What's Going On With The Nasal FluMist Vaccine?

A surprising announcement came out of the Centers for Disease Control and Prevention last week: the nasal flu vaccine—a favorite for needle-phobic kids and once seemingly more effective for children—is now not recommended at all for the 2016-2017 flu season. It's no less safe than it was before, but new evidence calls into question how effective it is.

The reversal, though nearly unanimously made, has heads spinning and providers scrambling to make adjustments for the change in recommendations before autumn, when flu season kicks into gear. Such unexpected news inevitably leads to confusion among the public, a concern expressed by several members of the committee that made the decision.

So what does all this mean and why is it happening? Read on for answers to all the questions most people likely have at the moment.

Who makes this decision?

The Advisory Committee on Immunization Practices (ACIP) is made up of physicians, nurses and scientists who meet three times a year (February, June and October) to discuss new evidence related to vaccines and make any new or adjusted recommendations based on that evidence. A working group assigned to each vaccine, including the flu vaccine, also reviews and discusses data and potential recommendations on an ongoing basis throughout the year, typically during conference calls. By the time of the actual ACIP meeting where an issue will be discussed, working group members know the most current evidence inside and out, enabling them to suggest the best recommendations for all ACIP members to consider.

What is the nasal influenza vaccine?
A wide range of different flu vaccines are available each season, one of which is the live attenuated influenza vaccine (LAIV), delivered nasally. Most people recognize it as FluMist, a vaccine manufactured by MedImmune, a subsidiary of AstraZeneca. FluMist was first licensed in 2003 as a trivalent vaccine and is now produced as a quadrivalent (four-strain) vaccine.

The vaccine has been popular because it does not require a needle. In fact, it’s the only non-injection-based flu vaccine on the market, according to the CDC. The live nasal vaccine comprised approximately 8% of the 171 million to 176 million flu vaccines that were estimated to be available for the 2016-17 season. About 55% of flu vaccines administered as part of school-based programs are the nasal vaccine.

What has been recommended in the past?

In 2013, ACIP recommended the live nasal vaccine as one option for children ages 2 and up. (Note: The FluMist was never recommended for pregnant women and those under age 2 or over age 50, in addition to those with other contraindications.) Although ACIP did not make a preferential recommendation for the nasal vaccine over others at that time, many providers and public health workers suggested it was the better option because the evidence suggested it was more effective than the other flu vaccines available.

So then why did they not recommend it at all this year?

The purpose of ACIP’s regular meetings is to continually review the most current evidence to determine if changes in recommendations need to be made. Despite the data of previous years, current data cannot show it to be effective. That doesn’t mean it’s definitely ineffective—it just means that researchers do not currently have evidence that can show it definitely works.

The data they analyzed came from flu seasons 2013 through 2016. During the 2015-2016 season, the live nasal vaccine was only estimated at 3% effective against any flu strain for those ages 2 to 17—which means pretty much no protective benefit at all. Flu shots during this time, however, were 63% effective in the same age group against any flu strain. Other studies of the other flu seasons similarly showed low to no effectiveness from
the nasal vaccine. The low effectiveness appears to be driven by
the vaccine’s inability to specifically protect against the H1N1
strains.

The flu shot, then, is currently superior to the nasal vaccine in
protecting against flu. To recommend the nasal vaccine despite
these findings could be potentially unethical—recommending a
vaccine with no established protective benefit when another
clearly beneficial one exists.

**Did the vaccine never work?**

The vaccine has definitely been effective in the past. That’s why
the evidence showed it to be more effective leading up to the
2013-2014 season. But current evidence, especially against the
H1N1 flu virus, says otherwise.

**So then what happened? Why doesn’t it work
anymore?**

Right now, no one knows specifically why it appears no longer
effective, but there are some reasonable hypotheses. The leading
one is that children getting the FluMist three years in a row
could have a blunted response to the vaccine. Vaccines work by
inducing the immune system to produce antibodies against a
disease. But if the body recognizes that a person already has
some of those antibodies still floating around—whether from a
past infection or a past vaccine—it may basically shrug: “Meh.
We got enough. No need to make more.”

The problem is that it does need to make more to actually fight
off an infection. So a hypothetical potential downside of **getting
the same flu vaccine each year**—though only **preliminary
evidence** has suggested this so far—is that just enough
antibodies from the previous year are in the body to interfere
with the immune system’s response, but not enough to
effectively prevent an infection if the person encounters the
actual virus.

If a person gets a flu shot with different strains than the
previous year, however, this effect may not occur. The problem
is that the same H1N1 virus has been sticking around for the
past several years, so it has been included in the past several
years of flu vaccines.

**But my kid and I hate needles—we loved the nasal
vaccine! Any chance it could come back?**

Yes, it could be recommended in the future if the evidence
shows it effectively protects against flu. That is definitely
possible, especially if new flu strains are circulating or the H1N1
one mutates. We almost certainly have not seen the end of
FluMist.

**Does this mean the CDC can’t figure out what’s best or
ACIP can’t be trusted?**

Not at all—in fact, it’s the opposite. This announcement is
actually good news in at least one respect: it shows just how
much the committee is staying up to date with the most recent
data, continually re-evaluating the evidence, taking it seriously
and relying on it to make decisions. This is actually what science working properly looks like—a constant reassessment and course correction as needed when new evidence emerges.

**Does the regular flu shot still work?**

Yes, the evidence presented during the meeting showed an effectiveness of more than 60%. This number varies from year to year. Some years the vaccine is more effective or better matched to the circulating strains than in past years. After all, the flu virus is incredibly challenging to vaccinate against because of the way it replicates and how much it changes. It keeps researchers on their toes, just as the flu keeps doctors on theirs.

**So I've heard that the flu vaccine—?**

Stop right there. There are more than two dozen misconceptions about the flu vaccine. Although some of this information is now dated based on this new evidence, my explainer here will tell you nearly everything you could possibly want to know about the flu vaccine and more.

*My book, The Informed Parent, with co-author Emily Willingham, is now available. Find me on Twitter here.*

**RECOMMENDED BY FORBES**

- A Flu Shot During Pregnancy Protects Babies From Flu Up To 6 Months Later
- Safety of Flu and Pertussis Vaccines in Pregnancy Assessed
- Want To Change Someone's Mind About Vaccines? Here's A Start
- Double The Dose Of Flu Vaccines Helps Cancer Patients Dodge The Flu
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