

OREGON PUBLIC HEALTH DIVISION • OREGON HEALTH AUTHORITY

INFLUENZA: PRE-SEASON PRIMER

Influenza typically strikes during the late fall through early spring. During these annual epidemics, rates of serious illness and death are highest among persons aged ≥ 65 years, children aged < 2 years, and persons of any age who have medical conditions that place them at increased risk for complications from influenza.¹ It is estimated that influenza killed an average of 23,607 persons annually over 31 seasons in the U.S., with the death toll ranging from 3,349 in 1986–87 to 48,614 in 2003–04. Influenza hospitalized an estimated 226,000 persons annually during 1979–2001.² This report is your annual pre-season update on influenza.

VACCINATION RECOMMENDATIONS FOR 2011–2012

For the first time in recent memory,* the Advisory Committee on Immunization Practices (ACIP) is **not** expanding its recommendations to include any new age groups: they already advise everyone ≥ 6 months of age without a contraindication to receive an influenza vaccination annually.¹ That said, some patients are at higher risk than others, and ACIP continues to suggest that special efforts be made to vaccinate the following:

- Pregnant females
- Children 6 months through 4 years of age, and especially those 6–23 months of age
- Persons ≥ 50 years of age
- Persons of any age with underlying medical conditions†

*ours, anyway

† Chronic pulmonary (including asthma), cardiovascular (except isolated hypertension), renal, hepatic, neurological, hematologic, or metabolic disorders (including diabetes mellitus); and immunosuppression (including that caused by medications or HIV).

- Persons living in long-term-care facilities
- Persons who live with or care for those at high risk for complications from the flu:
 - Health care personnel†
 - Household contacts of persons at high risk for complications from the flu
 - Household contacts and caregivers of children < 6 months of age.

Despite the fact that young children suffer high rates of hospitalization from influenza (Figure 1), during 2006–2008 only 38% of Oregon mothers interviewed reported that their 2-year-old child had gotten flu vaccine the previous season.³

Children 6 months through 8 years of age who received at least one dose of the 2010–2011 vaccine will need to have one dose of the 2011–2012 vaccine.⁴ If a child in this age group did not receive at least one dose of the 2010–2011 (or if you’re unsure), they’ll need two doses of the 2011–2012 flu vaccine.

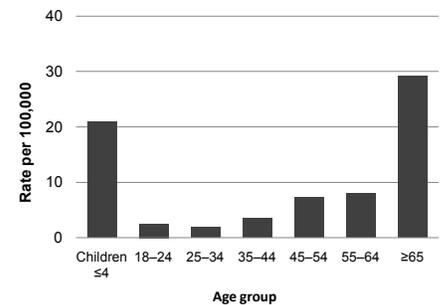
EGG ALLERGY?

At its June 2011 meeting, ACIP adopted new recommendations⁴ that allow for influenza vaccination of many persons who report an allergy to eggs:

- If your patients reporting egg allergies can eat lightly cooked (e.g., scrambled) eggs without reaction, than they aren’t allergic to them. Vaccinate ‘em.
- If a patient reports having experienced severe symptoms after consuming eggs (e.g., cardiovascular changes, respiratory distress, gastrointestinal symptoms, or reactions requiring epinephrine or emergency medical attention) refer them for evaluation to a physician with expertise in management of allergic

‡ defined broadly as all persons whose occupational activities involve contact with patients or contaminated material in a healthcare, home healthcare, or clinical laboratory setting.

Figure 1 Rates of influenza hospitalization by age group, Oregon, 2006–2008



Source: Oregon Emerging Infections Program
Hospitalization rates are for Clackamas, Multnomah, and Washington counties only

conditions. Vaccination of any person reporting egg allergy should be done in a setting where anaphylaxis, should it ensue, could be immediately recognized and treated.

- If a patient’s egg allergy has caused only hives, trivalent *inactivated* vaccine (but not live, attenuated vaccine) can be administered; but observe the patient for at least 30 minutes following vaccination.

N.B. A previous severe allergic reaction to **influenza vaccine** (whether or not egg protein is thought to be the causative component) is still a contraindication.

VACCINE COMPOSITION

The World Health Organization (WHO) recommended that the Northern Hemisphere’s 2011–2012 seasonal influenza vaccine contain the following vaccine viruses:

- A/California/7/2009 (H1N1)-like;
- A/Perth/16/2009 (H3N2)-like; and
- B/Brisbane/60/2008-like viruses.

These are the same viruses that were selected for the Northern Hemisphere for the 2010–2011 influenza vaccine. It is uncommon for the same three strains to be chosen for the flu vaccine from one season to the next: in the 42 seasons since 1969, the viruses selected for inclusion in the flu vaccine have remained the same only eight times. Each time, CDC has stressed the importance of getting vaccinated each season. Why? Influenza



If you need this material in an alternate format, call us at 971-673-1111.

IF YOU WOULD PREFER to have your *CD Summary* delivered by e-mail, zap your request to cd.summary@state.or.us. Please include your full name and mailing address (not just your e-mail address), so that we can purge you from our print mailing list, thereby saving trees, taxpayer dollars, postal worker injuries, etc.

enza antibody titers wane to ~50% of their original levels 6 to 12 months after vaccination, so annual booster doses are needed for optimal protection in all populations.^{5,6}

It takes about two weeks after vaccination for antibodies to develop. ACIP recommends vaccinating as soon as vaccine is available. Now is not too early.

NEW: INTRADERMAL VACCINE

Sanofi pasteur received approval in May for Fluzone® Intradermal (ID) vaccine, the first influenza vaccine approved for intradermal delivery. It is indicated for persons 18–64 years of age. Its microinjection system uses an ultra-thin needle 1.5 mm in length. In contrast to the preparation of Fluzone® used for IM administration, which contains 15 µg of hemagglutinin per strain of influenza in a 0.5-mL dose, Fluzone® ID contains 9 µg of hemagglutinin per strain in a 0.1-mL dose. In clinical trials, Fluzone® ID induced in recipients protective antibody titers against the vaccine strains as follows⁷:

- A/H3N2: 99.5%
- A/H1N1: 81%
- B: 76%

These response rates were similar to those induced by the traditional 15 µg/strain IM formulation. Because Fluzone® ID is injected into the skin, however, it produces more erythema, induration, swelling and pruritus. These side effects were generally mild to moderate in intensity and resolved in 3–7 days. Reports of pain, fever, myalgia and malaise were similar in the two groups. No severe

sequelae from ID administration have been reported.

TRACKING IMMUNIZATIONS

To keep track of who's already been vaccinated so as to avoid duplicate vaccination, we strongly encourage reporting all influenza vaccinations to Oregon's "ALERT" Immunization Information System (ALERT IIS). Doses can be reported via ALERT's web interface or through electronic transfer of data. Visit www.alertiis.org and click on the TRAINING link for training information; or call the ALERT Helpdesk with questions: 800-980-9431.

Influenza reporting, 2011–2012

Please report the following **lab-confirmed influenza-related** illnesses:

- Death of a child <18 years of age
- ICU admissions and deaths among pregnant and post-partum women positive for any strain of influenza
- Hospitalizations in the Portland metropolitan area (Multnomah, Clackamas, Washington counties)
- Any novel influenza virus

Please report any of these to Matt Laidler by phone (971-673-1111) or email: Matthew.Laidler@state.or.us.

AND FOR LOCAL NEWS...

To find out what is going on locally in terms of activity and circulating strains, check out the Acute and Communicable Disease Prevention program's weekly edition of *Flu Bites*, (<http://healthoregon.org/fludata>) or sign up for e-mail delivery on the web site.

We are currently recruiting providers for the outpatient Influenza-Like Illness (ILI) Surveillance Network (ILINet). Participating providers are asked to report ILI illness to CDC weekly. Specimens from ILINet patients may also be tested at Oregon State Public Health Lab free of charge. Please e-mail Rachel.S.Linz@state.or.us if you're interested in participating.

REFERENCES

1. Centers for Disease Control and Prevention (CDC). Prevention and control of influenza with vaccines: recommendations of the Advisory Committee on Immunization Practices (ACIP), 2010. *MMWR* 2010;59 (RR-8):1–62.
2. CDC. Estimates of deaths associated with seasonal influenza — United States, 1976–2007. *MMWR* 2010;59:1057–62.
3. CDC. Characteristics associated with seasonal influenza vaccination of preschool children — Oregon, 2006–2008. *MMWR* 2011;60:981–4.
4. CDC. Prevention and control of influenza with vaccines: recommendations of the Advisory Committee on Immunization Practices (ACIP), 2011. *MMWR* 2011; 60:1128–32.
5. Ambrose CS, Yi T, Walker RE, Connor EM. Duration of protection provided by live attenuated influenza vaccine in children. *Pediatr Infect Dis J* 2008;27:744–8.
6. Song JY, Cheong HJ, Hwang IS, et al. Long-term immunogenicity of influenza vaccine among the elderly: risk factors for poor immune response and persistence. *Vaccine* 2010;28:3929–35.
7. Frenck RW, Jr., Belshe R, Brady RC, et al. Comparison of the immunogenicity and safety of a split-virion, inactivated, trivalent influenza vaccine (Fluzone®) administered by intradermal and intramuscular route in healthy adults. *Vaccine* 2011;29:5666–74.

The **CD Summary** (ISSN 0744-7035) is published biweekly, free of charge, by the Oregon Health Authority, Office of Communicable Disease and Epidemiology, 800 NE Oregon St., Portland, OR 97232

Periodicals postage paid at Portland, Oregon.

Postmaster—send address changes to:

CD Summary, 800 NE Oregon St., Suite 730, Portland, OR 97232

^{Oregon}
Health
Authority

CD SUMMARY

PERIODICALS
POSTAGE

PAID

Portland, Oregon

If you need this material in
an alternate format, call us
at 971-673-1111.

If you would prefer to have your *CD Summary* delivered by e-mail, zap your request to cd.summary@state.or.us. Please include your full name and mailing address (not just your e-mail address), so that we can purge you from our print mailing list, thereby saving trees, taxpayer dollars, postal worker injuries, etc.
