More than Just the Flu, Pneumonia, and Zoster Vaccine
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Disclosures
I have no relevant financial or non financial relationships to disclose in relation to the content of this presentation

Objectives
- Discuss the process and requirements for becoming certified to immunize in Florida
- Identify which vaccinations pharmacists are permitted to administer in Florida
- Review vaccine information resources and immunization schedules
Becoming a Certified Immunizer in Florida

Requirements

- Must hold a Florida pharmacist license that is active and in good standing
- Immunization Certification Program:
  - Florida Board of Pharmacy approved
  - At least 20 contact hours
  - Cover at a minimum:
    - Safe and effective administration
    - Potential allergic reactions
- Pass an examination
- Demonstrate administration technique

http://floridaspharmacy.gov/licensing/immunization-administration-certification/

Requirements

- Must maintain a minimum of $200,000 professional liability insurance
- If administering vaccines as an employee, must have written permission from the owner
- Must enter into a signed protocol with a Florida licensed physician

http://floridaspharmacy.gov/licensing/immunization-administration-certification/
Protocol
- Specify to whom the pharmacist can administer vaccines and epinephrine
- Terms, scope, and conditions must be appropriate
- Physician must review the administration of vaccines
- Protocol must be signed by both parties

Application Requirements
- Application fee:
  - $55.00 for pharmacists
  - No fee for pharmacy interns
- Course certificate
- CPR card
- Protocol
- Professional liability insurance

Florida SHOTs Program
- All administered vaccines must be reported to the state registry: SHOTs
- If administering vaccines:
  - Outside a pharmacy setting = register as an individual
  - As an employee of a pharmacy = permittee to designate the registrant

http://floridashots.com/
Continuing Education

- 3-hour course required during each biennial relicensure period
  - Program must be approved by the American Medical Association
  - Distance-learning format is acceptable
  - Can be included in the 30 hours
- Submit confirmation of 3-hour course completion on a form provided by the board

What’s New for Certified Florida Immunizers

Florida House Bill 279

Passed the House and Senate April 2015
Approved by the Governor June 2015
Went into Effect July 1, 2015
Amends Florida Statute 465.189
The administration of vaccines and epinephrine autoinjection

https://www.flsenate.gov/Session/Bill/2015/0279
Florida House Bill 279

- Revises which vaccines may be administered
- Authorizes interns to administer vaccines

Pharmacy Interns

- Must hold a pharmacy intern registration that is active and in good standing
- Must complete a certification program
- Must be under 1:1 supervision by a pharmacist

Vaccinations - Then

Prior to the passage of HB 279, certified Florida Pharmacists could administer 4 vaccinations to adults:

- Influenza
- Pneumococcal
- Meningococcal
- Shingles
Vaccinations - Now
Certified Florida pharmacists and pharmacy interns can now administer all vaccines:
- Listed in the Centers for Disease Control and Prevention (CDC) Adult Immunization Schedule
- Recommended by the CDC for international travel
- Approved by the Florida board of pharmacy in response to a governor-declared state of emergency

CDC Immunization Schedules

Adult Immunization Schedule
- Recommended by the Advisory Committee on Immunization Practices (ACIP)
- Published annually
- Guidance and updates provided throughout the year
About the ACIP

15 members selected by the Secretary of the U.S. Department of Health and Human Services
- Fourteen are experts in different areas of practice
- One is a consumer representative
- All are voting members responsible for making recommendations

About the ACIP

Areas of practice

- Public Health
- Virology
- Vaccinology
- Pediatrics
- Infectious Disease
- Internal Medicine
- Family Medicine
- Preventive Medicine
- Public Health

ACIP also includes:
- Eight ex officio members representative of federal agencies
- Thirty non-voting representatives of liaison organizations
  - Only one pharmacist serves as a liaison representative for the American Pharmacists Association (APhA)
ACIP Meetings

- Meets 3 times a year to discuss:
  - Findings (e.g., clinical trial results)
  - Vaccine research
  - Scientific data regarding vaccines effectiveness and safety
  - Manufacturer's labeling and package inserts
  - Outbreaks and vaccine shortages
- Open to the public
- Available online via webcast

Vaccines Recommended for Most Adults

Influenza

- Annual dose recommended for every adult if no contraindication present
- Most important for those at increased risk or caregivers of such people

http://www.cdc.gov/vaccines/acip/meetings/meetings-info.html

Observe Caution
- In people with severe egg allergy as all but one (Flublok®) contain egg protein.
- In people with antibiotic, gelatin or latex allergies:
  - Trace amount of antibiotics may include neomycin, gentamicin, and polymyxin B.
- History of Guillain-Barré Syndrome.

Influenza Update
- An estimated 171 to 179 million doses will be provided.
- As of 12/11/2015, 143 million doses had been distributed.
- The most frequently identified influenza virus: influenza A (H1N1)pdm09.
- Proportion of outpatient visits for influenza-like illness (ILI): 1.9%.

ILI Activity
**What’s New for the 2015-2016 Season**

- Fluzone Intradermal® quadrivalent formulation only
- Flublok now approved for use in persons 18 and older
- Afluria® by Stratis® jet injector approved for use in persons 18-64 years old

**Tetanus and Diphtheria (Td)**

- Available as DECAVAC® or TENIVAC®
- Recommended for all adults unable to verify at least 3 doses
- Used as a booster every 10 years
- May be used in wound prophylaxis

**Tetanus, Diphtheria, and Pertussis (Tdap)**

- Available as Adacel® or BOOSTRIX®
- Recommended for:
  - All Tdap naïve adults
  - All healthcare providers
  - During each pregnancy at weeks 27-36
  - Close contact with infants younger than 12 months old
Varicella (Chickenpox)

- Available as a live vaccine: Varivax®
- 2 doses indicated in all adults if no evidence of immunity present:
  - Written documentation of 2 doses
  - Previous diagnosis of chickenpox or shingles
  - Laboratory evidence of immunity
- Do not use in pregnancy, if immunocompromised or allergic to gelatin or neomycin

Herpes Zoster (Shingles)

- Available as a live vaccine: Zostavax®
- FDA approved for individuals at least 50 years old
- AICP recommends 1 dose for adults at least 60 years old
- Do not use in pregnancy, if immunocompromised or allergic to gelatin or neomycin
Human Papillomavirus (HPV)

- Available as Cervarix®, Gardasil® and Gardasil9®
  - Cervarix® (HPV2): protects against 2 HPV strains that can cause cervical cancer
  - Gardasil® (HPV4): protects against 4 HPV strains that can cause cervical cancer and genital warts
  - Gardasil9® (HPV9): protects against 9 HPV strains that can cause cervical cancers, genital warts and precancerous or dysplastic lesions

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HPV: Updated Recommendations

<table>
<thead>
<tr>
<th></th>
<th>Cervarix® (HPV2)</th>
<th>Gardasil® (HPV4)</th>
<th>Gardasil9® (HPV9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unvaccinated females up to 26 years old</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Unvaccinated males up to 21 years old</td>
<td></td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Unvaccinated males 22 to 26 years old</td>
<td></td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>• Men who have sex with men</td>
<td></td>
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<tr>
<td>• Immunocompromised</td>
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</tbody>
</table>

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Measles, Mumps and Rubella (MMR)

- Available as live vaccine: M-M-R® II
- Recommended for non-immune adults up to 59 years old:
  - At least one dose for people born after 1957
  - 2 doses for people in high-risk groups (e.g., healthcare providers, students entering college/universities, international travelers)
  - Women of childbearing age without rubella immunity or vaccination
Vaccines Recommended for Certain Indications

Meningococcal

- Available as Menomune®, Menactra®, Menveo®, Bexsero®, and Trumenba®
- Menactra and Menveo:
  - Polysaccharide vaccine with coverage of A, C, W, Y serogroups
  - Used in adults up to 55 years old
- Menomune:
  - Conjugate vaccine with coverage of A, C, W, Y serogroups
  - Used in adults 56 years old or older

Meningococcal

- Recommended for adults at risk of contracting disease:
  - Immunocompromised
  - Complement deficiency
  - Microbiologists routinely exposed to *Neisseria meningitidis*
  - Traveling/residing in high-risk countries
  - First year college students
  - Military recruits
Meningococcal: New Vaccines

- Bexsero and Trumenba
  - Recombinant vaccines
  - Serogroup B coverage
  - Approved for use in 10-25 years old
- Off-label Recommendation:
  - Adults with asplenia or complement disease
  - Exposed during an outbreak

Serogroup B Outbreaks

2015:
- University of Oregon: 7 cases; 1 death
- Providence College: 2 cases; 0 deaths

2014:
- Princeton University: 9 cases; 1 death

2013:
- University of California, Santa Barbara: 4 cases; 1 with sequela

Pneumococcal

- Prevnar 13®
  - A 13-valent conjugate vaccine
  - PCV13
- Pneumovax 23®
  - A 23-valent polysaccharide vaccine
  - PPSV23
Prevnar 13 (PCV13)

Originally recommended for use in infants and children

- 2014 ACIP recommendations:
  - All adults 65 years or older
  - Immunocompromised adults 19-64 years old
  - Immunocompetent adults 19 years or older with a CSF leak or cochlear implant

http://www.immunize.org/packageinserts/

Pneumovax 23 (PPSV23)

- Recommended for:
  - All adults 65 years or older
  - Immunocompetent adults 19 years or older with a CSF leak or cochlear implant
  - Errata in 2015 adult immunization schedule: A one-time dose of Pneumovax 23 is no longer recommended for immunocompetent adults 19-64 years with certain medical conditions

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6434a4.htm

Pneumococcal Vaccine

Interval: Updated Recommendation

<table>
<thead>
<tr>
<th>Interval between administration of Prevnar® 13 (PCV13) and Pneumovax® 23 (PPSV23) in Immunocompetent Adults ≥65 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old Recommendation</td>
</tr>
<tr>
<td>6-12 months apart</td>
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Administration Sequence for Prevnar 13 followed by Pneumovax 23

<table>
<thead>
<tr>
<th>INDICATION</th>
<th>PCV13 → PPSV23</th>
</tr>
</thead>
<tbody>
<tr>
<td>19-64 years</td>
<td>≥ 65 years</td>
</tr>
<tr>
<td>No underlying chronic conditions or with chronic heart, lung and liver disease, DM, alcoholism, cigarette smoker</td>
<td>N/A ≥ 1 year</td>
</tr>
<tr>
<td>Immunocompetent but with CSF leak or cochlear implant</td>
<td>Administer 1st ≥ 8 weeks</td>
</tr>
<tr>
<td>Persons with functional or anatomic asplenia (e.g., sickle cell, congenital or acquired asplenia)</td>
<td>Administer 1st ≥ 8 weeks</td>
</tr>
<tr>
<td>Immunocompromised persons</td>
<td>Administer 1st ≥ 8 weeks</td>
</tr>
</tbody>
</table>

Administration Sequence for Pneumovax 23 followed by Prevnar 13

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<th>INDICATION</th>
<th>PPSV23 → PCV13</th>
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<td>No underlying chronic conditions or with chronic heart, lung and liver disease, DM, alcoholism, cigarette smoker</td>
<td>N/A ≥ 1 year</td>
</tr>
<tr>
<td>Immunocompetent but with CSF leak or cochlear implant</td>
<td>If administered 1st ≥ 1 year</td>
</tr>
<tr>
<td>Persons with functional or anatomic asplenia (e.g., sickle cell, congenital or acquired asplenia)</td>
<td>If administered 1st ≥ 1 year</td>
</tr>
<tr>
<td>Immunocompromised persons</td>
<td>If administered 1st ≥ 1 year</td>
</tr>
</tbody>
</table>

Hepatitis A

- Available as Havrix® and VAQTA®
  - Come in pediatric and adult formulations
- ACIP recommends Hep A vaccination for:
  - Men who have sex with men
  - Anyone with multiple sexual partners
  - IV drug users
  - End stage renal disease
  - Chronic liver disease
Hepatitis B

- Available as ENERGIX-B® and RECOMBIVAX HB®
  - Come in pediatric and adult formulations
- ACIP recommends Hep B vaccination for:
  - Health care providers
  - Men who have sex with men
  - Anyone with multiple sexual partners
  - IV drug users
  - End stage renal disease
  - Chronic liver disease

Haemophilus Influenzae Type B (Hib)

- Available as ActHIB®, Hiberix®, PedvaxHIB®
  - Vaccines are approved for use in children
- Not routinely recommended for healthy adults
- ACIP recommends Hib vaccination for:
  - Anatomic or functional asplenia
  - Undergoing an elective splenectomy
  - Recipients of hematopoietic stem cell transplant

Travel Vaccines
Approved Travel Vaccines

- Search on CDC website by traveler destination and/or special travel needs
- Travel vaccines include Malaria, polio, rabies, typhoid, yellow fever, cholera, Japanese encephalitis

Yellow Fever Vaccine: Additional Requirements

A certified Florida pharmacist must:
- Complete the CDC’s Online Yellow Fever Course
- Be issued a stamp by the Florida Bureau of Epidemiology to sign International Certificate of Vaccination

Vaccine Resources
Immunization Schedules

- Available in print:
  - Published in Morbidity and Mortality Weekly Report (MMWR)
  - Pocket-size
  - Laminated
  - In Spanish
  - Easy-to-read versions for patients

- Available online:
  http://www.cdc.gov/vaccines/schedules/hcp/adult.html

CDC Recommended Adult Immunization Schedule

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Age Group</th>
<th>19-21</th>
<th>22-26</th>
<th>27-49</th>
<th>50-59</th>
<th>60-64</th>
<th>≥ 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza</td>
<td>1 dose annually</td>
<td></td>
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<tr>
<td>Tdap/Td</td>
<td>1 dose; Td booster every 10 years</td>
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<tr>
<td>Varicella</td>
<td>2 doses</td>
<td></td>
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<tr>
<td>HPV Female</td>
<td>3 doses</td>
<td></td>
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<tr>
<td>HPV Male</td>
<td>3 doses</td>
<td></td>
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<tr>
<td>Zoster</td>
<td>1 dose</td>
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</tr>
<tr>
<td>MMR</td>
<td>1 or 2 doses</td>
<td></td>
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</tr>
<tr>
<td>PCV 13</td>
<td>1 dose</td>
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</tr>
<tr>
<td>PPSV 23</td>
<td>1 dose</td>
<td></td>
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</tr>
<tr>
<td>Meningococcal</td>
<td>1 or more doses</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>2 doses</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>3 doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hib</td>
<td>1 or 3 doses</td>
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</tbody>
</table>

CDC Vaccine Schedule App

Available for smartphones and tablets
- Search by Child (birth-6 years)
- Adolescent (7-18)
- Adult
- Adult Conditions
- Contraindications
**Other Resources**

- Immunization Center by APhA: [http://www.pharmacist.com/immunization-center](http://www.pharmacist.com/immunization-center)
- Vaccine Adverse Event Reporting System: national vaccine safety surveillance system [https://vaers.hhs.gov/index](https://vaers.hhs.gov/index)
- ACIP Vaccine Recommendations: will include updated recommendations throughout the year [http://www.cdc.gov/vaccines/hcp/acip-recs/index.html](http://www.cdc.gov/vaccines/hcp/acip-recs/index.html)

**Other Resources**

- CDC Health Information for International Travel (a.k.a.: the "Yellow Book"): published every 2 years. 2016 available to order
- CDC's 13th Edition Epidemiology and Prevention of Vaccine-Preventable Diseases (a.k.a.: the "Pink Book")
- Vaccine Resources from CDC Partners: list of free immunization resources [http://www.cdc.gov/vaccines/events/niiw/ed-resources/partner-resources.html](http://www.cdc.gov/vaccines/events/niiw/ed-resources/partner-resources.html)

**True/False Test Questions**

- A Florida certified pharmacist immunizer must maintain at least $200,000 of personal liability insurance
- In order to administer the yellow fever vaccine, additional qualifications and the issuance of a stamp from the Florida Bureau of Epidemiology are required
- The required continuing education classes for vaccine certification must include information on potential allergic reactions to vaccines
References

Questions?

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