

# Flu Season Updates

By Greg Schaffer, EMT-P

The U.S. influenza season is starting slowly but it's a little too early to tell how severe the outbreak will be. The latest report by the U.S. Centers for Disease Control and Prevention (CDC) on influenza activity in the United States seems to be quite positive. The most recent report with the week ending November 20, 2004, influenza activity overall was reported as low in the United States. Thirty-six (3.2%) specimens tested by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories were positive for influenza. The proportion of patient visits to sentinel providers for influenza-like illness, and the proportion of deaths attributed to pneumonia and influenza were below national baseline values. However, in the Mid-Atlantic region there were increases in both the proportion of patient visits to sentinel providers for influenza-like illness and the percentage of laboratory specimens testing positive for influenza. Two states (Alaska and Delaware) reported widespread activity, and one state and New York City reported regional activity. Thirty-one states and the District of Columbia reported sporadic influenza activity and fourteen states reported no influenza activity. As of this week no influenza-associated pediatric deaths have been reported to CDC.

Across the United States, some Fire and EMS departments that provide healthcare have worked with local health departments to provide vaccination to members of their department who provide direct patient care. One metropolitan Atlanta, Georgia, department with over 600 employees received 300 doses, administered by their local health department. This was enough to vaccinate all members who provide direct patient care and who were interested in receiving the vaccine. Proactive departmental leadership rotated fire and EMS apparatus through the vaccination locations so members could receive vaccinations while on-duty.

If you have not received a vaccination yet, there is still hope that more vaccines will become available, and department administrators should continue to make this a priority for the health and safety of their department members. In recent weeks 17.2 million doses of flu vaccine have been shipped to health agencies across the United States as part of a national program to direct vaccine to those who need it most. There is also a hope that The Food and Drug Administration will permit 5-6 million flu shots to be imported from Europe and Canada to add to dwindling U.S. supplies, according to a statement released by Health and Human Services Secretary Tommy Thompson.

While the best route to take is prevention and vaccination, if you do get the flu and you contact your physician right away, there are steps that can be taken to lessen the impact. The U.S. Department of Health and Human Services (HHS) and the CDC have released new interim guidelines to advise physicians on the use of antiviral medications during the current influenza season.

Influenza antiviral medications are an important adjunct to influenza vaccine in the prevention and treatment of influenza. In the setting of the current vaccine shortage, CDC has developed interim recommendations on the use of antiviral medications for the 2004-05 influenza season. These recommendations are intended to help reduce the impact of influenza on persons at high risk for developing severe complications secondary to infection.

Influenza antiviral medications have long been used to limit the spread and impact of institutional influenza outbreaks. They also are used for treatment and chemoprophylaxis of persons in other settings. In the United States, four antiviral medications (amantadine, rimantadine, oseltamivir, and zanamivir) are approved for treatment of influenza. When used for treatment within the first two days of illness, all four antiviral medications are similarly effective in reducing the duration of illness by one or two days. Only three antiviral medications (amantadine, rimantadine, and oseltamivir) are approved for chemoprophylaxis of influenza.

Antiviral drugs for influenza are an adjunct to influenza vaccine for controlling and preventing influenza. However, these agents are not a substitute for vaccination.

There are two studies that may be on the way to changing how far flu vaccine quantities go for the healthy adult between the ages of 18 and 60. While it may be too early to judge and this will not help us with shortages this year. It may certainly help us in the future. In both studies, a reduced dose of the vaccine was given, and not Intramuscular (IM), as is currently done, but intradermal.

One of the studies was done at Saint Louis University School of Medicine's Center for Vaccine Development where researchers gave intradermal injections of a dose containing 40 percent of the current recommended amount to 119 volunteers and compared the immune response to that of volunteers who got an intramuscular shot of the standard dose. Researchers reported, that when compared with an intramuscular injection of full-dose influenza vaccine, an intradermal injection of a reduced dose resulted in similarly vigorous antibody responses among persons 18 to 60 years of age but not among those over the age of 60 years.

Iomai Corporation, a Maryland-based biotechnology company, did the other study. Researchers used an intradermal injection containing one fifth of the normal dose on 100 people ages 18 to 40. In this study of young adults, researchers found that intradermal administration of one fifth the standard intramuscular dose of an influenza vaccine elicited immunogenicity that was similar to or better than that elicited by intramuscular injection. They felt that intradermal administration could be used to expand the supplies of influenza vaccine, but felt that further studies are needed before this strategy can be recommended for routine use.

Both studies reported satisfactory immune-system responses for people between the ages of 18 and 60. It does not appear that the intradermal route works for those over 60. The outcome of these studies may prove beneficial in the future for younger responders.

Both studies appear in the November 25, 2004 issue of the *New England Journal of Medicine*.

#### **What steps should you take to remain healthy this flu season?**

- Wash your hands with soap and warm water or a hand sanitizer.
- Avoid touching your eyes, nose or mouth.
- Stay healthy by eating nutritious foods, drinking water, exercising, getting plenty of rest and not smoking.
- Put a mask on your patients that are coughing.
- Don't hesitate to mask-up yourself.

#### **What should you do if you think you have the flu?**

- Cover your mouth and nose with a tissue if you sneeze and cough.
- Stay at home, get plenty of rest and drink water.
- Contact your physician for an Influenza antiviral medication to lessen the impact.

#### **References**

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- Belshe RB et al. *Serum antibody responses after intradermal vaccination against influenza*. **N Engl J Med** 2004 Nov 25; 351:2286-94;
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