


18th Annual
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of the Florida/Caribbean AIDS Education and Training Center

May 1-2, 2009
Orlando, FL

Nursing Management of the HIV Client

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Disclosure of Financial Relationships

**This speaker has no significant financial relationships with
commercial entities to disclose.**

**This slide set has been peer-reviewed to ensure that there are
no conflicts of interest represented in the presentation.**

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HIV Nursing

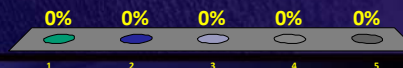
- There are a variety of HIV clinic settings, each operating differently to achieve the same goal of providing excellent patient care
- The functions of the nurse are usually defined by the clinic setting operations
- Often the nurse wears more than one hat throughout the day



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How long have you been working in an ambulatory HIV care setting?

1. Less than 1 year
2. More than 1 year but less than 3 years
3. More than 3 years but less than 5 years
4. More than 5 years
5. Not working in ambulatory setting



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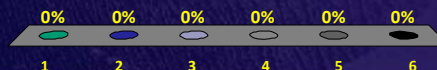
The Nurse Has a Critical Role

- Anticipating the needs of the client and the requests of the medical provider/clinician
- Organizing, coordinating, providing, and tracking activities involving health maintenance and improvement
- Disease prevention focus through screening, monitoring, immunizing, and educating
- Tracking elements of care for variety of required reporting (Quality, Ryan White)

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What volume of active clients best describes the clinic where you work?

1. More than 1000 active clients
2. 500 to 1000 active clients
3. 200 to 500 active clients
4. 100 to 200 active clients
5. 50 to 100 active clients
6. less than 50 active clients



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Nursing Intake Assessment

- HIV history, aspects of prior care, client's knowledge and understanding of their disease, adherence
- Psychosocial and behavioral health information
- History of other medical conditions/illnesses and medications to treat them
- Vital signs and **baseline/entry to care testing/screening**

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Nursing Intake Assessment

- Determine funding/insurance coverage
- Obtain consents and release of information, contact information to request records
- Expectations, access, "Clinic Rules", establish next appointment, start referrals (CM, eligibility, ADAP, prenatal care, etc.)
- Opportunity for education and initiate action plans

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Baseline/Entry to Care Laboratory Tests/Screens

- HIV antibody test (Western blot)
- Absolute CD4 cell count/CD4%
- Plasma HIV RNA- Viral Load (VL)
- Complete Blood Count (CBC) with differential and platelet count
- Chemistry/Comprehensive Metabolic Panel (CMP)
- Fasting Lipid Panel and serum Glucose

Guidelines for Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents; revised November 3, 2008, Baseline Evaluation, page 4; and Table 3, page 6



Baseline/Entry to Care Laboratory Tests/Screens

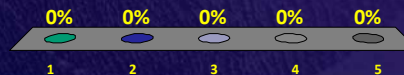
- Hepatitis A, B, and C serologies
- Syphilis serology- (RPR, VDRL)
- Anti-Toxoplasma gondii IgG
- Urinalysis
- Mycobacterium tuberculosis (MTB) w/TB skin test (TST) or interferon gamma release assay (IGRA) blood test
- HIV Resistance Test (genotype)
- Pap smear for women

Guidelines for Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents; revised November 3, 2008, Baseline Evaluation, page 4; and Table 3, page 6



Why is resistance testing important at baseline/entry to care?

1. Drug resistant virus can be transmitted from one person to another
2. Results of resistance tests may be helpful when determining antiretroviral therapy
3. Wild-type virus will overgrow resistant virus over time, and testing will be less sensitive in detecting acquired resistance
4. A and C only
5. All of the above



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HIV Resistance Testing

- At baseline/entry to care; during or shortly after primary infection; in ART naïve clients before initiating therapy; in clients infected 2 or less years
- For clients on therapy experiencing treatment failure or incomplete viral suppression (VL>1000)

Primary Care Guidelines for HIV, Clinical Infectious Diseases 2004;39, 1 September, page 616
Mountain Plains AIDS Education & Training Center Sourcebook for the Primary Care Provider
2009, pages 11-12; www.mpaetc.org

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HIV Resistance Testing

- Genotypic testing– identifies mutations in the genetic code of HIV that are associated with known drug resistance
- Phenotypic testing- determines if the client's HIV can replicate in the presence of specific antiretroviral drugs (like antibiotic sensitivity tests)

Mountain Plains AIDS Education & Training Center Sourcebook for the Primary Care Provider
2009, pages 11-12; www.mpaetc.org

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Prepare the Medical Record

- Nursing Initial Intake Assessment
- Problem List
- Health Maintenance tracking sheet
- Medication Administration Record (MAR)
- Document pharmacy contact and *Allergies*
- Records from previous providers
- Results of *baseline/entry to care lab tests and screening*

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Information from Baseline/Entry to Care Lab Tests/Screens

- Confirms HIV infection and current HIV disease status, need for prophylaxis
- Evidence/presence of:
 - other infectious processes
 - anemia, leukopenia, neutropenia, thrombocytopenia
 - co-morbid conditions: cardiovascular, endocrine, renal, hepatic diseases
 - co-infection or status of immunity
 - risk behavior with presence of STIs
 - active or latent disease status
 - inherited resistant mutations

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Ongoing HIV Nursing Management

- Follow up appointments, adherence
- Triage, referrals, case management
- Routine/annual lab and screening tests
- Additional labs and screening when clinically indicated
- Disease prevention with immunization, treatment, or education/counseling
- Annual assessments, history & physical exam, other health maintenance exams

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Monitoring Routine Lab Tests

- CD4 cell count/CD4%
- VL
- CBC
- CMP

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Frequency for Monitoring Routine Lab Tests

- Every 3-6 months before starting ART
- Before starting or switching ART
- 2-8 Weeks after starting ART (4 weeks)
- Routine follow up every 3-6 months (quarterly)
- When there is treatment failure
- When clinically indicated

Table 3 Laboratory Monitoring for Patients Prior to and After Initiation of Antiretroviral Therapy;
DHHS Guidelines; November 3, 2008

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Monitoring Other Routine Lab Tests

- Fasting Lipid Panel
- Fasting Serum Glucose
- Urinalysis

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Monitoring Other Routine Lab Tests

- Fasting Lipid Panel: before starting or changing ART; every 6 months with borderline abnormalities; annually if results are within normal limits
- Fasting Serum Glucose: before starting or changing ART; every 3-6 months with borderline abnormalities; annually if results are within normal limits

Table 3 Laboratory Monitoring for Patients Prior to and After Initiation of Antiretroviral Therapy; DHHS Guidelines; November 3, 2008

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Monitoring Other Routine Lab Tests

- Urinalysis: before starting or changing ART, every 6 months with any renal disease (HIV Associated Nephropathy), annually if results are within normal limits and on tenofovir

Table 3 Laboratory Monitoring for Patients Prior to and After Initiation of Antiretroviral Therapy; DHHS Guidelines; November 3, 2008

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Routine Screening Tests

- Hepatitis serologies
- Syphilis serology
- Chlamydia/Gonorrhea (**encouraged**)
- Anti-toxoplasma gondii IgG
- Mycobacterium tuberculosis (MTB) – TST or IGRA; unless positive history
- Fecal Occult Blood Test (FOBT)

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Monitoring Routine Screening Tests

- Hepatitis A- Total, once at entry to care, if positive do nothing;
-if HAAb total is negative, plan to immunize
- Hepatitis B- HBsAb, HBsAg screen, HBcAb total; once at entry to care; immunization not indicated if HBsAB+, or active B infection (HBsAg+, or HBcAb+ with evidence of HBV activity);
-if HBsAb negative, plan to immunize

HIV CareLink, Volume 9-Issue 2, January 18, 2008 at www.FAETC.org/Newsletter
AETC-National AIDS Education and Training Centers National Resource Center at <http://aidsetc.org>



Monitoring Routine Screening Tests

- Hepatitis C: once for baseline at entry to care; if positive, anticipate disease staging with HCV Viral Load (HCV VL), and then HCV genotype; (liver biopsy may be considered later)
- no immunization for Hepatitis C
- if negative, without risk factors, need to provide prevention education and screen if clinically indicated
- if negative, with risk factors, provide prevention education and consider screening annually



CDC Training Site on Hepatitis Serology

www.cdc.gov/hepatitis/Resources/Professionals/Training/Serology/training.htm#one

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Monitoring Routine Screening Tests

- Syphilis –(RPR/VDRL)-with confirmatory test for positive results; annually; every 3 months for clients with reported high-risk behavior
- Urine test for Chlamydia and Gonorrhea-**(encouraged)** annually, more frequent with high risk behavior
- Prevention with Positives education

Table 3 Laboratory Monitoring for Patients Prior to and After Initiation of Antiretroviral Therapy; DHHS Guidelines; November 3, 2008

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Monitoring Routine Screening Tests

- Anti-toxoplasma gondii: (IgG vs. IgM) baseline at entry to care; test for latent infection; when CD4 <100 and client unable to take trimethoprim-sulfamethoxazole prophylaxis for *Pneumocystis jirovecii* (formerly *carinii*) pneumonia; if negative results, educate on prevention- food preparation/pets

Primary Care Guidelines for HIV, Clinical Infectious Diseases 2004:39, 1 September, page 618



Monitoring Routine Screening Tests

- Mycobacterium tuberculosis (MTB): baseline/at entry to care and annually if no prior history of TB or positive test; TST or IGRA blood test
- Induration (not erythema) ≥ 5 mm considered positive, false negatives in immunocompromised- repeat when CD4 increases
- Prompt f/u CXR and evaluation for MTB suspect (S&S symptomatic-persistent cough, sweats, etc.)

Table 3 Laboratory Monitoring for Patients Prior to and After Initiation of Antiretroviral Therapy; DHHS Guidelines; November 3, 2008
Primary Care Guidelines for HIV, Clinical Infectious Diseases 2004:39, 1 September, page 617



Monitoring of Routine Screening Tests

- Fecal Occult Blood Test (FOBT): 2009 US Prevention Services Task Force recommends adults ages 50-74 be screened annually with high-sensitivity FOBT; every 10 years with colonoscopy (more frequent with abnormal findings); or every 5 years with flexible sigmoidoscopy plus interval high-sensitivity FOBT

Accessed 2/25/09: www.medscape.com/viewarticle/588361?sssdmh=dml.432286&src=nldne

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Monitoring Non-Routine Screening Test

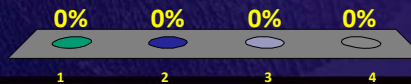
- Cytomegalovirus (CMV): (IgG vs. IgM) at baseline/entry to care; test for latent infection, (high risk population- men having sex with men or injection drug users)

Primary Care Guidelines for HIV, Clinical Infectious Diseases 2004:39, 1 September, page 618

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Guidelines for performing Pap smears for HIV-infected women are...?

1. Baseline, then annually if negative results
2. Baseline, then every other year if negative results
3. Baseline, repeat once in 6 months, then annually after two consecutive negative results
4. Baseline, then repeat every 6 months if negative results and if sexually active



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Monitoring Routine Screening Tests for Women ♀

- Cervical Pap, Pelvic Exam and DRE: baseline/at entry to care, repeat in 6 months, then annually after 2 consecutive negative Paps; refer clients with abnormal findings for colposcopy
- Mammogram: annually after age 40, consider starting earlier in women with strong family history of breast cancer
- Clinical Breast Exam: annually, either at time of Pap or at annual physical exam

Primary Care Guidelines for HIV, Clinical Infectious Diseases 2004;39, 1 September, page 620; and New York State Department of Health AIDS Institute: <http://hivguidelines.org>

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Monitoring Routine Screening Tests for Men

- Genital and DRE: at baseline/entry to care and annually with physical exam
- PSA: annually at age 50, earlier if known risks
- Testosterone levels: as clinically indicated for hypogonadism, free & total, especially with advanced HIV disease (S&S: fatigue, weight loss, loss of libido or ED, or depressive symptoms)

Primary Care Guidelines for HIV, Clinical Infectious Diseases 2004;39, 1 September, page 619

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Special Screening Tests

- Pregnancy Test – efavirenz / and when clinically indicated
- HLA-B*5701 – before starting abacavir / abacavir combination drugs
- Coreceptor Tropism Assay - (CCR5/CXCR4/DM) –when CCR5 inhibitor, maraviroc, is being considered
- Anal Pap - controversy continues, alternative: digital rectal exam

Table 3 Laboratory Monitoring for Patients Prior to and After Initiation of Antiretroviral Therapy; DHHS Guidelines; November 3, 2008

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Special Screening Tests

- G6PD- Glucose-6-phosphate dehydrogenase test for genetic condition of G6PD deficiency that predisposes to hemolysis following exposure to oxidant drugs such as dapsons, primaquine, and sulfonamides.
- Can have minimal to life-threatening effect
- Predominantly in men: Black, or from the Mediterranean, India, or SE Asia
- Screen at baseline or before initiation of the above therapies

Primary Care Guidelines for HIV, Clinical Infectious Diseases 2004;39, 1 September, page 617

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Vaccines/Immunizations

- Prevent infectious diseases
- Best response when CD4 cell count is > 200
- Some vaccinations can lead to transient elevations in VL
- **Most live vaccines are contraindicated** and should only be administered in certain circumstances, consider this with household contacts being immunized

HIV CareLink, Volume 9-Issue 2, January 18, 2008 at www.FCAETC.org/Newsletter

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Vaccines/Immunizations

- Hepatitis A - 2 injections (at 0, repeat at 6-12 months)
- Hepatitis B - 3 injections (at 0, at 1 month, and 6 months); test for conversion/ antibodies 1 month after last injection, if HBsAb low (<10mIU/mL) repeat dose series; some clinicians recommend double-dose (40ug/ml) injections of Hep B for immunocompromised

AETC-National AIDS Education and Training Centers National Resource Center at <http://aidsetc.org> and HIV CareLink, Volume 9-Issue 2, January 18, 2008 at www.FCAETC.org/Newsletter

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Do you use the combined Hepatitis A and B vaccine (Twinrix®) in your clinic setting?

1. Yes
2. No



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Vaccines/Immunizations

- **Combination of A&B (Twinrix®)** – same administration as for Hepatitis B (0, 1, 6), test for conversion 1 month after the last injection
- Some debate use of the combined vaccine with immunocompromised population—related to the Hep B dose; **no definitive information available at this time**

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Vaccines/Immunizations

- Influenza – Annually (usually September through February, or until May) most effective with CD4>100
- Pneumococcal – Once, can give if CD4 <200 and repeat when CD4 >200 d/t ART; administer a one-time revaccination after 5 years
- Tetanus-Diphtheria (Td)- Once, then booster every 10 years; or, if injured, after 5 years

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Vaccines/Immunizations

- Tetanus, diphtheria, and acellular Pertussis (Tdap) - Once in adults <age 65, and as soon as two years after last Td vaccine; consider Tdap for next Td booster
- Human papillomavirus (HPV)- 3 injections (at 0, 2, and 6 months) only females (presently), ages 9-26 and preferably before the first sexual encounter

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Primary Care Guidelines for HIV, Clinical Infectious Diseases 2004;39, 1 September, page 619; and New York State Department of Health AIDS Institute: <http://hivguidelines.org>



Vaccines/Immunizations

- Measles, Mumps, Rubella (MMR)- 1 to 2 doses for those who have not had prior vaccination; **contraindicated** with CD4<200
- Varicella (VZV)- 2 doses; for adults with no prior evidence of infection or vaccination; US borne prior to 1980 expected to be immune but need confirmation screening; **contraindicated** with CD4<200

AETC-National AIDS Education and Training Centers National Resource Center at <http://aidsetc.org> and HIV CareLink, Volume 9-Issue 2, January 18, 2008 at www.FAETC.org/Newsletter



Coordination of Other Annual Activities

- Complete History & Physical Exam
- Risk Assessment (smoking, alcohol, illicit drug use, sexual activity, birth control, domestic violence, depression, support systems, funding/resources, nutrition & exercise, advance directives, etc.)
- Dental Exam - annually, (prophylaxis every 6 months)
- Vision Exam - annually by eye care specialist; when CD4 <100, every 6 months

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Multi-tasking and Keeping Up



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**How do you manage and track
all these activities?**

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Tools To Help Stay On Track

- FC AETC- Best Picks
www.faetc.org/Chart_Tools/Chart_Files/AETC_Best_Picks_02_13_08.doc
- Snap Shot Guide
- CDC Vaccination Guidelines 2009
- Other

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Super HIV Nurse



“Faster than a speeding bullet...

More powerful than a locomotive...

Able to leap tall buildings at a single bound...”

Yes, it's the Super HIV Nurse, “with powers and abilities far beyond those of mortal men.”



<http://supermantv.net/superman/suphistory.htm>

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Resources

- Mountain Plains-AETC: www.mpaetc.org
- F/C AETC: www.FCAETC.org (Best Picks)
- F/C AETC HIV CareLink: www.FCAETC.org/Newsletter
- National AETC Resource Center: www.aidsaetc.org
- Florida Department of Health
www.doh.state.fl.us/Disease_Ctrl/aids/care/Appendix.pdf
- American Cancer Society: Cervical Cancer Prevention and Early Detection:
www.cancer.org/docroot/CRI/content/CRI_2_6x_cervical_cancer_prevention_and_early_detection_8.asp?sitearea=PED

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Resources

- DHHS Guidelines:
<http://www.aidsinfo.nih.gov/Guidelines/>
- CDC: www.cdc.gov and www.cdc.gov/tb.gov
- Primary Care Guidelines- IDSA:
www.idsociety.org/Content.aspx?id=5936
- New York State Department of Health AIDS Institute:
<http://hivguidelines.org/Content.aspx>
- HIV and Hepatitis: www.hivandhepatitis.com/
- ANAC's Core Curriculum for HIV/AIDS Nursing (Second Edition)
- 2007 Medical Management of HIV Infection; J.Bartlett MD and G. Gallant MD