UPDATE ON IMMUNIZATION GUIDELINES AND PRACTICES

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LEARNING OBJECTIVES

Discuss 2012 updates to adult immunization schedule

Identify strategies for implementation of CMS recommendations for influenza and pneumococcal vaccination

Apply recommendations and guidelines to adult patients

2012 CDC RECOMMENDATIONS: WHAT'S NEW?

MMWR February 3, 2012:

• Tdap

• HPV

• Hepatitis B

• Changes to footnotes for: Influenza, MMR, Meningococcal, Zoster

• “Additional Information” footnote for links to full ACIP vaccine recommendations and travel vaccine recommendations

• New Contraindications & Precautions Table

ADULT IMMUNIZATION SCHEDULE 2012

IMMUNIZATIONS BASED ON MEDICAL CONDITIONS 2012
INFLUENZA VACCINE
- All persons > 6 months of age
- One dose annually
- Trivalent inactivated vaccine (TIV):
  - Pregnant women
  - HCP who care for severely immunocompromised patients
- Live, attenuated influenza vaccine (LAIV):
  - Healthy non-pregnant adults <50 years old without high-risk medical conditions
- Adults > 65 years old:
  - TIV or high dose TIV (Fluzone High Dose)

FLUZONE HIGH-DOSE VACCINE
MMWR April 30, 2010:
- Patients aged > 65 are at greater risk for hospitalization and death from influenza
- Lower response to vaccination
- Immunogenicity data compared to standard treatment:
  - Significantly higher antibody titers against all three influenza virus strains
  - Higher incidence of fever and injection site pain
- No data demonstrating greater protection against influenza illness after vaccination
- 3-year post-licensure study of vaccine effectiveness compared with standard dose currently in progress
- No preference is recommended by ACIP for patients aged > 65

CONTRAINDICATIONS/PRECAUTIONS
Contraindications:
- Severe allergic reaction to egg protein
- Immune suppression (LAIV)
- Pregnancy (LAIV)
- Chronic medical conditions (LAIV)
Precautions:
- History of Guillain-Barré syndrome (GBS)
- Receipt of antivirals 48 hours prior to vaccination

TETANUS, DIPHTHERIA, PERTUSSIS VACCINE (Td/Tdap)
- Booster of Td every 10 years for all adults
- For adults <65, one dose of Tdap should replace one 10-year booster if not received previously
- Tdap specifically recommended for:
  - Pregnancy (>20 weeks gestation)
  - All adults with close contacts of infants <12 months of age
  - Health-care professionals
- Adults > 65:
  - Tdap if contact with <12 month old child
  - If no infant contact, either Td or Tdap

PERTUSSIS
- Periodic epidemics every 3-5 years
- Frequent outbreaks

CONTRAINDICATIONS/PRECAUTIONS
Contraindications:
- Encephalopathy not attributable to other cause within 7 days of administration of previous dose (Tdap)
Precautions:
- History of GBS
- History of arthus-type hypersensitivity reactions
- Progressive or unstable neurological disorder, uncontrolled seizures, or progressive encephalopathy (Tdap)
VARICELLA
- 2 doses for all adults without evidence of immunity
- Special considerations:
  - Close contacts to people at high risk for severe disease
  - Health care workers
  - Family contacts of people with immunocompromising conditions
  - High risk for exposure or transmission:
    - Teachers
    - Child care employees
    - College students
    - Military personnel
- Pregnant women who lack immunity should receive first dose upon completion of pregnancy

CONTRAINDICATIONS/PRECAUTIONS
Contraindications:
- Known severe immunodeficiency
- Pregnancy
- HIV infection with CD4 <200
Precautions:
- Recent (<11 months) receipt of antibody containing blood product
- Receipt of specific antivirals 24 hours before vaccination

HUMAN PAPILLOMAVIRUS (HPV) VACCINE
- Females:
  - Routine vaccination for ages 11-12
  - Ages 13 to 26 if not previously vaccinated
- Males:
  - Routine vaccination for ages 11-12
  - Ages 13 to 21 if not previously vaccinated
  - Ages 22-26
    - MSM, immunocompromised, HIV infection
- Healthcare personnel (HCP) should receive vaccine if within the recommended age group
- Not recommended during pregnancy

ZOSTER VACCINE
- Single dose for adults ≥ 60 years old
- HCP if within recommended age group
- Acknowledgement of FDA approval in persons ≥ 50 years old, but ACIP continues to recommend that vaccination begin at age 60

ZOSTER VACCINE
MMWR November 11, 2011:
- March 2011: FDA approval in persons aged 50 through 59
- 22,000 adults aged 50-59 studied in U.S. and 4 other countries
  - Half received vaccine; other half received placebo
  - Monitored for one year for development of herpes zoster
  - Zoster vaccine reduced risk of developing disease by 69.8%
  - ACIP declined to recommend in this patient population
  - Recognized supply issues
  - Limited data on long-term protection from vaccine

CONTRAINDICATIONS/PRECAUTIONS
Contraindications:
- Known severe immunodeficiency
- Pregnancy
- HIV infection with CD4 <200
Precautions:
- Receipt of specific antivirals 24 hours before vaccination
MEASLES, MUMPS, RUBELLA (MMR) VACCINE

- Adults born in 1957 or later should have documentation of 1 or more doses unless contraindication.
- Second dose recommended for:
  - Students in postsecondary educational institution
  - Workers in health care facilities
  - Persons with plans to travel internationally

CONTRAINDICATIONS/PRECAUTIONS

Contraindications:
- Known severe immunodeficiency
- Pregnancy
- HIV infection with CD4 < 200

Precautions:
- Recent (< 11 months) receipt of antibody-containing blood product
- History of thrombocytopenia or thrombocytopenic purpura
- Need for tuberculin skin testing

PNEUMOCOCCAL POLYSACCHARIDE (PPSV) VACCINE

- ≥ 65 years of age without history of vaccination
- < 65 years of age:
  - COPD, emphysema, asthma
  - Diabetes
  - Chronic cardiovascular diseases
  - Alcoholism
  - Immunocompromising conditions
  - Functional or anatomic asplenia
  - Residents of nursing homes or LTCF
  - Adults who smoke cigarettes
  - HIV infection as soon as possible after diagnosis

PNEUMOCOCCAL POLYSACCHARIDE (PPSV) VACCINE

Revaccination:
- One-time revaccination 5 years after first dose for persons 19 to 64 years of age
- Chronic renal failure
- Functional or anatomic asplenia
- Immunocompromising conditions
- If given before age 65, another dose should be given once ≥ 65 if at least 5 years has elapsed
- No further doses for persons vaccinated > 65 years of age

MENINGOCOCCAL VACCINE

- 2 doses:
  - Functional asplenia or persistent complement component deficiencies
  - HIV infection
- 1 dose:
  - Military recruits
  - Persons who travel or live in countries where meningococcal disease is epidemic
  - 1st year college students up to age of 21 living in residence halls if no dose after age 16
  - MCV4 for < 55 years of age
  - MPSV4 for ≥ 55 years of age
  - Revaccination with MCV4 every 5 years for those previously vaccinated and remain at risk for infection

HEPATITIS A VACCINE

Recommended for:
- MSM or IV drug abusers
- Chronic liver disease or receiving clotting factor concentrates
- Travel or work in countries with high or intermediate endemicity of Hepatitis A
- Close personal contact of international adoptee during first 60 days of arrival in U.S.
HEPATITIS B VACCINE

- High-risk behaviors:
  - Multiple sex partners
  - Treatment for STD
  - IV drug abusers
  - MSM
  - HCP

- Medical indications:
  - HIV
  - ESRD
  - Chronic liver disease

HEPATITIS B VACCINATION

- Diabetes:
  - If < 60 years old, as soon as possible after diagnosis
  - If > 60 years old, at the discretion of treating physician
  - Based on need for assisted blood glucose monitoring, likelihood of acquiring, and likelihood of immune response to vaccination

- Household contacts and/or sexual partners
- International travel to countries with high prevalence

HEPATITIS B AND DIABETES

MMWR December 23, 2011:

- 25 of 29 outbreaks of HBV in LTCFs involved adults with diabetes receiving assisted blood glucose monitoring

- Risk analysis:
  - Ages 23-59 with diabetes are considered to have 2.1 times the odds of developing HBV as those without diabetes
  - Persons >60 years of age are 1.5 times as likely

- ACIP recommends HBV vaccination for diabetics
- Increased adherence to recommended infection control practices

CMS CORE MEASURES: RATIONALE

Influenza:
- Up to 1 in 5 people in the U.S. get influenza each season
- Approximately 226,000 people hospitalized each year
- 3,000-49,000 die from influenza and complications each year
- Vaccination most effective method for preventing infection

Pneumococcus:
- Causes an estimated 5,000 deaths from invasive disease annually
- Approximately 2.4 million days of hospitalization
- Case-fatality rate of 10-18% for invasive disease

CMS CORE MEASURES: INFLUENZA AND PNEUMOCOCCAL VACCINATION
**CMS RECOMMENDATIONS: INFLUENZA VACCINE**

- All acute care hospitalized inpatients age 6 months and older without exclusion criteria
- October thru March

**CMS RECOMMENDATIONS: INFLUENZA**

For eligible patients, one of the following must be documented:
- Influenza vaccine given during current hospitalization
- Influenza vaccine was received prior to admission during the current flu season, not during current hospitalization
- Documentation of patient or caregiver refusal
- Documentation of allergy/sensitivity to influenza
- Anaphylactic latex allergy or anaphylactic allergy to egg
- Vaccine not likely to be effective because of bone marrow transplant within the past 6 months
- History of Guillain-Barré syndrome within 6 weeks after a previous influenza vaccination
- Not documented or unable to determine

**SPARTANBURG REGIONAL ORDER FORM**

**INFLUENZA VACCINE**

- Patients over age 6 months, see top of form
- Documented information: 1. Patient has received influenza vaccine at least 2 weeks prior
- Sydney influenza vaccine 1969: 38% effectiveness, 1957: 69% effectiveness
- Patient’s temperature for 24 hours, 38.5°C or below
- Parenteral influenza vaccine can be given 1957: 69% effectiveness, 15°C or below

**CMS RECOMMENDATIONS: PNEUMOCOCCAL VACCINE**

For eligible patients, one of the following must be documented:
- Pneumococcal vaccine given during current hospitalization
- Receipt of vaccine anytime in the past
- Documentation of patient or caregiver refusal
- Documentation of:
  - Allergy/sensitivity to vaccine
  - Not likely to be effective because of bone marrow transplant within past 12 months
  - Currently receiving chemotherapy or radiation or received during this hospitalization less than 2 weeks prior
  - Received shingles vaccine within last 4 weeks
  - Age 6 and older and received conjugate vaccine in past 8 weeks
- Not documented or unable to determine

**SPARTANBURG REGIONAL ORDER FORM**

**PNEUMOCOCCAL VACCINE**

- Acute care hospitalized inpatients 65 years of age and older
- Inpatients between 6 and 64 years of age considered high risk
VACCINATION ORDER FORM: SPARTANBURG REGIONAL

- In use since 2004
- Nursing driven screening process to evaluate for eligibility
  - Influenza: All patients age 6 months or older
  - Pneumococcal: All patients 6 years or older
- Order form placed on chart
- Once completed, faxed to pharmacy if vaccine needed
- Vaccine administered on day 3 or sooner if being discharged
- No physician order required

COMPLIANCE: SPARTANBURG REGIONAL

- % of cases meeting criteria

VACCINATION ORDER FORM: NEXT STEPS

- Pilot starting on 5 units on March 26th
- Implementation of Immunization Module
- Electronic submission of all immunizations/vaccines administered to state registry
  - Will allow nurses to see vaccines that have been previously administered at SRMC

OTHER CHANGES: SPARTANBURG REGIONAL

- Mandatory influenza vaccination for all employees
- 2011-2012 Influenza Season:
  - Strongly encouraged
  - All employees who do not receive vaccination must wear masks when in patient care areas
  - Completion of employee education program
  - Vaccination rate of ~80%
- 2012-2013 Influenza Season:
  - Mandatory
  - Disciplinary action for employees who do not receive vaccination

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REFERENCES

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- Centers for Disease Control and Prevention. Update on Herpes Zoster Vaccination: Licensure for persons aged 50 through 59 years. MMWR 2011 / 60(16);1528-1538.
- Manual for National Hospital Inpatient Quality Measures