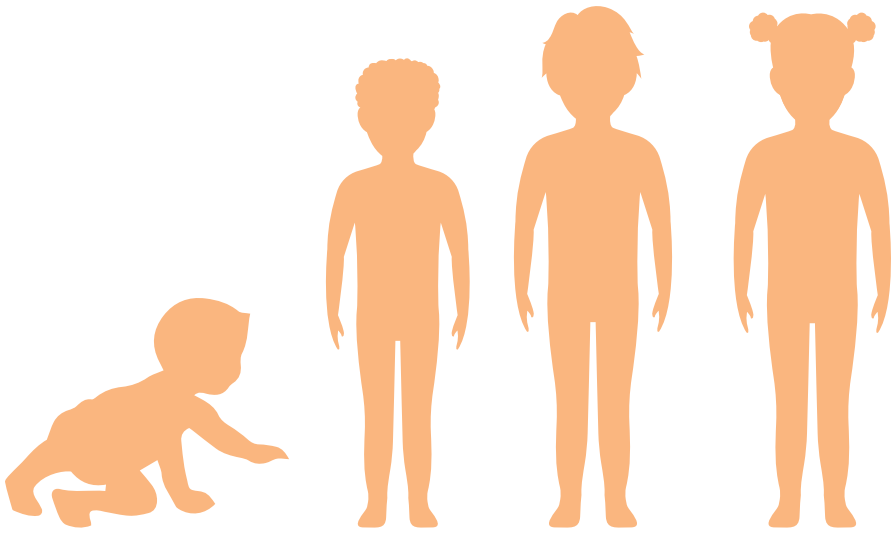
Childhood Immunization Discussion Guides



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DISEASES AND RECOMMENDED IMMUNIZATIONS

Use the information on this page with the family-friendly infographic page when talking with patients.

See the recommended schedule for additional details, including vaccines recommended for special circumstances.

Disease	Vaccine	Disease spread by	Disease symptoms	Disease complications
Hepatitis B (HepB)	HepB vaccine protects against hepatitis B	Contact with blood or body fluids, from the pregnant person to the baby in the womb	Fever, headache, weakness, vomiting, yellow skin and eyes (jaundice), joint pain, or no symptoms	Chronic liver infection, liver failure, liver cancer, death
Rotavirus (RV)	Rotavirus vaccine protects against rotavirus	Through the mouth from food, water or hands that are contaminated by fecal matter	Diarrhea, fever, vomiting	Severe diarrhea, dehydration, death
Diphtheria	DTaP* vaccine protects against diphtheria	Air, direct contact	Sore throat, mild fever, weakness, swollen glands in neck	Swelling of the heart muscle, heart failure, coma, paralysis, death
Pertussis (whooping cough)	DTaP* vaccine protects against pertussis	Air, direct contact	Severe cough, runny nose, apnea (a pause in breathing)	Lung infection (pneumonia), death
Tetanus	DTaP* vaccine protects against tetanus (lockjaw)	Exposure through cuts in skin and contact with soil	Stiff muscles in the neck and abdomen, trouble swallowing, muscle spasms, fever	Broken bones, breathing difficulty, death
***Haemophilus influenzae* type b disease (Hib)**	Hib vaccine	Air, direct contact	Sometimes Hib stays in the nose or throat and doesn't cause symptoms. Hib bacteria that enter the blood can cause serious infections.	Infection of the covering around the brain and spinal cord (meningitis), intellectual disability, life-threatening infection that can block the windpipe and lead to serious breathing problems (epiglottis), lung infection (pneumonia), death
Invasive pneumococcal disease	PCV vaccines protect against pneumococcal disease	Air, direct contact	Sometimes bacteria stay in the nose or throat and do not cause symptoms. Bacteria that enter the blood can cause serious infections, including pneumonia.	Blood infection (bacteremia), infection of the covering around the brain and spinal cord (meningitis), death
Poliomyelitis (polio)	Inactivated poliovirus vaccine (IPV) protects against polio	Air, direct contact, through the mouth from food, water, or hands that are contaminated by fecal matter	Sore throat, fever, nausea, headache, or no symptoms	Paralysis (may be permanent), death
COVID-19	COVID-19 vaccine	Air, direct contact	Fever/chills, cough, shortness of breath/ trouble breathing, fatigue, aches, loss of taste or smell, sore throat, nausea or vomiting, diarrhea, congestion or runny nose	Multiorgan or autoimmune conditions, diabetes, heart problems, blood clots, neurological conditions, multisystem inflammatory syndrome in children (MIS-C), long COVID, death
Influenza (flu)	Flu vaccine protects against influenza	Air, direct contact	Fever, muscle pain, sore throat, cough, extreme fatigue	Lung infection (pneumonia), inflammation of heart or brain, death
Measles	MMR** vaccine protects against measles	Air, direct contact	Rash, fever, cough, runny nose, pink eye	Brain swelling (encephalitis), lung infection (pneumonia), complications in the brain 7-10 years after infection, death
Mumps	MMR** vaccine protects against mumps	Air, direct contact	Swollen neck (salivary glands), fever, headache, tiredness, muscle pain	Infection of the covering around the brain and spinal cord (meningitis), brain swelling (encephalitis), swelling of testicles or ovaries, deafness, death
Rubella	MMR** vaccine protects against rubella	Air, direct contact, through the mouth	Rash, fever, swollen lymph nodes	Very serious in pregnant women and can lead to miscarriage, stillbirth, premature delivery, birth defects
Varicella (chickenpox)	Varicella vaccine protects against chickenpox	Air, direct contact	Rash, tiredness, headache, fever	Infected blisters, bleeding disorders, brain swelling (encephalitis), lung infection (pneumonia), death
Hepatitis A (HepA)	HepA vaccine protects against hepatitis A	Direct contact, through the mouth from food, water or hands that are contaminated by fecal matter	Fever, stomach pain, loss of appetite, fatigue, vomiting, yellowing of the skin and eyes (jaundice), dark urine, or no symptoms.	Liver failure, joint pain, kidney, pancreatic and blood disorders, death

*DTaP vaccine combines protection against diphtheria, tetanus and pertussis

**MMR vaccine combines protection against measles, mumps and rubella

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IMMUNIZATION SCHEDULE

RECOMMENDED FOR BABIES AND CHILDREN FROM BIRTH–6 YEARS OF AGE

Catch up: If your child misses a shot recommended for their age, ask your pediatrician when the missed shot can be given.

	Birth	1 Month	2 Months	4 Months	6 Months	12 Months	15 Months	18 Months	19–23 Months	2–3 Years	4–6 Years
HepB (Hepatitis B)	✓	✓			✓						
RV (Rotavirus)			✓	✓	✓*						
DTaP (Diphtheria, Pertussis, & Tetanus)			✓	✓	✓		✓				✓
Hib (Haemophilus influenzae type b)			✓	✓	✓*	✓					✓
PCV (Pneumococcal disease)			✓	✓	✓	✓					✓
IPV (Polio)			✓	✓	✓						✓
COVID-19 (Coronavirus disease 2019)					✓	1–3 doses as recommended					
Flu Vaccine					✓	Yearly**					
MMR (Measles, Mumps, & Rubella)					✓	✓					✓
Varicella (Chickenpox)						✓					✓
HepA (Hepatitis A)					✓	✓ 2 doses at least 6 months apart					

*A third dose of rotavirus or *Haemophilus influenzae* type b vaccine at age 6 months depends on the brand used for the previous dose.

**Two doses given at least 4 weeks apart are recommended for children age 6 months through 8 years who are getting the flu vaccine for the first time and for some other children in this age group.

These shaded boxes indicate when the vaccine is recommended for all children unless they cannot safely receive it. Your doctor will tell you if your child cannot safely receive the vaccine.

These shaded boxes indicate that the vaccine is recommended for children whose health condition or situation (eg, travel, outbreak) puts them at high risk for serious diseases. If doses are given earlier than the recommended age because of special circumstances, they may have to be repeated.

See vaccine-specific recommendations at www.cdc.gov/vaccines/hcp/acip-recs/index.html.

These vaccines are recommended by the American Academy of Pediatrics (AAP) (https://www.aap.org/immunization) and the Centers for Disease Control and Prevention (CDC) (https://www.cdc.gov/vaccines/schedules).

These vaccines are safe.

- Before being licensed and recommended, each vaccine has been carefully studied by scientific experts at the Food and Drug Administration and CDC.
- The CDC continually monitors the safety of all vaccines, which are held to the highest standards.
- It is normal and expected to have minor vaccine side effects. Most side effects are mild.
- Serious side effects (e.g., severe allergic reaction) are rare.

Vaccine Information Statements: https://www.cdc.gov/vaccines/hcp/vis/index.html

This schedule is based on the 2023 schedule. The schedule is reviewed annually.

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WHY VACCINATE?

Use these speaking points with the accompanying family-friendly infographics when talking with caregivers.

Vaccines help the immune system recognize and resist contagious diseases so babies and children stay healthy as they grow.

- That means they can attend child care, preschool, school, and activities with friends and family.
- The recommended immunization schedule is based on how a child's immune system responds to vaccines at various ages and how likely a child is to be exposed to each of the diseases.
- When enough people have enhanced immunity after vaccination, entire communities are protected.
- Community immunity prevents spreading diseases to vulnerable people who are at risk of serious illness. This helps protect:
  - » Babies who are too young to get their vaccines.
  - » People with conditions that affect their immune system or who require treatment that lowers their ability to fight infections and respond to vaccines.

How do vaccines work?

- **Getting immunized is like learning how to read.** Vaccines teach your child's immune system to recognize harmful diseases. That means if they are exposed to these germs, their immune system will be ready to respond.
- Over time, the immune system adds more information to its library, so your child stays healthy.

Should all children follow the same recommended vaccine schedule?

Yes. The schedule is considered the ideal schedule and applies to all healthy children. There are very few rare exceptions that would warrant a deviation from this schedule. For example, a child with a chronic condition or who takes medicine that weakens the immune system may need additional doses or a different type of vaccine.

Why do children still need vaccines if these diseases are mostly gone?

Smallpox is the only disease that has been eliminated completely by vaccines. That is why we no longer need to use the vaccine to prevent smallpox. We still need vaccines for the other diseases that can spread if community immunity decreases.

What determines the timing and doses for the recommended vaccine schedule ?

Different vaccines need different numbers of doses to be effective. Often, children need more than one dose to ensure their immunity from the vaccine lasts as long as possible. By getting all the required doses, you are protecting your child and making them stronger.

The timing for each dose of a vaccine is based on

- what age a child's immune system provides optimal protection after vaccination,
- the earliest possible time to provide protection balanced with the age the child is at highest risk for a disease.

Is my child protected from some of these diseases for the rest of their life?

Researchers are always studying how long vaccine protection lasts, how many doses we need and how much time between doses works best. That is why your child needs the flu shot every year. But for another vaccine individuals may develop lifelong protection from two or more doses spaced months or years apart.

Why does my infant or child have to get some vaccines every year?

Some vaccines are needed every year. For example, influenza vaccination is recommended every year for two reasons:

- Flu viruses change yearly. The vaccine formula gets updated each year to teach our body to respond to the flu virus types that will be most common during the upcoming flu season.
- Our immune protection declines over time. An annual flu vaccine will help keep our body's defenses ready. It is the best way to prevent getting the flu.

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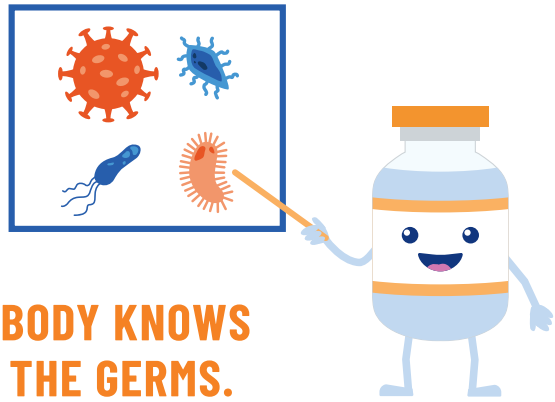
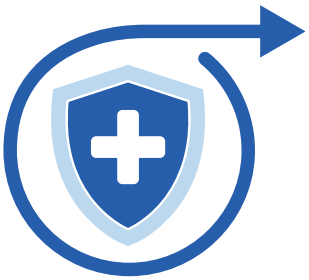
WHY VACCINATE?

BABIES AND CHILDREN NEED VACCINES TO...

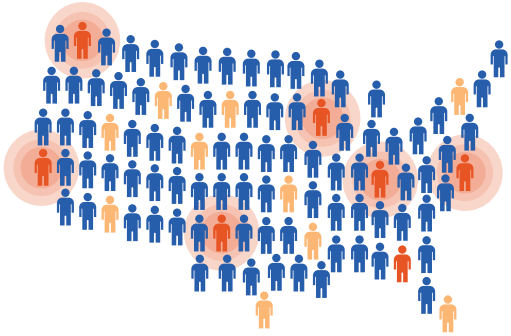


TEACH THE IMMUNE SYSTEM HOW TO RECOGNIZE A VIRUS OR BACTERIA SO THEIR BODY KNOWS HOW TO RESPOND IF THEY ARE EXPOSED TO THE GERMS.



BUILD LONG-TERM PROTECTION AGAINST DISEASES.

PROVIDE COMMUNITY IMMUNITY: PROTECT OTHERS FROM GERMS THAT CAN SPREAD EASILY.



= Is infected

= Has been vaccinated

= At high risk for disease or has not been (fully) vaccinated.

KEEP THEM SAFE AND HEALTHY AS THEY GROW SO THEY CAN:

Play with friends.

Stay in school and keep learning.

Sleep well and feel rested.

Participate in sports and other activities.

Live their BEST LIFE.

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HEPATITIS B (HepB) VACCINE

Use the speaking points on this page and share the accompanying infographics with families.

About hepatitis B

- Hepatitis B (HepB) is a serious disease that affects the liver.
- The virus can cause severe disease within 6 months of infection. Symptoms can include
  - » Fever.
  - » Fatigue.
  - » Loss of appetite.
  - » Nausea and/or vomiting.
  - » Jaundice (yellow skin or eyes, dark urine, clay-colored bowel movements).
  - » Pain in muscles, joints and stomach.
- HepB can be chronic. Most people who develop chronic disease do not have symptoms, but it can lead to
  - » Liver damage (cirrhosis).
  - » Liver cancer.
  - » Death.
- The vaccine prevents acute and chronic infections, including those that cause liver cancer.

Why is HepB vaccine given to newborn babies?

- Newborns need a dose shortly after birth to protect them from possible exposures during delivery and the first few days of life. This provides a safety net for infants whose family members may not know they are infected with hepatitis B.
- Infected people can spread hepatitis B to others, even when they don't look or feel sick.
- Most babies (90%) who are infected with hepatitis B will develop chronic disease. One out of four who get infected will die prematurely from liver cancer or cirrhosis of the liver.
- Hepatitis B spreads through body fluids. People can become infected with the virus through
  - » Birth (a baby can be infected at or after birth).
  - » Sharing common items such as razors or toothbrushes with an infected person.
  - » Contact with the blood or open sores of an infected person.
  - » Sex with an infected partner.
  - » Sharing needles, syringes, or other drug-injection equipment.
  - » Exposure to blood from needlesticks or sharp instruments.
- People have spread the disease to others in child care settings. In the United States, this risk is very low because most infants have received the hepatitis B vaccine.

Hepatitis B vaccine

- Hepatitis B vaccine is routinely recommended for newborns and infants. Doses are recommended
  - » Shortly after birth.
  - » At age 1 to 2 months.
  - » At age 6 to 18 months.
- The vaccine also is recommended for anyone who is considered at high risk for contracting hepatitis B infection.

Side effects after vaccination usually are mild and go away on their own.

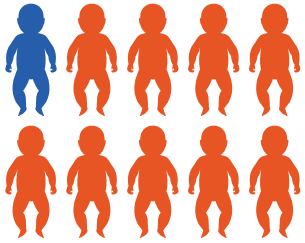
- Soreness where the shot was given.
- Fever.

Severe side effects are rare.

HEPATITIS B (HepB) VACCINE

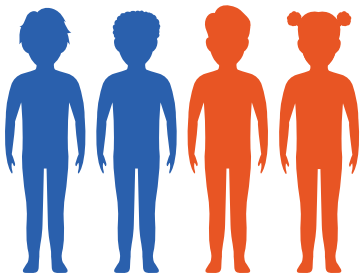
HEPATITIS B IS A SERIOUS LIVER DISEASE

90% OF BABIES



AND

UP TO **HALF** OF CHILDREN



who become infected between ages 1 to 5 years will have chronic disease.

HepB vaccine prevents exposed babies and children from developing cancer later in life.

HepB VACCINE IS GIVEN TO NEWBORNS, WHO MAY BE UNKNOWINGLY EXPOSED AT BIRTH, TO START PROTECTION IN THE FIRST DAYS OF LIFE.

HEPATITIS B SPREADS THROUGH BODY FLUIDS.

PEOPLE MAY NOT KNOW THEY ARE INFECTED AND CAN SPREAD HEPATITIS B EVEN WHEN THEY DON'T LOOK OR FEEL SICK.

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ROTAVIRUS (RV) VACCINE

Use the conversation starters here with the accompanying infographics for families.

Why vaccinate against rotavirus?

- Rotavirus is very contagious. Before there was a vaccine, rotavirus was very common. Infection is especially dangerous for babies and young children under age 5 years. It causes
  - » Vomiting.
  - » Diarrhea (sometimes severe).
  - » Fever.
- Rotavirus illness can lead to
  - » Severe dehydration.
  - » Hospitalization.
  - » Death.
- Rotavirus vaccination strengthens your child's immune system so they can avoid severe infection.
- Rotavirus vaccination is the best way to protect young children.

How does rotavirus spread?

- Rotavirus commonly spreads in families, hospitals and child care centers.
- The virus is in the stool of people who are infected.
  - » Rotavirus can live on surfaces or objects for several days. It is very difficult to stop its spread just by handwashing or disinfecting surfaces.
  - » A child can get rotavirus from touching an object with rotavirus on it and putting hands in their mouth or by consuming food or drinks prepared by someone with the infection.

Rotavirus vaccine

- Rotavirus vaccine is routinely recommended for newborns and infants.
- It is a live, oral vaccine.
- Children should receive 2 or 3 doses of rotavirus vaccine, depending on which vaccine brand is used. Vaccination is recommended at the following ages:
  - » 2 months.
  - » 4 months.
  - » 6 months (if a third dose is required).
- A child must get the first dose of rotavirus vaccine before age 15 weeks and the last before age 8 months.
- If they do not receive the recommended doses of vaccine by age 8 months, they cannot get caught up later.

After vaccination

- Side effects usually are mild and go away on their own. They include
  - » Irritability.
  - » Mild, temporary diarrhea or vomiting.
  - » More serious but rare side effects include a small increased risk of intussusception (blocked bowel) within a week after the first or second rotavirus vaccine dose. Intussusception, unrelated to the vaccine, happens in some babies in the United States. The additional risk of intussusception after rotavirus vaccine ranges from 1 in 20,000 to 1 in 100,000 U.S. infants. The benefits of the rotavirus vaccine in preventing severe disease and hospitalization are far greater than the small increase in risk for intussusception.

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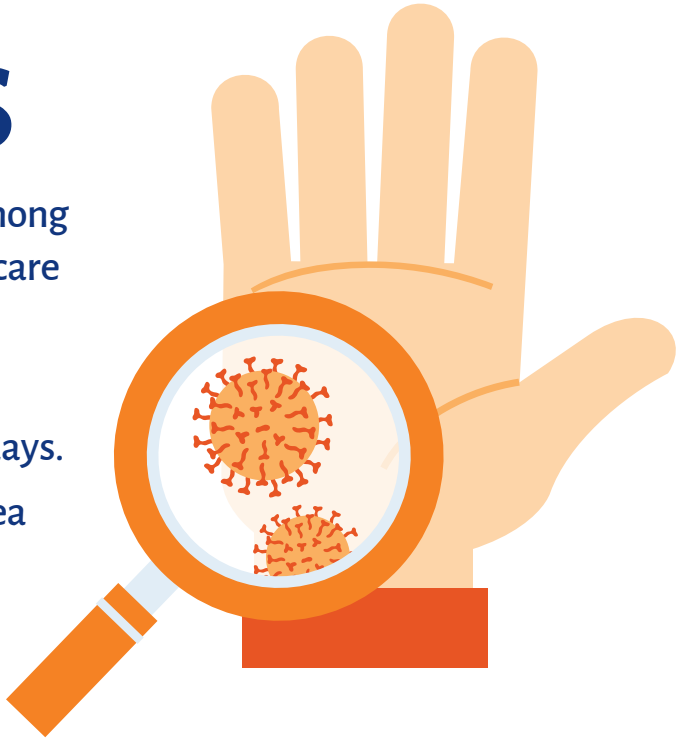
ROTAVIRUS (RV) VACCINE

ROTAVIRUS

- **SPREADS VERY EASILY** among families and in hospitals and child care centers.
  - » Very hard to prevent.
  - » Lives on surfaces for several days.
- Causes fever, stomachache, diarrhea and vomiting.
- Can lead to dehydration.
- Easy to prevent with the vaccine.



SYMPTOMS OF ROTAVIRUS INCLUDE

Fever

Diarrhea

Nausea

ROTAVIRUS VACCINE

PREVENTS SEVERE SYMPTOMS THAT NEED HOSPITAL CARE.

- Instead of a shot, babies swallow the vaccine.
- The first dose must be received before they are 15 weeks old.
- The last dose must be received before they are 8 months old.
- Prevents 40,000 to 50,000 hospitalizations among babies and young children per year in the U.S.

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DIPHTHERIA, TETANUS, ACELLULAR PERTUSSIS (DTaP) VACCINE

Use the conversation starters here with the accompanying infographics for families.

About diphtheria, tetanus and pertussis

Diphtheria

- Diphtheria is a serious throat infection. It can lead to
  - » Breathing problems.
  - » Paralysis.
  - » Heart failure.
  - » Death.

Tetanus (also known as lockjaw).

- Tetanus causes severe muscle stiffness that can make it hard or impossible to
  - » Open the mouth.
  - » Swallow.
  - » Breathe.
- Death from tetanus is not uncommon; a person's outcome can depend on when the disease is identified.

Whooping cough (pertussis)

- Whooping cough is a lung disease that causes
  - » Severe coughing.
  - » Difficulty breathing.
  - » Death.
- Whooping cough is highly contagious; about 80% of susceptible household contacts will become infected if someone else in the house contracts the infection.
- Cases have increased over the past 12 years. Babies age 3 months old and younger are most at risk of severe breathing problems and life-threatening illness from the disease.
- Vaccinating your child against whooping cough protects your child and others around your child who may be at high risk, such as babies or older people.

Diphtheria, tetanus, and acellular pertussis (DTaP) vaccine

- Protection for children age 6 years and younger
- Children should get 5 doses of DTaP vaccine, 1 dose at each of the following ages:
  - » 2 months.
  - » 4 months.
  - » 6 months.
  - » 15 to 18 months.
  - » 4 to 6 years.

Tetanus, reduced diphtheria toxoid, acellular pertussis vaccine (Tdap)

- Protection for adolescents and adults
  - » A tetanus, diphtheria and acellular pertussis (Tdap) vaccine is recommended at age 11 to 12.
  - » A dose is recommended during each pregnancy.
- Tdap can also be given when a Td (tetanus-diphtheria) dose is indicated. This includes
  - » A booster every 10 years.
  - » As tetanus prophylaxis wound management for people who previously have not been vaccinated with Tdap and are not pregnant.
  - » A dose for people age 7 years and older who did not receive all doses of DTaP vaccine.

After vaccination

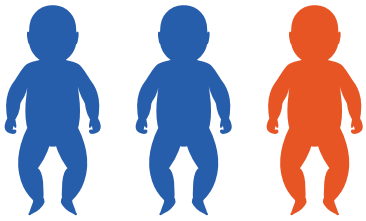
As the immune system is learning how to keep your child healthy, they may experience side effects. These are usually mild and go away on their own. Serious reactions are possible, but rare.

Possible side effects

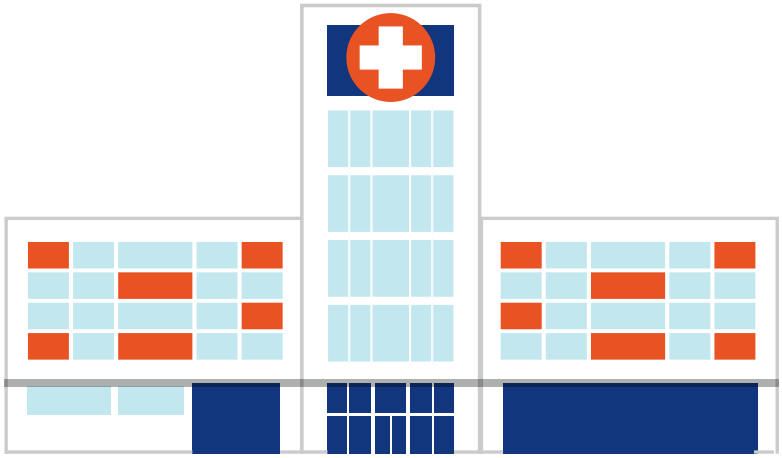
- Redness, soreness, swelling and tenderness where the shot is given.
- Fever, fussiness, tiredness, poor appetite and vomiting sometimes happen 1 to 3 days after DTaP vaccination.
- More serious but rare events include
  - » Young children who get DTaP along with a flu shot at the same time might be slightly more likely to develop a high fever that occasionally results in a febrile seizure.
  - » More serious reactions, such as seizures, non-stop crying for 3 hours or more or high fever (over 105°F) after DTaP vaccination happen much less often.
  - » Very rarely, vaccination is followed by swelling of the entire arm or leg. This rare side effect has been reported in older children when they receive their fourth or fifth DTaP dose.

DIPHTHERIA, TETANUS, ACELLULAR PERTUSSIS (DTaP) VACCINE

WHOOPING COUGH (PERTUSSIS) IS VERY CONTAGIOUS.

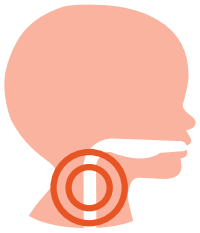


ABOUT ONE THIRD
of babies younger than 1 year old who get whooping cough
NEED CARE IN THE HOSPITAL.



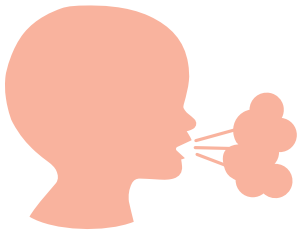
TETANUS
Lockjaw

- Severe muscle stiffness
- Difficulty opening mouth, swallowing, and breathing
- Death



DIPHTHERIA
Serious Throat Infection

- Breathing problems
- Paralysis
- Heart failure
- Death



PERTUSSIS
Whooping Cough

- **Harsh cough:** The cough of pertussis—also called the "100-day cough"—may not go away for months. The cough can return with future illnesses.
- **Breathing problems:** Babies may not cough at all. Instead, they may struggle to breathe.
- Death

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HAEMOPHILUS INFLUENZAE TYPE B (Hib) VACCINE

Use the conversation starters here with the accompanying infographics for families.

About *Haemophilus influenzae* type B (Hib)

- Hib disease is caused by bacteria.
- Hib is not the same as influenza, even though it has influenzae in its name.
- Hib bacteria can cause:
  - » Meningitis, an infection that causes swelling and inflammation of the lining of the brain and spinal cord and can lead to
    - Brain damage.
    - Deafness.
  - » Pneumonia.
  - » Epiglottitis, a severe swelling in the throat, making it hard to breathe.
  - » Bacteremia, an infection of the blood.
  - » Death.
- Children can get Hib disease from others who may have the bacteria and not know it.
- Hib bacteria spread when an infected person coughs or sneezes. If the germs stay in the child's nose and throat, the child probably will not get sick.
- It also spreads when sharing common items, such as utensils or cups, that come in contact with the mouth.
- If the germs spread into the lungs or the bloodstream, it can cause a serious illness called "invasive Hib disease."

Before the vaccine

- One in 200 children under age 5 in the United States had invasive Hib disease.
- Hib was the most common cause of bacterial meningitis in children in the United States.
- About 1,000 children under age 5 years died each year.

After Hib vaccination was recommended in 1985

The number of cases of invasive Hib disease decreased by more than 99%.

Hib vaccine

- The vaccine is recommended for babies and toddlers for the prevention of Hib disease.
- Children receive three or four doses, depending on which brand of vaccine is used. Doses are recommended at:
  - » 2 months of age.
  - » 4 months of age.
  - » 6 months of age (if needed, depending on brand of vaccine).
  - » 12 to 15 months (booster dose).

Side effects after Hib vaccine

Most people who get Hib vaccine do not have any side effects. Serious reactions are rare.

If they occur, side effects begin soon after the shot and last 2 or 3 days. Some children may have redness, warmth or swelling where the shot was given or a fever. These side effects usually are mild and go away on their own.

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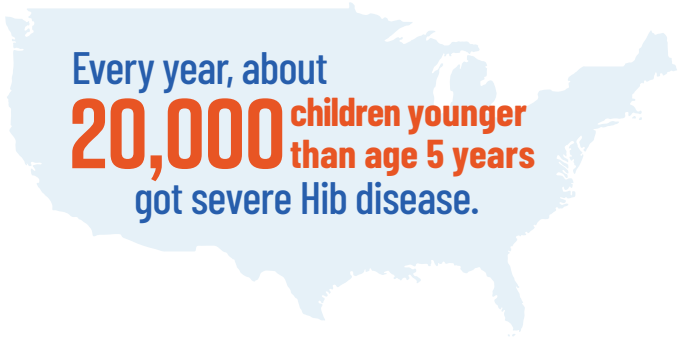
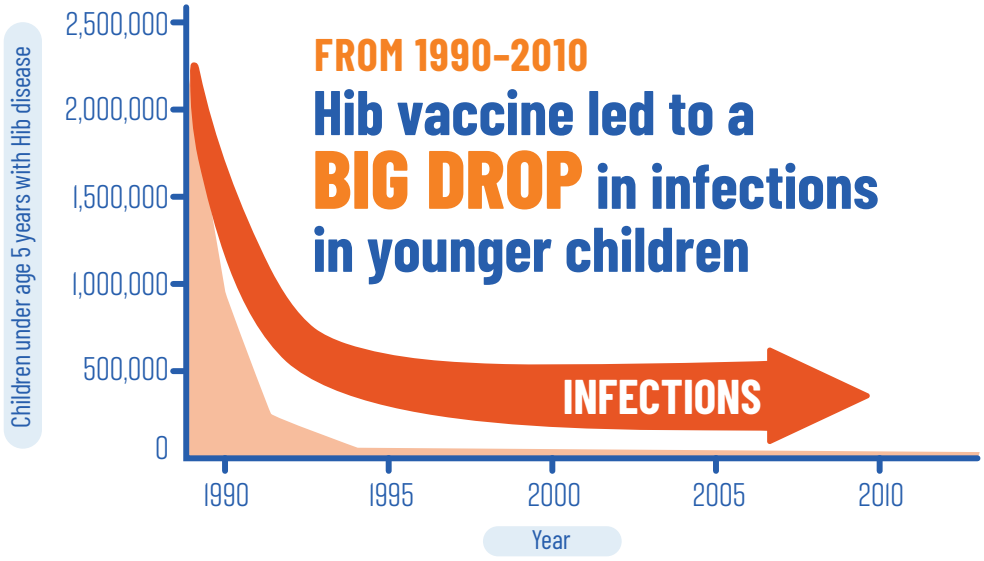
HAEMOPHILUS INFLUENZAE TYPE B (Hib) VACCINE

BEFORE Hib vaccine

Hib disease was a **COMMON CAUSE OF BACTERIAL MENINGITIS** (swelling of the lining of the brain and spinal cord) in babies and young kids in the United States.



AFTER Hib vaccine



FROM 1990–2010

Hib vaccine led to a BIG DROP in infections in younger children

Haemophilus influenzae can cause

Brain damage

Swollen throat

Deafness

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PNEUMOCOCCAL CONJUGATE (PCV) VACCINE

Use the conversation starters here with the accompanying infographics for families.

About pneumococcal disease

- Pneumococcal disease is caused by a bacteria, pneumococcus. Infection can cause
  - » Ear infections.
  - » More serious infections of the
    - Lungs (pneumonia).
    - Blood (bacteremia).
    - Lining of the brain and spinal cord (meningitis).
- Some pneumococcal infections are "invasive." Invasive disease means that germs invade parts of the body, such as blood, that are normally free from germs. Invasive disease is usually very serious and can sometimes result in death.
- Vaccines that help protect against pneumococcal disease work well but cannot prevent all cases.
- Anyone can get pneumococcal disease, but children under 2 years of age and adults 65 years and older are among those most likely to get it.
- Pneumococcal infections are becoming more resistant to antibiotics, such as amoxicillin. Vaccination helps prevent infections that are hard to treat with antibiotics.

How does pneumococcal disease spread?

Pneumococcal disease can be spread from person to person through respiratory droplets (such as from sneezing, coughing or spitting).

Pneumococcal conjugate vaccine

- The pneumococcal conjugate vaccine is recommended for babies and young children. It protects against several strains of pneumococcal bacteria.
- It is typically given in a 4-dose series with doses given at each of the following ages:
  - » 2 months.
  - » 4 months.
  - » 6 months.
  - » 12 to 15 months.

After vaccination

Side effects usually are mild and go away on their own. Serious reactions are rare.

Side effects reported following vaccination vary by age and dose in the series. These may include:

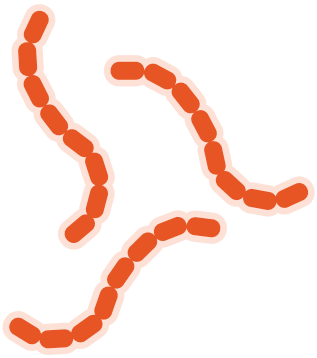
- Fussiness or irritability.
- Drowsiness.
- Temporary loss of appetite.
- Redness or tenderness where the shot was given.
- Swelling where the shot was given.
- Mild fever.
- Rarely, fever over 102.2°F.
- Young children who get the vaccine along with inactivated influenza vaccine at the same time may be at increased risk for febrile seizures.

Other pneumococcal vaccine

The pneumococcal polysaccharide vaccine (PPSV23) protects against 23 strains of bacteria. Some children age 2 years or older with certain conditions also may require one dose of PPSV23 after completing all recommended PCV doses.

PNEUMOCOCCAL CONJUGATE (PCV) VACCINE

PNEUMOCOCCAL DISEASE IS CAUSED BY BACTERIA



Pneumococcal disease can affect

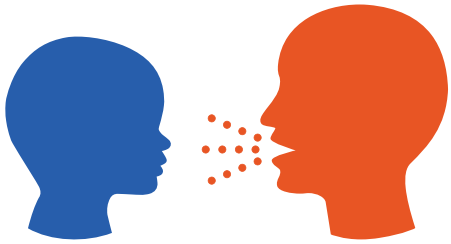
Ears

Lungs

Blood

Brain & spinal cord

PNEUMOCOCCAL DISEASE CAN SPREAD



through the air and direct contact when an infected person breathes, sneezes, coughs or spits.

SOME ANTIBIOTICS MAY NO LONGER CURE PNEUMOCOCCAL INFECTIONS.

Vaccines can help prevent pneumococcal disease.

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INACTIVATED POLIOVIRUS (IPV) VACCINE

Use the conversation starters here with the accompanying infographics for families.

Why vaccinate against poliomyelitis (polio)?

- Before polio vaccines were available, polio was one of the most feared diseases in the United States. It paralyzed and killed thousands of people every year.
- Poliovirus had been eliminated in the United States. But in 2022, a strain of the virus was detected in an unvaccinated individual with symptoms of paralytic polio in New York City and in wastewater samples in the community. The United States has been added back onto the list of countries with circulating poliovirus.
- Vaccination of every eligible individual is the best way to keep high immunity in the United States and stop polio from returning.

Symptoms of polio

- Polio is caused by a virus. Some people infected with poliovirus do not have symptoms or have mild disease resembling a stomach bug.
- Infection can cause
  - » Paralysis (cannot move arms or legs).
  - » Permanent disability.
  - » Death.
- Poliovirus is highly contagious. It only takes one person infected with polio to spread the disease.
- About 100% of unvaccinated children who are exposed at home will get poliovirus.
- There is no cure for polio infection.
- Polio can be prevented by vaccination.

How does poliomyelitis spread?

Polio is spread mainly by person-to-person contact. Usually, the virus enters through the mouth. It can reproduce in the throat or gastrointestinal tract. Polio spreads to other people through contact with stool from an infected person or droplets from a sneeze or cough.

For example, polio spreads when

- An unvaccinated person consumes food or drinks that are contaminated with the virus.
- An unvaccinated person gets stool or droplets from an infected person on their hands and touches their mouth.
- Children who are not vaccinated put toys or other objects that have stool or droplets on them into their mouth.

Inactivated poliovirus vaccine (IPV)

- The polio vaccine is routinely recommended for babies and children. Typically, vaccination should happen at each of the following ages
  - » 2 months.
  - » 4 months.
  - » 6 to 18 months.
  - » 4 to 6 years.
- The polio vaccine usually is given at the same time as other vaccines. Children can receive the vaccine as part of a combination vaccine that provides protection against polio and one or more other diseases in a single shot.
- The schedule may be different for some children (eg, children who are traveling to another country, children who receive combination vaccines).

After vaccination

- Side effects are usually mild and go away on their own.
- Possible side effects
  - » Some people who get IPV have soreness where the shot was given.
  - » IPV has not been known to cause serious problems, and most people do not have any side effects.
  - » There is a very remote chance of serious allergic reaction.

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POLIO (IPV) VACCINE

POLIO SPREADS VERY EASILY.

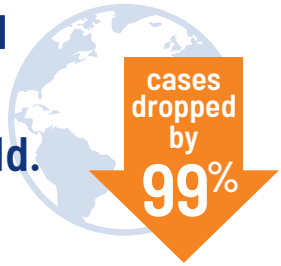
Polio can be stopped if everyone gets vaccinated.

POLIO CAN CAUSE
paralysis, permanent disability or death.

Polio disease has no cure.

BEFORE VACCINES,
widespread paralytic polio caused parents to worry about letting their children swim in public swimming pools.

AFTER VACCINES,
polio cases have dropped around the world.



Polio was eliminated from the United States.

THE DISEASE RETURNED.

One infected person can cause a polio outbreak if others are not vaccinated.

Getting vaccinated protects you and your community.

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COVID-19 VACCINE

Use the conversation starters here with the accompanying infographics for families.

About COVID-19

Common symptoms of COVID-19 in children

- Fever.
- Cough.

Other symptoms include

- Sore throat.
- Rhinorrhea (runny nose).
- Headache.
- Fatigue.
- Shortness of breath.
- Gastrointestinal symptoms, including nausea, vomiting and diarrhea.

Complications include

- Croup.
- Need for ventilator support.
- Multisystem inflammatory syndrome in children (MIS-C).
- Long COVID.
- Death.

COVID-19 vaccines

- Vaccination reduces the risk of hospitalization and serious illness in babies, children and adults.
- Recommended vaccines for children, including the COVID-19 vaccine, **ensure greater confidence for children to participate in child care and school** and in sports, playdates, extracurricular activities and other group activities.
- When children receive this vaccine, they also help protect others in the community.

There are two types of vaccine approved for use in children.

Messenger RNA (mRNA) vaccines—people age 6 months and older

The mRNA in the vaccine teaches our cells how to make copies of the spike protein, which is a part of the virus. Once the spike protein copy is made, two things occur: (1) the cell breaks down the mRNA (instructions) and gets rid of them, and (2) the spike protein copy teaches the immune system to create antibodies that can recognize and respond to the virus. These antibodies protect us the next time we are infected with the virus.

Protein Subunit Vaccines—people age 12 years and older

Subunit vaccines include a piece (protein) of the virus that stimulates the immune system. Once the immune system recognizes the protein, it creates antibodies and white blood cells. If you later become infected with the virus, the antibodies will recognize and respond to get rid of the virus. These vaccines often include an adjuvant—an ingredient that increases the immune system's response.

COVID-19 vaccine dosing

Dosing for COVID-19 vaccine is dependent on the age of the child, the product used and other medical considerations.

The AAP and CDC recommend children receive all doses of COVID-19 vaccine that are recommended for their age and health condition. The series includes 1–3 doses. COVID-19 vaccines may be give at the same time as other vaccines. For details, see the AAP Pediatric COVID-19 Vaccine Dosing Quick Reference Guide (https://aap.org/COVIDvaccineGuide).

After vaccination

Some children have no side effects after COVID-19 vaccination. When they do experience side effects, they often are mild and temporary. These include

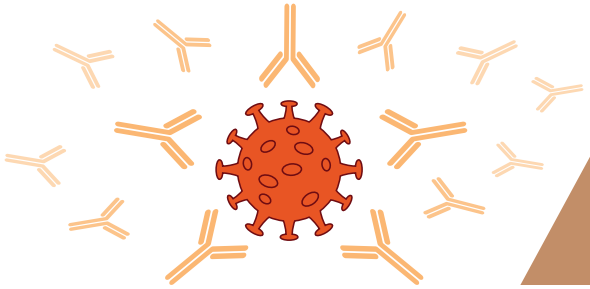
- **6 months–3 years**
  - Pain on the leg or arm where the shot was given.
  - Swollen lymph nodes.
  - Irritability or crying.
  - Sleepiness.
  - Loss of appetite.
- **4–17 years**
  Side effects are more common **after the second dose** and can include:
  - Pain, swelling, and redness on the arm where the shot was given.
  - Tiredness.
  - Headache.
  - Muscle or joint pain.
  - Chills.
  - Swollen lymph nodes.

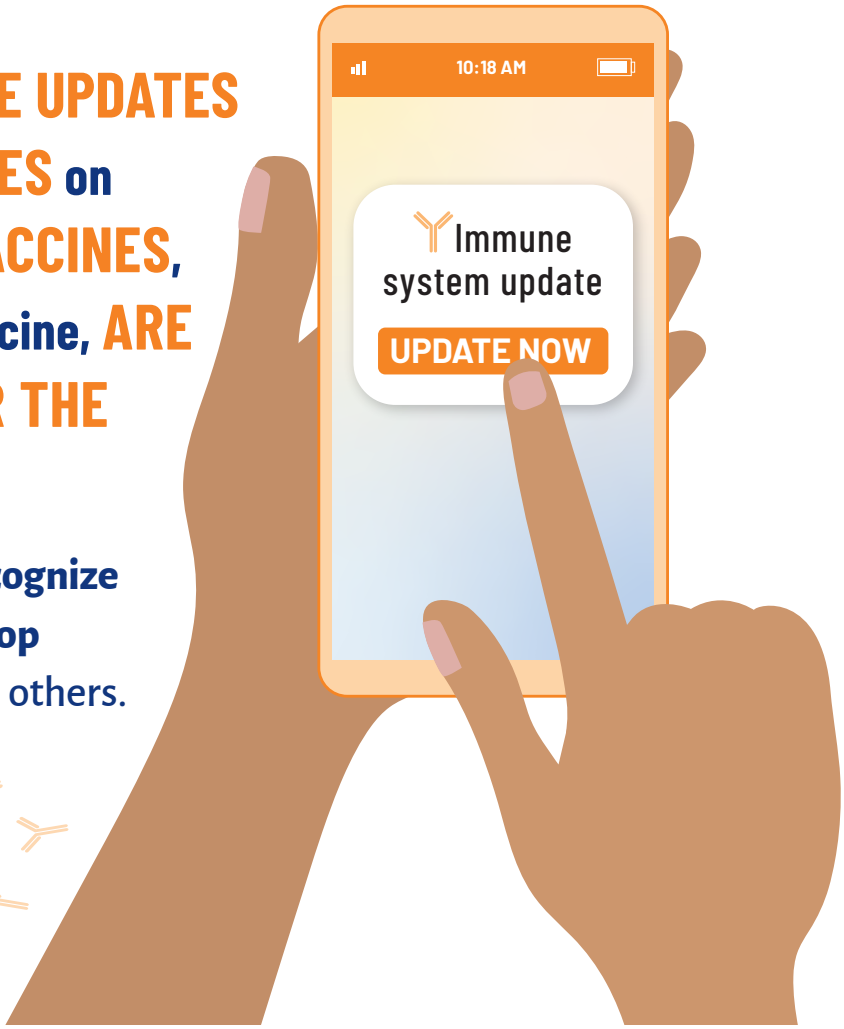
Rarely, cases of myocarditis and pericarditis have been reported in adolescents and young adults. The risk of myocarditis is up to 6 times higher after SARS-CoV-2 infection than after the COVID vaccine.

COVID-19 VACCINE

JUST LIKE SOFTWARE UPDATES help you AVOID VIRUSES on your digital devices, VACCINES, including the COVID vaccine, ARE LIKE "UPDATES" FOR THE IMMUNE SYSTEM.

They give us the **tools to recognize and avoid infections** and **stop diseases from spreading** to others.



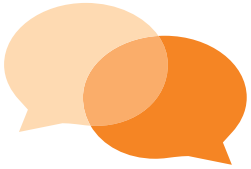


WHEN CHILDREN ARE VACCINATED THEY ARE FREE AND SAFE TO:

Go to school

Play

Visit vulnerable loved ones



Socialize

Participate in activities

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INFLUENZA (FLU) VACCINE

Use the conversation starters here with the accompanying infographics for families.

Why vaccinate against flu?

- Flu can be serious — even children who are considered to have low risk for adverse outcomes can have serious complications that require hospitalization.
- The vaccine provides protection from critical and life-threatening illness from influenza. Even in seasons when the vaccine is not an exact match with the circulating strains of the flu viruses, it prevents serious complications and the need for hospitalization.
- For most people, flu can cause
  - » Fever.
  - » Cough.
  - » Sore throat.
  - » Headache.
  - » Chills.
  - » Muscle aches.
  - » Fatigue.
- Complications include
  - » Inflammation of the heart (myocarditis).
  - » Inflammation of the brain (encephalitis).
  - » Inflammation of the muscles (myositis, rhabdomyolysis).
  - » Multi-organ failure.
  - » Death.
- Flu can be deadly. Each flu season, about 37 to 199 children and teens die from influenza. About 80% were not fully vaccinated.

Flu vaccine

- There are 2 types of seasonal flu vaccines.
  - » Inactivated (killed) vaccine that is given by an injection (shot).
  - » Live attenuated (weakened) vaccine that is sprayed into the nose (nasal spray).
- Everyone 6 months and older should receive a flu vaccine every year. A flu vaccine is needed every year because
  - » Flu viruses change from year to year.
  - » Yearly vaccination helps keep immunity up. Without vaccination, immunity can fade within a year.
- It takes about 2 weeks to be fully protected after getting the flu vaccine.
- It is best to get vaccinated before flu season or as soon as the vaccine is available (in late summer or early fall).
- Flu can circulate from early fall through late spring and sometimes later. Children should still get the vaccine if they missed getting it at the start of the season.
- Flu vaccine can be given at the same time as other vaccines.

After vaccination

- Flu vaccines have been given to hundreds of millions of people for more than 50 years and have a very good safety record.
- Children with egg allergy can receive any influenza vaccine without any additional precautions beyond those recommended for all vaccines.
- Side effects following inactivated flu shot can include
  - » Soreness, redness and swelling where the shot was given.
  - » Fever, muscle aches and headache.
- Side effects following live intranasal flu spray can include
  - » Runny nose or nasal congestion, wheezing and headache.
  - » Vomiting, muscle aches, fever, sore throat and cough.
  - » If these problems occur, they usually begin soon after vaccination and are mild and short-lived.
- Severe side effects are extremely rare.

Flu vaccine does not give people the flu.

- Some people get flu-like symptoms shortly after they get the flu vaccine. There are a few reasons for this.
  - » They may be infected by a virus other than flu. The flu vaccine only prevents illnesses caused by flu viruses.
  - » They may have been infected by a flu virus before the vaccine took effect. It takes about 2 weeks after getting the vaccine for the body to build protection against the flu.
  - » They may be infected by a strain of the flu virus that is different from those in this year's vaccine. When this happens, the flu vaccines can still prevent or reduce severe illness and hospitalization.
- Flu vaccines vary in how well they work, and some vaccinated individuals can still get sick. But the flu vaccine still reduces severity of illness in these situations.

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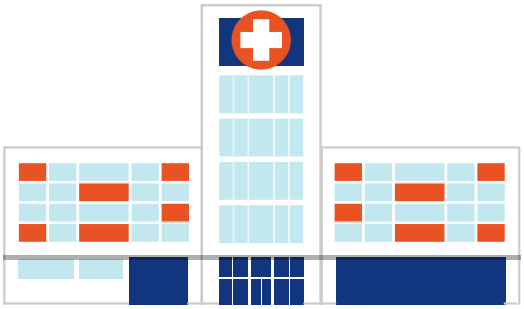
INFLUENZA (FLU) VACCINE

THOUSANDS OF CHILDREN AND TEENAGERS ARE HOSPITALIZED WITH THE FLU EACH YEAR.



THE VACCINE PREVENTS SERIOUS COMPLICATIONS.

CHILDREN UNDER AGE 5 ARE MOST AT RISK OF SERIOUS ILLNESS.

Older children can also get very sick from the flu.

2 doses: children 6 months through 8 years who are getting the flu shot for the FIRST TIME.

Dose 1 — Dose 2

1 dose each year for most children.

FLU VACCINES CAN'T GIVE YOU THE FLU.

Some people get flu-like symptoms shortly after they get the flu vaccine. There are a few reasons for this:

- They may have another illness, like a cold.
- They may have been exposed to influenza right before, or during the two weeks after vaccination, when the body is still learning how to protect against influenza.
- They caught a strain of flu that's not a part of the vaccine. Being vaccinated will still help prevent hospitalization and reduce severe illness.
- Flu vaccines vary in how well they work and some vaccinated people can still get sick. The flu vaccine still reduces severity of illness.

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MEASLES, MUMPS, RUBELLA (MMR) VACCINE

Use the conversation starters here with the accompanying infographics for families.

Why vaccinate against measles, mumps and rubella?

Measles

- Measles is caused by a virus. Its symptoms include
  - » Fever.
  - » Cough.
  - » Runny nose.
  - » Red, watery eyes.
  - » Rash that covers the whole body.
- Measles can lead to
  - » Ear infections.
  - » Diarrhea.
  - » Infection of the lungs (pneumonia).
  - » Hearing loss and deafness.
  - » Brain damage.
  - » Brain inflammation (swelling) can occur up to 7 years after a child had measles. The swelling can lead to convulsions and leave the child with deafness and/or intellectual disability.
  - » Death.
- Before the measles vaccine, measles caused 500 deaths per year; 48,000 people were hospitalized, and 1,000 had encephalitis (swelling of the brain).
- In 2018, measles caused 140,000 deaths worldwide in unvaccinated and undervaccinated people.

How does measles spread?

- Measles is extremely contagious; 90% of those susceptible (don't already have immunity) who are exposed to measles will contract the disease.
- Measles spreads from person to person and through the air. The measles virus can live for two hours on surfaces or suspended in the air. Someone who enters a room where someone with measles had been earlier can catch the disease.
- Outbreaks of measles in the United States mainly affect unvaccinated people and communities with high numbers of unvaccinated people.

Mumps

- Mumps is caused by a virus. Its symptoms include
  - » Fever.
  - » Headache.
  - » Muscle aches.
  - » Tiredness.
  - » Loss of appetite.
  - » Swollen, tender salivary glands under the ears on one or both sides.
- Mumps can also lead to
  - » Deafness.
  - » Swelling of the brain (encephalitis) and/or the brain and spinal cord covering (meningitis).
  - » Painful swelling of the testicles or ovaries.
  - » Sterility.
  - » Very rarely, death.

How does mumps spread?

- Mumps spreads through the air and through saliva droplets.

Rubella

- Rubella virus causes
  - » Fever.
  - » Sore throat.
  - » Rash.
  - » Headache.
  - » Eye irritation.

How does rubella spread?

- Rubella is spread through saliva droplets.
- Rubella syndrome can be passed to the baby before they are born and cause serious birth defects. A pregnant person infected with rubella is at risk of miscarriage.

MMR vaccine

- MMR is routinely recommended for children at 12 to 15 months.
  - » A second dose is recommended at age 4 to 6 years. Some children won't be fully protected until after the second dose.
  - » If there is a local outbreak or planned travel to an area with an outbreak, babies age 6 to 11 months old can receive one dose of MMR vaccine for short-term protection. When they are 12 months or older, they will still need the 2-dose series if they received a dose before age 12 months.
- MMR is a live-virus vaccine.
  - » It can be administered on the same day as other vaccines, including other live vaccines.
  - » If MMR is not administered on the same day, other live-virus vaccines, like LAIV (live, attenuated influenza vaccine) or varicella, should be administered 28 days from administration of MMR.
- MMRV is another live-virus vaccine that contains MMR and varicella (chickenpox) vaccine. It has the same dosing schedule as MMR. For children age 12–47 months, it is recommended to administer MMR vaccine and varicella vaccine separately. This is due to a slightly increased risk of febrile seizures; this increased risk is no longer present by age 4 years. MMRV may be used if parents or caregivers express a preference.

After vaccination

Side effects usually are mild and go away on their own.

- Some people may experience the following after vaccination. If these reactions occur, they usually begin within 2 weeks after the shot. They occur less often after the second dose.
  - » Sore arm from the injection.
  - » Fever.
  - » Redness or rash at the injection site.
  - » Swelling of glands in the cheeks or neck.
- More serious events are rare. They include
  - » Seizure often associated with fever.
  - » Temporary pain and stiffness in the joints, mostly in teenage or adult women.
  - » Temporary low platelet count, which can cause unusual bleeding or bruising.
  - » Long-term seizures, coma, or lowered consciousness.

Does MMR vaccine cause autism?

No. Autism is caused by genetic factors and environmental exposures. More than 80% of children with autism have the condition for genetic reasons.

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MEASLES, MUMPS, RUBELLA (MMR) VACCINE

MEASLES, MUMPS AND RUBELLA

CAN ALL BE SPREAD PERSON TO PERSON.

MEASLES AND MUMPS CAN ALSO SPREAD THROUGH THE AIR.

Measles is especially contagious. Even someone who enters a room where a person with measles had been 2 hours earlier **can catch the disease.**

HIGHLY CONTAGIOUS

MEASLES CAN BE SPREAD BY UNVACCINATED TRAVELERS

RUBELLA INFECTION during pregnancy can cause miscarriage or serious birth defects.

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VARICELLA VACCINE

Use the conversation starters here with the accompanying infographics for families.

Why vaccinate against varicella?

- Varicella, or chickenpox, is caused by a virus. Before varicella vaccine, almost everyone in the United States got chickenpox at some point in their lives. About 4 million people were infected and 10,000 people were hospitalized with chickenpox each year.
- Chickenpox causes an itchy rash all over the body that usually lasts about a week. Other symptoms can include
  - » Fever.
  - » Tiredness.
  - » Loss of appetite.
  - » Headache.
- Serious illness can cause complications like:
  - » Skin infections.
  - » Infection of the lungs (pneumonia).
  - » Inflammation of blood vessels.
  - » Swelling of the brain (encephalitis) and/or the brain and spinal cord covering (meningitis).
  - » Bloodstream, bone or joint infections.
- Some people get so sick that they need to be hospitalized.
- In rare cases, chickenpox can cause death.
- Children who get chickenpox usually miss at least 5 or 6 days of school or child care.
- People who receive the varicella vaccine have a lower risk of developing "shingles" (zoster) later in life compared to people who had a chickenpox infection.

How does chickenpox spread?

- Chickenpox is very contagious. It spreads easily from person to person through fluid from the skin rash or through the air by coughing or sneezing. Anyone who has not had chickenpox and has not gotten the chickenpox vaccine is at risk of infection if they are exposed to the virus.
- The virus that causes chickenpox also causes shingles. After chickenpox infection, the virus remains in the body. People get shingles later in life when the virus reactivates.
- People with shingles can spread the virus to others. Those who get infected will develop chickenpox, not shingles.
- It takes about 2 weeks after exposure to a person with chickenpox or shingles for someone to develop chickenpox. If a person receives the vaccine and has already been exposed, they can develop chickenpox and spread it to others.

Varicella vaccine

- Varicella vaccine is routinely recommended for children at age 12 to 15 months.
  - » A second dose is recommended at age 4 to 6 years. Some children are not fully protected until after the second dose.
- Varicella is a live-virus vaccine. It can be administered on the same day as other vaccines, including other live vaccines. If not administered on the same day, other live-virus vaccines, like live LAIV (live, attenuated influenza vaccine) or MMR, should be administered 28 days from administration of varicella vaccine.
- MMRV is another live-virus vaccine that contains MMR and varicella vaccine. It has the same dosing schedule as MMR and varicella vaccines. For children age 12 to 47 months, it is recommended to administer MMR and varicella vaccines separately. This is due to a slight increased risk of febrile seizures; this increased risk is no longer present by age 4 years. MMRV may be used if parents or caregivers express a preference.

After vaccination

Side effects usually are mild and go away on their own. If these reactions occur, they usually begin within 2 weeks after the shot. They occur less often after the second dose.

Possible side effects

- Some people may experience the following after vaccination.
  - » Sore arm from the injection.
  - » Fever.
  - » Redness or rash at the injection site.
- Serious side effects are rare. They include
  - » Seizure (jerking or staring) is often associated with fever.
  - » Infection of the lungs (pneumonia) or the brain and spinal cord coverings (meningitis).
  - » Rash similar to chickenpox all over the body. A person who develops a rash after chickenpox vaccination can spread the weakened varicella virus of the vaccine to an unprotected person. Anyone who gets a rash after vaccination should stay away from people with weakened immune systems and unvaccinated infants until the rash is gone.

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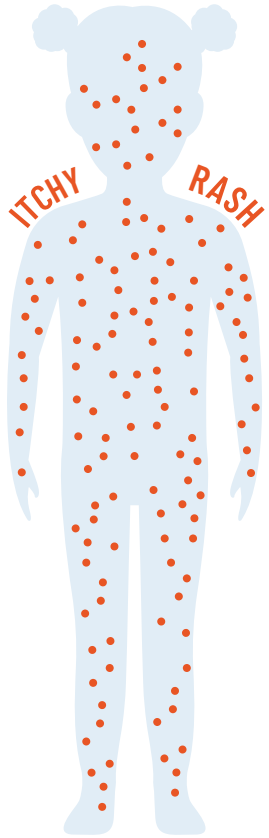
VARICELLA (CHICKENPOX) VACCINE



CHICKENPOX
IS CAUSED BY A VIRUS

OTHER SYMPTOMS OF CHICKENPOX INCLUDE


Fever

Tiredness

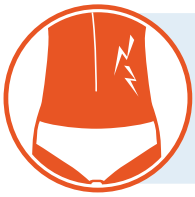

Loss of appetite


Headache

CHICKENPOX CAN LEAD TO


Children missing a week of school.


A hospital stay.


Shingles, a disease that causes a painful rash, is caused by the same virus that causes chickenpox. It occurs later in life.

THE CHICKENPOX VACCINE LOWERS THESE RISKS & SAVES LIVES.

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from the American Academy of Pediatrics

HEPATITIS A (HepA) VACCINE

Use the conversation starters here with the accompanying infographics for families.

Why vaccinate against hepatitis A (HepA)?

- HepA vaccination is the best way to prevent infection. After HepA vaccine was recommended in the United States in 1996, the number of cases reported each year dropped. Since 2016, outbreaks of hepatitis A have been identified in several states in unvaccinated people.
- HepA is a serious liver disease caused by HepA virus.
- Symptoms of HepA can include
  - » Fever.
  - » Fatigue.
  - » Loss of appetite, nausea and vomiting.
  - » Joint pain.
  - » Severe stomach pain and diarrhea (mainly in children).
  - » Jaundice (yellow skin or eyes, dark urine, clay-colored bowel movements).
- Children with the virus often don't have symptoms, but they can easily pass the disease to others, including their unvaccinated parents or caregivers who can become seriously ill.

How does HepA virus spread?

- HepA virus usually spreads from person to person through contact with the stool of people who are infected.
  - » This can happen easily because of improper handwashing.
  - » Caregivers can get infected through dirty diapers.
- You can also get HepA by consuming food or water prepared by someone with HepA or by touching objects or surfaces contaminated with the virus.

HepA vaccine

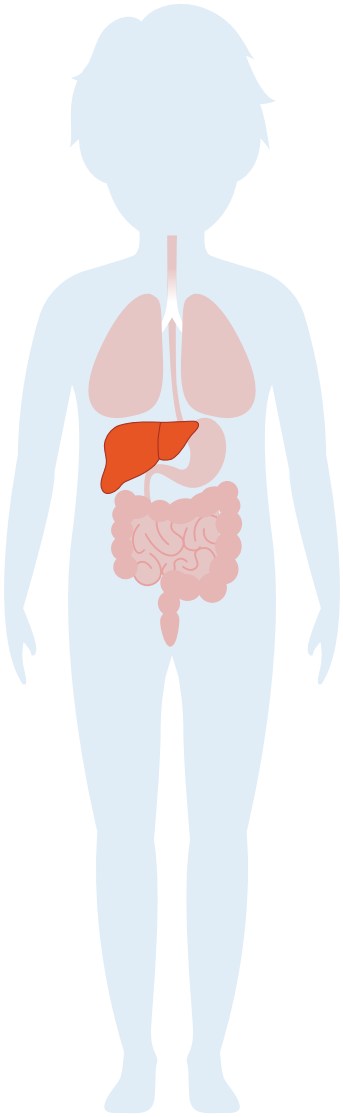
- Two doses of HepA vaccine are routinely recommended for children.
  - » The first dose should be given between 12 and 23 months of age.
  - » The second dose should be given at least 6 months after the first dose.
- The HepA vaccine is recommended for all people age 6 months and older before international travel to countries where hepatitis A is common.

After vaccination

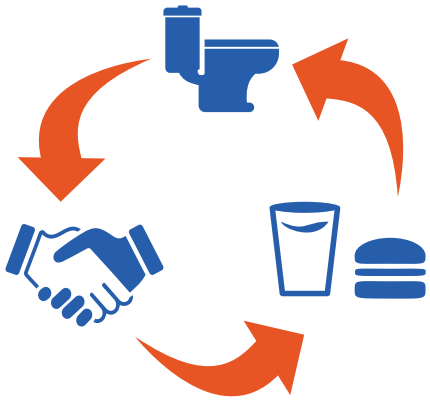
Side effects are usually mild and go away on their own. They may begin soon after vaccination and last 1 to 2 days.

- Some children may experience
  - » Soreness or redness where the shot was given.
  - » Low-grade fever.
  - » Headache.
  - » Tiredness.

HEPATITIS A (HepA) VACCINE



HEPATITIS A IS A SERIOUS LIVER DISEASE



HepA virus spreads through contact with the stool of infected people

- This can happen easily because of poor handwashing.
- You can also get hepatitis A from food, water or objects handled by people who are infected.

HEPATITIS A VACCINE is recommended to all people age 6 months and older before international travel to areas where HepA is common.

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COMBINATION VACCINES

Use the information on this page with the infographic page when talking with families.

What are combination vaccines?

Some vaccines are combined so your child doesn't have to get as many shots.

Combination vaccines work the same as vaccines given separately.

Examples of combination vaccines include:

- DTaP +IPV.
- DTaP + IPV + HepB.
- DTaP + IPV + HepB + Hib.
- DTaP + IPV + Hib.
- HepA + HepB.
- MMRV (MMR + Var).

Facts for clinicians about MMR and DTaP vaccines

- Despite DTaP and MMR protecting against three separate diseases, they are not considered combination vaccines. This is because there are no vaccines to protect against each disease individually (ie, single-component vaccines) in the United States.
- DTaP and MMR are multicomponent vaccines. They are the only option to receive protection against these diseases in the United States.

What to know about MMR vaccine and MMRV vaccine

- When the first doses of MMR and chickenpox vaccines are given to children younger than 4 years of age (at 12 to 15 months as scheduled or later as catch-up doses), they are usually given as two separate injections.
- This is to avoid a slightly higher risk of febrile seizures that may occur. This higher risk exists until age 4 years and may occur when giving one dose of MMRV as a combination vaccine.
- The MMRV vaccine may be used for the first dose instead if parents express a preference. They can either get an MMRV vaccine (one injection) or a dose of MMR vaccine plus a dose of varicella vaccine (two injections). The maximum age for use of MMRV is 12 years.

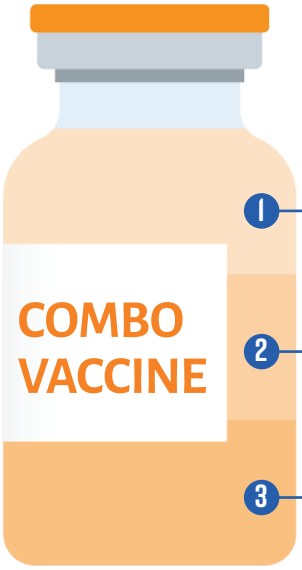
Does it overwhelm a baby or child's immune system to give multiple shots in one visit?

- No. We know vaccines are safe—including when multiple shots are given together. Researchers continue to study vaccines alongside other vaccines. Millions of children have safely received vaccines together.
- Infants and children are exposed to many germs every day, when crawling around the house, eating, and breathing. Their immune systems respond to the antigens of the germs and get rid of them to keep their body healthy.

COMBINATION VACCINES

IMMUNITY TO MORE DISEASES THROUGH FEWER SHOTS:

For example,
DTaP + IPV + Hib = Protects against 5 DISEASES



Some vaccines are made to protect against two or more diseases in one shot instead of separate shots for each disease.

These vaccines are not considered combination vaccines, because they protect against diseases for which vaccines are not available individually.

- Diphtheria
- Pertussis
- Tetanus

- Measles
- Mumps
- Rubella

NOT AVAILABLE as single vaccines in the United States.

Table 1 Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, United States, 2025

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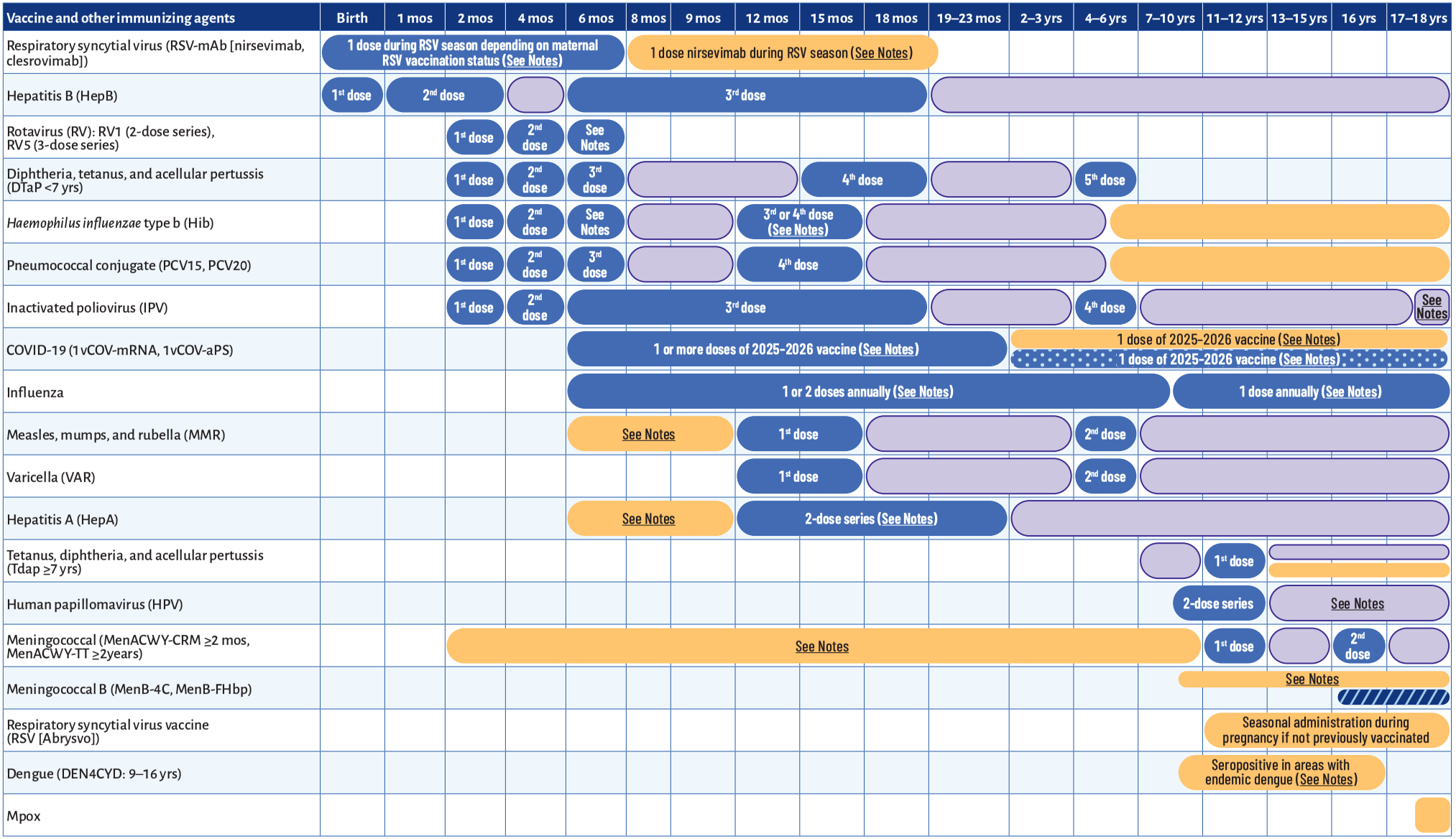
These recommendations must be read with the Notes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the outlined purple bars. To determine minimum intervals between doses, see the catch-up schedule (Table 2).



Range of recommended ages for all children

Range of recommended ages for catch-up vaccination

Range of recommended ages for certain high-risk groups or populations

Recommended vaccination for those who desire protection

Recommended vaccination based on shared clinical decision-making

IMMUNIZATION SCHEDULE

Use these speaking points with the accompanying family-friendly infographics when talking with patients.

Preteens and teens need vaccines too!

The following vaccines are recommended starting at age 9 years to protect preteens and teens from these diseases:

Disease	Vaccine	Recommended Schedule
Meningococcal sepsis and meningococcal meningitis	Meningococcal ACWY (MenACWY)	At ages 11–12 Teens need a booster dose at age 16.
HPV-related cancers and precancers	Human papillomavirus (HPV)	At ages 9–12 Like with some newborn and infant vaccines, >1 dose of this vaccine is needed.
Tetanus, diphtheria, and pertussis	Tetanus, diphtheria, pertussis (Tdap)	At ages 11–12
Influenza (flu)	Influenza IIV - inactivated vaccine that is given by an injection Influenza LAIV - live attenuated vaccine that is sprayed into the nose	Annually
Dengue	Dengue (DEN4CYD)	Age 9-16 years living in dengue endemic areas AND have laboratory confirmation of previous dengue infection 3-dose series

Why get these vaccines?

- Immunization helps prevent the spread of diseases and protects families and your community.

These vaccines are recommended by the American Academy of Pediatrics (AAP) (https://www.aap.org/immunization) and the Centers for Disease Control and Prevention (CDC) (https://www.cdc.gov/vaccines/schedules).

These vaccines are safe.

- Before being licensed, each vaccine was carefully studied by scientific experts.
- The Centers for Disease Control and Prevention continually monitors the safety of all vaccines, which are held to the highest standards.
- It is normal and expected to have minor vaccine side effects.
- Most side effects are mild (eg, sore arm).
- Serious side effects (eg, severe allergic reaction) are rare.

Catch-up

- If your teen did not receive one or more of these vaccines between ages 9 to 12, they should receive the vaccines now.

COVID-19 Vaccination

- COVID-19 vaccines are recommended for your preteen or teen. COVID-19 vaccine and booster recommendations may be updated as CDC continues to follow data related to vaccine effectiveness and safety, waning immunity, and protection against variants.
- COVID-19 vaccines and other vaccines may be administered on the same day.
- AAP policy, COVID-19 Vaccines in Infants, Children and Adolescents, can be found at https://doi.org/10.1542/peds.2022-058700.
- CDC recommendations for the use of COVID-19 vaccines can be found at: https://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/covid-19.html.
- CDC interim clinical considerations for use of COVID-19 vaccines can be found at https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html.

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The Children's Clinic of Conway and Greenbrier

Vaccine policy

Our clinicians recommend that all children receive all recommended vaccinations for the purpose of individual and societal prevention of vaccine preventable illness. The AAP provides a vaccination schedule that we recommend, use, and follow. Our physicians are in agreement with experts in the field of vaccine safety and believe that the benefits of immunization far outweigh any rare risks from the vaccines.

In the past, our clinic policy has strictly required all patients receive all required vaccines. It has provided some flexibility related to so-called 'alternate schedules', so long as the overall goal is that the child eventually receives all required vaccines. However, there has been a recent and significant societal change in how some individuals view vaccines and this updated policy reflects this reality. Our commitment remains to promote all recommended vaccines and to protect the health of our community.

Although the clinic strives to provide the best care we can for your child, we must also strive to provide the best care we can for the other children playing in the waiting room or the newborn being held across from you.

All children, but especially those who are too young to receive certain vaccines or who medically cannot receive certain vaccines, need a safe environment to receive medical care. It is important to remember this fact when you choose to delay or refuse vaccine(s) for your child.

For parents who choose to follow the AAP recommended vaccine schedule

Thank you for choosing to protect your children from preventable illness and thank you for helping protect those children and adults who are vulnerable to these illnesses, including newborns, people on chemotherapy, or people with an immune system disorder. Thankfully, you are the vast majority of our families that have made the most scientifically and medically accurate and correct choice. The clinic follows all guidelines and investigates any new vaccine products before offering it to our patients so that you can trust what we are offering. We will never give a vaccine without your consent.

Requirements:

- None. Thank you for your trust and thank you for helping protect our loved ones

Risk:

- Minimized due to good decision making

For the parents who choose an alternate vaccination schedule

Please discuss with your provider the potential risks involved in following an alternate schedule. As long as the goal is for your child to be fully vaccinated, your alternate schedule is being followed, and the vaccination schedule is not significantly delayed, you won't be required to sit in the sick waiting room. For legal reasons you may be required to sign a form documenting your refusal.

Requirements:

- Sign legal document accepting the risk of delaying the required vaccine(s)

Risk:

- Increased depending on what vaccine is being delayed

For the parents who choose to delay vaccines

Please discuss with your provider the potential risks involved in following a delayed schedule. As long as the goal is for your child to be fully vaccinated and the vaccine delay is not significant, you won't be required to sit in the sick waiting room. For legal reasons you may be required to sign a form documenting your refusal.

Requirements:

- Sign legal document accepting the risk of delaying the required vaccine(s)

Risk:

- Increased depending on what vaccine is being delayed

For the parents who refuse certain vaccines

Please discuss with your provider the potential risks involved in refusing certain vaccines. You may be required to sign a legal form documenting your refusal and, based off the recommendation of your provider, you may be required to sit in the sick waiting room or your car if the vaccine being refused places other people at risk.

Requirements:

- Sign legal document accepting risk of refusing the required vaccine(s)
- Depending on the vaccine refused, may be required to wait in your car to protect infants, children, and adults around you

Risk:

- Increased depending on what vaccine is being refused

For the parents who refuse all vaccines

There is a lot of misinformation on the internet and social media about vaccines. It is easy to find a story of a child (allegedly) having a terrible outcome after receiving certain vaccines. What you don't hear about and what you don't see in the news and social media are the thousands of patients that we see yearly who receive all recommended vaccines and have no side effects. You don't hear about the patients we see every day who 'cried when she got the vaccine' but were back to her normal self by the time she got home. As a father, I can vouch that my kids had no side effects and were running around

the house laughing and playing less than 30 minutes after receiving their required shots. Such stories aren't eye catching, though, and aren't 'news worthy' so you don't hear about it, but it reflects the **vast, vast** majority of people who receive vaccines. *Please do not fall victim to disinformation campaigns by special interest groups or foreign adversaries attempting to convince you to place your child at risk because of an unfounded conspiracy theory or an attempt to make the average US citizen seem uneducated and foolish.* No reputable authority (nor ourselves) believe that vaccines have zero risk. Vaccine reactions do occur but are very, very rare.

If you as a parent choose not to give any vaccines to your child, we ask that you find a different provider as our philosophy of protecting your child and decreasing your child's risk of a potentially lethal infection is not in line with your philosophy of refusing vaccines. We will continue to see your child until your child is medically stable enough to be let go. This may mean we will continue to see infants, patients with chronic illnesses, or families with complex medical or social issues because we feel it is in the best interest of the child to continue benefiting from receiving care in their 'medical home' with the medical team who knows their medical issues and challenges well. But when your child is medically able, the clinic may ask you to find a different provider who agrees with your vaccine philosophy.

Finally, if your child is not receiving vaccines you may be required to sit in the sick waiting room or in your car. This is not a punishment; rather, this is the clinic exercising our legal and ethical duty to protect the adults and children who enter our clinics. These families enter our building with the assumption that they are in a safe environment. These families have made the medically and scientifically sound choice to protect their children and should not be placed at increased risk due to your choices.

Requirements:

- Sign legal document refusing required vaccine(s)
- Wait in your car
- Begin looking for a medical clinic that is in-line with your vaccination beliefs
- Will be required to find a new provider when your child is medically stable

Risk:

- Significant increase risk to your child and people around you
- Difficulty in finding a daycare, preschool, mother's day out program, pre-K program, and limited school options
- Requirement to complete vaccine refusal documentation for each school, after school program, summer program, and college your child attends

List of preventable illness covered by pediatric vaccines

Please note, no vaccine is 100%. For example, every year we see patients who received the flu vaccine but still get the flu. This can occur with many of the illnesses below. It is important to know that the vaccine stimulates the immune system to be 'prepared' or 'ready for' the bacteria or virus if your child is exposed to it. Therefore, if your child is infected by an illness he or she received a vaccine towards, their symptoms will be significantly decreased due to your child's immune system having been previously prepared for the illness.

- Hepatitis B – Virus that can damage the liver, which can lead to cirrhosis of the liver, liver failure, and/or liver cancer.

- Diphtheria – disease caused by a bacteria that releases a toxin that damages the nose and throat. It can cause damage to the heart, kidneys, and nervous system and can be lethal even if treated.
- Tetanus – disease caused by a bacteria that releases a toxin that prevents muscles from relaxing. Also known as 'lockjaw'. It causes excruciatingly painful, seizure-like spasms that can eventually result in death from respiratory failure
- Pertussis – Highly contagious. Causes cough and congestion initially followed by uncontrolled coughing 'fits' for up to 10 weeks. It also causes apnea, cyanosis, and potentially death in infants
- Haemophilus Influenza type B – Life threatening bacterial infection, spread via coughing or sneezing, that can cause pneumonia, blood stream infections, and/or meningitis. Hib infection can result in loss of limbs, severe brain damage, or death. Children less than 5 years old are at heightened risk of infection and complications.
- Pneumococcus – bacteria that causes ear infections, pneumonia, and meningitis. Pneumococcal pneumonia can damage the lungs and heart and is lethal in 1 out of 20 infections. Pneumococcal meningitis is lethal in 1 out of 12 children and 1 out of 6 adults and those lucky enough to survive often have long-term brain damage. Pneumococcal blood stream infection is lethal in 1 out of 30 children and 1 out of 8 adults.
- Rotavirus – 'Stomach bug' virus that causes vomiting and significant watery diarrhea leading to dehydration and, potentially, death if fluids are not administered early enough
- MMR (Measles, Mumps, and Rubella) – Measles is highly contagious, causes high fever and respiratory symptoms and young children are at risk for severe complications including pneumonia and brain swelling. Mumps causes salivary gland swelling, headache, fever and can potentially cause inflammation of testicles, ovaries, pancreas, and/or the brain and spinal cord. Rubella causes cold-like symptoms but can harm a pregnant woman's developing baby which may result in miscarriage, death of the newborn shortly after birth, and heart and/or brain damage if the newborn survives.
- Varicella (Chicken pox) – Highly contagious, generally mild illness. Vaccination is required due to potential complications including pneumonia, skin bacterial infection, and brain swelling. Immunocompromised people can develop varicella infection of the internal organs. Pregnant women are at risk for pneumonia and death from varicella and her baby is at risk for skin scarring and damage to limbs, brain, and eyes.
- Hepatitis A – typically causes 'stomach bug' like symptoms but can cause damage to the liver potentially causing liver failure
- Meningococcal – Vaccine covers multiple bacteria that cause meningitis. Infection leads to death in 1 out of 10 and 1 out of 5 survivors have life-long disability
- Polio – disease caused by a virus most known for causing paralysis. Largely eliminated in the US but causes still occur internationally and, due to international travel, new cases can potentially occur in the US

The Children's Clinic of Conway and Greenbrier

Refusal to Vaccinate Form

Child:_____ **DOB:**_____

Parent/Guardian:_____

	Vaccine recommended	Initial for refusal
☐	**Hepatitis B** Virus that can damage the liver, which can lead to cirrhosis of the liver, liver failure, and/or liver cancer.	_____
☐	**Diphtheria** Disease caused by a bacteria that releases a toxin that damages the nose and throat. It can cause damage to the heart, kidneys, and nervous system and can be lethal even if treated.	_____
☐	**Tetanus** Disease caused by a bacteria that releases a toxin that prevents muscles from relaxing. Also known as 'lockjaw'. It causes excruciatingly painful, seizure-like spasms that can eventually result in death from respiratory failure	_____
☐	**Pertussis** Highly contagious. Causes cough and congestion initially followed by uncontrolled coughing 'fits' for up to 10 weeks. It also causes apnea, cyanosis, and potentially death in infants	_____
☐	**Haemophilus influenzae type B** Life threatening bacterial infection, spread via coughing or sneezing, that can cause pneumonia, blood stream infections, and/or meningitis. Hib infection can result in loss of limbs, severe brain damage, or death. Children less than 5 years old are at heightened risk of infection and complications.	_____
☐	**Pneumococcus** Bacteria that causes ear infections, pneumonia, and meningitis. Pneumococcal pneumonia can damage the lungs and heart and is lethal in 1 out of 20 infections. Pneumococcal meningitis is lethal in 1 out of 12 children and 1 out of 6 adults and those lucky enough to survive often have long-term brain damage. Pneumococcal blood stream infection is lethal in 1 out of 30 children and 1 out of 8 adults.	_____
☐	**Rotavirus** 'Stomach bug' virus that causes vomiting and significant watery diarrhea leading to dehydration and, potentially, death if fluids are not administered early enough	_____
☐	**MMR** Measles is highly contagious, causes high fever and respiratory symptoms and young children are at risk for severe complications including pneumonia and brain swelling. Mumps causes salivary gland swelling, headache, fever and can potentially cause inflammation of testicles, ovaries, pancreas, and/or the brain and spinal cord. Rubella causes cold-like symptoms but can harm a pregnant woman's developing baby which may result in miscarriage, death of the newborn shortly after birth, and heart and/or brain damage if the newborn survives.	_____
☐	**Varicella** Highly contagious, generally mild illness. Vaccination is required due to potential complications including pneumonia, skin bacterial infection, and brain swelling. Immunocompromised people can develop varicella infection of the internal organs. Pregnant women are at risk for pneumonia and death from varicella and her baby is at risk for skin scarring and damage to limbs, brain, and eyes.	_____
☐	**Hepatitis A** Typically causes 'stomach bug' like symptoms but can cause damage to the liver potentially causing liver failure	_____
☐	**Meningococcal** Vaccine covers multiple bacteria that cause meningitis. Infection leads to death in 1 out of 10 and 1 out of 5 survivors have life-long disability	_____
☐	**Polio** Disease caused by a virus most known for causing paralysis. Largely eliminated in the US but causes still occur internationally and, due to international travel, new cases can potentially occur in the US	_____

I have been provided with and given the opportunity to read each Vaccine Information Statement from the Centers for Disease Control and Prevention explaining the vaccine(s) and the disease(s) it prevents for each of the vaccine(s) checked as recommended and which I have declined, as indicated above. I have had the opportunity to discuss the recommendation and my refusal with my child's doctor or nurse, who has answered all of my questions about the recommended vaccine(s). A list of reasons for vaccinating, possible health consequences of non-vaccination, and possible side effects of each vaccine is available at https://www.cdc.gov/vaccines/hcp/current-vis/index.html.

I understand the following:

- The purpose of and the need for the recommended vaccine(s).
- The risks and benefits of the recommended vaccine(s).
- That some vaccine-preventable diseases are common in other countries and that my unvaccinated child could easily get one of these diseases while traveling or from a traveler.
- If my child does not receive the vaccine(s) according to the medically accepted schedule, the consequences may include
    - Contracting the illness the vaccine is designed to prevent (the outcomes of these illnesses may include one or more of the following: certain types of cancer, pneumonia, illness requiring hospitalization, death, brain damage, paralysis, meningitis, seizures, and deafness; other severe and permanent effects from these vaccine-preventable diseases are possible as well).
    - Transmitting the disease to others (including those too young to be vaccinated or those with immune problems), possibly requiring my child to stay out of child care or school and requiring someone to miss work to stay home with my child during disease outbreaks.
- My child's doctor and the American Academy of Pediatrics strongly recommend that the vaccine(s) be given according to recommendations.

Nevertheless, I have decided at this time to decline or defer the vaccine(s) recommended for my child, as indicated below, by checking the appropriate box under the column titled "Declined." I know that failure to follow the recommendations about vaccination may endanger the health or life of my child and others with whom my child might come into contact. I therefore agree to tell all health care professionals in all settings what vaccines my child has not received because he or she may need to be isolated or may require immediate medical evaluation and tests that might not be necessary if my child had been vaccinated.

I know that I may readdress this issue with my child's doctor or nurse in the future and that I may change my mind and accept vaccination for my child

Please initial and sign below

Initial below	
_____	I acknowledge that I have read this document in its entirety and fully understand it.
_____	I understand that in refusing vaccine(s) my child and those around him/her are at increased risk from preventable illness
_____	I have read and understood The Children's Clinic's Vaccine Policy letter
_____	I understand that I may be required to wait in the sick waiting room or in my car to help prevent exposing other children and adults from preventable illness
_____	I understand that the clinic has a vaccine policy and that, in accordance with that policy, once the providers at The Children's Clinic feel it is safe to do so I may be required to find a new clinic to take my children to

_____

Name of parent/guardian (Printed) Date

_____

Signature of parent/guardian

_____

Name of parent/guardian (Printed) Date

_____

Signature of parent/guardian