

## **Swine Flu: Natural Medicine Approaches to a Possible Pandemic**

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Swine influenza (an influenza type A H1N1 virus) is a respiratory disease of pigs caused by a type A influenza virus that regularly causes outbreaks of influenza in pig populations. Generally the Swine flu virus will cause high levels of illness and low death rates and may circulate among swine throughout the year. As a rule, most outbreaks occur during the late fall and winter months similar to outbreaks in humans.

Like all influenza viruses, swine flu viruses change constantly. Pig populations can also be infected by avian (bird) influenza and human influenza viruses in addition to their own swine influenza viruses. As part of their life cycle, influenza viruses in all species invade cells, rearrange their genes and emerge slightly different than they were initially. Therefore when influenza viruses from different species infect pigs, the viruses can swap genes and new viruses that are a mix of swine, human and/or avian influenza viruses can emerge. Because of their lifecycles, and propensity to migrate through the population, different variations of swine flu viruses have emerged. Presently there are four main influenza type A virus subtypes that have been isolated in pigs: H1N1, H1N2, H3N2, and H3N1.

Normally the Swine flu virus does not infect humans. However, sporadic human infections with swine flu have occurred, and more commonly occur in persons with direct exposure to pigs. There have been some documented cases of a person spreading swine flu to others, but these have generally tended to be isolated and did not result in a community out break. While the number of cases reported to the Center for Disease Control (CDC) has been minimal, since 2005 the number of reported cases have increased suggesting that the viruses are better able to adapt and spread.

Influenza viruses can be directly transmitted from pigs to people and from people to pigs. Human-to-human transmission of swine flu as has been mentioned, can also occur. It is thought to occur in the same way as seasonal flu occurs in people, which is mainly person-to-person transmission through coughing or sneezing of individuals infected with the influenza virus. Infections may also occur by touching something with flu viruses on it and then touching their mouth or nose. If the individual who is exposed is susceptible, the virus is able to set up "house keeping" and go through its life cycle. The Swine flu is not

transmitted by consuming pork products because cooking pork to an internal temperature of 160°F kills the Swine flu virus as it does other bacteria and viruses.

The H1N1 swine flu viruses are antigenically very different from human H1N1 viruses and therefore, vaccines for human seasonal flu will not provide protection from Swine flu viruses. Exposure to the Swine flu virus will cause ones immune system to form antibodies against it however, starting with IgM and later IgG. IgM antibodies are more of an acute phase antibody while IgG conveys long-term immunity. Regardless, it takes several days in order for the body to respond with IgM antibodies and several weeks for IgG to show up.

In humans, but especially those who are immuno-compromised and the very young or elderly, this building up of protective antibodies may be impaired, allowing for the virus to set up "housekeeping". Once this occurs, symptoms of flu ensue. Symptoms of the Swine flu are similar to those of regular human flu which includes fever, cough, sore throat, body aches, headache, chills and fatigue. Some people have reported diarrhea and vomiting. The Swine flu in particular seems to have a propensity to cause respiratory symptoms that carry a greater chance of developing morbidity. To date, the reported deaths due to Swine flu are primarily attributed to respiratory failure.

Natural medicines have had an excellent track record in the treatment of influenza in general, but also pandemic outbreaks in particular, such as the Influenza Pandemic of 1918, which was responsible for the deaths of over 50 million people worldwide. The most successful treatments during this outbreak were homeopathic and herbal medicine therapies. This was measured by the lower number of deaths as well as shortened courses of illness in the homeopathic hospitals of the day.

In order to lessen the risk of infection, a number of precautions can be taken. If you have an illness of any sort, limit your exposure by staying home away from crowds. Cover your nose and mouth with a tissue when you cough or sneeze. Cloth or paper masks that limit exposure to viral particles are recommended if you need to be out in public or are exposed to populations that are infected. Wash your hands often with soap and water, especially after you cough or sneeze. Avoid touching your eyes, nose or mouth. Try to avoid close contact with sick people.

Anyone with symptoms should contact their physician immediately as they can help determine if there has been an exposure. If an exposure has

occurred, there are a number of treatments that if initiated within the first 24 to 48 hours can decrease the chances of developing the flu. These include intravenous Vitamin C therapy, constitutional hydrotherapy, specific herbal medicines, and the indicated homeopathic medicine for the clinical presentation.

It was a combination of these therapies that provided the best clinical outcomes during the influenza pandemic of 1918 and has been a mainstay of naturopathic therapeutics during yearly influenza's.