

#### NORTHWEST AIDS EDUCATION AND TRAINING CENTER

## Vaccines for the HIV-infected Patient

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Presentation prepared by:

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Last Updated: Date



## Vaccines: Overview

Review general principles

Review recommended vaccines in adults

Review vaccines not currently recommended

Special considerations: nonresponse and revaccination



# Vaccines: General Principles

- Goal is prevention
- Timing is a consideration
  - HIV+ patients have decreased immunologic response to most vaccines
  - Factors associated with poor response
    - Low CD4 count
    - Lack of virologic suppression
  - Vaccinating early (pro/con):
    - Earlier protection against more common infections
    - Decreased likelihood of response if low CD4 counts
- Live vaccines and immunocompromising conditions



# Vaccines: Hepatitis

#### Hepatitis A:

- Now universal vaccination at age 1 year
- Recommended for non-immune HIV-infected adults who are MSM,
  IDU, chronic liver disease, travel to endemic countries

#### Hepatitis B:

- Now universal vaccination at birth
- Recommended fro all non-immune HIV-infected adults
- Efficacy 18-72%; possibly greater once viral load suppressed
- ACIP recommends 40mcg (double dose) x 3 or 4 doses
- OI prevention guidelines recommend standard 20mcg x 3 doses
- Special consideration: Isolated core Ab positive
  IP Immunization Recommendations 2012



### Vaccines: Pneumococcal Disease

#### Pneumococcal polysaccharide vaccine (PPV23):

- HIV+ patients at higher risk for invasive pneumococcal disease
- Efficacy of vaccine if CD4 count < 200 unknown</li>
- Vaccine should be given to those with CD4 counts < 200,</li>
  but revaccinate once over 200
- Give booster 5 years after baseline vaccine and again after 65 year old if > 5 years from prior



### Vaccines: Influenza

- Influenza can be more severe in patients with HIV
- No increased adverse effects with inactivated vaccine
- Efficacy ranges from 27-78%
- Live vaccine not recommended currently
- Household members can receive live vaccine though



## Vaccines: Tdap

No specific recommendations for HIV+ patients

 Tdap should replace single dose of Td regardless of interval since last Td



#### Vaccines: HPV

- Not a live vaccine so safe in HIV and other immunocompromising conditions
- 2 vaccines available (bivalent and quadrivalent)
- Females either vaccine recommended from ages 11-26 years
- Males quadrivalent vaccine 11-26 years

No recommendations for HIV+ individuals greater than 26 years



### Vaccines: Live Vaccines

- Varicella Vaccine:
  - All adults without evidence of immunity if CD4 count > 200
- Zoster Vaccine:
  - Not currently recommended
  - Safe and immunogenic in adults with CD4 counts > 200 and viral load < 75 copies/mL (Benson C et al. Abstr #96. CROI 2012)</li>
- MMR Vaccine:
  - Not recommended for HIV+ patients with CD4 counts < 200</li>

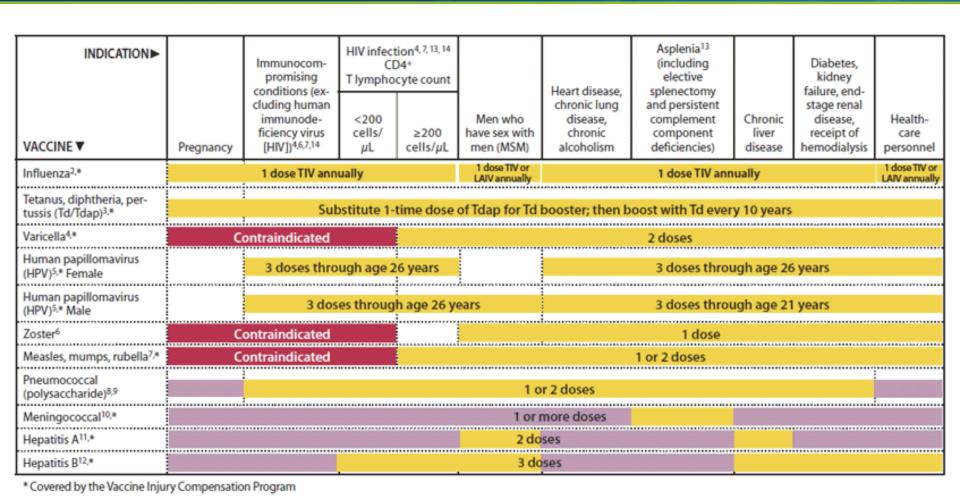


# **Special Considerations**

- Vaccine nonresponse
  - What is a response?
  - Is there a correlate of immunity?
- Hepatitis B
  - Protective titer > 10 IU
  - Check titer within 1-2 months after completion of doses
  - If subpar, consider repeating series when VL suppressed and/ or double dosing (Launay 0 et al. JAMA 2011;305:1432)
    - Double dose x 4 led to 82% response rate vs. 65% with standard dosing



### Vaccines: ACIP 2012 Adult Schedule



Contraindicated

No recommendation

Recommended if some

occupational, lifestyle,

or other indications)

other risk factor is present

(e.g., on the basis of medical,

For all persons in this category

who meet the age requirements

and who lack documentation of

vaccination or have no evidence

of previous infection

### Vaccines: Resources

- ACIP guidelines:
  - http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6104a9.htm

- OI prevention guidelines:
  - http://aidsinfo.nih.gov/contentfiles/lvguidelines/adult\_oi\_041009.pdf

