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You Asked For It: Question Authority

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Nieman, David C. Dr.P.H., FACSM

David C. Nieman, Dr.P.H., FACSM, is professor and director of the Human Performance Laboratory, Appalachian State University in Boone, North Carolina. He is an active researcher and author of several textbooks on health and fitness. Email your questions to: [niemandc@appstate.edu](mailto:niemandc@appstate.edu).



Q: I SUFFERED WITH THE FLU LAST WINTER. WHAT CAN I DO TO PREVENT THE FLU?

DOES EXERCISE HELP?

A: The best way to prevent the flu is by getting a flu vaccination each year. And yes, moderate exercise training bolsters immunity and can improve your body's antibody response to the flu vaccine. Even taking a 30- to 45-minute walk just before you receive the flu shot improves the antibody response.

Influenza (or the flu) is a contagious infection caused by influenza viruses. According to the U.S. Centers for Disease Control and Prevention (CDC) ([www.cdc.gov](http://www.cdc.gov)), approximately 5% to 20% of the population gets the flu yearly, with more than 200,000 hospitalized from complications. Approximately 36,000 people die each year from the flu, and these tend to be older people, young children, and individuals with certain health conditions.

Flu symptoms include those quite similar to the common cold—runny or stuffy nose, headache, cough, and sore throat—but also some that are distinctive—fever (usually high), extreme tiredness, muscle aches, and stomach symptoms such as nausea, vomiting, and diarrhea. Sometimes, complications of the flu occur, and these include bacterial pneumonia, ear infections, sinus infections, dehydration, and worsening of chronic medical conditions, such as congestive heart failure, asthma, or diabetes.

Flu viruses are spread primarily through the air when people infected with influenza viruses cough or sneeze. Sometimes, people may become infected by touching something with flu viruses and then touching their mouth or nose (i.e., self-inoculation). Influenza is highly contagious because most healthy adults can infect others beginning 1 day before symptoms develop and up to 5 days after becoming sick. In other words, flu viruses can be spread by individuals who think they are well and go to work or school for several days after getting sick.

The CDC recommendations regarding the flu shot have shifted during the past several years. The flu shot is now approved for people aged 6 months and older, including both healthy people and those with

chronic medical conditions. In general, anyone who wants to reduce his or her chances of getting the flu can get vaccinated. October or November is the best time to get vaccinated, but December or even later can still be beneficial because most influenza activity occurs in January or later in most years.

Approximately 2 weeks after vaccination, antibodies are developed by the body's immune system that protect against specific types of influenza viruses. Each vaccine contains three influenza viruses—one A (H3N2) virus, one A (H1N1) virus, and one B virus. The viruses in the vaccine change each year based on international surveillance and scientists' estimations about which types and strains of viruses will circulate in a given year. Contrary to what some people think, the viruses in the flu shot are killed (inactivated). Thus, you cannot get the flu from a flu shot.

The ability of flu vaccination to protect a person depends on the age and health status of the person getting the vaccine and the similarity or "match" between the virus strains in the vaccine and those in circulation. A flu shot is typically 70% to 90% effective in warding off illness, depending on the length and intensity of a given flu season and one's overall health. In a few cases, people who get a flu shot may still get the flu, but they'll get a much less virulent form of the illness, and most important, they'll have a decreased risk of flu-related complications.



You can lower your risk of influenza by following other guidelines supported by the CDC:

- \* Avoid close contact—avoid close contact with people who are sick. When you are sick, keep your distance from others to protect them from getting sick too.
- \* Stay home when you are sick—if possible, stay home from work, school, and errands when you are sick. You will help prevent others from catching your illness.
- \* Cover your mouth and nose—cover your mouth and nose with a tissue when coughing or sneezing. It may prevent those around you from getting sick.
- \* Clean your hands—washing your hands often will help protect you from germs.

\* Avoid touching your eyes, nose, or mouth—germs often are spread when a person touches something that is contaminated with germs and then touches his or her eyes, nose, or mouth.

\* Consider medications—four antiviral medications (amantadine, rimantadine, zanamivir, and oseltamivir) have been approved by the U.S. Food and Drug Administration for the prevention and treatment of influenza. However, all of these medications must be prescribed by a physician. Many issues still surround these drugs including effectiveness, timing, dosage, drug-resistant strains of some influenza viruses, and side effects (e.g., potential for neuropsychiatric events).

\* Practice other good health habits—get plenty of sleep, be physically active, manage your stress, drink plenty of fluids, avoid overweight/obesity, and eat nutritious food. These lifestyle habits can help maintain optimal immune function in your body.

Several studies indicate that both acute and chronic moderate exercise training improves the body's antibody response to the influenza vaccine (1-4). In one study, a 45-minute moderate exercise bout just before influenza vaccination improved the antibody response (1). A 10-month exercise program (65% to 75% heart rate reserve, 25 to 30 minutes, 3 days per week) significantly enhanced the antibody titer in response to influenza immunization in a group of older individuals compared with controls (2).

Strenuous exercise should be avoided when sick with the flu. Animal studies indicate that vigorous exercise after influenza virus exposure can prolong and intensify flu symptoms. Rest is recommended until the flu symptoms are completely gone, with a gradual progression back to normal exercise patterns (5).

There is no need for you to have flu this coming winter. Get your flu shot in October or November, and while you are at it, arrange for your whole family to get vaccinated. Develop good hygienic habits, and follow an overall healthy lifestyle to keep your immune system primed, with an emphasis on a regular moderate physical activity regimen.

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