizona, only 48.9% of children 6 months–17 years old received influenza vaccine, and only 34.9% of adults 18 years and older received vaccine.²

There are many different influenza vaccine products for the 2014–15 influenza season. This season, influenza vaccines will contain the same vaccine virus strains as those in the 2013–14 vaccines. Trivalent influenza vaccines (IIV3) will contain strains from a 2009 influenza A (H1N1) pandemic virus, an influenza A (H3N2) virus, and an influenza B virus of the Yamagata lineage. Quadrivalent influenza vaccines (both inactivated and live attenuated) will contain these same three antigens, and will have a strain from a B virus of the Victoria lineage.¹

In regards to the inactivated influenza vaccines (IIV), the CDC has not expressed a preference between IIV3 and quadrivalent inactivated influenza vaccines (IIV4). However, the CDC has expressed a preference concerning the quadrivalent live, attenuated, nasal spray influenza vaccine (LAIV4). LAIV4 is preferred over an IIV in healthy children between ages 2–8 years old in whom there is not a contraindication or precaution—as long as LAIV4 is immediately available. If LAIV4 is not immediately available, IIV should be given. Influenza vaccination should not be delayed in order to procure LAIV4 if IIV is available.¹

A child between the ages of 6 months–8 years of age who has never received influenza vaccine will need two doses of influenza vaccine, at least 4 weeks apart.

If a child 6 months–8 years old has previously received at least two influenza vaccines since July 1, 2010, or if the child has received at least one dose of the 2013–2014 influenza vaccine, then the child will only need one dose of influenza vaccine this season. Otherwise, he/she will need two doses this season, at least 4 weeks apart.¹

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Influenza Is Coming to Town (continued)

A more complicated algorithm can be applied, if desired, when vaccination history from before July 1, 2010 is known. If a child aged 6 months through 8 years is known to have received either 1) at least one dose of the 2013–14 seasonal influenza vaccine, or 2) at least two seasonal influenza vaccines during any previous season, and at least one dose of vaccine that contained the 2009 influenza A (H1N1) pandemic strain, then the child in this age range needs only 1 dose of influenza vaccine for the 2014–15 season. A child in this age range for whom one of these conditions is not met will require 2 doses of influenza vaccine for the 2014–15 season.¹

Also, as influenza season approaches, health care providers should remember that more measles cases are being reported in the U.S. because of unimmunized international travelers. Early symptoms of measles can be misdiagnosed as influenza. During the first few days of a measles infection, a person will not have a rash, but will have high fever, cough, runny nose, and redness of the white part of their eyes (conjunctivitis).³

People who are infected with influenza will have fever, cough, and runny nose, but usually do not have conjunctivitis. Therefore, if a patient has an influenza-like illness but also has conjunctivitis, measles should be considered. In addition, measles should be considered in anyone who has an illness with fever and rash that also includes cough, runny nose, and/or conjunctivitis.³

1. Centers for Disease Control and Prevention (CDC). *Morbidity and Mortality Weekly Report (MMWR)*, August 15, 2014.

2. CDC. *MMWR*, September 19, 2014.

3. CDC. *MMWR*, June 6, 2014.

2013 Child and Teen National Immunization Survey Results

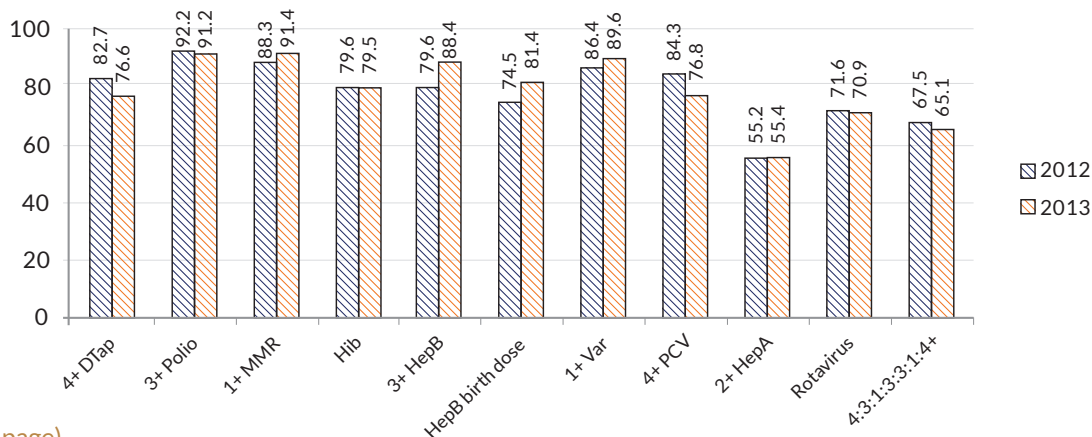
By Alexandra Bhatti, MPH, Immunization Assessment Manager

The National Immunization Survey (NIS) is sponsored by the National Center for Immunization and Respiratory Diseases and is conducted in conjunction with the National Center for Health and Statistics, Centers for Disease Control and Prevention. The NIS is a list-assisted random-digit-dialing telephone survey followed by a mailed survey to children's immunization providers that began data collection in April 1994 to monitor childhood immunization coverage. The NIS is designed to have the power to estimate coverage levels on a state level with clinician validated data. For more information visit: <http://www.cdc.gov/nchs/nis.htm>. The Child National Immunization Survey assesses data for children, ages 19–35 months of age. The Teen National Immunization Survey assesses data for adolescents, ages 13–17 years of age. Complete survey results are available online at: <http://www.cdc.gov/vaccines/imz-managers/coverage/nis/index.html>.



Data from the 2013 Child NIS survey indicates that there were no statistically significant changes in immunization coverage rates from 2012 to 2013. Coverage rates have increased for MMR, HepB and the HepB birth dose, while the coverage rates decreased for Hib, DTap and Polio. Arizona has reached the Healthy People 2020 (HP2020) target for Polio and MMR. Varicella coverage is 89.6% which is just 0.4% short of the HP2020 goal of 90% coverage. Overall, Arizona is at or below the national coverage for DTap, Polio, MMR, Hib, 3+ HepB, Varicella, PCV, Rotavirus and the 4:3:1:3:3:1:4 series. Arizona is almost 10% above the national coverage rate for the Hep B birth dose.

Child National Immunization Survey 19-35 months

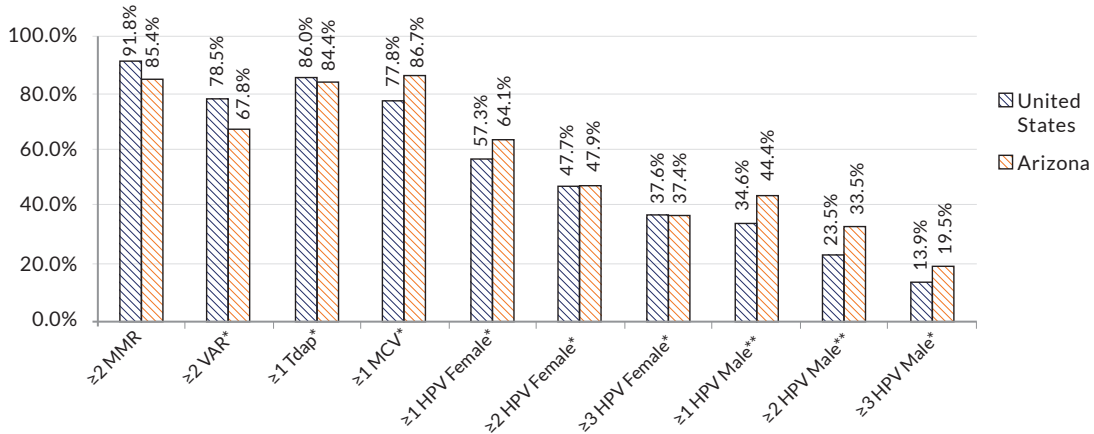


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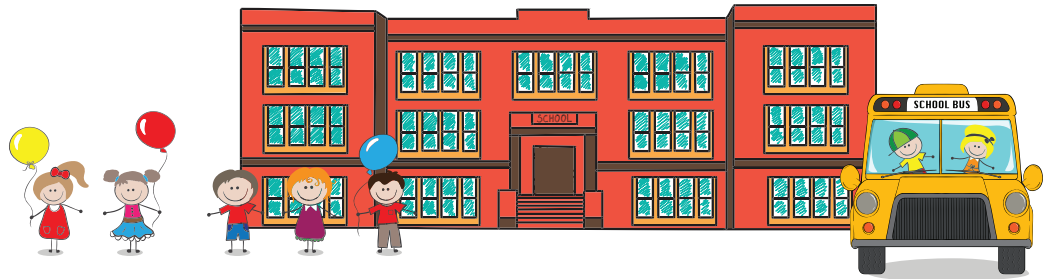
2013 Child and Teen National Immunization Survey Results (continued)

From the data received by the Teen National Immunization Survey, Arizona overall has the same or higher coverage rates as the United States' average. While the United States had statistically significant percentage point increases from 2012 for all immunizations but ≥ 2 MMR (measles, mumps rubella), Arizona had statistically significant increases for both ≥ 1 and ≥ 2 doses of the human papillomavirus vaccine (HPV) for males. What is impressive, however, is the increase in the vaccination coverage rate for males receiving one or more doses of the HPV vaccine. Since Arizona began tracking male HPV vaccine coverage rates in 2012, the percent of coverage has increased dramatically from 8% to 44%. This year, Arizona reached its HP2020 goal of 80% coverage for ≥ 1 dose of Tdap and ≥ 1 dose of MCV. Arizona is still working towards reaching the goals of 90% coverage for ≥ 2 doses of VAR and 80% coverage for ≥ 3 doses of HPV vaccine among females.

Teen National Immunization Survey



School Immunization Facts for the Provider



IMMUNIZATION DATA REPORT (IDR)

- Completed annually for: Grades Kindergarten and 6th grade and Childcare/Pre-K by November 15th
- Required by the Arizona Revised Statutes §15-874
- Reports individual vaccination coverage rates, exemption rates
- Data is used to assess immunization coverage levels within the state
- This data is shared with the Centers for Disease Control and Prevention (CDC) and others

SEE INDIVIDUAL SCHOOL AND CHILDCARE DATA

- Check out individual school and childcare immunization and exemption data on our website (coming soon!!)
- You will be able to see the coverage rates for individual vaccines for every school and childcare/Pre-K in Arizona
- Schools and Childcare/Pre-K with less than 20 students in the grade assessed are omitted

PROVIDER OFFICE AND SCHOOL COMMUNICATION

- The HIPAA Privacy Rule permits a covered health care provider to disclose proof of immunization directly to a school that is required by law to have such proof prior to admitting a student, with the oral or written agreement of a parent or guardian
- The agreement itself need not be in writing, but a health care provider is required to document the agreement to the disclosure
- See 45 CFR 164.512(b)(1)(vi)

What Vaccine Safety Means

By Karen Lewis, MD, AIPO Medical Director

When scientists say that vaccines are safe, it is because researchers have performed many careful studies. When a pharmaceutical company develops a new vaccine, the vaccine goes through rigorous testing. Eventually it is tested in a Phase 1 trial in which a small group of people receive the vaccine in order to study its safety, determine a safe dosage range, and identify any side effects. If the Phase 1 trial goes well, researchers move on to a Phase 2 trial, where the vaccine is given to a larger group of people to see if the vaccine is effective and to continue to study its safety. If the Phase 2 trial goes well, researchers move on to Phase 3 trials, where the vaccine is given to large groups of people to further show its effectiveness and to get more information about any side effects. A vaccine is licensed by the U.S. Food and Drug Administration (FDA) only when Phase 3 trials show that it is effective and that side effects are much less than the side effects of the actual disease. After licensing, the vaccine can be sold and used in the U.S. The pharmaceutical company continues to study the new vaccine, in order to gather more information on how effective the vaccine is in various populations and to see if there could be any rare side effects that the Phase 3 trials did not identify.¹ In addition to the FDA process, the Centers for Disease Control and Prevention (CDC) monitors and studies vaccine safety in many ways.²

However when parents ask “Is this vaccine safe?” they are asking “Will my child get sick after this vaccine?” They will be focusing on any local reactions, fever, fussiness, and any illness that could happen within days, weeks, or months after the vaccine. Many parents do not see vaccine safety as an issue of multiple clinical trials. They see it as an issue of what will happen to their child after vaccination.

Scientists can only tell parents what has been learned about vaccines from the vaccine trials. They cannot predict everything that will happen to an individual child after vaccination because many things will happen that have nothing to do with the vaccination. For example, a child could get an influenza vaccine and two days later be diagnosed with strep throat. Influenza vaccines do not protect against strep throat and cannot cause strep throat. However, parents may not know that the bacteria causing strep throat has nothing to do with influenza, and they may think that the “flu” vaccine caused the strep throat. I have found that it sometimes helps to give parents an analogy. I ask them the following: If they were to put gas in their car and then later got a flat tire, would that mean putting gas in the car had caused the flat tire? No. The two events were just a coincidence.

By scientific study, we know that vaccine-preventable diseases cause serious illnesses and death. By scientific research, we know vaccines are effective in preventing vaccine-preventable illnesses, and that vaccines are very safe. However, we also need to keep educating parents about how scientists study vaccines and why we are able to say that vaccines are very safe. Reliable sources to help educate parents about vaccine safety and vaccine-preventable diseases can be found at the Immunization Action Coalition (IAC)³ and the CDC.⁴

1. The FDA's Drug Review Process. www.fda.gov/Drugs/ResourcesForYou/Consumers/ucm143534.htm
2. CDC. Vaccine Safety and Adverse Events. www.cdc.gov/vaccines/vac-gen/safety/default.htm
3. IAC. Vaccine Safety. www.immunize.org/safety
4. CDC. Vaccines and Immunizations. www.cdc.gov/vaccines

Summary of Reportable Vaccine-Preventable Diseases January–September, 2014^{1,2}

By Askari Addison, MS, MPH, & Susan Goodykoontz, Vaccine-Preventable Disease Epidemiologists

	JAN.–SEPT., 2014	JAN.–SEPT., 2013	JAN.–SEPT. 5-YEAR MEDIAN
Measles	0	1	1
Mumps	9	1	3
Rubella (Congenital Rubella Syndrome)	0 (0)	0 (0)	0 (0)
Pertussis (confirmed)	375 (212)	1,220 (943)	641 (94)
<i>Haemophilus influenzae</i> , serotype b invasive disease (<5 years of age)	0 (0)	2 (2)	2 (1)
Meningococcal infection, invasive	9	10	11
<i>Streptococcus pneumoniae</i> , invasive	600	625	625
Hepatitis A	29	64	58
Hepatitis B, acute	41	40	111
Hepatitis B, chronic	992	640	654

¹ Data are provisional and reflect case reports during this period.

² These counts reflect the year reported or tested and not the date infected.

Guest Shots

In order to represent different viewpoints from around the state we have established the "Guest Shots" section. Each quarter we will have contributing writers or interviews from immunization professionals across the state. This quarter we would like to introduce Dr. Arturo Gonzalez, MD, FAAP.



Dr. Gonzalez completed his Pediatric Residency from St. Vincent's Hospital through the New York University Residency Program. He has been a pediatrician and partner with the Scottsdale Children Group since then, as well as being a member of a Special Interest Group of Immigration Issues. Most recently Dr. Gonzalez served as the president of the Arizona Chapter of the American Academy of Pediatrics, ending his term in 2012. The Immunization Program office was pleased to have Dr. Gonzalez as a plenary speaker at the 2014 Arizona Annual Immunization Conference, speaking on a much too frequently asked question: To Vaccinate or Not to Vaccinate? With vaccination exemption rates increasing slowly each year, we decided to ask Dr. Gonzalez how he approaches the office visit dilemma on vaccine hesitancy.

Questions:

What is the most common reason parents choose not to vaccinate their children?

The main reasons why parents choose not to vaccinate are Fear and Distrust. We have heard what parents are saying when making the choice not to vaccinate: Because vaccines cause Autism; Because we give too many shots and they are overwhelming the Immune system; Because my friend told me not to. As parents, we try to prevent harm, injury and disease in our daily lives by eating the right foods and exercising, wearing helmets and protective gear when playing sports, riding bicycles, motorcycles, and wearing our seat belts, placing our infants and children in safe car seats and booster seats and obeying traffic laws. Vaccines are one such preventative measure. But we need to move from Fear to Trust.

What method do you use when speaking to parents about making the choice to vaccinate?

We do believe in prevention, otherwise we wouldn't do those things, right? When speaking to parents, they need to relate to what you are trying to explain by using analogies that they may understand. So, one of those analogies is the car. We treat our cars better than we treat ourselves. We make sure we buy the safest car available. We follow the manufacturer's instructions for maintenance and safety. We buy the safest car seats for our children.

But early in the history of cars, it wasn't always that way. Cars have gone through a lot of scientific trial and error. Newer safety measures are always being developed. We have come to trust automobile manufacturers and their safety measures. We follow (most of us) the laws that are required in our state. Therefore we have moved from Fear to Trust.

So why do you think this "car versus vaccine" analogy can be successful?

By having the safest car available you are anticipating that you are potentially preventing harm for you and your family. Because if you didn't believe in prevention, you wouldn't consider buying the safest car, or wearing your seat belts or putting your children in their car seats, or obeying all traffic laws.

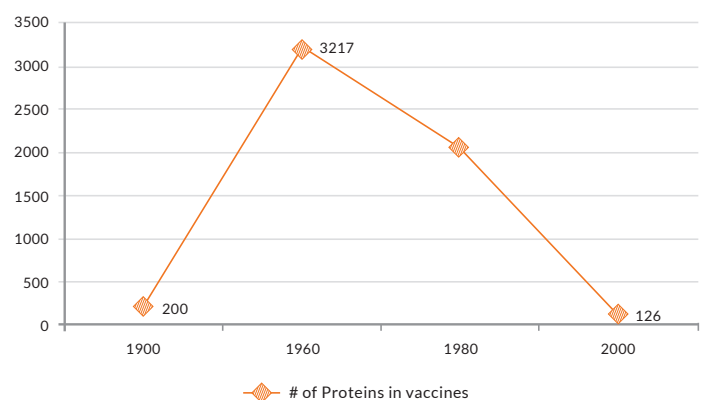
By giving vaccines, you are protecting your children from harmful and even deadly diseases. Just like safe cars, vaccines will protect

us from harm. Car manufacturers continue to improve the safety of our cars and vaccine manufacturers have ongoing research and development to ensure the safety of vaccines.

What do you say to those parents who say the immune system is too fragile to handle all the antigens in vaccines today or that there are too many proteins and polysaccharides contained in the vaccines?

While the number of vaccines we are giving today has increased, the number of immunogenic proteins in vaccines has actually decreased in the past century. The chart below depicts the difference in the past 100 years. So we actually have fewer immunogenic proteins contained in all the vaccines of today than when there was only one vaccine given (Smallpox vaccine) back in 1900.

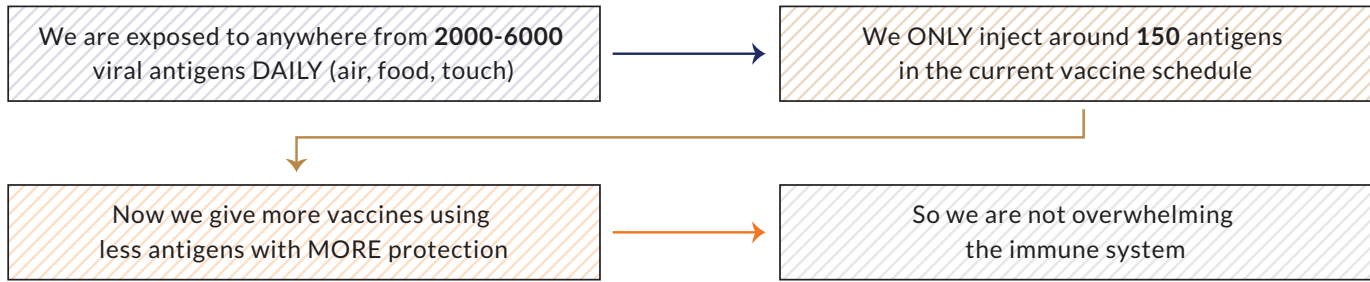
Trend in Number of Proteins in Vaccines from 1900-2000



In response to the concern about vaccines and the young immune system, The American Academy of Pediatrics printed an article in Pediatrics (2002) titled Addressing Parents' Concerns: Do Multiple Vaccines Overwhelm or Weaken the Infant's Immune System? The following box graph shows the highlights of that article. It showed that even the youngest of immune systems are more than capable of handling the antigens associated with the current recommended vaccine schedule.

(Continued on next page)

Guest Shots (continued)



What is the singular message you would like to share?

Vaccines are the single most effective medical measure invented by man to prevent disease. Vaccines have become safer over time as a result of continuous testing and scrutiny.

Just because virus and bacteria are microscopic and we can't see them, it doesn't mean they don't exist. Vaccines will give that protection not just to the one receiving the vaccine, but to us all. Vaccines are safe – tell your friends!

Vaccine Center Update

By Tiffany McRae, MS, Vaccine Center Manager

2014-2015 VFC Influenza Ordering Reminders

The 2014-2015 Vaccines for Children (VFC) Influenza vaccine doses are available to order in ASIIS. When placing your order, please reference the following tips:

- You must reconcile your current VFC vaccine inventory in ASIIS to access your order screen.
- Remember to select the Influenza order set from the “Order Set” drop down menu on the ASIIS order screen. The “Order Set” drop down is located below the comments section on your ASIIS order screen. **Vaccines will not appear on the order screen until you have selected an order set.**
- Temperature logs must be submitted to the Vaccine Center up to the day before the order is placed. For example, if you place your order on September 12th, temperature logs must be submitted with information completed up to September 11th.
- Frequently check the comments section on your order screen in ASIIS. The Vaccine Center uses the comments section to communicate information about your order.
- Please place your influenza order monthly, bi-monthly, quarterly or as you would for your other VFC vaccines. On rare occasions, providers will be allowed to place an additional influenza order in the same month, with the approval of the Vaccine Center. These orders can only be approved as long as there is a sufficient supply of influenza vaccines and all other VFC order requirements have been met.

Please feel free to contact the Vaccine Center at 602-364-3642 if you have any further questions.

2013-2014 Expired VFC Influenza Vaccines

If you still have expired doses of VFC Influenza vaccines from the 2013-2014 influenza season, please make sure you complete the 2013-2014 Wasted/Expired Flu Vaccine Return Form. The form can be found at the following link:

<http://azdhs.gov/phs/immunization/documents/vaccines-for-children/forms/wasted-expired-flu-vaccine-return-form.pdf>. Please email the completed form to arizonavfc@azdhs.gov or it can be faxed to 602-364-3276. Providers must also ensure that all influenza doses are reconciled in your ASIIS inventory. If you need assistance with inventory reconciliation, please contact the ASIIS hotline at 877-491-5741. **Do not discard VFC Influenza Vaccines doses—they must be returned to the distributor.** Once we receive the wasted/expired form, we will have a return label sent to your office.

Vaccine Center Change—Storing VFC Vaccines

The Arizona Immunization Program Office is no longer able to accept and store viable VFC vaccines from VFC providers who are inactivating from the VFC program, need temporary storage due to a move, or are a school and need to move VFC vaccines during the winter, spring or summer breaks. Our refrigerator and freezer have been moved to the state lab for further use. If you need to transfer vaccines for any of the reasons listed above, please contact the Vaccine Center for a list of participating providers in your area that you can work with to transfer the vaccines. If you are unable to find a provider that is willing to accept the vaccines, please contact your local County Health Department. They may be willing to accept the vaccines as well. Do not discard any VFC vaccines. Providers that discard VFC vaccines will be required to replace the vaccines on a dose for dose basis using private stock vaccines.

Orders Marked “Urgent” in ASIIS

Please do not mark orders as urgent in ASIIS. Orders marked urgent will not be shipped to providers any sooner than the normal shipping time. Urgent orders are only shipped to CDC for the following reasons:

- Disease Outbreak
- Flooding
- Other Natural Disasters

Connecting the Dots in ASIIS (Arizona State Immunization Information System)

By Sanket Solgama, ASIIS Administrative Manager

Entering data and regularly updating information in ASIIS can be a challenging task, in a hectic clinical environment. It is easy to skip entering non-required information to save a little time. However, in a world of increasingly complex computing environments such as ASIIS, everything is connected. Not entering what may seem like an unnecessary piece of information on the surface, can have far reaching consequences.

ASIIS utilizes all information provided, from patient registration to immunization administration, in complex algorithms to compare, identify, match and even merge records. Here are a few examples: When chart numbers are recycled (entered into ASIIS for two different patients) and patient names are similar, ASIIS can misidentify two distinct patients as the same individual and merge their immunization records. When twin patients are added in ASIIS and multiple birth information is not provided, ASIIS will merge the patient records as one patient. When an immunization is administered and recorded in ASIIS without entering manufacturer or lot number, the ASIIS inventory will not decrement. If your ASIIS inventory is not up-to-date, there could be a delay in your order processing or your order could be denied.

The ASIIS Support team works daily to proactively identify and address data quality situations. Ensuring data accuracy in ASIIS requires attention at the time of entry into ASIIS and continued partnership with clinical personnel. Remember to double-check and enter correct patient demographics in ASIIS. Enter all of the available information, even if it isn't required. When contacting ASIIS Support, provide as many details as possible when reporting issues. After all, ASIIS relies on you to enter and maintain the most complete and accurate immunization records, and patients rely on ASIIS for the most accurate immunization records for clinical decision support at point of care.

Friendly ASIIS reminders:

- Report duplicate records in ASIIS. Please be sure to provide as much detail as possible.
- Update addresses/phone numbers/guardian information during each patient visit.
- Check spelling and dates before saving records.
- Enter optional information, if available.
- Contact ASIIS Support if you have staffing changes in the office, so we can update ASIIS login credentials as necessary.
- If you have questions or need any assistance, contact ASIIS Support via email at ASIISHelpDesk@azdhs.gov or call us Monday -Friday, 8am-5pm at 1-877-491-5741 or 602-364-3899.

New Employees



Norma O'Loughlin, Interoperability Executive Assistant

Rose Ann Beans, Immunization Assessment Specialist

Chayanne Miranda, Administrative Secretary I

Arizona Department of Health Services

Bureau of Epidemiology
and Disease Control Services
Arizona Immunization Program Office
150 N. 18th Avenue, Suite 120
Phoenix, Arizona 85007-3233
(602) 364-3630
azhealth.gov/immun/index.htm

MANAGING EDITOR:

Wendy O'Donnell

EDITORS:

Dana Goodloe, Brenda Jones, Laura Oxley

CONTRIBUTORS:

Dr. Karen Lewis, Alexandra Bhatti, Askari Addison,
Susan Goodykoontz, Dr. Arturo Gonzalez, Tiffany McRae, Sanket Solgama

If you need this publication in an alternative format, contact the
Arizona Immunization Program Office at (602) 364-3630
or 1-800-376-8939 (State TDD/TYY Relay)

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and do not necessarily represent the official views of CDC.

22nd Annual Arizona Immunization Conference


The 22nd Annual Arizona Immunization Conference will be April 22nd & 23rd, 2015 at the Black Canyon Conference Center in Phoenix, Arizona.

The goal of the 22nd Annual Arizona Immunization Conference is to present the most up-to-date immunization information to our community partners and providers. Because immunizations are one of the most effective measures for protecting the health of Arizona communities, it is important for health professionals to unite for immunization related issues.

Please check our website (<http://azdhs.gov/phs/immunization/conference.htm>) often for registration information and conference updates.

For exhibiting information please contact Wendy.ODonnell@azdhs.gov or (602) 364-3635



INFLUENZA VACCINES LICENSED IN THE UNITED STATES Summary by Karen Lewis, MD 9/20/2014						
						
Company	Formulation and Number of Strains [§]	Trade name	Ages	How to Give	Grown in chicken eggs	OK to use if egg allergy
NEWLY LICENSED INFLUENZA VACCINES in 2013						
Medimmune	LAIV4 ^{°°}	FluMist Quadrivalent [®]	2-49 yo	Intranasal	Yes	No
GSK	IIV4	Fluarix Quadrivalent [®]	≥ 3 yo	IM	Yes	Yes [¶]
GSK	IIV4	FluLaval Quadrivalent [®]	≥ 3 yo	IM	Yes	Yes [¶]
Sanofi Pasteur	IIV4	Fluzone Quadrivalent [®]	≥ 6 mo	IM	Yes	Yes [¶]
Novartis	ccIIV3	Flucelvax [®]	≥ 18 yo	IM	No*	Yes [¶]
Protein Sciences	RIV3	FluBlok [®]	18-49 yo	IM	No [°]	Yes
ADDITIONAL TRIVALENT INFLUENZA VACCINES						
CSL	IIV3	Afluria [®]	≥ 9 yo ^Δ	IM	Yes	Yes [¶]
GSK	IIV3	Fluarix [®]	≥ 3 yo	IM	Yes	Yes [¶]
GSK	IIV3	FluLaval [®]	≥ 3 yo	IM	Yes	Yes [¶]
Novartis	IIV3	Fluvirin [®]	≥ 4 yo	IM	Yes	Yes [¶]
Novartis	IIV3	Agriflu [®]	≥ 18 yo	IM	Yes	Yes [¶]
Sanofi Pasteur	IIV3	Fluzone [®]	≥ 6 mo	IM	Yes	Yes [¶]
Sanofi Pasteur	IIV3	Fluzone High Dose [®]	≥ 65 yo	IM	Yes	Yes [¶]
Sanofi Pasteur	IIV3	Fluzone Intradermal [®]	18-64 yo	Intradermal	Yes	Yes [¶]
<p>[¶] Permitted if mild to moderate egg allergy, but not when there is anaphylactic reaction to eggs.</p> <p>*Influenza virus grown in cell culture (not eggs) but vaccine may not be completely free of egg protein due to influenza viruses having previously been grown in eggs.</p> <p>[°]Manufactured with recombinant DNA technology by inserting influenza hemagglutinin genes into baculoviruses; as the baculoviruses grow in cell culture, they also produce influenza hemagglutinins.</p> <p>[§]Abbreviations: IIV: Inactivated influenza vaccine. ccIIV: Cell culture inactivated influenza vaccine. RIV: Recombinant influenza vaccine. LAIV: Live attenuated influenza vaccine. The numbers at the end of the abbreviations show how many influenza strains (3=2A, 1B; 4=2A, 2B). IM: Intramuscular.</p> <p>^ΔMay be given at age ≥ 5 years old If there is no other age-appropriate, licensed inactivated seasonal influenza vaccine available for a child aged 5-through-8 years who has a medical condition that increases the child's risk for complications from influenza.</p> <p>^{°°}LAIV is preferred to IIV in healthy children 2-8 years old without contraindications or precautions when it is immediately available. However, IIV should be given if LAIV is not immediately available. Influenza vaccination should not be deferred in order to procure for LAIV.</p>						
<p>➤ For more details, see Morbidity and Mortality Weekly Report, August 15, 2014.</p>						

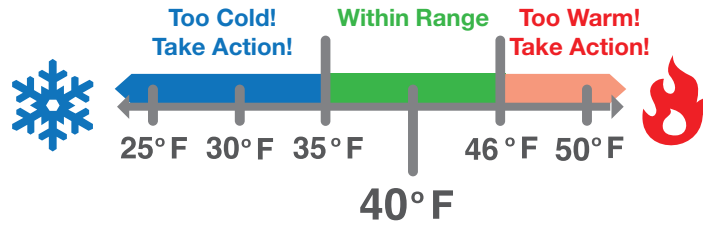
1 Store vaccine at ideal temperature: 40°F



Never freeze refrigerated vaccine!

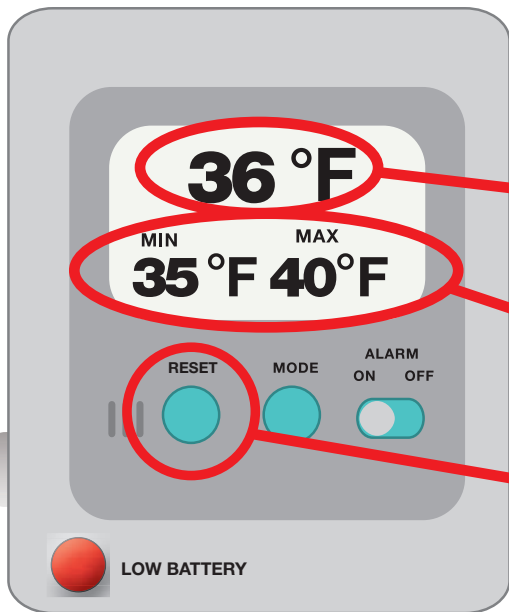
Exception: MMR can be stored in fridge or freezer

Refrigerated Vaccine



Report out of range temperatures immediately!

2 Record daily temperatures



Three Steps - Twice a Day: Temperatures should be checked and recorded first thing in the morning and before leaving at night.

- 1 Current Temperature:** The temperature that the refrigerator is right now.
- 2 Min/Max:** The coldest and warmest the refrigerator has been since you last reset the thermometer.
- 3 Reset:** The button you push after you have checked the Min/Max.



Best Practices

3 Take action if out of range!

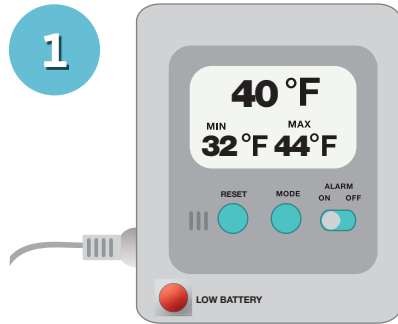
- Contact your state or local health department immediately. Or if private vaccine call the manufacturer directly.
- Tell them the total amount of time the refrigerator was out of range.
- **Take your time** - Read and record temperatures accurately.
- **Make your mark!** Initial the log when recording temperatures.
- **Leave it blank** - if a temp was not recorded, leave the space blank!

Test Your Knowledge



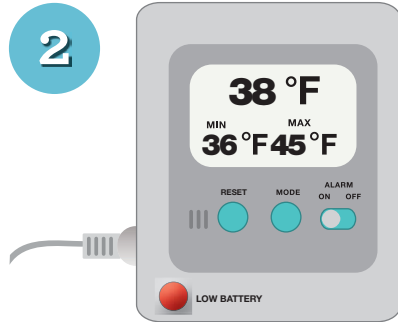
Review the below temperature readings and select the correct answer.

1



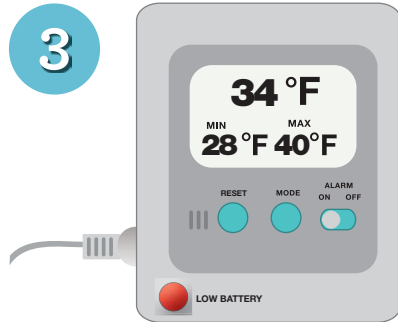
- A. Current temp and min/max are within range - no action necessary
- B. Current temp is within range, min/max out of range - take action
- C. Current temp is within range, min/max out of range - no action necessary
- D. Current temp and min/max are out of range - take action

2



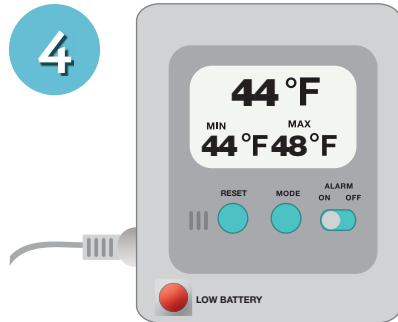
- A. Current temp and min/max are within range - no action necessary
- B. Current temp is within range, min/max out of range - take action
- C. Current temp is within range, min/max out of range - no action necessary
- D. Current temp and min/max are out of range - take action

3



- A. Current temp and min/max are within range - no action necessary
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4



- A. Current temp and min/max are within range - no action necessary
- B. Current temp is within range, min/max out of range - take action
- C. Current temp is within range, min/max out of range - no action necessary
- D. Current temp and min/max are out of range - take action

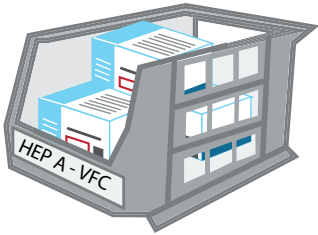
5

Take action means (circle any that apply)

- A. Remove all vaccines that were out of range and discard them
- B. Call the state/local VFC program (or manufacturer if private vaccine) for guidance
- C. Notify practice vaccine coordinator to change the temperature controls to get the refrigerator back in range
- D. Thaw any vaccines that got frozen for 45 minutes

Vaccine Storage Best Practices for Refrigerated Vaccines—Fahrenheit (F)

1 Unpack vaccines immediately



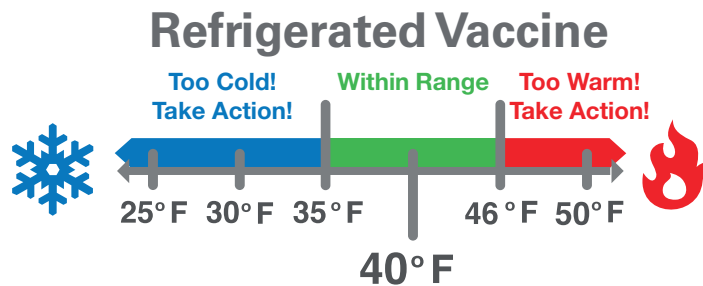
1. Place the vaccines in trays or uncovered containers for proper air flow.
2. Put vaccines that are first to expire in front.
3. Keep vaccines in original boxes with lid closed to prevent light exposure.
4. Separate and label by vaccine type and VFC/Public or private vaccine.

2 Store vaccine at ideal temperature: 40°F



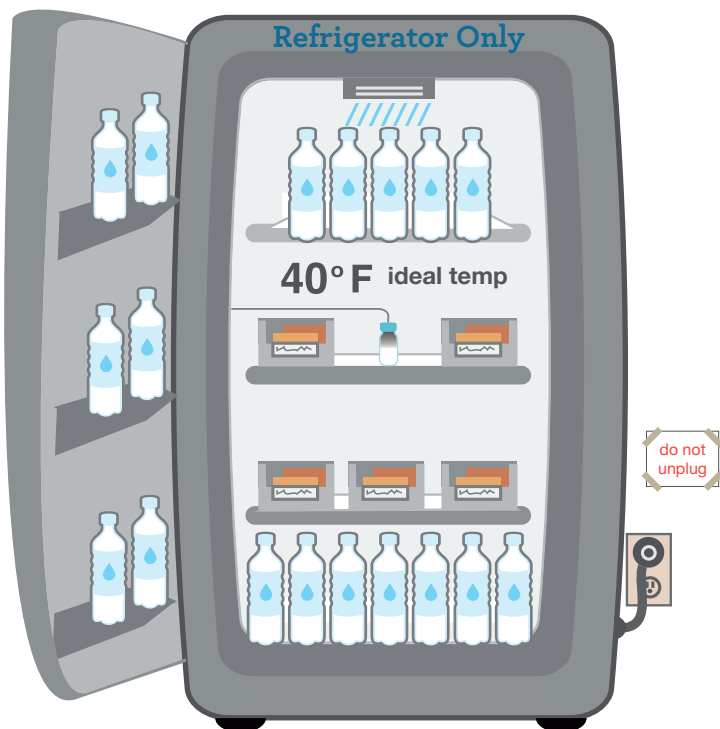
Never freeze refrigerated vaccine!

Exception: MMR can be stored in fridge or freezer



Report out of range temperatures immediately!

3 Use vaccine storage best practices



DO

- ✓ Do make sure the refrigerator door is shut!
- ✓ Do replace crisper bins with water bottles to help maintain consistent temperature.
- ✓ Do label water bottles "Do Not Drink."
- ✓ Do leave 2-3 inches between all vaccines containers and refrigerator walls.
- ✓ Do post "Do Not Unplug" signs on refrigerator and by electrical outlet.

DON'T

- ✗ Don't use dormitory-style refrigerator.
- ✗ Don't use top shelf for vaccine storage.
- ✗ Don't put food or beverages in refrigerator.
- ✗ Don't put vaccines or diluent in doors or floor of refrigerator.
- ✗ Don't drink or remove water bottles.

CS243541-C Revision Jan 24, 2014



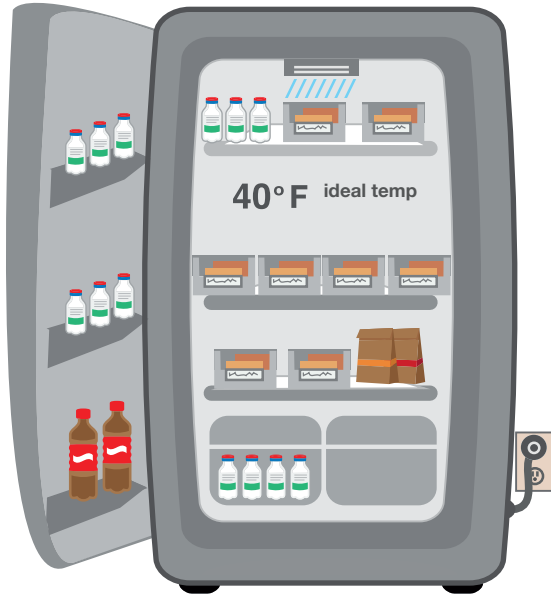
U.S. Department of Health and Human Services
Centers for Disease Control and Prevention



Visit www.cdc.gov/vaccines/SandH
for more information, or your state health department.

Test Your Knowledge

1 Can you find at least 8 things that are wrong with vaccine storage in this refrigerator?



2 When unpacking vaccine it is important to put the first to expire in the front

- A. It reduces the risk that an expired vaccine will be given
- B. It saves money by reducing wastage
- C. It reduces time spent on returns
- D. All of the above
- E. None of the above—it's really about organization

3 It is okay to use the water bottles as long as you replace them. True / False

4 One of the most common reasons refrigerators are out of temperature range is:

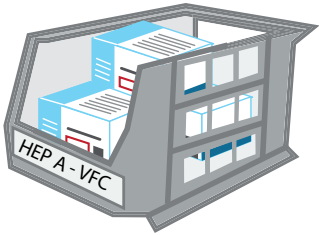
- A. Power outages
- B. Thermometer is broken
- C. Staff doesn't shut the refrigerator door
- D. The refrigerator thermostat is not working properly

5 Refrigerated vaccines should be stored between ____°F and ____°F. But the ideal temperature is ____°F

1. There are 10 things wrong: Vaccines are too close to the vent, there is no "do not unplug" sign, there is no thermometer, vaccines not in bins, bins on the top shelf, food and beverages in the refrigerator, some bins stored too closely together and too close to the unit walls, crisper bins not replaced with water bottles, vaccine stored in crisper bins and door shelves, no water bottles in the door shelves.
2. D - There are many important reasons to ensure the first to expire vaccines are stored in the front!
3. False - water bottles are intended to help maintain proper temperature. If you keep replacing them it takes time for them to get to the right temperature and then they are not doing their job.
4. C - believe it or not, staff not shutting the refrigerator door is one of the most common reasons a refrigerator is out of temperature range!
5. Refrigerated vaccines should be stored between 35°F and 46°F. But the ideal temperature is 40°F.

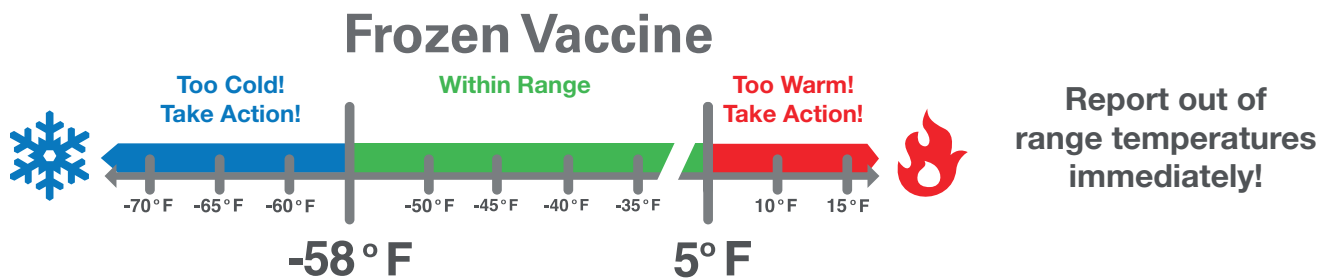
Vaccine Storage Best Practices for **Frozen Vaccines–Fahrenheit (F)**

1 Unpack vaccines immediately

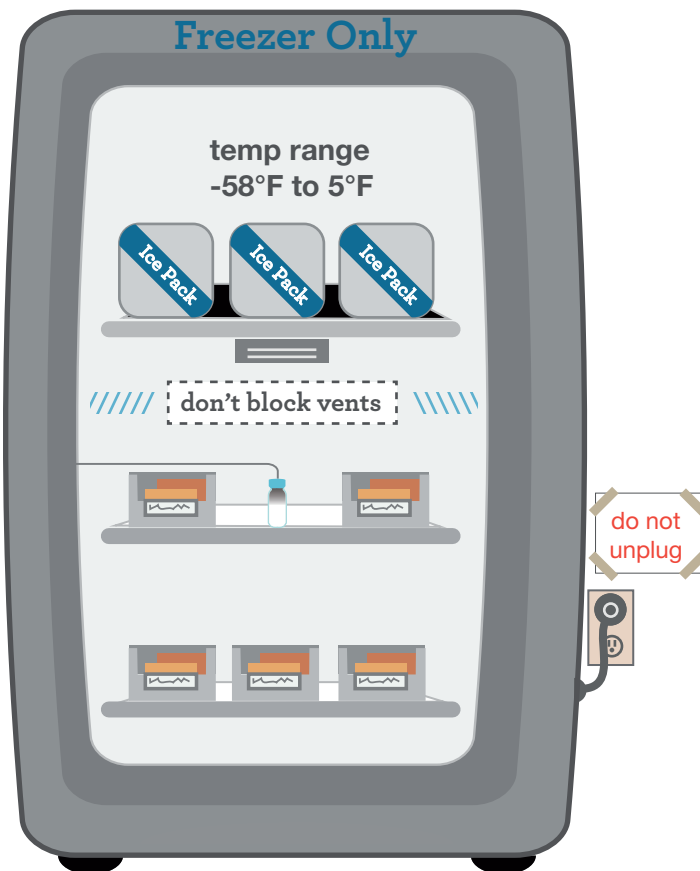


1. Place the vaccines in trays or uncovered containers for proper air flow.
2. Put vaccines that are first to expire in front.
3. Keep vaccines in original boxes with lid closed to prevent light exposure.
4. Separate and label by vaccine type and VFC/Public or private vaccine.

2 Store vaccine at ideal temperature range: **-58°F to 5°F**



3 Use vaccine storage best practices



DO

- ✓ Do make sure the freezer door is shut!
- ✓ Do use ice packs to help maintain consistent temperature
- ✓ Do leave 2 to 3 inches between all vaccines and freezer walls
- ✓ Do post "Do Not Unplug" signs on freezer and by electrical outlet

DON'T

- ✗ Don't use dormitory-style refrigerator/freezer
- ✗ Don't use combo fridge/freezer unit
- ✗ Don't put food in freezer
- ✗ Don't store vaccines in doors



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention



Visit www.cdc.gov/vaccines/SandH
for more information, or your state
health department.

CS243541-D Revision Jan 24, 2014

Test Your Knowledge

Review the below temperature readings and select the correct answer.

1 Which of the following unit is the best for storing frozen vaccine?

A. Full Size Refrigerator/Freezer (1 outside door/freezer is part of refrigerator)

B. Full Size Refrigerator/Freezer (2 outside doors, separate compartments)

C. "Stand alone" freezer only unit

D. "Dormitory" style or mini refrigerator (1 outside door/freezer is part of refrigerator)

2 Circle the TRUE statements

- A. It is okay to remove vaccine from the original boxes as long as they are stored in the freezer.
- B. Ice packs in the freezer are important to help maintain consistent temperature.
- C. You can "eye test" frozen vaccines - if they look frozen they are okay.
- D. Leave 2 - 3 Inches between all vaccines and freezer walls.

3 Circle the vaccines that MUST be stored in the freezer:

- A. Varicella vaccine
- B. MMR vaccine
- C. Zoster vaccine
- D. HPV vaccine

4 One of the most common reasons freezers are out of temperature range is:

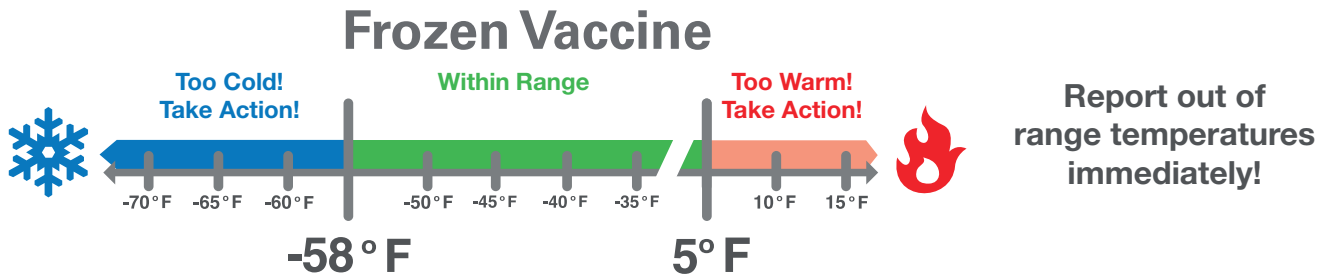
- A. Staff doesn't shut the freezer door
- B. Power outages
- C. The freezer thermostat is not working properly
- D. Thermometer is broken

5 Frozen vaccines should be stored between _____°F and _____°F.

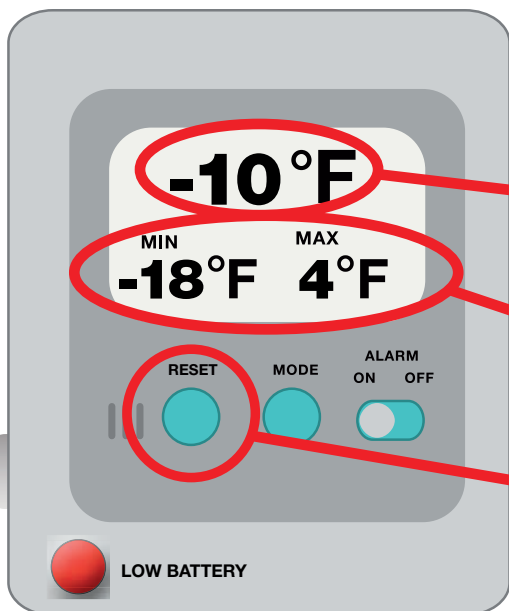
5. Frozen vaccines should be stored between -58°F and 5°F
4. A - believe it or not, staff not shutting the freezer door is one of the most common reasons a freezer is out of temperature range!
3. A (Varicella) and C (Zoster) vaccines MUST be stored in freezer. B (MMR) can be stored in the refrigerator or freezer. D (HPV) must be stored in the refrigerator.
2. B and D are true statements. All vaccines should stay in their original boxes; proper temperature monitoring is very important and cannot be done by eye.
1. C is the best way to store frozen vaccines. NO vaccines - refrigerated OR frozen should ever be stored in D (a dormitory style unit).

Vaccine Temperature Best Practices for **Frozen Vaccines—Fahrenheit (F)**

1 Store vaccine at ideal temperature



2 Record daily temperatures



Three Steps - Twice a Day: Temperatures should be checked and recorded first thing in the morning and before leaving at night.

- 1 Current Temperature:** The temperature that the freezer is right now.
- 2 Min/Max:** The coldest and warmest the freezer has been since you last reset the thermometer.
- 3 Reset:** The button you push after you have checked the Min/Max.



Best Practices

3 Take action if out of range!

- Contact your state or local health department immediately. Or if private vaccine call the manufacturer directly.
- Tell them the total amount of time the freezer was out of range.
- **Take your time** - Read and record temperatures accurately.
- **Make your mark!** Initial the log when recording temperatures.
- **Leave it blank** - if a temp was not recorded, leave the space blank!



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention



Visit www.cdc.gov/vaccines/SandH
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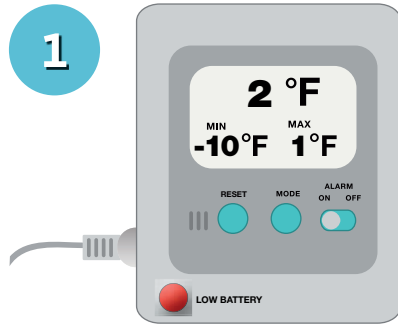
CS243541-B Revision Jan 24, 2014

Test Your Knowledge



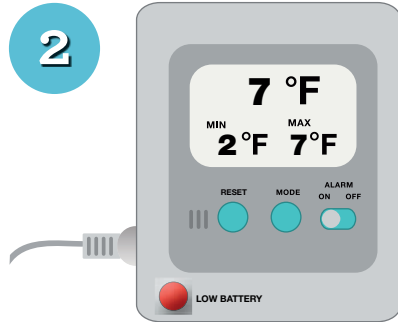
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1



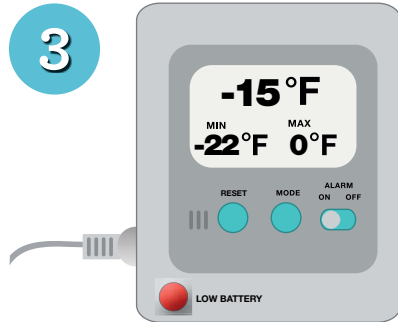
- A. Current temp and min/max are within range - no action necessary
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- C. Current temp is within range, min/max out of range - no action necessary
- D. Current temp and min/max are out of range - take action

2



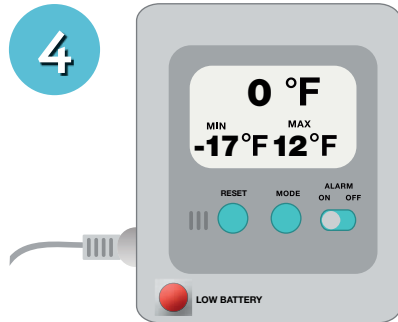
- A. Current temp and min/max are within range - no action necessary
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4



- A. Current temp and min/max are within range - no action necessary
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- C. Current temp is within range, min/max out of range - no action necessary
- D. Current temp and min/max are out of range - take action

5

Take action means (circle any that apply)

- A. Call the state/local VFC program (or manufacturer if private vaccine) for guidance
- B. Notify practice vaccine coordinator to change the temperature controls to get the freezer back in range
- C. Remove all vaccines that were out of range and discard them
- D. Discard any vaccine that does not look frozen

WILL YOU HELP SAVE MY LIFE?



FLU
FLU
FLU
FLU
FLU

YOU CARE FOR ME. NOW PROTECT ME. GET YOUR FLU VACCINE.

Stop the flu from spreading. Annual flu deaths range from 3,000 to 49,000 per season in the US.

Protect your patients, your family and yourself by getting your flu vaccine today.

care protect vaccinate **CARE PROTECT VACCINATE** care protect vaccinate



LOCATE: Flu.gov or WhyImmunize.org

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LOCATE: Flu.gov or WhyImmunize.org

Influenza Vaccine

What You Need to Know

(Flu Vaccine, Live, Intranasal)

2014-2015

Many Vaccine Information Statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1 Why get vaccinated?

Influenza (“flu”) is a contagious disease that spreads around the United States every winter, usually between October and May.

Flu is caused by influenza viruses, and is spread mainly by coughing, sneezing, and close contact.

Anyone can get flu, but the risk of getting flu is highest among children. Symptoms come on suddenly and may last several days. They can include:

- fever/chills
- sore throat
- muscle aches
- fatigue
- cough
- headache
- runny or stuffy nose

Flu can make some people much sicker than others. These people include young children, people 65 and older, pregnant women, and people with certain health conditions – such as heart, lung or kidney disease, nervous system disorders, or a weakened immune system. Flu vaccination is especially important for these people, and anyone in close contact with them.

Flu can also lead to pneumonia, and make existing medical conditions worse. It can cause diarrhea and seizures in children.

Each year **thousands of people in the United States die from flu**, and many more are hospitalized.

Flu vaccine is the best protection against flu and its complications. Flu vaccine also helps prevent spreading flu from person to person.

2 Live, attenuated flu vaccine—LAIV, Nasal Spray

You are getting a **live, attenuated influenza vaccine** (called LAIV), which is sprayed into the nose. “Attenuated” means weakened. The viruses in the vaccine have been weakened so they won’t give you the flu.

There are other “inactivated” and “recombinant” flu vaccines that do not contain live virus. These “flu shots” are given by injection with a needle.

Injectable flu vaccines are described in a separate Vaccine Information Statement.

Flu vaccination is recommended every year. Some children 6 months through 8 years of age might need two doses during one year.

Flu viruses are always changing. Each year’s flu vaccine is made to protect against viruses that are likely to cause disease that year. LAIV protects against 4 different influenza viruses. Flu vaccine cannot prevent all cases of flu, but it is the best defense against the disease.

It takes about 2 weeks for protection to develop after vaccination, and protection lasts several months to a year.

Some illnesses that are **not** caused by influenza virus are often mistaken for flu. Flu vaccine will not prevent these illnesses. It can only prevent influenza.

LAIV may be given to people **2 through 49 years of age**. It may safely be given at the same time as other vaccines.

LAIV does not contain thimerosal or other preservatives.

3 Some people should not get this vaccine

Tell the person who gives you the vaccine:

- **If you have any severe, life-threatening allergies**, including (for example) an allergy to gelatin or antibiotics. If you ever had a life-threatening allergic reaction after a dose of flu vaccine, or have a severe allergy to any part of this vaccine, you should not get vaccinated.
- **If you ever had Guillain-Barré Syndrome** (a severe paralyzing illness, also called GBS). Some people with a history of GBS should not get this vaccine. This should be discussed with your doctor.
- **If you have long-term health problems**, such as certain heart, breathing, kidney, liver, or nervous system problems, your doctor can help you decide if you should get LAIV.



- **If you have gotten any other vaccines in the past 4 weeks, or if you are not feeling well.** It is usually okay to get flu vaccine when you have a mild illness, but you might be advised to wait until you feel better. You should come back when you are better.
- **You should get the flu shot instead of the nasal spray if you:**
 - are pregnant
 - have a weakened immune system
 - are allergic to eggs
 - are a young child with asthma or wheezing problems
 - are a child or adolescent on long-term aspirin therapy
 - will provide care for, or visit someone, within the next 7 days who needs special care for an extremely weakened immune system (ask your health care provider)
 - have taken influenza antiviral medications in the past 48 hours

The person giving you the vaccine can give you more information.

4 Risks of a vaccine reaction

With a vaccine, like any medicine, there is a chance of side effects. These are usually mild and go away on their own.

Problems that could happen after any vaccine:

- Severe allergic reactions from a vaccine are very rare, estimated at less than 1 in a million doses. If one were to occur, it would usually be within a few minutes to a few hours after the vaccination.

Mild problems that have been reported following LAIV:

Children and adolescents 2-17 years of age:

- runny nose, nasal congestion or cough
- fever
- headache and muscle aches
- wheezing
- abdominal pain or occasional vomiting or diarrhea

Adults 18-49 years of age:

- runny nose or nasal congestion
- sore throat
- cough, chills, tiredness/weakness
- headache

LAIV is made from weakened virus and **does not cause flu.**

As with any medicine, there is a very remote chance of a vaccine causing a serious injury or death.

The safety of vaccines is always being monitored. For more information, visit: www.cdc.gov/vaccinesafety/

5

What if there is a serious reaction?

What should I look for?

- Look for anything that concerns you, such as signs of a severe allergic reaction, very high fever, or behavior changes.

Signs of a severe allergic reaction can include hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, and weakness. These would start a few minutes to a few hours after the vaccination.

What should I do?

- If you think it is a severe allergic reaction or other emergency that can't wait, call 9-1-1 and get the person to the nearest hospital. Otherwise, call your doctor.
- Afterward, the reaction should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your doctor should file this report, or you can do it yourself through the VAERS web site at www.vaers.hhs.gov, or by calling 1-800-822-7967.

VAERS does not give medical advice.

6

The National Vaccine Injury Compensation Program

The National Vaccine Injury Compensation Program (VICP) is a federal program that was created to compensate people who may have been injured by certain vaccines.

Persons who believe they may have been injured by a vaccine can learn about the program and about filing a claim by calling 1-800-338-2382 or visiting the VICP website at www.hrsa.gov/vaccinecompensation. There is a time limit to file a claim for compensation.

7

How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Contact the Centers for Disease Control and Prevention (CDC):
 - Call 1-800-232-4636 (1-800-CDC-INFO) or
 - Visit CDC's website at www.cdc.gov/flu

Vaccine Information Statement (Interim) Live Attenuated Influenza Vaccine

08/19/2014

42 U.S.C. § 300aa-26

Office Use Only



Influenza Vaccine

What You Need to Know

(Flu Vaccine,
Inactivated or
Recombinant)
2014-2015

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Flu can make some people much sicker than others. These people include young children, people 65 and older, pregnant women, and people with certain health conditions—such as heart, lung or kidney disease, nervous system disorders, or a weakened immune system. Flu vaccination is especially important for these people, and anyone in close contact with them.

Flu can also lead to pneumonia, and make existing medical conditions worse. It can cause diarrhea and seizures in children.

Each year **thousands of people in the United States die from flu**, and many more are hospitalized.

Flu vaccine is the best protection against flu and its complications. Flu vaccine also helps prevent spreading flu from person to person.

2 Inactivated and recombinant flu vaccines

You are getting an injectable flu vaccine, which is either an “**inactivated**” or “**recombinant**” vaccine. These vaccines do not contain any live influenza virus. They are given by injection with a needle, and often called the “flu shot.”

A different, **live, attenuated** (weakened) influenza vaccine is sprayed into the nostrils. *This vaccine is described in a separate Vaccine Information Statement.*

Flu vaccination is recommended every year. Some children 6 months through 8 years of age might need two doses during one year.

Flu viruses are always changing. Each year’s flu vaccine is made to protect against 3 or 4 viruses that are likely to cause disease that year. Flu vaccine cannot prevent all cases of flu, but it is the best defense against the disease.

It takes about 2 weeks for protection to develop after the vaccination, and protection lasts several months to a year.

Some illnesses that are not caused by influenza virus are often mistaken for flu. Flu vaccine will not prevent these illnesses. It can only prevent influenza.

Some inactivated flu vaccine contains a very small amount of a mercury-based preservative called thimerosal. Studies have shown that thimerosal in vaccines is not harmful, but flu vaccines that do not contain a preservative are available.

3 Some people should not get this vaccine

Tell the person who gives you the vaccine:

- **If you have any severe, life-threatening allergies.** If you ever had a life-threatening allergic reaction after a dose of flu vaccine, or have a severe allergy to any part of this vaccine, including (for example) an allergy to gelatin, antibiotics, or eggs, you may be advised not to get vaccinated. Most, but not all, types of flu vaccine contain a small amount of egg protein.
- **If you ever had Guillain-Barré Syndrome** (a severe paralyzing illness, also called GBS). Some people with a history of GBS should not get this vaccine. This should be discussed with your doctor.
- **If you are not feeling well.** It is usually okay to get flu vaccine when you have a mild illness, but you might be advised to wait until you feel better. You should come back when you are better.



4 Risks of a vaccine reaction

With a vaccine, like any medicine, there is a chance of side effects. These are usually mild and go away on their own.

Problems that could happen after any vaccine:

- Brief fainting spells can happen after any medical procedure, including vaccination. Sitting or lying down for about 15 minutes can help prevent fainting, and injuries caused by a fall. Tell your doctor if you feel dizzy, or have vision changes or ringing in the ears.
- Severe shoulder pain and reduced range of motion in the arm where a shot was given can happen, very rarely, after a vaccination.
- Severe allergic reactions from a vaccine are very rare, estimated at less than 1 in a million doses. If one were to occur, it would usually be within a few minutes to a few hours after the vaccination.

Mild problems following inactivated flu vaccine:

- soreness, redness, or swelling where the shot was given
- hoarseness
- sore, red or itchy eyes
- cough
- fever
- aches
- headache
- itching
- fatigue

If these problems occur, they usually begin soon after the shot and last 1 or 2 days.

Moderate problems following inactivated flu vaccine:

- Young children who get inactivated flu vaccine and pneumococcal vaccine (PCV13) at the same time may be at increased risk for seizures caused by fever. Ask your doctor for more information. Tell your doctor if a child who is getting flu vaccine has ever had a seizure.

Inactivated flu vaccine does not contain live flu virus, so you cannot **get the flu from this vaccine**.

As with any medicine, there is a very remote chance of a vaccine causing a serious injury or death.

The safety of vaccines is always being monitored. For more information, visit: www.cdc.gov/vaccinesafety/

5 What if there is a serious reaction?

What should I look for?

- Look for anything that concerns you, such as signs of a severe allergic reaction, very high fever, or behavior changes.

Signs of a severe allergic reaction can include hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, and weakness. These would start a few minutes to a few hours after the vaccination.

What should I do?

- If you think it is a severe allergic reaction or other emergency that can't wait, call 9-1-1 and get the person to the nearest hospital. Otherwise, call your doctor.
- Afterward, the reaction should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your doctor should file this report, or you can do it yourself through the VAERS web site at www.vaers.hhs.gov, or by calling **1-800-822-7967**.

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Vaccine Information Statement (Interim) Inactivated Influenza Vaccine

08/19/2014

42 U.S.C. § 300aa-26

Office Use Only

