THE INFLUENZA VACCINE: 2017 UPDATES
TEXAS SOCIETY OF HEALTH-SYSTEM PHARMACISTS ANNUAL SEMINAR – TECHNICIAN SECTION
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TECHNICIAN LEARNING OBJECTIVES

- Recognize patients eligible to receive the influenza vaccine
- Discuss updates in influenza vaccine recommendations in 2017
- Identify ways to communicate immunization status
- Explain the operational procedures of a pharmacy-based influenza vaccine program

INFLUENZA SEASON

- Influenza virus may circulate from early fall to late spring
- Why is influenza vaccination important?
  - Influenza may cause serious illness or death especially in:
    - Elderly (≥ 65 years old)
    - Pediatrics (< 5 years, especially < 2 years)
    - Pregnant women
    - Chronic diseases

INFLUENZA VACCINE TIMING

- Ideally before onset of influenza activity

Healthcare Providers
- By end of October

Adults
- Ideally early in the season
- Offer vaccination throughout the season

Children 6 months-8 years
- As soon as possible after vaccine available
- Second dose ≥ 4 weeks later

PATIENTS AT RISK FOR COMPLICATIONS FROM SEVERE INFLUENZA

- Children 6-59 months
- Adults ≥ 50 years
- Adults and children with chronic pulmonary or cardiovascular (except isolated hypertension), renal, hepatic, neurologic, hematologic, or metabolic disorders
- Immunocompromise
- Pregnancy
- Children (6 months-18 years) receiving long term aspirin therapy who may be at risk for Reye syndrome after influenza infection
- Nursing home/long-term care residents
- American Indian/Alaskan natives
- Obese (BMI ≥ 40)

PERSONS WHO LIVE WITH OR CARE FOR HIGH RISK PATIENTS

- Health care personnel
- Household contacts and caregivers of children < 5 years, particularly those contacts of children < 6 months
- Household contacts and caregivers of patients with medical conditions that make them high risk for severe complications from influenza
PATIENTS WHO SHOULD NOT RECEIVE INFLUENZA VACCINE

- Patients who should not receive influenza vaccine
  - Children < 6 months
  - History of severe, life-threatening allergies to influenza vaccine or ingredients
- Caution
  - Guillain-Barre Syndrome
  - Current illness

GENERAL INFLUENZA VACCINE RECOMMENDATIONS

- Annual influenza vaccination for all patients ≥ 6 months without contraindications
- No preferred influenza vaccine product

INFLUENZA 2016-17 UPDATES: LIVE VACCINES

- Live attenuated influenza vaccine (LAIV4) is not recommended
  - Low effectiveness against the H1N1 strains
  - Still available on the market
INFLUENZA 2016-17 UPDATES: EGG ALLERGY

- Recommendation for patients allergic to eggs be observed for 30 minutes removed
- Patients with egg allergy who experienced only hives should receive any age-appropriate influenza vaccine
- Patients with egg allergy who experienced symptoms other than hives (angioedema, respiratory distress, lightheadedness, recurrent vomiting, or required emergency medical intervention) may receive any age-appropriate influenza vaccine
- Severe egg allergy – supervised by a health care provider who can manage severe allergic reactions
- Previous severe allergic reaction to the influenza vaccine is a contraindication to future influenza vaccination


INFLUENZA 2016-17 UPDATES: NEW VACCINE APPROVALS

- Trivalent influenza vaccine with adjuvant (Fluad)
  - Approved for patients ≥ 65 years
- Quadrivalent influenza vaccine containing virus grown in cell culture (Flucelvax Quadrivalent)
  - Approved for patients ≥ 4 years


INFLUENZA VACCINES AVAILABLE

<table>
<thead>
<tr>
<th>Trivalent influenza vaccine</th>
<th>Quadrivalent influenza vaccine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Brand</td>
</tr>
<tr>
<td>Standard-dose trivalent (IIV3)</td>
<td>Afluria</td>
</tr>
<tr>
<td></td>
<td>Fluvirin</td>
</tr>
<tr>
<td>High-dose trivalent (IIV3)</td>
<td>Fluzone High Dose</td>
</tr>
<tr>
<td>Recombinant trivalent (egg free)</td>
<td>Flublok</td>
</tr>
<tr>
<td>Trivalent with adjuvant (aIIV3)</td>
<td>Fluad</td>
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</tbody>
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INFLUENZA VACCINES PREPARATION

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Dose</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza, live attenuated</td>
<td>0.2 mL (0.1 mL into each nostril)</td>
<td>Intranasal spray</td>
</tr>
<tr>
<td>Influenza, inactivated (IIV) and recombinant (RIV)</td>
<td>0.25 - 0.5 mL</td>
<td>Intramuscular</td>
</tr>
<tr>
<td>Influenza (IIV) Fluzone intradermal – ages 18-64 years</td>
<td>0.1 mL</td>
<td>Intradermal</td>
</tr>
</tbody>
</table>


PATIENT CASE

A 43 year old women presents to your pharmacy and seems interested in receiving a flu vaccine. After further questioning, she states that in the past she experienced angioedema when she ate eggs. Which, if any, influenza vaccines should she receive?

a. Flublok
b. Fluvirin
c. Fluarix
d. No influenza vaccine
e. A and B
f. B and C

PATIENT CASE

A 67 year old male patient with diabetes presents to your pharmacy today in January. Each month since October, you have been discussing the influenza vaccine with him each month when he picks up his prescription. Today he states that he is interested in getting the flu shot. Which vaccine would be recommended for him?

a. None. It is too late in the flu season for him to receive a shot
b. Live attenuated influenza vaccine
c. Standard dose trivalent influenza vaccine
d. High dose trivalent influenza vaccine
PHARMACY BASED INFLUENZA VACCINATION PROGRAM

- Inventory
- Storage
- Administration
- Documentation
- Insurance and billing
- Patient engagement and vaccine advocacy

INVENTORY

- Inventory report
- Influenza vaccine
  - Consider demand
  - Consider expiration date/beyond use date
- Immunization supplies
  - Syringes
  - Gloves
  - Alcohol swabs
  - Bandages

STORAGE

- Proper storage and handling to ensure vaccine efficacy
- Develop pharmacy routine and emergency storage procedures
  - Temperature monitoring
  - Maintain the "cold chain"
  - Receiving and unpacking deliveries
  - Emergency transport
  - Proper disposal
  - Pre-drawn syringes not recommended
STORAGE

- Refrigeration recommended for influenza vaccine
- Stand alone refrigerator recommended
- Maintain temperature between 35 – 46 °F (2 – 8 °C)
- Twice daily temperature monitoring (keep log 3 years per CDC)
- Outside of range
  - Label “Do NOT use”
  - Call manufacturer
- Maintain logbook for refrigerator maintenance

Expiry date

- May be labeled MM/DD/YYYY or MM/YYYY
- If only month and year, vaccine may be used up to last day of that month and year

Beyond use date

- Assess multi-dose vial for contamination
- Most may be used up to labeled expiration date
- Label may have timeframe for beyond use date once vial has been punctured by needle

ADMINISTRATION

- Role of pharmacy technician
- Correct vaccine
- Correct dose
- Correct needle length
- Correct patient
- Ensure vaccine information sheet (VIS) given to patient (federal law)
- Label all vaccines prepared in syringes (unless prepared in front of patient)


https://www.cdc.gov/vaccines/hcp/vis/index.html
ADMINISTRATION

- Idaho State Board of Pharmacy Immunization Practices 2016
- Pharmacists delegate vaccine administration to certified technician
- Certified technicians completed required training
  - Immunization administration technique training
  - Basic Life Support for Healthcare Professionals

DOCUMENTATION

- The following must be documented
  - Date
  - Vaccine manufacturer
  - Vaccine lot number
  - Route and site of administration
  - Name/title of person who administered vaccine
  - VIS date and date given to patient
- Ideal to send documentation of vaccine administration to patient’s primary care provider

DOCUMENTATION

- Institute of Safe Medication Practices (ISMP) National Vaccine Errors Reporting Program (VERP)
  - Vaccine errors
  - Near misses
  - Preventable adverse reactions
  - Hazardous conditions
- Vaccine Adverse Event Reporting System (VAERS)
  - Report any adverse event listed by the vaccine manufacturer or VAERS Table of Reportable Events
INSURANCE AND BILLING

- Influenza vaccine covered under Medicare Part B and Medicare Part D
- Private insurance companies
  - Contact insurance company to verify what is covered
  - Some vaccines covered under medical benefit rather than pharmacy benefit

PHARMACY SCENARIO

- At the local pharmacy, vaccines are stored in the back refrigerator and the temperature is checked daily. One morning the pharmacy technician checks and the refrigerator temperature is 30 °F. There are two influenza vaccines in the refrigerator. Which of the following are appropriate actions?
  a. Label the vials 'Do NOT use'
  b. This is an appropriate temperature; leave the vials in the refrigerator.
  c. Contact the vaccine manufacturer
  d. Let the vials sit in room temperature for 30 minutes and then return to the refrigerator.

VACCINE ADVOCACY

- Screening patients for vaccines
- Offer to provide influenza vaccine at every encounter during influenza season
- May consider scheduling vaccine appointments
- Collaboration with physician groups or clinics
- Educational materials
VACCINE COMMUNICATION

- Identify patients eligible for influenza immunization
- Educate and alert patients
  - Individualized letters
  - Telephone call
  - Educational brochure in prescription bag
  - Auxiliary labels on prescription bottles


VACCINE COMMUNICATION

- Pharmacy sponsored immunization fair
- Activities related to National Adult Immunization Week in October
- Collaboration with local diabetes or heart organizations
- Resources available from Immunization Action Coalition


CONCLUSION

- Influenza vaccine patient eligibility considerations
  - Patient age
  - Comorbidities
- Influenza vaccine 2016-17 updates
  - Live attenuated vaccine
  - Egg allergy
- Pharmacy-based vaccination program
  - Technician role
  - Vaccination advocacy and communication