

Health Care Maintenance and HIV Related Screening

Rona Vail, MD

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
- *Adapted from WHO Chronicle Geneva: [World Health Organization. 22\(11\):473. Public Health Papers, #34.](#)*

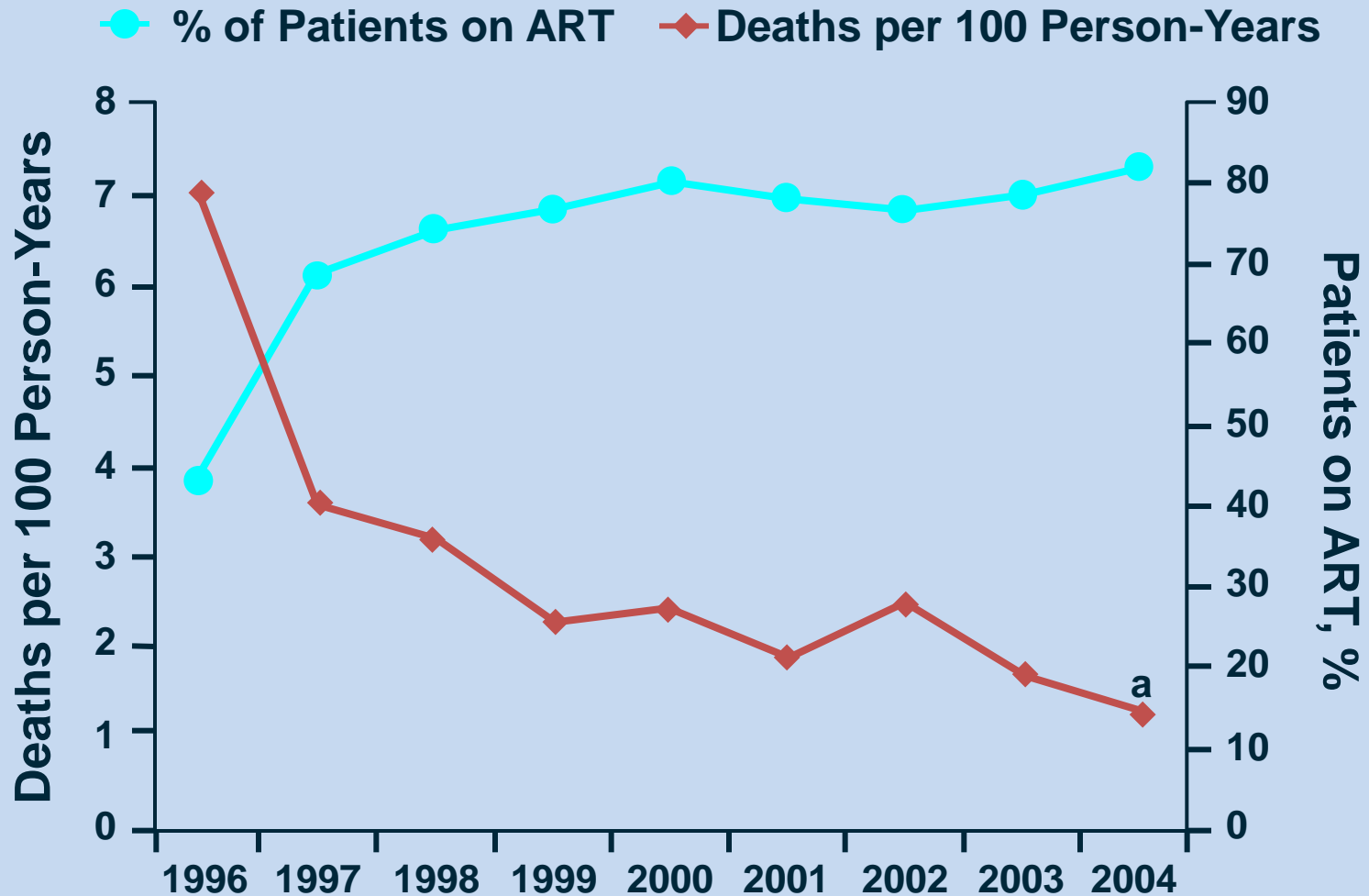
Additional Principle of Screening and Health Maintenance

- 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

Cervical pap smear? Mammogram? Colon cancer screening? Vaccinations? Diabetes control? Lipid management?



Effect of ART on Mortality Over Time



^a $P = .008$ for trend.

Palella FJ et al. *J Acquir Immune Defic Syndr*. 2006;43(1):27-34.

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

James: Initial Evaluation-History

Hospitalizations	Age 19, suicide attempt
Medications	None
Allergies	Penicillin
TB	Unsure
Hepatitis	None
Vaccinations	Had “usual” vaccines for school
STI	Gonorrhea 2010
Mental health	History of depression, hospitalized x1, on medication in the past, not in care presently



James: Social history

Tobacco	1 PPD smoker
Alcohol	Weekends, 2-8 drinks when “goes out”
Drugs	Has tried “everything”. “party drugs” 1-2 times per month- “X”, “MDMA”, “crystal meth”
Sexual history	Sexually active, no steady partner. “Versatile”, condoms 90% for anal sex
Education	Some college
Housing	Has roommates
Work	Waits tables
Social network	Has good friends, has told one HIV+ friend about status, estranged from family, little contact

James: Lab results

CD4 count	196 cells/mm ³
HIV RNA PCR	171,292 copies/ml
CBC	WBC 4.1, H/H 12.2/36, plts 252K
AST/ALT	45/66
Creatinine	0.9
Urinalysis	1+ protein
Toxoplasma gondii	IgG+
Hepatitis serology	HAV IgG neg, HBsAg (-), HBcAb (+), HBsAb (+), HCV Ab (+)
RPR	1:16
Urine GC/CT	Negative



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:

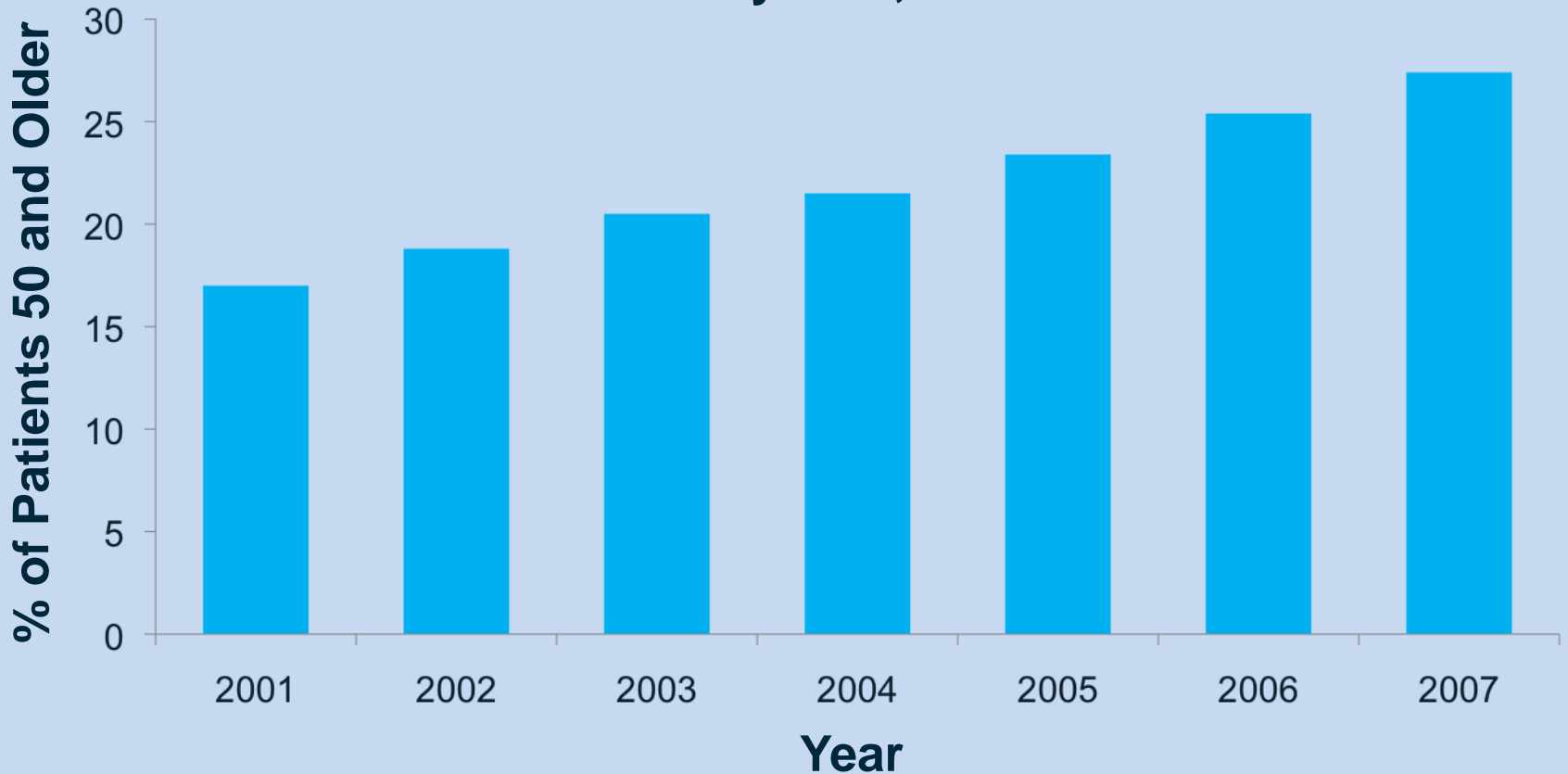
1. 10%
2. 20%
3. 30%
4. 40%
5. 50%

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- 5. 50%**

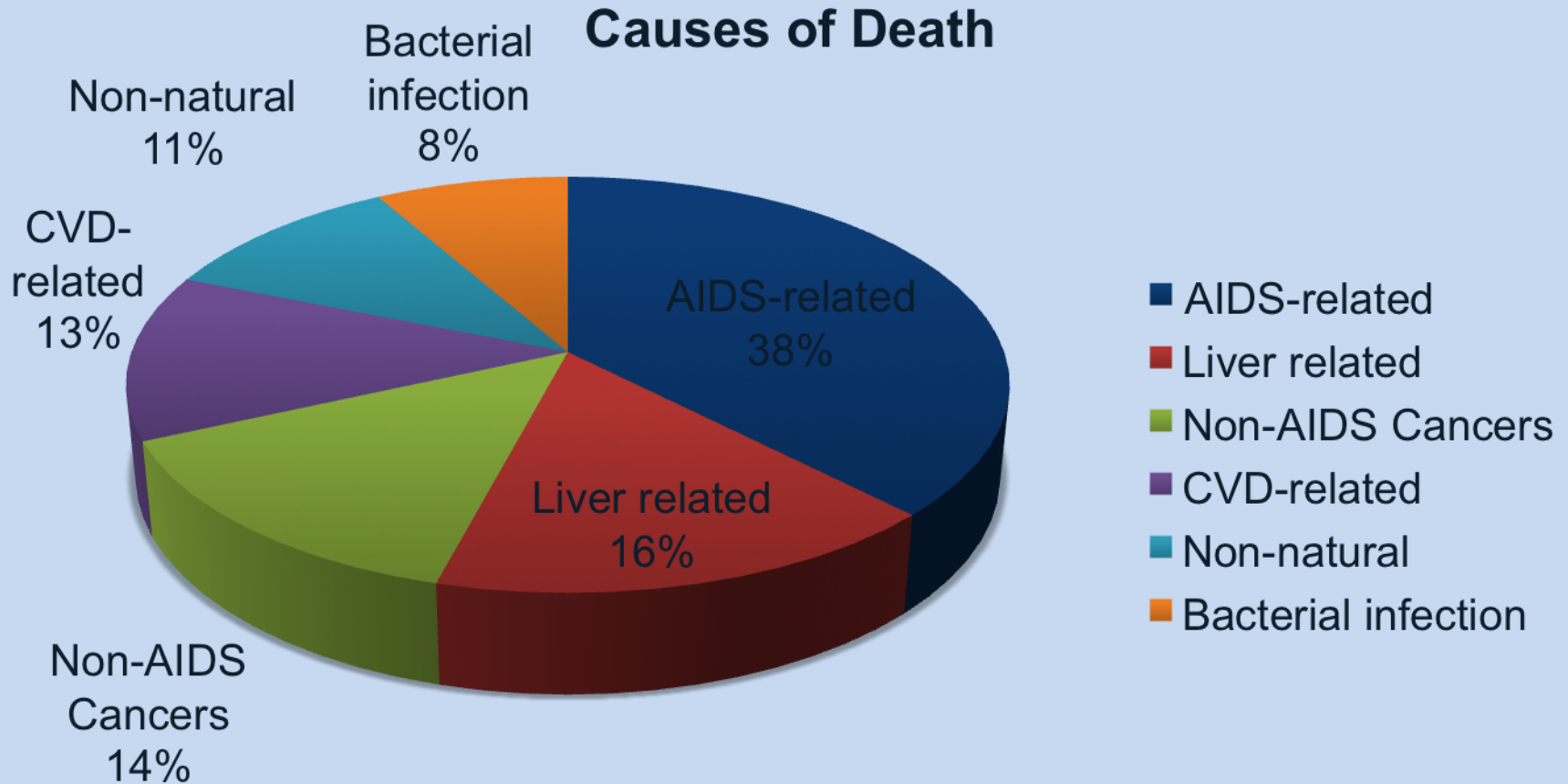
Growing Older: HIV and Aging

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



^aFor years 2001-2003, data is based on 33 states and US dependent areas with confidential name-based HIV infection reporting, *CDC HIV/AIDS Surveillance Report, 2005*. For years 2004-2007, data is based on 34 states and 5 US dependent areas with confidential name-based HIV infection reporting, *CDC HIV/AIDS Surveillance Report, 2007*.
Gay Men's Health Crisis. *Growing Older With the Epidemic: HIV and Aging*. 2010.

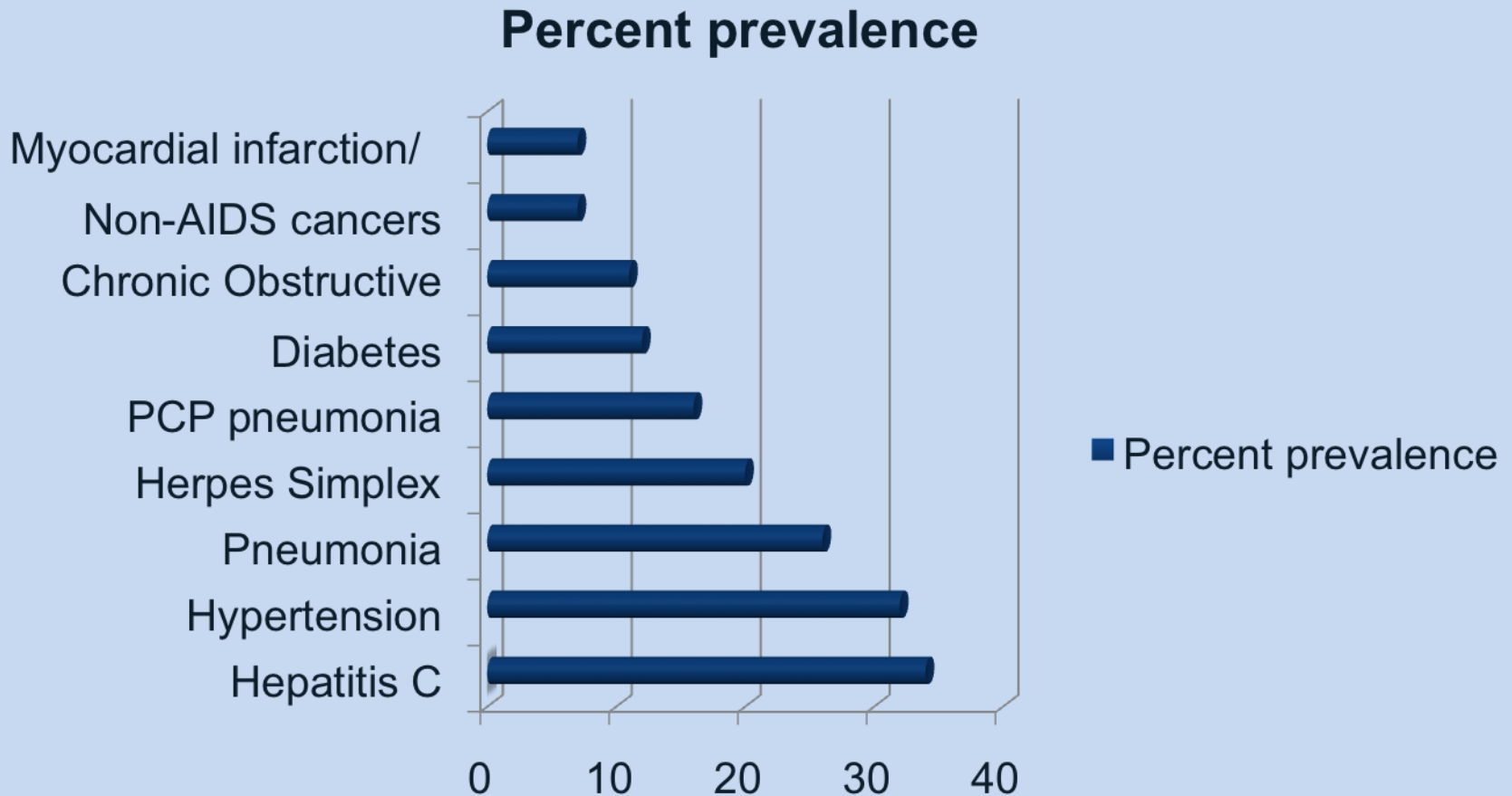
Cause of Death in HIV



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



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

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

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

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

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

Adapted from table 6: Aberg J A et al. Clin Infect Dis. 2009;49:651-681



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

Intervention	Recommendation	Comments
Cervical pap smear	Annually in all women after 2 normal paps in the first year	More frequent in history of ASCUS or dysplasia
Bone densitometry*	Baseline exam in postmenopausal women > age 65, consider in >age 50 with >1 risk factor for premature bone loss	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
Abdominal ultrasound	Once in men aged 65-75 who have ever smoked	Screening test for abdominal aortic aneurysm
Patient education	Address regularly in all patients	Issues may include sexual behavior and drug counseling, dietary teaching, weight reduction, smoking cessation, and seat belt use

* 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

Adapted from table 6: Aberg J A et al. Clin Infect Dis. 2009;49:651-681



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

INDICATION▶	Pregnancy	Immunocompromising conditions (excluding human immunodeficiency virus [HIV]) ^{3,5,6,13}	HIV infection ^{3,6,12,13} CD4 ⁺ T lymphocyte count		Diabetes, heart disease, chronic lung disease, chronic alcoholism	Asplenia ¹² (including elective splenectomy) and persistent complement component deficiencies	Chronic liver disease	Kidney failure, end-stage renal disease, receipt of hemodialysis	Health-care personnel
			<200 cells/ μ L	\geq 200 cells/ μ L					
Influenza ^{1,*}	1 dose TIV annually								1 dose TIV or LAIV annually
Tetanus, diphtheria, pertussis (Td/Tdap) ^{2,*}	Td	Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 years							
Varicella ^{3,*}	Contraindicated		2 doses						
Human papillomavirus (HPV) ^{4,*}	3 doses through age 26 years								
Zoster ⁵	Contraindicated		1 dose						
Measles, mumps, rubella ^{6,*}	Contraindicated		1 or 2 doses						
Pneumococcal (polysaccharide) ^{7,8}	1 or 2 doses								
Meningococcal ^{9,*}	1 or more doses								
Hepatitis A ^{10,*}	2 doses								
Hepatitis B ^{11,*}					3 doses				

* 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

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 are 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 infection^{3 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 Virus.J. 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.

Aberg J A et al. Clin Infect Dis. 2009;49:651-681

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

