

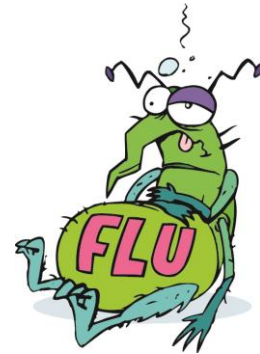


Influenza

It's that time of the year where "the Flu" is circulating. By "the Flu" we mean an infection characterized by a rapid-onset of fever or feverishness, generally unwell feeling, achiness (usually severe), runny nose, sore throat and/or a dry cough. Typically there are no gastrointestinal symptoms (although in children one might see some vomiting and diarrhea). As a rule, respiratory symptoms prevail and may last from several days (if you're lucky) to a week or so. Although there is a cross-over between symptoms of a "cold" versus the Flu, it is the rare person who can't tell the difference- sort of being hit by a baseball versus a freight train!

Of, course, the severity of the Flu depends on a number of factors: age being an important one; as well as having other medical conditions that place you at risk; and the state of one's immune system. People over age 60 or so, and those younger than a year of age, are at greatest risk for complications such as pneumonia, hospitalization, or even death. People who have diabetes, chronic lung conditions, heart disease, neurological conditions, kidney disease, severe obesity, immune system problems, and pregnancy, also fall into this group. That is why it is now recommended that everyone older than six months of age get a Flu shot every year. Even if you do not fall into a high risk group, getting the Flu places you at risk for complications – college age students still die each year from the Flu – let alone missing five or more days from school, work, etc.

So, let's look at the virus, itself. There are two types: Influenza A and Influenza B. There are many different subtypes of type A – we call them strains, and mainly two types of B influenza (we call them lineages). The A subtypes differ because of changes in certain proteins on the surface of the virus (hemagglutinin [H] and neuraminidase [N] proteins). Many different combinations of HA and NA proteins are possible. Each combination represents a different subtype. The different subtypes of A undergo genetic mutations much more commonly than the B types. Hence, each time one of these changes occurs, we see a new epidemic arising; that is why pandemics are typically caused by the A types. The World Health Organization usually meets in late January or early February to try to choose (really make an educated guess) the strains to include in the vaccine for the *next year's* flu season. Unfortunately influenza viruses mutate frequently and unpredictably, and production of the vaccine can take anywhere from six to nine months' time, so you can see how really amazing it is when there is a "match" between what is circulating and what was chosen!



Contact with the Influenza virus can occur by either of two ways:

1. Contact with suspended droplets; such as is seen in coughing or sneezing- keep at least six feet away from a sneeze or a cough!
2. Touching an infected person (shaking their hand) or a contaminated object and then touching the inner surface of your mouth, nose, or eye (which, studies have shown that we do far more often than we are aware of)!

Studies have varied, but Flu viruses can remain infectious on a surface from a **few hours to a few days**. Depending on the temperature, type of surface, and water content, it may range from the lower end to the higher end. Some studies have suggested that on hands, it may remain viable for up to several hours.

People with the Flu shed the virus a day *before* and for four to five days *after* symptoms have started (and for even longer in children and the elderly). Typically, one person with the flu may infect two non-immune people. So, watch the doorknobs, phones, toys, and other objects; especially on the desk of someone who has the flu!

Influenza viruses are killed by common household cleaners such as bleach, soaps, hydrogen peroxide, iodine-based cleaners, some of the plant-derived cleaners, and alcohol. Still, there is nothing that replaces good handwashing after contact with a contaminated object during Flu season, but the alcohol-based hand sanitizers work well, too.

So, how do we prevent the Flu?

- **Get your shot** – *it takes about fourteen or more days for the immune system to mount a good response. The commonly used vaccines contain two types of influenza A and one type of influenza B strain. Although some of the newer ones contain two types of As and two types of Bs. So, we have a standard dose (2- A's and one B- called trivalent, and one with 2-A's and 2 B's- called quadrivalent), a high dose for older people, one made with viruses grown in a cell culture and one using viruses grown by non-human, non-egg technology! Interestingly enough, the CDC does not recommend one type over the other - just that everyone get a flu shot of whatever type is available!*
 - *This year the predominant “Flu” virus making the rounds is mainly a type A (about 86%) of which the predominant type is a H3N2 virus and the rest a H1N1 type. The H1N1 type that is circulating is very similar to that found in the current flu shot. The H3N2 types are more genetically diverse, but there is some similarity to that found in the current flu shot. Generally speaking, the H3N2 Type A viruses are associated with more hospitalizations and more deaths in the over-the-age-of-65 and young-children groups. Also, for a number of complicated reasons, the effectiveness of our current flu vaccines against the H3N2 Type A viruses is less than that seen against the other types. Of the 14% or so type B seen, about one half favor the lineage found in the current vaccine. So, for some of these reasons the current Flu shot is not 100% effective. Even 50% or less effectiveness (“effectiveness” really won’t be determined until after the flu season is over) is better than not getting a shot at all. Your age, state of health, and the strength of your immune system all come into play in determining how effective the shot will be for you! Also, it is very common for the Flu viruses to strike twice — once during the traditional time, such as now, and again later in the season, toward the end of March (something we refer to a “bimodal”). So if you haven’t gotten it already, “Get your Flu shot now!” Some good news is that all of the currently circulating viruses are susceptible to the antiviral medications commonly prescribed.*
- *Avoid close contact with people who are sick—stay at least six or more feet from a cough or sneeze. Wash your hands often with soap and water, or use an alcohol-based hand gel when in public places.*

If you have a fever with a cough or a sore throat, you may have the flu. If so, please do your friends and coworkers a favor—stay home so that you don’t spread it. If you are at risk for complications, then call your health care provider. If you are not high risk, you should still discuss symptoms and options with your health care provider before you “weather it out at home.” Whichever is the case, stay home until you have been free from a fever for at least 24 hours.

So, hopefully we have been able to share a little bit of knowledge about the Flu and answer some of your questions. As always, stay well by eating well, getting the rest you need, getting some exercise, and not letting the little things stress you out.

~Henry Vaillancourt, MD