Health Care Maintenance and HIV Related Screening

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Callen-Lorde Community Health Center
Learning Objectives

Upon completion of this presentation, learners should be able to:

implement age appropriate health maintenance and screening evaluations for HIV infected individuals
Case: Debra

1992
47 y.o. African American female, former IVDU
CD4 10: zidovudine ➔ anemia didanosine ➔ neuropathy
Mycobacterium avium complex: On clarithromycin, ethambutol, rifabutin
Diabetes: insulin, poor control

What is appropriate screening and health maintenance for Debra in 1992?

What is appropriate screening and health maintenance in 2011?
Screening and Health Maintenance

• To *detect* diseases and conditions in their earlier stages (asymptomatic) to intervene to reduce morbidity and mortality (ex: pap smear, colonoscopy)

• To *prevent* disease and maintain health (ex: vaccines, smoking cessation)
Principles of screening

• The condition should be an important health problem
• There should be an acceptable treatment
• Diagnosis and treatment should be available
• There should be a recognized latent or early symptomatic stage
• There should be a suitable test or examination which has few false positives - specificity - and few false negatives – sensitivity
• The test or examination should be acceptable to the population. The cost, including diagnosis and subsequent treatment, should be economically balanced in relation to expenditure on medical care as a whole

Additional Principle of Screening and Health Maintenance

• The patient must have a long enough life expectancy to benefit from early detection and prevention measures

• Debra 1992
  – Ophthalmology exam for CMV retinitis, PCP prophylaxis, toxoplasma prophylaxis

Effect of ART on Mortality Over Time

% of Patients on ART

Deaths per 100 Person-Years

Patients on ART, %

$^{a}P = .008$ for trend.

Screening and Health Maintenance in HIV in 2011

“HIV-infected persons should be managed and monitored for all relevant age- and gender-specific health problems”

Primary Care Guidelines for the Management of Persons Infected with Human Immunodeficiency Virus: 2009 Update by the HIV Medicine Association of the Infectious Diseases Society of America
HIV “specific” Screening and Health Maintenance

• Recommendations for HIV specific screening are based on risk related to:

  Lifestyle issues
  e.g. STI screening, tobacco, mental health, hepatitis C

  Disease related issues
  e.g. PCP prophylaxis, toxoplasma serology

  Interplay between lifestyle and HIV:
  e.g. More rapid progression of cervical cancer
  Increased risk of active TB in PPD+
James

• 36 yo gay male recently diagnosed HIV+ when he presented for urgent care complaining of symptoms c/w urethritis

Let’s review our initial evaluation
<table>
<thead>
<tr>
<th><strong>James: Initial Evaluation-History</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hospitalizations</strong></td>
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<tr>
<td><strong>Medications</strong></td>
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<tr>
<td><strong>Allergies</strong></td>
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<tr>
<td><strong>TB</strong></td>
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<td><strong>Hepatitis</strong></td>
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<td><strong>Vaccinations</strong></td>
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<tr>
<td><strong>STI</strong></td>
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<tr>
<td><strong>Mental health</strong></td>
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<tr>
<td>Category</td>
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<td>-------------------</td>
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<tr>
<td>Tobacco</td>
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<tr>
<td>Alcohol</td>
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<tr>
<td>Drugs</td>
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<tr>
<td>Sexual history</td>
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<tr>
<td>Education</td>
</tr>
<tr>
<td>Housing</td>
</tr>
<tr>
<td>Work</td>
</tr>
<tr>
<td>Social network</td>
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<tr>
<td>Test</td>
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<td>-------------------------------</td>
</tr>
<tr>
<td>CD4 count</td>
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<tr>
<td>HIV RNA PCR</td>
</tr>
<tr>
<td>CBC</td>
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<tr>
<td>AST/ALT</td>
</tr>
<tr>
<td>Creatinine</td>
</tr>
<tr>
<td>Urinalysis</td>
</tr>
<tr>
<td>Toxoplasma gondii</td>
</tr>
<tr>
<td>Hepatitis serology</td>
</tr>
<tr>
<td>RPR</td>
</tr>
<tr>
<td>Urine GC/CT</td>
</tr>
</tbody>
</table>
James: Screening and Health Maintenance

What screening and health maintenance measures are appropriate for James?
Screening and Health Maintenance in HIV in 2011

Guidelines are based on the evolving epidemic
The CDC estimates that by 2015 the percentage of people living with HIV that are over age 50 will be:

1. 10%
2. 20%
3. 30%
4. 40%
5. 50%
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1. 10%
2. 20%
3. 30%
4. 40%
5. 50%
Growing Older: HIV and Aging

Estimated Percentage of Persons Living with HIV/AIDS Who Are 50+ by Year, 2001-2007


Association between modifiable and non-modifiable risk factors and specific causes of death in the HAART era: Results from the D:A:D study. C. Smith et al., CROI 2009, Montreal, Canada.
Medical conditions in HIV infected patients

Medical conditions in HIV-infected patients in the Veteran’s Aging Cohort. Justice, et al, Med Care, 2006
# Routine Health Care Maintenance in the Human Immunodeficiency Virus (HIV)-Infected Adult

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Recommendation</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood pressure check</td>
<td>Perform annually in all patients</td>
<td></td>
</tr>
<tr>
<td>Digital prostate check</td>
<td>Consider annually in all men</td>
<td>Controversial: see United States Preventive Services Task Force Guidelines</td>
</tr>
<tr>
<td>Prostate specific antigen</td>
<td>Discuss pros and cons, consider annually in men aged &gt;50 years</td>
<td>Controversial: see United States Preventive Services Task Force Guidelines</td>
</tr>
<tr>
<td>Depression screen</td>
<td>Perform annually in all patients</td>
<td>Use conventional mental health interview or standardized test</td>
</tr>
<tr>
<td>Fasting glucose</td>
<td>Perform every 6-12 months</td>
<td>Consider testing 1-3 months after start or modifying regimen. HgBA1C Q 6 months in diabetics</td>
</tr>
<tr>
<td>Fasting lipids</td>
<td>Perform every 6-12 months</td>
<td>Consider testing 1-3 months after start or modifying regimen</td>
</tr>
<tr>
<td>Ophthalmologic exam</td>
<td>Perform dilated exam Q6-12 months in CD4 count&lt;50 cells/ml</td>
<td>Exam with tonometry advised Q 2-3yrs in age &gt;50 years</td>
</tr>
</tbody>
</table>

## Routine Health Care Maintenance in the Human Immunodeficiency Virus (HIV)-Infected Adult

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</thead>
<tbody>
<tr>
<td>Syphilis screening (RPR, VDRL)</td>
<td>Perform annually in patients at risk for STDs</td>
<td>Consider more frequent testing in patients at high risk</td>
</tr>
<tr>
<td>Gonorrhea and chlamydia testing</td>
<td>Perform annually in patients at risk for STDs</td>
<td>Consider more frequent testing in patients at high risk</td>
</tr>
<tr>
<td>Tuberculin screening</td>
<td>Perform annually in patients at risk for tuberculosis</td>
<td>No need to test if prior PPD+. Additional testing if potential exposure</td>
</tr>
<tr>
<td>Colonoscopy</td>
<td>Age 50, and every 10 years*</td>
<td>Earlier testing if family history More frequent testing if adenomatous polyps</td>
</tr>
<tr>
<td>Mammography</td>
<td>Annually in all women age 50 and older</td>
<td>Some authorities advise initiation at age 40: individual risk/benefit</td>
</tr>
</tbody>
</table>

* American College of Gastroenterology Guidelines recommend initiating screening beginning at age 45 for African Americans

# Routine Health Care Maintenance in the Human Immunodeficiency Virus (HIV)-Infected Adult

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<th>Recommendation</th>
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</thead>
<tbody>
<tr>
<td>Cervical pap smear</td>
<td>Annually in all women after 2 normal paps in the first year</td>
<td>More frequent in history of ASCUS or dysplasia</td>
</tr>
<tr>
<td>Bone densitometry*</td>
<td>Baseline exam in postmenopausal women &gt; age 65, consider in &gt;age 50 with &gt;1 risk factor for premature bone loss</td>
<td>Risk factors include white race, small body habitus, sedentary lifestyle, cigarette smoking, alcoholism, phenytoin or steroid therapy, vitamin D deficiency, hyperparathyroidism, thyroid disease, and hypogonadism</td>
</tr>
<tr>
<td>Abdominal ultrasound</td>
<td>Once in men aged 65-75 who have ever smoked</td>
<td>Screening test for abdominal aortic aneurysm</td>
</tr>
<tr>
<td>Patient education</td>
<td>Address regularly in all patients</td>
<td>Issues may include sexual behavior and drug counseling, dietary teaching, weight reduction, smoking cessation, and seat belt use</td>
</tr>
</tbody>
</table>

* IDSA recommends initiating screening all HIV-infected post-menopausal women, all HIV-infected men >age 50 and all patients with fragility fractures. CID 51(8): 937-946. October 15, 2010

Debra in 2011

1. Should receive all age appropriate screening
2. Should not receive all age appropriate screening. She is too sick.
3. Unsure
Screening and Health Maintenance

Vaccinations

How are vaccinations the same/different in HIV+ vs HIV negative individuals?
Vaccines that might be indicated for adults, based on medical and other indications --- United States, 2011

<table>
<thead>
<tr>
<th>INDICATION</th>
<th>VACCINE</th>
<th>Immunocompromising conditions (excluding human immunodeficiency virus (HIV))&lt;sup&gt;3,5,6,13&lt;/sup&gt;</th>
<th>HIV infection&lt;sup&gt;1,6,12,13&lt;/sup&gt;</th>
<th>CD4&lt;sup&gt;+&lt;/sup&gt; T lymphocyte count</th>
<th>Diabetes, heart disease, chronic lung disease, chronic alcoholism</th>
<th>Asplenia&lt;sup&gt;12&lt;/sup&gt; (including elective splenectomy) and persistent complement deficiencies</th>
<th>Chronic liver disease</th>
<th>Kidney failure, end-stage renal disease, receipt of hemodialysis</th>
<th>Health-care personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy</td>
<td>Td</td>
<td>1 dose TIV annually</td>
<td>Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 years</td>
<td>2 doses</td>
<td>3 doses through age 26 years</td>
<td>1 dose</td>
<td>1 or 2 doses</td>
<td>1 or more doses</td>
<td>2 doses</td>
</tr>
<tr>
<td>Influenza&lt;sup&gt;1,8&lt;/sup&gt;</td>
<td>Td</td>
<td>1 dose TIV or LAIV annually</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Tetanus, diphtheria, pertussis (Td/Tdap)&lt;sup&gt;2,9&lt;/sup&gt;</td>
<td>Td</td>
<td>1 dose TIV or LAIV annually</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Varicella&lt;sup&gt;3,9&lt;/sup&gt;</td>
<td>Td</td>
<td>1 dose TIV or LAIV annually</td>
<td></td>
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<td></td>
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<tr>
<td>Human papillomavirus (HPV)&lt;sup&gt;4,9&lt;/sup&gt;</td>
<td>Td</td>
<td>1 dose TIV or LAIV annually</td>
<td></td>
<td></td>
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<tr>
<td>Zoster&lt;sup&gt;5&lt;/sup&gt;</td>
<td>Td</td>
<td>1 dose TIV or LAIV annually</td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Measles, mumps, rubella&lt;sup&gt;6,9&lt;/sup&gt;</td>
<td>Td</td>
<td>1 dose TIV or LAIV annually</td>
<td></td>
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<td></td>
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<tr>
<td>Pneumococcal (polysaccharide)&lt;sup&gt;7,8&lt;/sup&gt;</td>
<td>Td</td>
<td>1 dose TIV or LAIV annually</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal&lt;sup&gt;9,9&lt;/sup&gt;</td>
<td>Td</td>
<td>1 dose TIV or LAIV annually</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis A&lt;sup&gt;10,9&lt;/sup&gt;</td>
<td>Td</td>
<td>1 dose TIV or LAIV annually</td>
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<td></td>
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<td>Hepatitis B&lt;sup&gt;11,9&lt;/sup&gt;</td>
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<td>1 dose TIV or LAIV annually</td>
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</table>

* Covered by the Vaccine Injury Compensation Program

For all persons in this category who meet the age requirements and who lack evidence of immunity (e.g., lack documentation of vaccination or have no evidence of previous infection) Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indications) No recommendation

MMWR / Vol. 60 / No. 4 February 4, 2011
HPV prevention and HIV

Rates of cervical cancer and anal cancer are significantly higher in HIV-infected individuals than in the general population.

Additionally, condyloma lesions can be large and difficult to control, causing significant morbidity.

HPV vaccine is indicated for men¹ and women² <26 yo.

Anal cytologic screening (anal pap smear) is increasingly recognized as an important component of health maintenance in HIV infection³ ⁴.

1. MMWR: May 28, 2010 / 59(20);630-632. 2. MMWR: March 12, 2007 / 56(Early Release)1-24
3. Primary Care Guidelines for the Management of Persons Infected with Human Immunodeficiency VirusJ. Aberg, et.al., CID 2009:49 (1 September)
4. Primary Care Approach to the HIV infected Patient. NYSDOH HIV guidelines
James: Screening and Health Maintenance

PCP prophylaxis

PPD

Anal cytology

Vaccines: pneumovax, influenza (in season), HAV, TDAP

Dental services

Diet and exercise counseling

Periodic STI screen: screen all appropriate orifices
Examples of Screening Strategies to Detect Asymptomatic Sexually Transmitted or Blood-Borne Infections.

First visit
All patients
- Serologic test for syphilis (ie, nontreponemal test, such as RPR or VDRL)
- Consider urine-based (first-void specimen) NAAT for gonorrhea
- Consider urine-based (first-void specimen) NAAT for *Chlamydia* species
- Serologic tests for hepatitis B and C (if hepatitis B negative, vaccinate)

Women
- Examination of vaginal secretions for *Trichomonas* species
- Cervical specimen for NAAT for *Chlamydia* species for all sexually active women aged <25 years and other women at increased risk

Patients reporting receptive anal sex
- Culture of rectal sample for *Neisseria gonorrhoeae*
- Culture of rectal sample for *Chlamydia* species

Patients reporting receptive oral sex: culture of pharyngeal sample for *N. gonorrhoeae*

Subsequent visits
All sexually active patients: screening tests for STDs should be repeated at least annually

Asymptomatic persons at higher risk
- More frequent periodic screening (eg, at 3-month to 6-month intervals) if any of the following factors are present
  - Multiple or anonymous sex partners
  - Past history of any STD
  - Identification of other behaviors associated with transmission of HIV and other STDs
  - Sex or needle-sharing partner(s) with any of the above-mentioned risks
  - Developmental changes in life that may lead to behavioral change with increased risky behavior (e.g., dissolution of a relationship)
  - High prevalence of STDs in the area or in the patient population

**NOTE.** Adapted from [22]. NAAT, nucleic acid amplification test; RPR, rapid plasma reagin; STD, sexually transmitted disease; VDRL, Venereal Disease Research Laboratory.

James: Interventions

Substance use counseling
Mental health services
Prevention/safer sex/risk reduction counseling
Hepatitis C treatment
Tobacco cessation
Tobacco cessation efforts

In my experience tobacco cessation efforts are:

1. Simple and highly effective, all of my patients are ex-smokers
2. Challenging, with some successes
3. Futile, I have stopped wasting my breath
Tobacco and HIV

- 50% of HIV-infected patients are estimated to be current smokers

- Smoking increases the risk of COPD, bacterial pneumonia, PCP, thrush, AIDS and non-AIDS related malignancies, and cardiovascular disease

*Smoking cessation efforts are an essential part of health maintenance and health improvement in HIV*
Summary

• Increased survival has led to changes in recommendations regarding screening and health maintenance in HIV infected individuals, to mirror those of the general population

• Additional screening and health maintenance measures specific to HIV reflect both the effects of immune suppression as well as risks related to lifestyle issues

• As the HIV population ages, increased attention needs to be directed to prevention of traditional, non-HIV related, age-associated morbidities in order to continue to improve survival rates
Resources

Primary Care Guidelines for the Management of Persons Infected with Human Immunodeficiency Virus: 2009 Update by the HIV Medicine Association of the Infectious Diseases Society of America. J. Aberg, et.al., CID 2009:49 (1 September)

New York State Department of Health AIDS Institute:
www.hivguidelines.org
Primary Care Approach to the HIV-Infected Patient
Smoking Cessation in HIV-infected Patients
Mental Healthcare for People with HIV Infection

CDC Advisory Committee on Immunization Practices
http://www.cdc.gov/vaccines/pubs/ACIP-list.htm
Thank you