CD Summary

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CENTER FOR DISEASE PREVENTION & EPIDEMIOLOGY • OREGON HEALTH DIVISION

PREVENTION OF FEBRIS CATARRHALIS EPIDEMICA

Influenza speaks from the gloomy interior of a duck's alimentary canal:

"Time flies! How long has it been? 81 years and counting! And what did we fabricate—Bird Flu. What a joke! A real chicken killer, but it doesn't transmit among humans at all. We can't repeat our 1918 success of 25 million deaths if we must trust chickens to circle the planet. We were close though, H5N1 had everything else: lethality in embryonated eggs to thwart detection and vaccine production; tissue tropism to reach the bronchioles and shut down respiration; pathogenicity in both weak and healthy humans; and, virulence as reflected in a case-fatality rate of 30%. The loss of 18 humans out of 5.9 billion will not help reduce pressure on the ecosystem and our existence. But think of what it could have been with an attack rate of 25%....

There would have been some 1.5 billion cases and 450 million fewer humans. Instead, the continued pollution of the air, soil and water together with the loss of wetlands will mean the end of ducks and our habitat. If that isn't enough, they have also recovered the genome of our 1918 champion and are examining base pairs for clues to our secrets and better vaccines to be used against us. Aerosol and DNA vaccines are just around the cloaca, as the saying goes, and neuraminadase inhibitors have already been approved for use against both our A and B troops. To top it off, our H9N2 Millennium 2000 prototype is completely impotent. The future looks bleak!"

WHILE INFLUENZA virions deal with their apparent shortcomings, it behooves us to consider their return this fall, under whatever guise, and make the necessary preparations. This *CD Summary* contains the Advisory Committee on Immunization Practices (ACIP) recommendations for the 1999-2000 influenza season.

OREGON FLU UPDATE

Last season A/Sydney (H3N2) revisited the Pacific Northwest, joined by both A/Beijing (H1N1) and B/Beijing. Seventy-seven isolates of influenza virus were recovered from effluvial specimens emanating from Oregon residents and submitted to our Public Health Laboratory. Type A isolates accounted for 62 (81%) of the total and were distributed accordingly: 43 A/Sydney, 10 A/Beijing and 9 of unknown type. Fifteen B/Beijing isolates were identified after being absent in Oregon since the season of 1996-1997. Types A and B are again anticipated for the coming season.

We expect to resume laboratory surveillance of influenza virus activity through the Oregon State Public Health Laboratory on or about November 1. Watch this space for details.

THE VACCINE FOR 1999-2000

The vaccine formula for the upcoming influenza season is a bit different, so do not use vaccine distributed during the 1998-1999 season (duh). The new and improved vaccine includes A/Beijing/262/95-like(H1N1), A/Sydney/5/97-like(H3N2), and B/Beijing/184/93-like hemagglutinin antigens. For the type B component, U.S. manufacturers will use the antigenically equivalent strain B/Yamanashi/166/98 because of its suitability for vaccine production and because it is representative of circulating type B viruses.

WHEN TO VACCINATE

Beginning in September when vaccine supplies become available, lose no opportunity during routine health care visits or hospitalizations to vaccinate susceptible persons at high risk for influenza morbidity and mortality. Given the recent patterns of viral arrival in Oregon, the optimal time for organized vaccination campaigns is from early October through mid-November. But regardless of when influenza actually arrives in Oregon, do not withhold vaccine from susceptibles. A perfect schedule is less important that attaining good coverage of at-risk patients. Birds in the hand....

PRIORITY GROUP ONE

Although influenza vaccination is cost-effective for healthy working adults, we recommend that the following groups be given priority for vaccination because they are at the highest risk of influenza morbidity and mortality.

- All persons ≥65 years old
- Residents of nursing homes and other long-term care facilities that house persons of any age with chronic medical conditions
- Adults and children with chronic disorders of the pulmonary or cardiovascular systems, including children with asthma
- Adults and children who required regular medical follow-up or hospitalization during the preceding year because of chronic metabolic diseases (including diabetes mellitus), renal dysfunction, hemoglobinopathies, or immunosuppression (including immunosuppression caused by medications)
- Children and teenagers (ages 6 months to 18 years) receiving long-term aspirin therapy and who therefore might develop Reye syndrome after influenza infection
- Women who will be in the second or third trimester of pregnancy during the influenza season

PRIORITY GROUP TWO

Persons with clinical or subclinical influenza can infect high-risk persons that they care for or live with. Some persons at high risk (e.g., the elderly, transplant recipients, and persons with AIDS), even

WHAT'S NEW THIS YEAR?

Basically, it's dejà vu all over again, or, if you prefer, *plus ça change, plus c'est la même chose*. The antigenic composition of the influenza vaccine is a little different (it always is), but there are no changes to doses, schedules, or recommended targets. A neuraminadase inhibitor has been approved in the past year by the FDA (see *www.fda.gov*), but is not approved for primary prophylaxis and may be of limited clinical utility.

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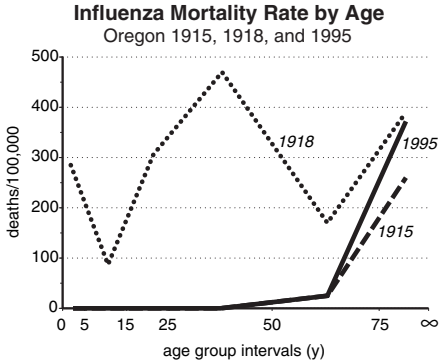

if immunized, may best be protected by reducing the likelihood of influenza exposure from their caregivers. Therefore, the following groups should be vaccinated:

- physicians, nurses, and other personnel in both hospital and outpatient care settings,
- employees of nursing homes and long-term care facilities who have contact with patients or residents,
- providers of home care to persons at high risk (e.g., visiting nurses and volunteer workers),
- household members (including children) of persons in high-risk groups.

OTHERS

Vaccination should also be provided to any individual 6 months of age or older who wishes to escape fevers and associated febrifuges, isolation from friends at school or work, and hospitalization, or who simply wish to increase their probability of surviving the season.

VACCINE USAGE

Intramuscular injection is required. Only split-virus formulas should be given to children less than 13 years of age; they can't handle it all at once, apparently. For optimum protection, two doses at least one month apart may be necessary for those under nine years of age who are not previously vaccinated. Whole or split formulas can be used for those 13 years of age and older. Specific doses are:

- 6-35 months old: 0.25 ml (split)
- 3-12 years old: 0.5 ml (split)
- ≥13 years old: 0.5 ml (whole or split)

Developing protective antibodies may take at least two weeks following a single dose, or following the second dose in children under nine years old. If influenza is rampant in the community, consider giving an antiviral during this two week interval. Speaking of antivirals, zanamivir, the newly approved neuraminadase inhibitor, may be useful in some situations to ameliorate illness due to both type A *and* type B influenza viruses.

Vaccine should not be administered to persons with anaphylactic hypersensitivity to eggs or other components of influenza vaccine without appropriate medical evaluation and possible desensitization. In addition, avoid vaccinating persons who have developed Guillain-Barré syndrome (GBS) within six weeks of a previous influenza vaccination. However, for most persons with a history of GBS who are at high risk for *severe complications* from influenza, the established benefits of influenza vaccination may still justify yearly vaccination.

Influenza vaccine may be administered at different anatomic sites, concurrently with other adult vaccines, without increasing the chances of side effects. Children at high risk for influenza-related complications can receive influenza vaccine at the same time they receive other routine vaccinations, including DTaP.

VACCINE REACTIONS

The most frequent side effect of vaccination is soreness at the site of injection that usually lasts 24 to 48 hours and rarely leads to disruption of daily activities. In addition, two types of systemic reactions may occur:

- Fever, malaise, myalgia, and other systemic symptoms occur most often in persons who have had no previous exposure to the antigens in the vaccine (that is, young children). These reactions usually begin 6 to 12 hours after vaccination and last 1 to 2 days. Studies with split vaccines suggest that elderly persons and healthy young adults do not have a higher incidence of these reactions than placebo controls.
- Immediate reactions (e.g., hives, angioedema, allergic asthma, and systemic anaphylaxis)—presumably allergic—rarely occur following vaccination. Most such reactions are likely due to hypersensitivity to the residual egg protein. Persons with a vaccine history of such reactions should get medical advice about vaccination.

ADDITIONAL INFO

If you prefer to get it straight from the horse's mouth, the complete ACIP recommendations were published on April 30 in an MMWR supplement (MMWR 1999;48[No. RR-4]:1-28). Copies are available on the Internet *(http://www2.cdc.gov/mmwr/mmwr_rr.html)* or by calling the Health Division's Immunization Program (503/731-4020).

Vaccine information sheets, brochures, factsheets, and worldwide influenza surveillance data, along with many other fascinating data, can be found via our web site: *http://www.oshd.org/cdpe/acd/*.