Childhood Immunizations and Urgent Care Access: Keeping Kids Healthy & Safe

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Objectives

- Review the role of the immune system
- Review key concepts about immunity
- Discuss illness prevention and the role of vaccines
- Review childhood vaccine recommendations and schedule
- Review the vaccines for children program
- Primary, Emergency, and Urgent Care

Today we will review:

1. The dynamic and powerful immune system and its role in our daily lives
2. Some key concepts about immunity including how our bodies make antibodies and protect us from illness
3. The simple things we can do to prevent illness from occurring in the first place and how vaccines play a role in illness prevention
4. The CDC vaccine schedule and recommendations during pregnancy and childhood, and we will also take a look at some specific vaccines
5. The vaccines for children program and access to vaccinations
6. The difference between primary care, emergency care, and urgent care and under what circumstances you would utilize these levels of care

Role of the Immune System

- Body's first line defense against invaders
- It is a group of organs, cells, chemicals, proteins
- Protects you from getting sick
- Helps you heal when you do get sick or injured
- The immune system has a great memory (antibodies)

- Our immune system is one of the hardest working and most coordinated systems in our bodies!
- I want you to imagine that your immune system, this group of organs, cells, chemicals, and proteins- is like a tall castle, a crew of armed security guards, MMA fighters, sanitation workers, and encyclopedia all at the same time.
- It helps to prevent germs and diseases from entering the body in the first place so that you don't get sick. If you do get sick, it is a warrior! It fights those bugs and helps you heal. It then remembers the bugs so that those specific bugs can't harm you in that way in the future.

Immunity: Key Concepts

- Antibodies- proteins produced by the body to destroy toxins and diseases
- ***Antibodies are disease specific***
- You become immune to a disease when you have antibodies to that disease in your system
- There are two types of immunity: active and passive

- That wonderful memory your immune system has- these are antibodies. They are proteins produced by your body to destroy these germs and toxins.
- What's important to remember about antibodies is that they are DISEASE SPECIFIC!
- We become immune to a specific disease when we our bodies create antibodies to that specific disease.
- So, for example, something like chicken pox- once you create antibodies to it, that's all you'll need! But the flu is a virus and it changes often. So you can have immunity to this year's version of the flu but still need a flu shot next year, because the one for next year is a bit different. This is one of the reason's why for some diseases, you'll just need 1 vaccine but for others, you might need to get it annually. Or why if you get sick from one type of illness, you'll never get it again! But you can fave recurring bouts of another type of illness
- There are 2 types of immunity: active and passive

Passive Immunity

- Passive Immunity- A person is given antibodies rather than producing them with their own immune system
- Passive Immunity keeps our babies safe until they can protect themselves
- Provides immediate protection but it is *not long term (only a few weeks or months)*

Examples:

- Maternal Antibodies Through the placenta
- Maternal Antibodies in breast milk
- Via Injection (snake venom, Hepatitis B Immune Globulin)

- Passive immunity is like a gift; you receive the antibodies instead of making them on your own
- This is the primary way we are able to keep our babies safe! Maternal antibodies are an important example of passive immunity. We pass along passive immunity via the placenta during pregnancy. And even after we give birth, we continue to protect our babies by passing along anitbodies in the breast milk
- This is one of the most important benefits of breast feeding. There are many benefits of breast feeding. It sets them up to have a healthier life- from the antibodies that get passed along, to the lowered risk of gut and respiratory infectioons, to the lowered risk of diabetes, asthma, obesity, certain cancers... the list is long. Its recommended that we give our babies only breast milk for th first 6 months of life, and then we continue to give them breast milk for at least 2 years (while we introduce solid foods). There are also many health benefits of breastfeeding for the mother, including lowered risk of breast and ovarian cancer, heart disease, and type 2 diabetes
- We can also get passive immunity through injections! For example, if you get bit by a poisonous snake, you can get passive immunityfor snake venom by being injected with antivenom (which is pre-made antibodies usually from

immunized animals). This immediately neutralize the toxins in the snake venom. Passive immunization works very quickly but it is important to note that passive immunity is not permanent!!! In this case, it works immediately to save your life, but ts not the long term solution to the issue

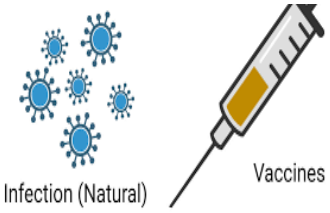
- If a mother has Hepatitis B, or if you get exposed to a needlestick that puts you at risk for hepatitis B, Hepatitis B Immune globulin can provide passive immunity. HBIG (as its called) has high levels of hepB antibodies from donors. This immediately neutralizes the virus and buys time for the HepB vccine to start working, and for your body to create its active immunity
- This is why, even after receiving antibodies from our moms during pregnancy and through breastfeeding, our kids need to get their own vaccines. Passive immunity is not long term

Active Immunity

- Active Immunity- Created by our own immune system when there is an exposure. We produce antibodies to a disease when we are exposed to it
- Active immunity *lasts a long time and can be lifelong*
- Vaccines provide us with a controlled way to create an immune response

Examples:

- Natural Immunity- we are exposed to the actual disease
- Vaccine- induced immunity- we are introduced to a killed or weakened form of the disease via the vaccine



- Active immunity is the immunity created by our own immune system when we are exposed to an illness or infection. The body produces antibodies to that specific disease when exposed to it
- This type of immunity lasts a very long time and in some cases, it is for your entire lifetime
- While we can certainly get this active immunity from getting sick or being exposed to the dangerous pathogen ourselves, Vaccines are a controlled way of creating this immunity. For example, it is much safer for us to become immune to measles by getting the measles vaccine than it is to get the immunity from exposure to full blown measles.

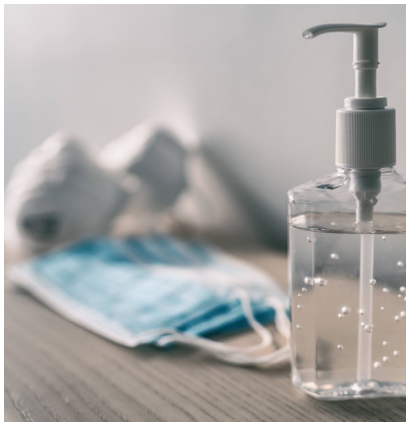
Herd Immunity

- When enough people in a community have been exposed to something, it can no longer spread easily
- As more people become immune, there are fewer people to infect
- Herd immunity s impacted by the type of disease, how it is spread, the characteristics of the germs, the duration of immunity

- Herd immunity is an interesting concept in public health and one of the ways we keep our entire community safe.
- When enough people around us are exposed to something and start developing immunity, it can no longer be spread easily. As more people become immune, there are fewer people to infect
- For babies who are still relying on that temporary passive immunity, or for an elderly, immunocomprosed person who's immune system is weak and are more prone to getting sick, we can help protect them by ensuring we are immune, so we don't pass things along to them! A lot of times we think very selfishly and don't recognize how our decisions impact the health and lives of others!
- This type of immunity depends on the type of disease, how it is spread, etc.

Illness Prevention

- Wash your hands frequently
- Avoid touching your face
- Cover your coughs/sneezes
- Stay home if you are sick
- Avoid foodborne illnesses
- Clean and disinfect surfaces
- Strengthen your immune system
- Get vaccinated



- These are just some of the things we can do to PREVENT illness! The best way to treat an illness or disease is to prevent it from happening in the first place
- Proper hand washing is one of the most effective prevention methods. I can't emphasize this enough. Please teach this life saving skill to your children and families. Practice it at home. Sing the happy birthday song while you wash and rub both sides of your hands. Using hand sanitizer is also effective and it's quick! But if your hand is visibly soiled, you need to wash it
- Germs love to enter our bodies through our eyes, nose, and mouth, ESPECIALLY if we have dirty hands. This is one of the reasons kids get sick often. They are usually not the best at handwashing so these germs are living on their hands or their toys…. And then they touch their faces, their friends' faces, YOUR Face!
- Proper cough hygiene is to cough into your elbow, not your hands because again- we will have those germs on our hands and pass them along to others
- We can also get sick from food and how it is prepared so be careful about raw foods, undercooked foods, old foods or foods with parasites, and also clean the area while cooking
- Cleaning and disinfecting our living spaces can help kill the germs living on surfaces

- STRENGTHEN YOUR IMMUNE SYSTEM! Start early by offering your children breast milk, the offer a nutritious diet that continues to strengthen the immune system while enabling their growth and development. In general , eating a balanced diet with fruits and veggies, managing stress, GETTING ENOUGH SLEEP, staying hydrated, exercising- are just some of the important ways we keep our immune system intact.
- And of course, we can prevent many many illnesses by getting vaccinated

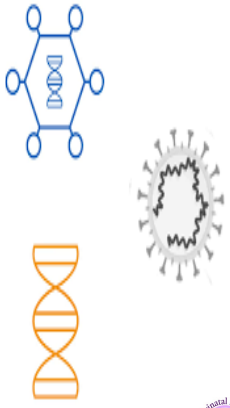
Role of Vaccines

- Vaccines help the body learn how to defend itself without the dangers of a full blown infection
- Getting vaccinated is safer than getting sick
- Vaccines protect you, others who are immunocompromised, and our society
- They are required for most school and community environments
- Many vaccines require more than one dose. Everyone should get recommended vaccines at the recommended times

- Vaccines are a great way to develop active immunity to a disease without getting the full blown infection. Vaccines are much safer than getting sick
- They protect you, those around you, the immunocomprosed, and in general- keep our society healthy
- For that reason, vaccines are required in public health group settings like schools
- The CDC has shared a schedule of vaccines Everyone should get the recommended vaccines and at the recommended times! It won't work as well, on a large scale public health level, if the schedule isn't followed. For example- school- if 2 kids in the class are waiting a year before getting their shots, but they are still being kids and playing and not washing their hands well- it is difficult to ensure we protect all our children. That immuncomprised child in the class can really be harmed from exposure from one of his friends

Types of Vaccines

- **Inactivated**- use the killed version of the germ; not as strong- usually will need multiple doses or boosters (ie: Flu)
- **Live-attenuated**- use a weakened form of the germ; similar to the natural infection and provides long lasting immunity (ie: Measles)
- **Messenger RNA (mRNA)-** use proteins to trigger an immune response (ie: COVID-19)
- **Subunit, recombinant, polysaccharide, conjugate**- use specific pieces of the germ; provide strong and specific immunity (ie: hepatitis, HPV, whooping cough)
- **Toxoid**- create immunity to the parts of the germ that cause disease instead of the germ itself (ie: Tetanus)



I want to quickly point out that there are different types of vaccines

- Inactivated ones use a killed version of the germ so it's not as strong, and you usually need multiple doses or boosters, like the annual flu shot
- Live-attenuated use a *weaker* form of the germ. Its really similar to the natural infection so the body creates that strong and long lasting active immunity. An example of this is the measles vaccine. Measles is highly contagious. It can spread from coughing or sneezing ,It can be life threatening. So it is unfortunate to see lives being lost when there is an available vaccine that can offer long lasting immunity
- The others listed here do similar things to create an immune response or provide immunity to the specific illness

Vaccine Recommendations in Pregnancy

- Before pregnancy, review your vaccine record and ensure you are up to date
- Getting vaccinated during pregnancy protects both mother and baby (passive immunity)
- Whooping cough is very dangerous for babies. Pregnant women protect their babies via the Tdap vaccine
- Flu, COVID, RSV (during season)
- RSV: either weeks 32-36 of pregnancy (September-January); will protect baby during their first RSV season. Infant should receive if not given during pregnancy

- Review your records BEFORE pregnancy. For example, Rubella is dangerous if you contract it during pregnancy. It can cause miscarriage or birth defects. It would be prudent to get the MMR (measles mumps rubella vaccine) at least a month before a planned pregnancy to ensure the best protection
- The Tdap vaccine is recommended during weeks 27-36 of pregnancy and should be received in EVERY pregnancy
- Pregnant women can also protect themselves and their babies from respiratory illness via vaccines, so the covid, flu, and rsv vaccine are recommended

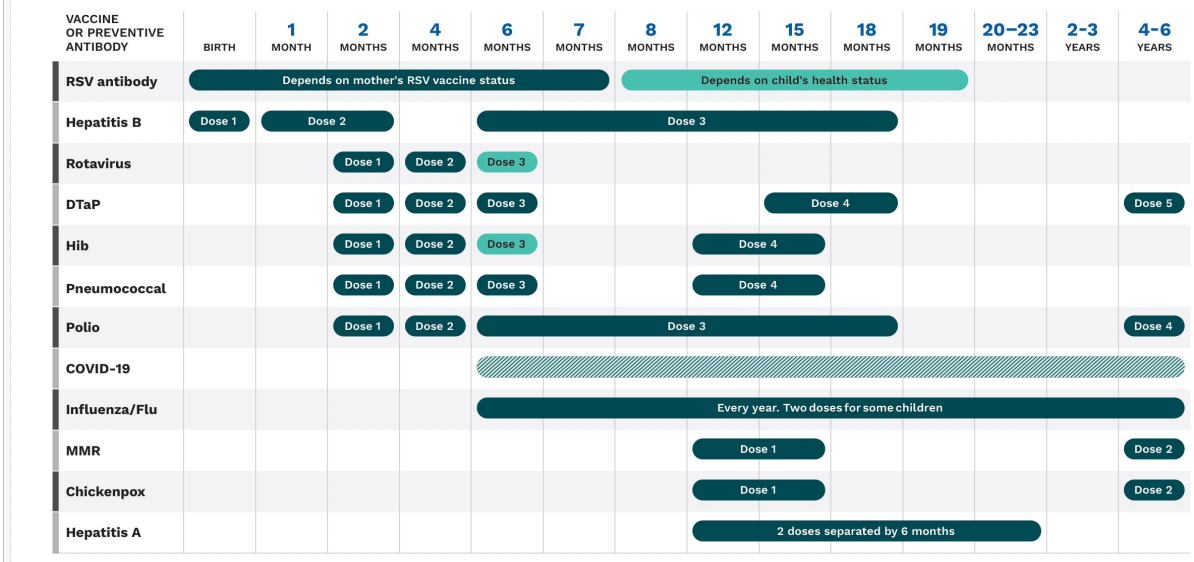
Vaccine Recommendations & Schedule

Let’s review the CDC recommendations for our children

Your child needs vaccines as they grow!

2025 Recommended Immunizations for Birth Through 6 Years Old

Want to learn more?
Scan this QR code to find out which vaccines your child might need. Or visit **www2.cdc.gov/vaccines/childquiz/**



NJ Department of Health (NJDOH)
Vaccine Preventable Disease Program

Summary of NJ Child Care/Preschool Immunization Requirements

Listed in the chart below are the minimum required number of doses your child must have to attend a NJ child care/preschool.* This is strictly a summary document. Exceptions to these requirements (i.e. provisional admission, grace periods, and exemptions) are specified in the Immunization of Pupils in School rules, New Jersey Administrative Code (N.J.A.C. 8:57-4). Please reference the administrative rules for more details https://www.nj.gov/health/cd/imm_requirements/acode/. Additional vaccines are recommended by Advisory Committee on Immunization Practices (ACIP) for optimal protection. For the complete ACIP Recommended Immunization Schedule, please visit http://www.cdc.gov/vaccines/schedules/index.html.

At this age the child should have received the following vaccines:	**2 months**	**4 months**	**6 months**	**12 months**	**15 months**	**18 months**	**19 months**	**20-59 months**
Diphtheria, tetanus & acellular pertussis (DTaP)	Dose #1	Dose #2	Dose #3			Dose #4		
Inactivated Poliovirus (Polio)	Dose #1	Dose #2				Dose#3		
Haemophilus influenzae type b (Hib)	Dose #1	Dose #2		1-4 doses† (see footnote)	.	At least 1 dose given on or after the first birthday		
Pneumococcal conjugate (PCV 13)	Dose #1	Dose #2		1-4 doses† (see footnote)	At least 1 dose given on or after the first birthday			
Measles, mumps, rubella					Dose #1‡			

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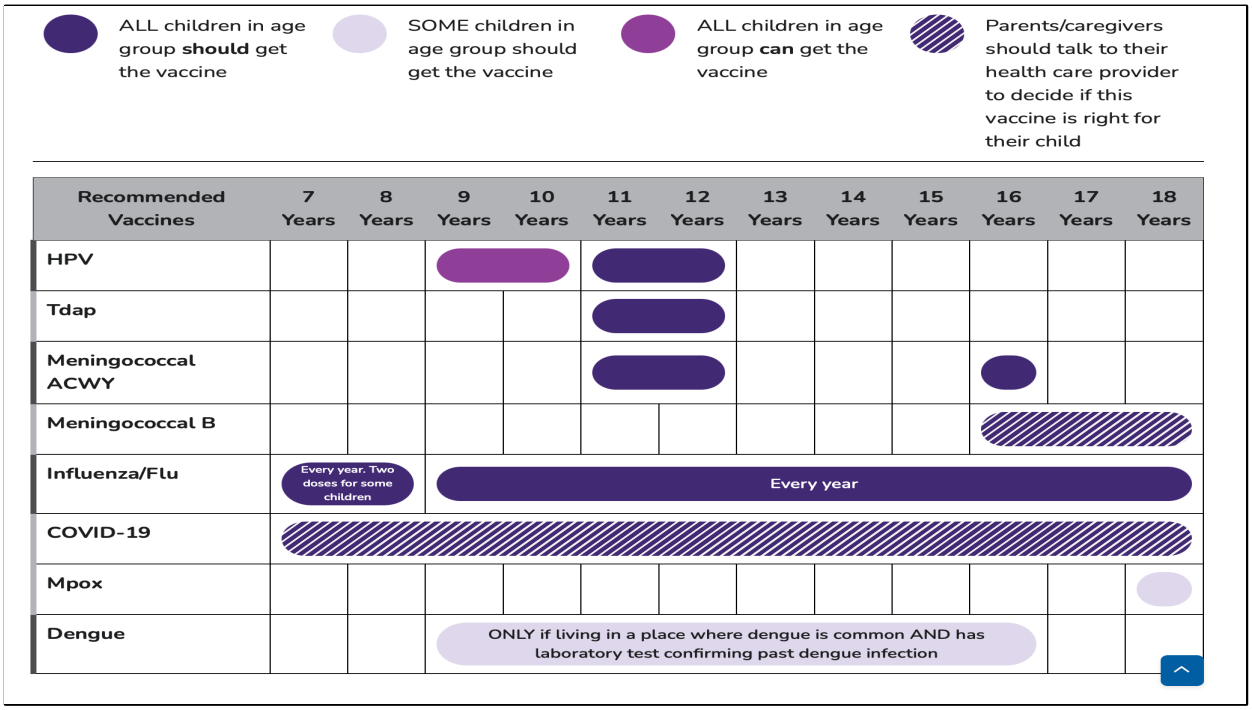
Vaccine Preventable Disease Program

Summary of NJ School Immunization Requirements

Listed in the chart below are the minimum required number of doses your child must have to attend a NJ school.* This is strictly a summary document. Exceptions to these requirements (i.e. provisional admission, grace periods, and exemptions) are specified in the Immunization of Pupils in School rules, New Jersey Administrative Code (N.J.A.C. 8:57-4). Please reference the administrative rules for more details https://www.nj.gov/health/cd/imm_requirements/acode/. Additional vaccines are recommended by Advisory Committee on Immunization Practices (ACIP) for optimal protection. For the complete ACIP Recommended Immunization Schedule, please visit http://www.cdc.gov/vaccines/schedules/index.html.

Grade/level child enters school:		Minimum Number of Doses for Each Vaccine						
		DTaP Diphtheria, Tetanus, acellular Pertussis	**Polio Inactivated Polio Vaccine (IPV)**	**MMR (Measles, Mumps, Rubella)**	**Varicella (Chickenpox)**	**Hepatitis B**	**Meningococcal**	**Tdap (Tetanus, diphtheria, acellular pertussis)**
Kindergarten–1st grade		A total of 4 doses with one of these doses on or after the 4th birthday OR any 5 doses†	A total of 3 doses with one of these doses given on or after the 4th birthday OR any 4 doses‡	2 doses§	1 dose‖	3 doses	None	None
2nd – 5th grade		3 doses *NOTE: Children 7 years of age and older, who have not been previously vaccinated with the primary DTaP series, should receive 3 doses of Td. For use of Tdap, see footnote.* †	3 doses	2 doses	1 dose	3 doses	None	See footnote†
6th grade and higher		3 doses	3 doses	2 doses	1 dose	3 doses	1 dose required for children born on or after 1/1/97 given no earlier than ten years of age¶	1 dose required for children born on or after 1/1/97¶


ALL children in age group **should** get the vaccine
SOME children in age group should get the vaccine
ALL children in age group **can** get the vaccine
Parents/caregivers should talk to their health care provider to decide if this vaccine is right for their child
Recommended Vaccines
7 Years
8 Years
9 Years
10 Years
11 Years
12 Years
13 Years
14 Years
15 Years
16 Years
17 Years
18 Years
HPV
Tdap
Meningococcal ACWY
Meningococcal B
Influenza/Flu
Every year. Two doses for some children
Every year
COVID-19
Mpox
Dengue
ONLY if living in a place where dengue is common AND has laboratory test confirming past dengue infection

Vaccines for Children Program

- Federally funded program that provides free vaccines to children
- It covers the routine vaccines recommended by the CDC

Eligibility:

- Younger than 19
- Eligible for Medicaid
- Uninsured
- Underinsured * (only at rural health clinics or federally qualified health centers- https://findahealthcenter.hrsa.gov/)
- American Indian or Alaska Native

The CDC advisory panel recently changed the recommendation for the hepatitis B birth dose, stating that if not given at birth, it should be given no earlier than 2 months. There are still any thoughts about this, but one concern is how this will impact payment. These programs ensure free/ low cost vaccines based on the CDC schedule. There could be issues later on related to payment for a desired birth dose

Primary, Emergency, and Urgent Care

- **Primary Care:** Regular provider for checkups, wellness, and preventative care. Vaccines should be provided and covere at these visits
- **Urgent Care:** Intermediate care, non life threatening injuries. Vaccines are provided/offered at urgent care visits, especially to ensure compliance with school requirements
- **Emergency Care:** Severe, life threatening conditions. They can usually assist with referrals but not routinely offered here

*Vaccines can also be obtained at Pharmacies, Health Departments, Hospitals

Vaccines Save Lives

References

- CDC Child and Adolescent Immunization Schedule
- CDC Pregnancy Vaccinations
- Enhancing Immunity
- Handwashing
- The Immune System
- Types of Immunity
- Vaccine Types