



Vaccine Facts and Perspectives

From your providers who care at Cary, Apex and Fuquay-Varina Pediatrics

What are vaccines?

Vaccines, also called immunizations, are a way to introduce samples of infections in small amounts so that our body recognizes these diseases when exposed to them in the future. By offering them in small repeated amounts (boosters), vaccines can prevent us from getting the harmful, and often life-threatening, disease.

Why use vaccines?

In our lifetime, we are exposed to hundreds of thousands of infectious challenges that our immune systems have the ability to overcome. However, there are a few infections that tend to be more challenging than others, particularly in the very young. These are the ones we try to prevent with vaccines. By adulthood, we have vaccinated against approximately 16 infectious diseases that have the potential to be life-threatening or cause significant complications to the patient or pregnant mothers in the community. Prior to the use of vaccines, the diseases we presently vaccinate against resulted in tens of thousands of deaths each year in the United States, and countless other physical, mental, and emotional complications. Additionally, vaccinated children have a 50% reduction in SIDS rates (Sudden Infant Death Syndrome).

Do these conditions still occur?

Yes. In fact, some of these diseases are on the rise in unvaccinated children in the U.S. For example, due to decreased vaccine rates related to parent fears about vaccines, and international travel, Pertussis and Mumps are occurring in increasing frequency in the U.S. Both have been documented in Wake County. Pertussis is particularly concerning because it can be life-threatening in babies and toddlers. Chickenpox can pose a serious danger, too, in an unvaccinated child from secondary bacterial infections that seed the bloodstream from the open pox lesions. Lastly, following a national vaccine shortage combined with decrease vaccine rates, Haemophilus Influenzae B (HiB) has once again reared it's head following years of containment. This bacterial infection begins simply enough as an ear or sinus infection, but can rapidly progress to invade the eye or brain. The end result is bacterial meningitis, which is very serious, and ultimately, life-threatening.

What are the medical implications for those who choose not to vaccinate their children?

Individuals benefit directly from vaccine protection, but, also, communities as a whole benefit when most of its members are vaccinated. *Herd* immunity develops when most

of its members are vaccinated by preventing the disease from *seeding* the community in the first place. So, by choosing to vaccinate your child, you not only protect them directly, but you are also performing a community service by helping to prevent disease entry into the region.

Are vaccines harmful?

Not meaningfully. Contrary to much media attention, vaccines rarely result in any significant problems. Yes, they can cause temporary discomfort, fever, crankiness, or rarely, rash, joint problems, or other issues, but generally no significant long-term problems are seen. The risks are small and minor compared to the real risks of infections and their complications in unimmunized children and adults.

Do vaccines cause Autism?

The short answer is no. Despite much media attention and personal reports about this concern, there is no medical evidence that vaccines cause the development of autism. This is supported by numerous well conducted international studies. Additionally, in countries where no vaccines are administered, the autism rates per capita are similar to the United States. Vaccine use is supported by the American Academy of Pediatrics (AAP), and the Centers for Disease Control (CDC), as well as numerous other infectious disease experts.

Why have autism rates increased so much?

The reasons that autism rates have increased are not completely clear, but are likely due to several factors that have occurred over a long stretch of time. The following are some thoughts and plausible explanations:

1. From 1967 to 2006, the U.S. population rate has increased by 50% (from 200 to 300 million); with increased population comes increased diagnoses of some conditions.
2. As death rates from physical disease in children have significantly decreased over the last 40 years, our attention has turned more to behavioral and emotional conditions. This has increased our knowledge, awareness, and has even improved our screening techniques, so that more children are given the label of “autism”.
3. Semantics, or diagnosis labels, have changed. We now recognize that autism comes in levels of severity, ranging from mild to severe, and even an atypical form called Asperger's, and no longer call it “mental retardation”.
4. Rates of adult emotional and behavioral conditions have increased also. Examples include anxiety disorders, depression, post-traumatic stress disorders, bipolar disease, obsessive-compulsive disorders, and schizophrenia. Similarly, these increases are likely related to better understanding, recognition of varying severity levels, changes in terminology, and increasing population rates, or, perhaps, to other environmental or

societal changes.

What if I still have concerns?

We hope that this helps satisfy any curiosities or worries you may have about vaccine use. If you still have questions, our Pediatric Providers will be available to offer anticipatory guidance prior to vaccine administration at all well visits.

At Cary Pediatric Center, our goal is to optimize the long-term health of children. As such, we are committed to the use of vaccines, and believe strongly that they prevent serious diseases from occurring without resulting in significant long-term risks. As such, we require patients in our practice to be vaccinated according to standard immunization policies established by the American Academy of Pediatrics, and Centers for Disease Control. If you plan on delaying vaccine administrations, please understand that this may result in separate visits to discuss fully the ramifications of this choice, and/or may result in needing to find a new pediatric practice.

Website Resources:

www.cispimmunize.org or www.aap.org (American Academy of Pediatrics)

www.cdc.gov/vaccines/default.htm (Centers for Disease Control)

www.vaccinateyourbaby.org (Every Child by Two)

www.immunize.org (Immunization Action Coalition) and

www.immunize.org/catg.d/p4012.pdf (Immunization Action Coalition)

(for other reliable resources)

www.vaccine.chop.edu (Children's Hospital of Philadelphia)

Recommended Reading:

Vaccines: What You Should Know. Written by Paul A. Offit, M.D., and Louis M. Bell, M.D.

Vaccinating your child: Questions and Answers for the Concerned Parent. Written by Sharon Humiston, M.D., M.Ph. and Cynthia Good.



TYPICAL VACCINE ADMINISTRATION SCHEDULE:

2 month series (3shots): Pentacel (DTaP, IPV, HiB), Prevnar, Hep B, and oral Rotateq

4 month series (3shots): Pentacel (DTaP, IPV, HiB), Prevnar, Hep B, and oral Rotateq

6 month series (3shots): Pentacel (DTaP, IPV, HiB), Prevnar, Hep B, and oral Rotateq

1 year series (4 shots): MMR, Varivax, Hep A, and Prevnar

15 month series (2 shots): DTaP, HiB

18 month or 2 year (1 shot): Hep A

4-6 years old (2-4 shots depending on combination used): MMR, Varivax, DTaP, IPV

11-12 years old: TdaP, Menactra, HPV

To meet our practice standards, the following are required:

1 year standard: each infant should have 3 doses each of DTaP, IPV, HiB, and Prevnar by 1 year of age.

2 year standard: each toddler should have the 1 year standard + 1 dose each of MMR, and Varivax + boosters of DTaP, HiB, and Prevnar (total of 4 each) by 2 years of age.

6 year standard: each child should have the 2 year standard + boosters of MMR, Varivax, DTaP, and IPV by 6 years of age. Note that Hep B is not listed, but is required for Kindergarten entry. Exceptions to 6 year standard are HiB and Prevnar (they are not required beyond 5 years of age).

12 year standard: each child should have the 6 year standard + TdaP booster by 12 years of age or 6th grade.