Swine Flu Influenza

Type A/H1N1 Protection for Health Care Practitioners and Their Patients

By Gordon Pedersen PhD

Influenza viruses are the respiratory viruses of greatest public health importance, particularly Influenza A (1). Every year 36,000 people die from Influenza making it the 6th leading cause of death in America (1). The CDC estimates that it would cost America $71 – 166 billion if we have an Influenza epidemic today. Approximately 1 in every 1,000 swine flu patients dies from the infection. This is close to the same rate we have been seeing the past few years but antigenic drift and antigenic shift may create a new and fatal form of Influenza that humans have no immunity against (2). **Antigenic drift** is a variation within the HN sub-type. **Antigenic shift** is a variation between different HN

sub-types, changes in the Heamagluttinin (H) and Neuraminiadase (N) makes large portions of the population immunologically naïve on a regular basis (1). The problem with Type A is that it undergoes both antigenic drift and antigenic shift making it more dangerous and unpredictable (1). The World Health Organization declared the H1N1 Swine Flu a pandemic in June of 2009 (3).

The annual average U.S. winter epidemics affect 5% to 20% of the population.

The CDC (1) reports the following pandemic death histories:

Yr	Flu	Deaths
1889	Russian Flu H2H2	1,000,000
1918	Spanish Flu H1N1	40,000,000
1957	Asian Flu H2N2	1,500,000
1968	Hong Kong H3N2	750,000

Health Care Practitioners Are At the Highest Risk

Doctors, nurses and other health care providers are at the highest risk of becoming infected with Influenza. Because doctors are exposed to the virus most frequently, it is significant to recognize the survivability of the Influenza virus in open environments.

Mammalian Influenza A survives 1 hour in mucous, while Avian Influenza survives 100 days in water, 200 days @ 63° F, 1 day in feces and indefinitely when frozen. Influenza is easily transmitted from human to human as indicated in the following table.

Influenza Transmission Rates (CDC, 2009)

Body fluids and hand to hand contact	70%
Air borne	29%
Animal	1%

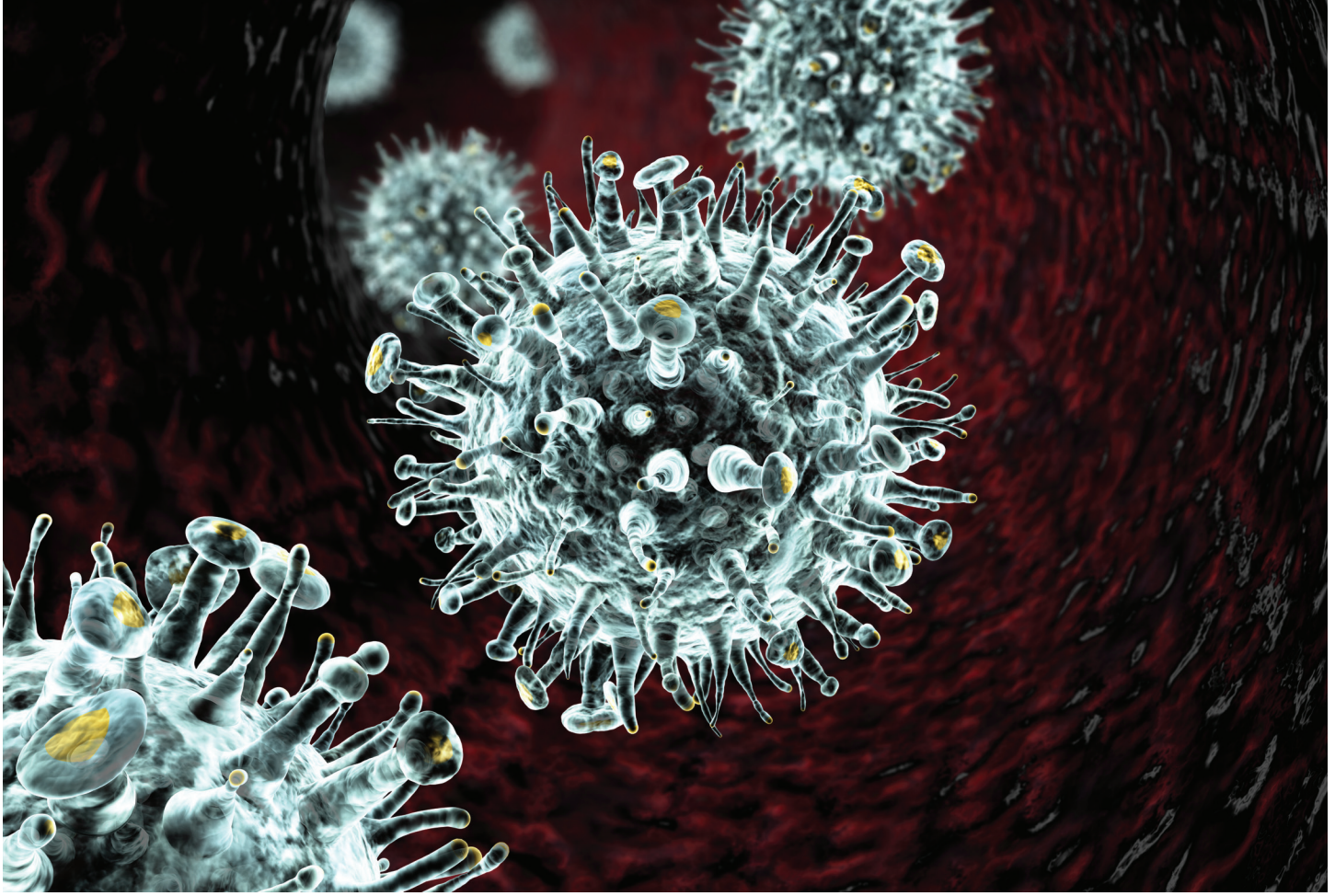
The Following Are Proven To Destroy the Influenza Virus (CDC, 2009)

- Bleach
- 70% ethanol
- Aldehydes
- Oxidizing agents
- Quaternary amonium compounds
- Inactivated by heat (133°) for 60 minutes
- pH less than 2 (very acidic)
- Silver Sol (liquid and gel)

Doctors have the obligation to protect themselves and their patients from the potentially pandemic Influenza viruses. This protection could come from many different sources including Vaccination, Hygiene, Anti viral drugs, Antibiotic drugs, Nutritional supplements, Air filters, Water purifiers, Masks, Topical gels and Silver Sol.

Past epidemics provide important insights into what might happen in the potential spread of the current Swine Flu (4-13). The most persistent viruses survive and the most diverse seem to go extinct within a few years (14, 15). This is most likely the result of strong host-mediated selection pressure, resulting in continual evolution at key antigenic sites, a process termed 'antigenic drift' (15, 16). This antigenic evolution is observed with major changes in antigenicity occurring periodically in patterns of approximately 3 years between episodes (17).

According to reports from the Army Medical records, (from the 1918 Spanish Flu, H1N1 epidemic) 24% of the people died from the virus and 76% died form a secondary bacterial infection that produced pneumonia in the lungs. There is a high probability that the swine flu will have similar death rates, and if this is the case, then preventing and treating the secondary bacterial infection will be as



In order to control an epidemic, all types of treatment should be employed including prescription drugs, vitamins, mineral, herbs, proper hygiene, air filtration, water filtration and the proper use of diet and nutritional supplements, especially the newly patented, FDA approved Silver Sol technology.

important if not more important. The conclusion is that the influenza virus will need to be treated by multiple or combination therapies crossing viral and bacterial lines.

Recommendations for Influenza prevention and treatment (1)

Hygiene: The CDC recommends washing the hands after any exposure because most influenza is transferred by hand contact. Masks and gloves can help but the mask must fit tightly with no leaks to be effective. A surgical mask helps protect the persons around the wearer, so if you have a fever, cough or sneeze, wear a surgical mask to protect the patients.

Anti viral drugs: These drugs have the ability to destroy viruses but cannot be taken for an extended period of time. They produce side effects that mimic the flu making it difficult to diagnose the severity of the disease. If taken for prevention, Tamiflu produces resistance. 18% of the influenza virus is resistant to Tamiflu already (1). It is suspected that the health care professionals who were taking it for four months as a preventive agent were the persons that developed resistance. This indicates that we cannot use the antiviral drugs for long periods of time. In addition, some drugs cannot be used in children under 13 years of age (Tamiflu). Relenza cannot be used in children under one or in adults over 65. The antivirals must be given within 48 hours of the onset of illness or the virus will run its course. Combine this with the fact that 76% of H1N1 subjects in the Spanish flu 1918, died from a bacterial infection that produced pneumonia and you have an incomplete solution to the influenza problem. Because Tamiflu has developed resistance Relenza may be a better choice as long as you monitor the bronchospasms.

Antibiotic Drugs: Antibiotic drugs provide no solution against the virus but can be very beneficial for pneumonia that develops later. A broad spectrum antibiotic should be used because there are numerous bacteria that can produce pneumonia. According to a Penn State publication, silver sol can be given with the antibiotics and produce up to a ten-fold increase in antibiotic activity (18).

Nutritional Supplements: There are hundreds of supplements that can be of significant benefit for the immune system and even some that claim to have antiviral activity. The best proven choices for nutritional supplements come in the form of immune stimulants and wellness products. These include: immunity Vit C, B complex, folic acid, vit D (prevention) ginseng, Echinacea, garlic, probiotics, expectorants and silver sol.

Air Filters: CDC recommends one in every room. HEPA air filters use silver

to inactivate viruses and can effectively kill 99% of all bacteria, and viruses in minutes.

Water Purifiers: Proper hygiene and a water purifier are recommended by the CDC because the influenza virus can survive 100 hours in water. Get one that has a silver filter that can actually destroy the virus. Carbon, filtration, reverse osmosis does not destroy or remove the virus.

Topical Disinfectants: Topical disinfectants are recommended by the CDC for use between each patient and can kill germs for 4-6 hours. Patients and health care professionals should use these 4 times a day or as needed. Silver sol gel demonstrates effectiveness against some of the worst pathogens including: MRSA, VRE, Strep, and the other bacteria that cause pneumonia.

Silver Sol: Prescription drugs and vaccines treat and help prevent viral infection and disease but are not capable of totally controlling a dangerous new or novel virus (18). Nutritional supplements such as Vitamins, Minerals, Echinacea, Ginseng, Probiotics and many others have the ability to help boost immune function and improve natural defenses which results in some defense against disease causing viruses and the associated secondary infections

Silver Sol provides proven prevention and treatment against viral and bacterial infections, while there is nothing else with such broad spectrum benefits (19). In addition, Silver Sol can be safely taken every day for prevention where it has been shown to provide protection against the very dangerous Bird flu H5N1. The combination of antibiotics with Silver Sol has been shown to enhance antibiotic function by as much as ten fold due to the fact that Silver Sol kills the residual pathogens that the antibiotics cannot (19). Results of the combination of 19 different prescription antibiotics and silver sol demonstrate safe additive and/or synergistic benefits across 7 different pathogenic strains (Staphyloccocus, MRSA, E coli, Pseudomonas arugenosa, Salmonella and Streptococcus). The results of this combination therapy result in significant pathogenic destruction while helping to reduce bacterial resistance (19). This can be attributed to the fact that Silver Sol does not produce resistance, nor does it destroy the benefitcial intestinal probiotic bacteria (18).

Discussion:

H1N1 is a serious threat to our health and way of life. The best way to treat influenza is to prevent it. Prevention produces a problem in that drugs have serious side effects and cannot be used by the entire population and should not be used for long periods of time. The other problem is that approximately three fourths of the people who have died from H1N1 influenza have succumbed to a secondary bacterial infection in the lungs and no antiviral drug will treat this condition.

In order to control an epidemic, all types of treatment should be employed including prescription drugs, vitamins, mineral, herbs, proper hygiene, air filtration, water filtration and the proper use of diet and nutritional supplements, especially the newly patented, FDA approved Silver Sol technology. Silver Sol destroys bacteria, viruses, and mold so it demonstrates broader spectrum of activity than any antibiotic or antiviral drug. It can be taken daily due the fact that it passes through the body unchanged, and can prevent viral infections, treat them and work synergistically with antibiotics to produce as much as a ten fold increase in activity against the bacteria that cause death in influenza. It is evident that the newly patented EPA certified and FDA approved Silver Sol technology provides tremendous treatment options for prevention and combination therapies. Silver Sol gel can help stop viral spread on the most contagious areas like hands, nose, mouth and skin. It is sufficiently documented and proven to be considered to be a first line of defense against Influenza and a significant companion to antiviral and antibacterial drug regimens topically and orally. ◆

REFERENCES

1. CDC. Update: swine-origin influenza A (H1N1) virus---United States and other countries. MMWR 2009;58:421.
2. Novel Swine-Origin Influenza A (H1N1) Virus Investigation Team. Emergence of a novel swine-origin influenza A (H1N1) virus in humans. N Engl J Med 2009;361.
3. World Health Organization. Situation updates---influenza A (H1N1). Geneva, Switzerland: World Health Organization; 2009.
4. Rowe T, Abernathy RA, Hu-Primmer J, et al. Detection of antibody to avian influenza A (H5N1) virus in human serum by using a combination of serologic assays. J Clin Microbiol 1999; 37:937--43.
5. Laver WG, Webster RG. Selection of antigenic mutants of influenza viruses. Isolation and peptide mapping of their hemagglutination proteins. *Virology.* 1968;34:193–202.
6. Sleigh MJ, Both GW, Underwood PA, Bender VJ. Antigenic drift in the hemagglutinin of the Hong Kong influenza subtype: correlation of amino acid changes with alterations in viral antigenicity. *J Virol.* 1981;37:845–853.
7. Fitch WM, Leiter JMF, Li X, Palese P. Positive Darwinian evolution in human influenza A viruses. *Proc Natl Acad Sci.* 1991;88:4270–4272.
8. Bush RM, Fitch WM, Bender CA, Cox NJ. Positive selection on the H3 hemagglutinin gene of human influenza virus A. *Mol Biol Evol.* 1999;16:1457–1465.
9. Rvachev LA. Computer modeling experiment on large-scale epidemic. *Dokl USSR Acad Sci.* 1968;2:294–296.
10. Longini IM, Fine PE, Thacker SB. Predicting the global spread of new infectious agents. *Am J Epidemiol.* 1986;123:383–391.
11. Bonabeau E, Toubiana L, Flahault A. The geographical spread of influenza. *Proc Biol Sci.* 1998;265:2421–2425.
12. Grais RF, Ellis JH, Glass GE. Assessing the impact of airline travel on the geographic spread of pandemic influenza. *Eur J Epidemiol.* 2003;19:1065–1072.
13. Viboud C, Bjørnstad ON, Smith DL, Simonsen L, Miller MA, et al. Synchrony, waves, and spatial hierarchies in the spread of influenza. *Science.* 2006;312:447–451.
14. Buonagurio DA, Nakada S, Parvin JD, Krystal M, Palese P, Fitch WM. Evolution of human influenza A viruses over 50 years: rapid, uniform rate of change in NS gene. *Science.* 1986;232:980–982.
15. Fitch WM, Leiter JMF, Li X, Palese P. Positive Darwinian evolution in human influenza A viruses. *Proc Natl Acad Sci.* 1991;88:4270–4272.
16. Fitch WM, Bush RM, Bender CA, Cox NJ. Long term trends in the evolution of H(3) HA1 human influenza type A. *Proc Natl Acad Sci.* 1997;94:7712–7128.
17. Smith DJ, Lapedes AS, de Jong JC, Bestebroer TM, Rimmelzwaan GF, Osterhaus AD, Fouchier RA. Mapping the antigenic and genetic evolution of influenza virus. *Science.* 2004;305:371–376.
18. Thompson WW, Shay DC, Weintraub E, Brammer L, Cox N, et al. Mortality associated with influenza and respiratory syncytial virus in the United States. *JAMA.* 2003;289:179–186.
19. De Souza. A., Mehta, D, Bactericidal activity of Combinations of Silver-Water Dispersion with 19 Antibiotics Against Seven Microbial Strains. Current Science, Vol 91, No 7, October 2006.