



**19<sup>th</sup> Annual HIV CONFERENCE**  
May 14-15, 2010 • Orlando, FL

# Designing the First Regimen

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This speaker has the following significant financial relationships with commercial entities to disclose:

- **Speaker's Bureau**
  - Gilead Sciences
  - ViiV Healthcare
  - Bristol-Myers Squibb
  - Virco Lab
  - Tibotec Therapeutics

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



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## Objectives

- Clarify issues that must be taken into account to assure successful initiation of the first ARV regimen
- Cite patient and drug factors that should be considered when planning first-line antiretroviral therapy
- Summarize data related to when to start therapy and which agents to use
- Incorporate published treatment guidelines into clinical practice



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## Introduction

- HIV infection is a chronic incurable disease
- Once patients start ARV therapy it is likely that they will need to stay on therapy for their lifetime
- Adherence to ARV therapy is critical for long-term success
- Each patient is different
  - Individualized approach should be planned with each client

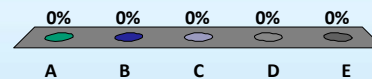


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## What resources do you use to make HIV treatment decisions?

- A. DHHS Guidelines
- B. IAS-USA Guidelines
- C. Colleague
- D. F/C AETC
- E. Other



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## HIV Treatment Guidelines

- HIV treatment guidelines are regularly reviewed and updated as relevant data become available
- Department of Health and Human Services (DHHS):
  - December 1, 2009
  - <http://www.aidsinfo.nih.gov/guidelines/>
- International AIDS Society (IAS-USA)
  - JAMA. 2008; 300(5): 555-570
  - <http://www.iasusa.org/guidelines>



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# IAS-USA Guidelines

## Antiretroviral Treatment of Adult HIV Infection 2008 Recommendations of the International AIDS Society-USA Panel

**Scott W. Hammer, MD**  
Joseph T. Evans Jr, MD  
Peter Hain, MD, PhD  
Robert T. Schoenly, MD  
Miklós A. Thompson, MD  
Sharon Walmsley, MD  
Pablo Galim, MD  
Margaret A. Fischl, MD  
Joseph W. Griggs, MD, PhD  
Martin S. Hirsch, MD  
Dennis M. Jordan, BS  
John S. C. Koopman, MD  
Douglas D. Richman, MD  
Patrick C. Yess, MD  
Paul A. Volberding, MD

**Content:** The availability of new antiretroviral drugs and formulations, including drugs in new classes, and recent data on treatment choices for antiretroviral-naïve and experienced patients warrant an update of the International AIDS Society-USA guidelines for the use of antiretroviral therapy in adult human immunodeficiency virus (HIV) infection.

**Objectives:** To summarize new data in the field and to provide current recommendations for the antiretroviral management and laboratory monitoring of HIV infection. This report provides guidance in key areas of antiretroviral management, when to initiate therapy, choice of initial regimen, patient monitoring, when to change therapy, and how best to approach treatment options, including optimal use of recently approved drugs (integrase, rilpivirine, and etravirine) in treatment-experienced patients.

**Data Sources and Study Selection:** A 14-member panel with expertise in HIV research and clinical care was appointed. Data published or presented at selected scientific conferences over the last panel report (August 2006 through June 2008) were identified.

**Data Extraction and Synthesis:** Data that changed the previous guidelines were reviewed by the panel (according to section). Candidates were drafted by section writing committees and were then reviewed and edited by the entire panel. Recommendations were made by panel consensus.

**Conclusions:** New data and considerations support retaining therapy before CD4 cell count declines to less than 350 cells/mm<sup>3</sup> in patients with T80 CD4 counts, or more, the decision to begin therapy should be individualized based on the presence of comorbidities, risk factors for progression to AIDS and non-AIDS disease, and patient readiness for treatment. In addition to the prior recommendation that a high plasma viral load (log<sub>10</sub> >10000 copies/mL) and rapidly declining CD4 cell count (<100 copies/year) should prompt treatment initiation, active hepatitis B or C virus coinfection, cardiovascular disease risk, and the associated nephropathy increasingly prompt earlier therapy. The initial regimen must be individualized, particularly in the presence of comorbid conditions, but usually will include starting on a ritonavir-boosted protease inhibitor plus 2 nucleoside reverse transcriptase inhibitors (zidovudine/zalcitabine or zalcitabine/lamivudine). Treatment failure should be identified and managed promptly, with the goal of therapy, even in heavily pretreated patients, being an HIV-1 RNA level below any detection limit.

and potentially allow for a normal life span.  
The rationale for the current update of the 2008 International AIDS Society-USA Panel is provided in the text.

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## 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

**Justin A. Rongji, Jonathan F. Hughes, Michael Williams, Patricia Fernandez, Anne R. Anderson, Michele E. Tracy, James M. Onda, Justin E. Conley, and Joel E. Gallant**

**Evidence-based guidelines for the management of persons infected with human immunodeficiency virus (HIV) were prepared by an expert panel of the HIV Medicine Association of the Infectious Diseases Society of America. These updated guidelines replace those published in 2004. The guidelines are intended for use by health care providers who care for HIV-infected persons or patients who may be at risk for acquiring HIV infection. Since 2004, new antiretroviral drugs and classes have become available, and the prognosis of persons with HIV infection continues to improve. However, with their complications and increased survival, HIV-infected persons are increasingly developing common health problems that also affect the general population. Some of these conditions may be related to HIV infection itself and its treatment. HIV-infected persons should be managed and monitored for all relevant age- and gender-specific health problems. New information based on publications from the period 2003–2008 has been incorporated into this document.**

**SUMMARY OF CHANGES**  
These updated guidelines replace those published in 2004 [1]. The following general changes have been made to the document since the previous publication:

- Formatting changes have been incorporated to help readers easily identify the recommendations. Each section begins with a specific question and is followed by numbered recommendations and a brief evidence-based summary.
- Tables on immunization and routine health care maintenance issues have been added.
- Many other human immunodeficiency virus (HIV)-related guidelines have been updated, as have our recommendations that are based on other clinical guidelines.

Specific changes and/or additions are as follows:

- There is an expanded list of diagnostic HIV tests.
- All HIV-infected patients should have a genotype.

It is important to make the guideline cover changes across to relevant clinical settings. This can be achieved by regular updates. The HIV Medicine Association of the Infectious Diseases Society of America continues to have a strong commitment to the HIV Medicine Association of the Infectious Diseases Society of America. All rights reserved.

2008

2009

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# Individualizing Care

- **Recruit the active participation of the patient (and others) in treatment decisions**
  - More likely to adhere to therapy
- **Topics to discuss**
  - When to start treatment
  - Dosing frequency
  - Pill burden
  - Schedule: work, school, play
  - Strategies for managing adverse events

Adapted from US Department of Health and Human Services Guidelines; Revised December 1, 2009.

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## When to Start ARV Therapy

- **Pendulum of when to start has been pushed back and forth**
- **Decision to start therapy involves weighing the risks and benefits**
- **No controlled, prospective study comparing early and deferred therapy**
- **Current recommendations guided primarily from observational cohort data**
  - Greater risk of conditions not traditionally associated with HIV infection, such as CV disease, liver disease, and non-AIDS-defining malignancies

Gallant, JE. *AIDS Reader*. 2009;19:49-50, 61



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## When to Start ARV Therapy

- **Initiating therapy earlier:**
  - Growing evidence of benefit
  - Declining risks of therapy
  - ARV therapy today is more effective, better tolerated, less toxic, more convenient, and more forgiving of imperfect adherence than earlier regimens
  - Second-generation agents and drugs in new classes offer multiple sequencing steps for patients whose early lines of therapy still fail

Gallant, JE. *AIDS Reader*. 2009;19:49-50, 61



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## When to Start ARV Therapy

- When the **patient is ready** to start
- Treatment guidelines' recommendations
- Clinical status
- Funding / financial status
- Presence or absence of comorbid conditions



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## Conditions Favoring More Rapid Initiation of Therapy

- Pregnancy (A-I)
- AIDS-defining conditions (A-I)
- Acute opportunistic infections
- Lower CD4 counts (e.g. <200 cells/mm<sup>3</sup>) (A-I)
- Rapidly declining CD4 counts (e.g. > 100 cells/mm<sup>3</sup> decrease per year) (A-III)
- Higher viral load (e.g. >100,000 copies/mL) (B-II)
- HIV-associated nephropathy (A-II)
- HBV coinfection when treatment for HBV is indicated (A-III)

Adapted from US Department of Health and Human Services Guidelines; Revised December 1, 2009.



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## DHHS Guidelines: Recommendations for Initiation of ART in Naïve Patients

December 1, 2009

| Clinical Category     | CD4 Cell Count (cells/mm <sup>3</sup> ) | 2009 DHHS Guidelines | Strength-Quality         |
|-----------------------|---|----------------------|--------------------------|
| AIDS-defining illness | Any value                               | Treat                | A-I                      |
| Asymptomatic          | <350                                    | Treat                |                          |
|                       | 350 to 500                              | Treat                | A/B-II: 55% A vs. 45% B  |
|                       | >500                                    | Treat/Optional       | B/C-III: 50% B vs. 50% C |

*Strength of Recommendation: A = Strong; B = Moderate; C = Optional*

*Quality of Evidence for Recommendation: I = data from randomized controlled trials; II = data from well-designed nonrandomized trials or observational cohort studies with long-term clinical outcomes; III = expert opinion*

Available at: <http://www.aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf>



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## DHHS Guidelines: Recommendations for Initiation of ART in Naïve Patients

December 1, 2009

| Clinical Category   | CD4 Cell Count (cells/mm <sup>3</sup> ) | 2009 DHHS Guidelines | Strength-Quality |
|---|---|----------------------|------------------|
| Pregnancy, HIV-associated nephropathy, HIV/HBV when HBV treatment indicated | Any value                               | Treat                | A-III            |

Available at: <http://www.aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf>



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## IAS-USA Guidelines: Recommendations for Initiation of ART in Naïve Patients

*August 6, 2008*

| Clinical Category        | CD4 Cell Count (cells/mm <sup>3</sup> ) | 2008 IAS-USA Guidelines              |
|--------------------------|---|--------------------------------------|
| AIDS-defining illness    | Any value                               | Treatment Recommended                |
| Asymptomatic HIV disease | <350                                    | Treatment Recommended                |
|                          | ≥ 350                                   | ARV Therapy should be individualized |

International AIDS Society (IAS-USA) JAMA. 2008; 300(5): 555-570



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## Factors to Consider Before Starting Therapy

- **Primary drug resistance**
- **Dosing regimen and its anticipated effect on adherence**
- **Short and long term tolerability and safety**
- **Co-morbid conditions:**
  - Hepatic, renal, CV disease
  - Psychiatric conditions
  - Tuberculosis
- **Potential adverse drug effects**
- **Plans for pregnancy or pregnancy potential**
- **Coreceptor tropism assay if considering maraviroc**

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## Factors to Consider: Individualizing Care

| ARV Factors                  | Patient Factors               |
|------------------------------|-------------------------------|
| Baseline drug susceptibility | Readiness to start and adhere |
| Tolerability                 | Baseline CD4+ cell count      |
| Long-term toxicity           | Age                           |
| Drug interactions            | Gender                        |
| Dosing frequency             | Occupation                    |
| Pill burden                  | Access to care                |
| Pharmacokinetics             | Adherence to other meds       |
| Cost                         | Insurance status/copays       |

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## Importance of Adherence

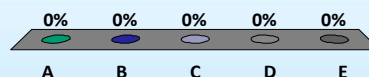
“The key determinant in the degree and duration of virologic suppression”

Adapted from US Department of Health and Human Services Guidelines; Revised December 1, 2009.


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## Which of the following is the most important predictor associated with ARV success?

- A. Medication adherence
- B. Potency of ARV agents
- C. Lowest pill burden
- D. Once daily dosing
- E. RTV boosting



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## Predictors of Poor Adherence

- Active substance use (drug and/or alcohol)
- Mental illness or cognitive impairment
- Adverse effects associated with treatment
- Stigma related to HIV- infection
- Homelessness or unstable life circumstances

The antiretroviral therapy cohort collaboration. Prognosis of HIV-1-infected patients up to 5 years after initiation of HAART: collaborative analysis of prospective studies. AIDS. 2007; 21:1185-1197

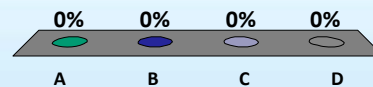


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## What level of adherence is associated with the best treatment outcome?

- A. 95%
- B. 80%
- C. 50%
- D. None of the above



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## Strategies to Improve Adherence

- Multidisciplinary team effort
- Establish readiness to start therapy
- Establish trust
- Identify specific barriers to adherence
- Involve patient and family/support
- Assess adherence at every visit
- Identify reason for nonadherence

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## Monitor and Assess Adherence

- **How many doses did you miss...**
  - in the last 3 days?
  - in the last week?
  - in the last month?
- **Offer support, pill boxes, counseling, watches and cell phones with alarms**
- **Enlist ADAP and pharmacy staff to assist with monitoring**
- **Recognize and praise good adherence**



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## Treatment Goals

- **Maximally and durably suppress plasma HIV viral load**
- **Reduce HIV-associated morbidity and prolong survival**
- **Improve quality of life**
- **Restore and preserve immunologic function**
- **Prevent HIV transmission**
- **Reduction in HIV-associated inflammation and its associated complications**

Adapted from US Department of Health and Human Services Guidelines; Revised December 1, 2009.



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## Strategies to Achieve Treatment Goals

- **Selection of initial combination**
  - Several preferred and alternative regimens recommended for use
  - Tailor regimen to maximize adherence
- **Pretreatment drug resistance testing**
  - Optimize regimen if resistance is present
- **Improving (optimizing) adherence**
  - Patient and others to participate
  - Simplified regimens can be a key driver of patient adherence

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## Baseline HIV Resistance Testing

- **Genotype testing when first diagnosed with HIV infection, regardless of whether therapy is likely to be initiated promptly**
  - Provides best chance of detecting any transmitted drug resistance mutations
  - As time passes, detection becomes less likely
- **Early RT provides a record of all resistant variants:**
  - Treatment can be selected appropriately when needed
  - Important to record all resistant variants
- **When therapy is deferred, additional resistance testing should be considered prior to starting HAART**
- **Integrase resistance testing is commercially available (phenotype and genotype)**

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## Variant, Atypical, and Resistant HIV Surveillance System (VARHS)

- Established by CDC
- HIV specimens from newly diagnosed tested for drug-resistance mutations
- Goal: determine of the scope and type of resistance in the US
- Genotypic testing
- Many states participating

Wheeler W, Mahle K, Bodnar U, et al. Antiretroviral drug-resistance mutations and subtypes in drug-naïve persons newly diagnosed with HIV-1 infection, United States, March 2003 to October 2006 [Abstract 648]. 14th CROI, 2007.

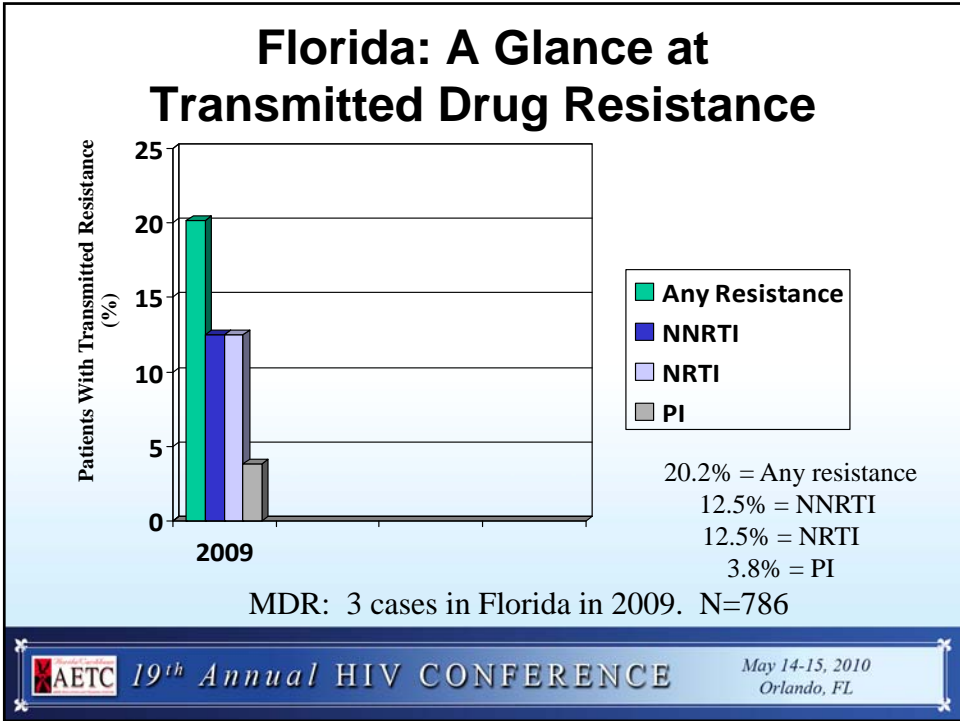


## One in 10 Infected with Drug-Resistant HIV

- 3,130 individuals from 409 sites in 11 states
- Diagnosed with HIV between Jan 03 and Oct 06
- 10.4% had evidence of resistance to at least one drug
  - NNRTIs: 6.9%
  - NRTIs: 3.6%
  - PIs: 2.4%
  - MDR: 1.9% (1.4% with 2 class, 0.5% 3 class)

Wheeler W, Mahle K, Bodnar U, et al. Antiretroviral drug-resistance mutations and subtypes in drug-naïve persons newly diagnosed with HIV-1 infection, United States, March 2003 to October 2006 [Abstract 648]. 14th CROI, 2007.





## HLA-B\*5701 Allele Testing

- **Specific human genetic variation known as HLA-B\*5701 is associated with susceptibility to abacavir hypersensitivity**
- **Genetic assay for HLA-B\*5701 can accurately predict which patients are at risk for hypersensitivity**
- **Often obtained with baseline laboratory testing on newly diagnosed patients or when considering an abacavir-containing treatment regimen**
- **Positive HLA-B\*5701 result or clinically suspect HSR should be documented as an allergy in the patient's record**
- **Screening for the HLA-B\*5701 allele has decreased hypersensitivity risk**

Abacavir package insert. [http://us.gsk.com/products/assets/us\\_ziagen.pdf](http://us.gsk.com/products/assets/us_ziagen.pdf).

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## Long-Term Success With Initial Regimens

|                 |   |
|-----------------|---|
| <b>Patient</b>  | <ul style="list-style-type: none"> <li>•Social: age, nutrition, psychosocial status</li> <li>•Stage of disease</li> <li>•Access to care</li> <li>•Medication adherence</li> <li>•Comorbidities: CV, HBV, HCV, nutrition, renal</li> </ul> |
| <b>Regimen</b>  | <ul style="list-style-type: none"> <li>•Potency</li> <li>•Adverse effects</li> <li>•Convenience</li> <li>•Long-term toxicity</li> </ul>   |
| <b>Virus</b>    | <ul style="list-style-type: none"> <li>•Viral load</li> <li>•Resistance</li> </ul>  |
| <b>Provider</b> | <ul style="list-style-type: none"> <li>•Expertise</li> </ul>  |



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## NNRTI-Based Regimens (EFV) *First Line Therapy*

| Advantages                                    | Disadvantages  |
|---|--|
| Proven efficacy in multiple clinical trials   | Low genetic barrier to resistance (single mutation)        |
| Low pill burden                               | Cross-resistance between 1 <sup>st</sup> generation NNRTIs |
| EFV co-formulated into only 1 pill QD regimen | Higher risk of NRTI resistance with NNRTI failure          |
| Long half-life                                | Rash, hepatotoxicity, teratogenicity                       |
| Less metabolic toxicity than with some PIs    | CNS adverse effects  |
| PI options retained for later use             | Potential drug interactions (CYP450)                       |

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## Boosted PI Based Regimens *First Line Therapy*

| Advantages  | Disadvantages  |
|---|--|
| Higher genetic barrier to resistance                  | Metabolic complications and GI intolerance with some PIs and/or low-dose RTV |
| Failure: resistance to PI is less common              | Potential drug interactions (CYP450)   |
| Lower risk of NRTI resistance with boosted PI failure | Some PIs associated with CV disease independent of metabolic abnormalities   |
| CD4 cell count increase generally greater             | Higher cost; additional copayments with RTV dose                             |
| NNRTI option available for later use                  | Higher pill burden than with EFV-based regimens                              |
|   | Only one product co-formulated with RTV                                      |

Adapted from US Department of Health and Human Services Guidelines; Revised December 1, 2009.



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## DHHS Treatment Guidelines *ARV Regimen Classification*

|   |
|---|
| <p><b>Preferred</b></p> <ul style="list-style-type: none"> <li>•Optimal and durable efficacy</li> <li>•Favorable tolerability and toxicity profile</li> <li>•Ease of use</li> </ul>   |
| <p><b>Alternative</b></p> <ul style="list-style-type: none"> <li>•Effective and tolerable</li> <li>•Potential disadvantages compared with preferred agents</li> <li>•An alternative regimen may be a preferred regimen for some patients</li> </ul> |
| <p><b>Acceptable</b></p> <ul style="list-style-type: none"> <li>•May be selected for some patients but are less satisfactory than preferred or alternative</li> </ul>   |

Adapted from US Department of Health and Human Services Guidelines; Revised December 1, 2009.



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## ARV Regimens (DHHS)

|                      |  |
|----------------------|--|
| Preferred Regimens   | <ul style="list-style-type: none"> <li>• EFV/TDF/FTC</li> <li>• ATV/r + TDF/FTC</li> <li>• DRV/r (once daily) + TDF/FTC</li> <li>• RAL + TDF/FTC</li> </ul> [Pregnant Women Only: LPV/r (twice daily) + ZDV/3TC]   |
| Alternative Regimens | <ul style="list-style-type: none"> <li>• EFV + (ABC or ZDV)/3TC</li> <li>• NVP + ZDV/3TC</li> <li>• ATV/r + (ABC or ZDV)/3TC</li> <li>• FPV/r (once or twice daily) + either [(ABC or ZDV)/3TC1] or TDF/FTC</li> <li>• LPV/r (once or twice daily) + either [(ABC or ZDV)/3TC1] or TDF/FTC</li> <li>• SQV/r + TDF/FTC</li> </ul> |
| Acceptable Regimens  | <ul style="list-style-type: none"> <li>• EFV + ddi + (3TC or FTC)</li> <li>• ATV + (ABC or ZDV)/3TC</li> </ul>   |
| Insufficient Data    | <ul style="list-style-type: none"> <li>• MVC + ZDV/3TC</li> <li>• RAL + (ABC or ZDV)/3TC</li> <li>• (DRV/r or SQV/r) + (ABC or ZDV)/3TC</li> </ul>   |

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## ARV Regimens (DHHS)

|                    |  |
|--------------------|--|
| Preferred Regimens | <ul style="list-style-type: none"> <li>• EFV/TDF/FTC</li> <li>• ATV/r + TDF/FTC</li> <li>• DRV/r (once daily) + TDF/FTC</li> <li>• RAL + TDF/FTC</li> </ul> [Pregnant Women Only: LPV/r (twice daily) + ZDV/3TC] |
|--------------------|--|

### Special Comments

- EFV should not be used in the 1<sup>st</sup> trimester of pregnancy or in women trying to conceive or not using effective and consistent contraception
- ATR/v should not be used in patients who require > 20 mg omeprazole equivalent per day
  - Consider additional dosing recommendations for other acid-lowering agents

Adapted from US Department of Health and Human Services Guidelines; Revised December 1, 2009.



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## Alternative Regimens (DHHS)

|                      |  |
|----------------------|--|
| Alternative Regimens | <ul style="list-style-type: none"> <li>• EFV + (ABC or ZDV)/3TC</li> <li>• NVP + ZDV/3TC</li> <li>• ATV/r + (ABC or ZDV)/3TC</li> <li>• FPV/r (once or twice daily) + either (ABC or ZDV)/3TC or TDF/FTC</li> <li>• LPV/r (once or twice daily) + either (ABC or ZDV)/3TC or TDF/FTC</li> <li>• SQV/r + TDF/FTC</li> </ul> |
|----------------------|--|

### *Special Comments*

- **NVP should not be used:**
  - Patients with moderate to severe hepatic impairment
  - Women with pre-ARV CD4 > 250 cells/mm<sup>3</sup>
  - Men with pre-ARV CD4 > 400 cells/mm<sup>3</sup>
- **ABC:**
  - Should not be used in HLA-B\*5701 positive patients
  - Use with caution in patients with high risk of CV disease or with pretreatment HIV-RNA > 100,000 copies/mL

Adapted from US Department of Health and Human Services Guidelines; Revised December 1, 2009.



## Acceptable Regimens (DHHS)

|                     |  |
|---------------------|--|
| Acceptable Regimens | <ul style="list-style-type: none"> <li>• EFV + ddI + (3TC or FTC)</li> <li>• ATV + (ABC or ZDV)/3TC</li> </ul> |
|---------------------|--|

### *Special Comments*

- **EFV + ddI +(3TC or FTC) has only been studied in small clinical trials**
- **RTV-boosted ATV is generally preferred over ATV**
- **Unboosted ATV may be used when RTV boosting is not possible**

Adapted from US Department of Health and Human Services Guidelines; Revised December 1, 2009.



## ARV Regimens that May be Acceptable (DHHS)

*More Definitive Data are Needed*

|                   |  |
|-------------------|--|
| May be Acceptable | <ul style="list-style-type: none"> <li>• MVC + ZDV/3TC</li> <li>• RAL + (ABC or ZDV) / 3TC</li> <li>• (DRV/r or SQV/r) + (ABC or ZDV) / 3TC</li> </ul> |
|-------------------|--|

### *Special Comments*

- With maraviroc, tropism testing required before treatment. Only patients found to have CCR-5 tropic-only virus are candidates

Adapted from US Department of Health and Human Services Guidelines; Revised December 1, 2009.



## Regimens to be Used with Caution

*Regimens that have demonstrated virologic efficacy in some studies, but have safety, resistance or efficacy concerns*

|                   |   |
|-------------------|---|
| Use With Caution! | <ul style="list-style-type: none"> <li>• NVP + ABC/3TC</li> <li>• NVP + TDF/FTC</li> <li>• FPV + (ABC or ZDV) / 3TC or TDF/FTC</li> </ul> |
|-------------------|---|

### *Special Comments*

- Use NVP and ABC together with caution because both can cause HSR within first few weeks after initiation
- Early virologic failure with high rates of resistance has been seen in patients receiving NVP + TDF + (3TC or FTC)
- FPV/r is generally preferred over unboosted FPV

Adapted from US Department of Health and Human Services Guidelines; Revised December 1, 2009.



## Fixed-Dose NRTIs

| Agent   | Advantages  | Disadvantages   |
|---------|---|---|
| ABC/3TC | High level of efficacy in clinical trials with EFV or boosted PIs | Preferred option only in IAS-USA guidelines                           |
|         | Similar efficacy to TDF/FTC in HEAT regardless of baseline VL     | Potential for HSR   |
|         | ABC HSR can be prevented with HLA-B*5701 testing                  | Inferior response in patients with baseline VL > 100,000 in ACTG-5202 |
|         |   | Associated with increased risk of MI in several cohort studies        |
| TDF/FTC | Preferred option in guidelines                                    | Concern in patients with renal insufficiency                          |
|         | High level of efficacy in clinical trials with EFV or boosted PIs | Long-term nephrotoxicity and tubular toxicity not fully understood    |
|         | Coformulated with EFV as QD regimen                               | Should not be coadministered with certain drugs                       |
|         | Effective in patients with HBV coinfection                        | Bone toxicity   |

Adapted from Postgraduate Institute for Medicine and Clinical Care Options, Weighing the Options for First-line ARV Therapy (2009)



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## Hepatitis Coinfection

- **HIV/HBV:**
  - HAART should contain two agents with anti-HBV activity: TDF, FTC, 3TC
  - Discontinuance of agents: provide coverage for treatment of HBV infection
- **HIV/HCV**
  - When treating HCV, consider potential drug-drug interactions
  - Ribavirin: increases ddl levels
  - ZDV: enhances ribavirin-related anemia
  - d4T: increased risk of lipodystrophy

Adapted from US Department of Health and Human Services Guidelines; Revised December 1, 2009.



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## Case Study: Naïve Patient

- **BC is a 28 year old African American male newly diagnosed with HIV infection**
  - CD4 count: 427 mm<sup>3</sup>
  - VL: 98,450 copies/mL
  - Baseline genotype: K103N, L63P
  - HTN (uncontrolled)
  - Tobacco use: 2 ppd
  - FH: DM Type 2, MI, father died of kidney failure
  - BMI 34



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## Case Study: BC

- **Would you start this patient on HAART?**
- **What agents would you recommend?**
- **Do you have any special concerns related to this patient?**



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## Summary

- **Treatment guidelines provide detailed recommendations related to initiating ARV therapy**
- **Patient readiness to begin therapy is critical**
- **Adherence is the key to overall regimen success**
  - *The drugs don't work in people who don't take them*



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## Disclosure of Financial Relationships

This speaker has the following significant financial relationships with commercial entities to disclose:

- **Speaker's Bureau**
  - Gilead Sciences
  - ViiV Healthcare
  - Bristol-Myers Squibb
  - Virco Lab
  - Tibotec Therapeutics

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



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