

BRAIN HEALTH BOOST



Vaccines Help Protect Your Health

*The Brain Health Initiative (BHI) is working to develop brain healthy communities, creating a culture that promotes brain health protective factors and decreases risk factors, thereby improving brain health, optimizing brain performance, and preventing and fighting brain illness across the lifespan for the Florida Suncoast region and beyond. **Today, we are talking about how vaccines, especially the COVID-19 vaccine, protect the brain and physical health of you and your family.***

Many infectious diseases are a thing of the past, thanks to vaccines. Immunizations have greatly reduced or eliminated diseases that once routinely killed or harmed infants, children, and adults. But the viruses and bacteria that cause these diseases — like smallpox and polio — still exist. Immunizations, including the COVID-19 vaccine, are a safe and effective way to lower our chances of getting and spreading disease.

Vaccines work with our body's natural defenses to help us safely develop immunity, lowering our chances of getting certain diseases and suffering from their complications. Many of these diseases have long-term effects on our brain and physical health, including neurological and heart complications. According to the American Academy of Pediatrics, vaccines are 99 percent effective at preventing disease. And despite the controversy over immunization safety, every vaccine goes through a series of tests before being approved for use by the U.S. Food and Drug Administration (FDA).

Just last week, the FDA approved the first COVID-19 vaccine, the Pfizer-BioNTech vaccine. Approved for use in preventing COVID-19 in individuals 16 years of age and older, the Pfizer vaccine also continues to be the only vaccine available under emergency use authorization for anyone over the age of 12. That emergency authorization is expected to be extended to children under 12 this winter.

The Pfizer vaccine uses mRNA technology to protect us from the virus that causes COVID-19. Messenger RNA (mRNA) vaccines contain synthetic mRNA that instructs our cells to recognize a virus as an invader and to start producing antibodies against it before breaking the vaccine material down into harmless pieces. Many people have questioned the speed with which the COVID vaccines were developed for use, but researchers have been studying and working with

mRNA vaccines for decades. These vaccines can be developed in a laboratory using readily available materials. They have been studied for use with flu, Zika, rabies, and even to trigger the immune system to target specific cancer cells.

Vaccines can help keep our families healthy so we don't miss school, work, and life. Getting the recommended vaccines for our kids and ourselves, provides peace of mind that our families have the best possible protection available against many serious diseases.

Vaccine-Preventable Diseases and the Vaccines that Prevent Them

Disease	Vaccine	Disease spread by	Disease symptoms	Disease complications
Chickenpox	Varicella vaccine protects against chickenpox.	Air, direct contact	Rash, tiredness, headache, fever	Infected blisters, bleeding disorders, encephalitis (brain swelling), pneumonia (infection in the lungs)
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
Hib	Hib vaccine protects against <i>Haemophilus influenzae</i> type b.	Air, direct contact	May be no symptoms unless bacteria enter the blood	Meningitis (infection of the covering around the brain and spinal cord), intellectual disability, epiglottitis (life-threatening infection that can block the windpipe and lead to serious breathing problems), pneumonia (infection in the lungs), death
Hepatitis A	HepA vaccine protects against hepatitis A.	Direct contact, contaminated food or water	May be no symptoms, fever, stomach pain, loss of appetite, fatigue, vomiting, jaundice (yellowing of skin and eyes), dark urine	Liver failure, arthralgia (joint pain), kidney, pancreatic and blood disorders
Hepatitis B	HepB vaccine protects against hepatitis B.	Contact with blood or body fluids	May be no symptoms, fever, headache, weakness, vomiting, jaundice (yellowing of skin and eyes), joint pain	Chronic liver infection, liver failure, liver cancer
Influenza (Flu)	Flu vaccine protects against influenza.	Air, direct contact	Fever, muscle pain, sore throat, cough, extreme fatigue	Pneumonia (infection in the lungs)
Measles	MMR** vaccine protects against measles.	Air, direct contact	Rash, fever, cough, runny nose, pink eye	Encephalitis (brain swelling), pneumonia (infection in the lungs), death
Mumps	MMR** vaccine protects against mumps.	Air, direct contact	Swollen salivary glands (under the jaw), fever, headache, tiredness, muscle pain	Meningitis (infection of the covering around the brain and spinal cord), encephalitis (brain swelling), inflammation of testicles or ovaries, deafness
Pertussis	DTaP* vaccine protects against pertussis (whooping cough).	Air, direct contact	Severe cough, runny nose, apnea (a pause in breathing in infants)	Pneumonia (infection in the lungs), death
Polio	IPV vaccine protects against polio.	Air, direct contact, through the mouth	May be no symptoms, sore throat, fever, nausea, headache	Paralysis, death
Pneumococcal	PCV13 vaccine protects against pneumococcus.	Air, direct contact	May be no symptoms, pneumonia (infection in the lungs)	Bacteremia (blood infection), meningitis (infection of the covering around the brain and spinal cord), death
Rotavirus	RV vaccine protects against rotavirus.	Through the mouth	Diarrhea, fever, vomiting	Severe diarrhea, dehydration
Rubella	MMR** vaccine protects against rubella.	Air, direct contact	Sometimes rash, fever, swollen lymph nodes	Very serious in pregnant women—can lead to miscarriage, stillbirth, premature delivery, birth defects
Tetanus	DTaP* vaccine protects against tetanus.	Exposure through cuts in skin	Stiffness in neck and abdominal muscles, difficulty swallowing, muscle spasms, fever	Broken bones, breathing difficulty, death

* DTaP combines protection against diphtheria, tetanus, and pertussis.

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

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From the [Centers for Disease Control and Prevention](#).

WHAT YOU CAN DO TODAY TO PROTECT YOUR BRAIN HEALTH

If you haven't received the COVID-19 vaccine, shots are available in both Manatee and Sarasota counties. Visit [My Manatee](#) and [Sarasota County Government](#) for information about vaccine availability. BHI and [Harvard Health](#) provide answers to some of your most frequently asked questions about the COVID-19 vaccines.

- **Which COVID-19 vaccines have been approved for use by the FDA?** The Pfizer vaccine has been approved for use in people over the age of 16 and has emergency use authorization (EUA) for children over the age of 12. EUA has also been granted to the Moderna two-dose vaccine and the Johnson & Johnson single dose vaccine.
- **What are the side effects of the COVID vaccine?** Some people experience some minor side effects after receiving the vaccine. You may experience slight arm

pain at the injection site, a low-grade fever, body ache, chills, fatigue, and headache that can last from 24 to 48 hours. These minor side effects are a positive sign that the vaccine is working and that your body is building an antibody response.

- **Are there people who should not get the COVID-19 vaccine?** The vaccine is safe for most everyone. You should not get the shot if you are allergic to any of the components used in the vaccine or if you have had an allergic reaction to the first dose. If you have a history of allergic reactions to vaccines, please check with your doctor before getting the vaccine.
- **Do the vaccines protect against the Delta variant?** The vaccines are effective at preventing infection and spread of the Delta and other COVID-19 variants. Even if you experience a breakthrough infection the vaccine protects you against severe symptoms and hospitalization. The CDC recommends you wear a mask in public indoor places or in areas of the country with substantial or high transmission of the virus, even if you have been vaccinated.
- **How long does the protection from the vaccine last?** The COVID vaccines provide you with increased protection against severe illness and hospitalization. Recent studies from the CDC suggest the mRNA (Pfizer and Moderna) vaccines may become less effective over time, but it is not certain if this is due to a decrease in immunity or if they are not as effective against the new variants of COVID-19.
- **Will I need a booster shot?** The FDA and CDC are expected to make a recommendation sometime in September on administering booster shots for people who are fully vaccinated. A third dose of the mRNA vaccines was recently recommended for people who are immunocompromised, such as transplant patients, those receiving chemotherapy treatments, or people with chronic medical conditions.
- And don't forget to **BE BRAIN HEALTHY and adopt a lifestyle** that includes thoughts, behaviors, emotions, responses, and language that promote brain health protective factors:
 - Stress resilience
 - Nutrition
 - Physical activity
 - Sleep
 - Social connection
 - Emotional wellbeing
 - Meaning and Purpose
 - Cognitive stimulation and creativity
 - Engaging with nature
 - General health
 - Positive impacts

About the Brain Health Initiative (www.brainhealthinitiative.org)

The Brain Health Initiative (BHI) is a cutting-edge, new approach to protecting brain health, optimizing brain performance, and fighting brain illness across the lifespan. The BHI is a collaborative effort with Massachusetts General Hospital, a Harvard Medical School Teaching

Hospital, to build brain healthy communities through education, collaboration, research, innovation, and action, with a specific focus on *brain health promotion, prevention, early detection, evidence-based intervention, and optimization of performance*. The BHI is creating a culture that promotes brain health protective factors and decreases risk factors, thereby improving brain health and optimizing brain performance outcomes for the Florida Suncoast region and beyond. Join the ***Be Brain Healthy*** movement, ***because brain health matters, and lifestyle makes a difference***. To view all Brain Health Boosts [click here](#).