The Flu Vaccine: Worth a Shot

HIV-positive people are at higher risk for serious complications from the flu. Not only does the annual vaccine help ward off debilitating symptoms of the flu, but it also helps protect against bronchitis and pneumonia.

October 21, 2008 By David Evans

This year's flu season is on the horizon, and the U.S. Centers for Disease Control and Prevention (CDC) is recommending that everyone living with HIV get vaccinated during the next several weeks. That's because the vaccine won't just help protect you from a week or two of a fever, stuffy nose, sore throat and a cough. It can also prevent you from developing serious influenza-related complications, such as a trip to the hospital with pneumonia. Studies show that people with HIV—including those with high CD4 counts—are more likely than their HIV-negative counterparts to end up seriously ill with flu complications.

Given the misery the flu can cause, and how easy many doctors and pharmacies make it to get a "flu shot," you'd think that everybody would get one. Unfortunately, a third of people over 65, and more than two thirds of everyone else at high risk for serious complications from the flu, do not. Anthony Fiore, MD, an infectious disease specialist from the CDC's influenza division, says the reasons vaccine-dodgers give are usually based either on a fear of needles or misinformation.

Dr. Fiore hopes that people will overcome their hang-ups and learn how safe and effective the flu vaccine can actually be, even for people with HIV. Urban legends suggesting that the vaccine can cause the flu or that it can cause a dangerous spike in HIV viral loads have been disproved, Fiore says. The vaccine isn't foolproof, of course. Sometimes the strains of flu virus that end up circulating during the winter are different from the strains that researchers used to make the vaccine. This year, however, according to Fiore, the virus that just finished causing the flu in the Southern hemisphere matches up very well with the vaccine.

There is a flu vaccine available as a nasal spray made especially for kids and those scared of needles, but it's not recommended for people with HIV, because it contains live strains of influenza viruses. Ultimately, getting a flu shot means enduring a millisecond of pain to prevent days, or possibly weeks, of suffering.

How Effective Is the Vaccine?

Currently, the CDC recommends the flu vaccine for adults over 50, children from six months to 19 years old, anyone with respiratory problems such as asthma or chronic obstructive pulmonary disease (COPD) and people with compromised immune systems, including all people with HIV.

The usual tests to measure a vaccine's safety and effectiveness—placebo-controlled clinical

trials—aren't appropriate for flu immunizations. This is because different strains of the three major influenza viruses (A, B and C) emerge on an annual basis and spread quickly around the world, most readily during the winter seasons, likely because people are more prone to be inside and in closer proximity to others and, as a result, more likely to come in direct contact with someone with the virus. Thus, each year, a new vaccine is needed to combat the top three major strains of the virus, leaving little time to conduct clinical trials. Instead, public health experts study medical records of large cohorts of people enrolled in various insurance plans over a number of years to determine the efficacy of vaccination efforts.

Some critics claim that scientists haven't done a great job choosing which strains of the virus to use when developing a vaccine for the coming flu season, and therefore that claims of its effectiveness are overstated. But according to the CDC, years when the vaccine strains and the virus strains are well-matched, the vaccine can reduce the chances of getting the flu by 70 to 90 percent in healthy adults. And while the efficacy rate drops to 30 to 40 percent in those older than 65 years of age—and is also lowered for everyone when public health officials do not correctly predict which flu strains will be most prevalent for that year—the vaccine is thought to be 50 to 60 percent effective in preventing hospitalization and pneumonia and 80 percent effective in preventing death from the flu in those older than 65.

Studies in people with HIV have produced similar results. One small study of 102 people with HIV back in 1999 found that illness and hospitalization from all respiratory infections was significantly lower in people who got the vaccine compared with people who didn't. In the people who did get some form of respiratory illness, influenza was found to be a possible cause in only one person who was vaccination, compared with 21 of those who weren't vaccinated.

People with CD4 cells under 100 are in a unique situation. On the one hand, experts say, they need the vaccine more than people with higher CD4 counts. On the other hand, their weakened immune systems may be less likely to produce sufficient influenza-fighting antibodies in response to the vaccine. David Spach, MD, a professor of medicine at the University of Washington Medical Center at Seattle, in a presentation at the 2006 Ryan White CARE Act Regional Conference in Washington, DC, said that even people with particularly low CD4 cell counts can still realize the possible benefits of vaccination.

What makes the flu shot so important to people living with HIV is not so much the flu itself, though Fiore says that the severity of the flu is often worse for people with HIV. Rather, it's the likelihood of the flu developing into a serious lung infection such as bronchitis or pneumonia. If it's bad enough, pneumonia can be deadly, especially for people with low CD4 counts.

Timing also matters. In his presentation, Dr. Spach explained that the flu season really starts picking up in December, peaks in February and remains fairly high until late March. This means that people should be vaccinated every year, no later than the end of November.

Will the Vaccine Make Me Sick?

The CDC hears a lot of reasons why people do not get vaccinated. The most common, Fiore says, is that people believe a vaccine gave them the flu. "In other words," he says, "they once got vaccinated and then got sick a few days later and blamed it on the vaccine."

The perception that the vaccine can cause the flu has been hard to overcome. “People’s beliefs can be hard to change,” he says.

Fiore also explains that some people with HIV, and some physicians, remain concerned about the flu vaccine because of a small study in early 1990s that said the vaccine could temporary cause a person’s viral load to increase. Subsequent, larger studies have demonstrated little to no effect of the vaccine on viral load, especially among those who are currently on antiretroviral therapy. “Unfortunately that [first] study really took hold in the minds of some. [It] caused people to be a little scared of the vaccine. They think it might make their HIV disease worse. But it doesn’t.”

Needles, specifically some people’s fear of them, are another prominent reason some people give for not getting the vaccine. Fiore says people’s fear of needles was one of the primary reasons the CDC helped develop the nasal spray version of the vaccine, which is made from a weakened, but live flu virus. He says it is particularly effective in small children, not only because it involves no needles, but also because the live virus produces a stronger immune response than the inactive virus used in the injected vaccine. The fact that the virus is live, however, means that it can cause the flu in people with compromised immune systems. Thus, until the necessary safety clinical trials are completed, the CDC recommends that no one with HIV should use the nasal spray vaccine.

Forecasting the Flu Season

Just as it is difficult to predict which specific flu strains will circulate this coming winter, it’s also difficult to predict when the various strains will hit and how long they’ll last. “The season’s severity depends on a number of factors. Sometimes we have very short seasons where there is a rapid spike, followed by a rapid drop, in the number of flu causes. There can also be long-lasting seasons, where the number of flu cases in any given week is not particularly bad, but goes on and on. All of those things are sort of beyond our understanding at this point,” Fiore says.

Fiore hopes this flu season may be milder, at least for people who get the vaccine—even if vaccination doesn’t prevent infection, it can reduce the severity of illness. He explains: “Compared to last year, when we went into the season knowing that there were a number of viruses circulating that did not match up well with the vaccine, this season, the circulating viruses we’ve seen so far actually match up very well with the vaccine.”

When it comes to the vaccine, why put off what may be easier to take care of now? In some seasons the vaccine has been in short supply later in the season, when there are many more cases being diagnosed. The CDC and other health care organizations strive to make getting vaccinated relatively convenient. Most people should be able to schedule a flu shot with their doctors, at their local pharmacies or supermarkets or even at their places of work. Despite the convenience, however, a recent study found that nearly 60 percent of people with HIV still don’t get a flu shot. Fiore hopes that this season, people will resolve to stay healthy and get their shots in the next several weeks.

If you can’t conveniently stop in to see your health care provider for your annual flu shot and aren’t aware of other places you can go, simply log on to the American Lung Association’s website. It features a searchable database of clinics, pharmacies and other venues nearby that offer vaccines.

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