CLINICAL MANAGEMENT OF HIV DISEASE
Guidelines for Medical Practitioners
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This Clinical Management of Adult and Adolescent HIV Disease Treatment Guidelines is an update of the 2005 version previously produced by the National HIV/STI programme. The programme acknowledges with thanks the following persons who contributed towards the development of this update:

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<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS</td>
<td>Acquired Immunodeficiency Virus</td>
</tr>
<tr>
<td>ART</td>
<td>Anti-Retroviral Therapy</td>
</tr>
<tr>
<td>CMV</td>
<td>Cytomegalovirus</td>
</tr>
<tr>
<td>CXR</td>
<td>Chest X-Ray</td>
</tr>
<tr>
<td>ELISA</td>
<td>Enzyme Linked Immuno-Sorbent Assay</td>
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<tr>
<td>HAART</td>
<td>Highly Active Antiretroviral Therapy</td>
</tr>
<tr>
<td>HAD</td>
<td>HIV Associated Dementia</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>HSV</td>
<td>Herpes Simplex Virus</td>
</tr>
<tr>
<td>HPV</td>
<td>Human Papilloma Virus</td>
</tr>
<tr>
<td>IUD</td>
<td>Intra-Uterine Device</td>
</tr>
<tr>
<td>LGBT</td>
<td>Lesbian, Gay, Bisexual, Transgender</td>
</tr>
<tr>
<td>MAC</td>
<td>Mycobacterium Avium Complex</td>
</tr>
<tr>
<td>MCMD</td>
<td>Minor Cognitive Motor Disorder</td>
</tr>
<tr>
<td>MSM</td>
<td>Men who have Sex with Men</td>
</tr>
<tr>
<td>NHP</td>
<td>National HIV/STI Programme</td>
</tr>
<tr>
<td>NRTI</td>
<td>Nucleoside Reverse Transcriptase Inhibitor</td>
</tr>
<tr>
<td>NSAID</td>
<td>Non-Steroidal Anti-Inflammatory Drug</td>
</tr>
<tr>
<td>NNRTI</td>
<td>Non-Nucleoside Reverse Transcriptase Inhibitor</td>
</tr>
<tr>
<td>OI</td>
<td>Opportunistic Infection</td>
</tr>
<tr>
<td>PCP</td>
<td>Pneumocystis Pneumonia</td>
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<tr>
<td>Abbreviation</td>
<td>Full Form</td>
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</tr>
<tr>
<td>PCR</td>
<td>Polymerase Chain Reaction</td>
</tr>
<tr>
<td>PHDP</td>
<td>Positive Health, Dignity and Prevention</td>
</tr>
<tr>
<td>PI</td>
<td>Protease Inhibitor</td>
</tr>
<tr>
<td>PID</td>
<td>Pelvic Inflammatory Disease</td>
</tr>
<tr>
<td>PITC</td>
<td>Provider Initiated Testing and Counselling</td>
</tr>
<tr>
<td>PLHIV</td>
<td>People Living with HIV</td>
</tr>
<tr>
<td>PMTCT</td>
<td>Prevention of Mother to Child Transmission</td>
</tr>
<tr>
<td>STI</td>
<td>Sexually Transmitted Infection</td>
</tr>
<tr>
<td>TB</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>TMP/SMX</td>
<td>Trimethoprim/Sulfamethoxazole</td>
</tr>
<tr>
<td>VL</td>
<td>Viral Load</td>
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</tbody>
</table>
The management of HIV is a dynamic and continuously growing field. Responding adequately at a population level requires good multi-sectoral collaboration.

Clinicians need to adopt a holistic approach in comprehensively addressing the needs of individual clients and their families. It is not just the latest CD4 count. Good collaboration amongst all health care providers is critical in linking and retaining patients in quality medical care, addressing psychosocial needs and combating stigma and discrimination.

This new edition of “Guidelines for Medical Practitioners” is a revision of those previously published and represents more detailed and updated information. It comes at a time when we are assessing our capacity to consider recent WHO treatment guideline revisions. Treatment as Prevention holds unquestionable benefit for the country. Institutional strengthening and expansion to improve the “Treatment Cascade” is a prerequisite. Drug Resistance Testing, an exciting strengthening of our capacity, is on the horizon.

The guidelines have relevance for all members of the HIV Care Team, and reflect recent trends and an evidence based approach.

I would like to acknowledge the enormous effort that has gone into making these guidelines relevant to Jamaica, aiming for the highest level of care.

Jeremy Knight
Director
National HIV Programme
SECTION 1:
INTRODUCTION
In the twenty years since the onset of the HIV epidemic, over 47 million people have been infected with the virus worldwide. HIV is now the fourth leading cause of death and the impact of the disease has been especially devastating in the developing world where 95% of the cases are found. In Jamaica, AIDS is the leading cause of death in the 15 to 49 year old age group and is the second leading cause of death in children aged 1 to 4 years. The epidemic has been particularly concentrated among vulnerable populations, with late presentation and opportunistic infection continuing to be significant factors affecting the overall outcomes of patients.

The estimated adult HIV prevalence in 2010 is 1.7% with an estimated 32,000 people infected. The vulnerable populations that have been identified as major contributors to the epidemic include sex workers, men who have sex with men (MSM) and heterosexuals engaging in high risk sexual behaviours accounting for 4.9%, 32.2% and 2.8% respectively. Based on the latest estimates, approximately 50% of all cases are unaware of their status and 50% of those requiring treatment are actually receiving it. However, the National HIV/STI programme (NHP) has made a significant impact on the epidemic exemplified by the decline in new cases of HIV by approximately 25% since the beginning of the epidemic (Jamaica UNGASS Report 2012)

Between 1982 and the end of 2010, 27,272 cumulative HIV cases have been reported in Jamaica and 8,105 deaths have been attributed to AIDS. While the epidemic has affected all parishes with the highest rates reported in St. Andrew and St. James (NHP Epi Update 2010).

Since 2004, the widespread rollout of combination antiretroviral therapy has dramatically improved the rates of morbidity and mortality and improved quality of life. One of the priorities for the NHP is to strengthen the treatment, care and support of persons living with HIV to decrease the disparity between those requiring and those receiving ART.

This comprehensive treatment protocol has been revised to provide up to date information on HIV treatment and care to which all persons living with HIV (PLHIV) are entitled.

The aim of these guidelines is to:

1. Improve the quality of care in the diagnosis and management of persons living with HIV, with the aim to standardize treatment practices.
2. Improve the quality of life among persons living with HIV.
3. Reduce the economic burden of HIV infection by preventing opportunistic infections, reducing the impact of chronic diseases and reducing inappropriate diagnostic tests and treatment.
SECTION 2:
PROMOTION OF OPTIMAL HEALTH
Promotion of Optimal Health

Positive Living for Persons Living with HIV

Providers must discuss in detail the concepts surrounding “Positive Living for persons living with HIV”.
Positive prevention embodies the potential impact persons living with HIV have on decreasing new HIV infections and improving health outcomes in those infected. This requires on-going discussion and support at every visit. Providers should communicate in a non-judgmental manner and engage clients using motivational interviewing skills and other effective techniques. Providers should:

- Convey to clients that HIV is a chronic disease that can be adequately managed.
- Encourage patients to realize their role in their treatment and care partnerships between themselves and their providers.
- Emphasize risk reduction practices, maintenance of a healthy lifestyle, adherence to medication and appointments.

The guiding principles of Positive Health, Dignity and Prevention (PHDP) are:

- Promotion of human rights – the right to privacy, confidentiality, informed consent and voluntary disclosure
- People living with HIV have the right to enjoy full sexual and reproductive health.

The core elements of PHPD are:

- Sexual and reproductive health – this includes practicing safer sex, avoiding other STIs, reducing the chance of unwanted pregnancies or planning for safe conception and healthy pregnancy.
- Delay of HIV progression – increasing access to effective HIV management (ART is potentially the best prevention strategy currently available), as well as support to explore healthy nutrition, adequate exercise, and reducing harmful behaviours.
- Promoting shared responsibility to reduce the risk of HIV transmission – to increase the esteem and confidence of PLHIV to protect their own sexual health and avoid passing on the infection.
<table>
<thead>
<tr>
<th>Components of PHDP Prevention</th>
<th>HIV transmission facts</th>
<th>Strategies</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevent transmission of the HIV virus to the uninfected</td>
<td>Worrisome increase in new infections especially in adolescents, MSM and women, sex workers and other vulnerable populations. Low safer sex practices among HIV discordant couples</td>
<td>Encourage and support safer sex practices, “Know Your Status” Campaign, PITC, Opt- out testing for STI clients, antenatal clients and other vulnerable populations. Support disclosure among partners, partner notification, and couple counselling</td>
<td>Increased adherence to safer sex practices Increased disclosure among partners Increased awareness of serostatus Decrease in new HIV infections</td>
</tr>
<tr>
<td>Prevent the possibility of HIV re-infection</td>
<td>Documented evidence exists that HIV-1 infected clients can be re-infected by different strains of HIV-1. Initial infection by HIV-1 provides no benefit in immunity against re-infection. Dual infection by HIV-1 and HIV-2 has also been documented. There can be considerable diversity between the original HIV strain and the second strain, or only marginal difference between the strains. Progression of HIV disease is more rapid in patients infected with multiple HIV strains.</td>
<td>For a patient on ART, the new HIV strain may not be sensitive to the specific ARVs the patient is currently taking. A change of ART regimen may be required. ARVs that are effective against both strains are needed. These are difficult to select without resistance-testing</td>
<td>For ART clients (current or past users), it decreases the potential of transmitting ARV-resistant HIV strains.</td>
</tr>
<tr>
<td>Components of PHDP Prevention</td>
<td>HIV transmission facts</td>
<td>Strategies</td>
<td>Outcomes</td>
</tr>
<tr>
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</tr>
<tr>
<td>Prevent other sexually transmitted infections</td>
<td>Sexually transmitted infections increase risk of both acquisition and transmission of HIV. For HIV-infected persons, contracting other STI may accelerate progression of HIV disease.</td>
<td>Consistent and correct use of condoms</td>
<td>Decreased incidence of STI. Improved wellness in PLHIV.</td>
</tr>
<tr>
<td>Prevent infectious diseases –</td>
<td>HIV-infected persons may be more prone to contracting other infectious diseases due to immuno-suppression.</td>
<td>Ensure proper food handling techniques, avoid direct contact with animal excreta, unnecessary visits to hospitals, aggressive precaution in outbreaks (e.g. influenza), Provide appropriate OI prophylaxis and vaccinations.</td>
<td>Reduced illness and hospitalization-related development of OI and other infectious diseases.</td>
</tr>
<tr>
<td>Make informed decisions about health choices,</td>
<td>HIV infection and ART can predispose persons to chronic diseases e.g. cancer, diabetes mellitus, cardiovascular diseases.</td>
<td>Patient education; collaborative relationship between client and health care team;</td>
<td>Improved wellness and reduced illness and hospitalizations related to HIV disease among PLHIV.</td>
</tr>
<tr>
<td>Make informed decisions on contraception and pregnancy</td>
<td></td>
<td>Encourage dual protection, Initiate conversations about family planning</td>
<td>Reduction of unplanned pregnancies. pMTCT of HIV &amp; Syphilis.</td>
</tr>
</tbody>
</table>
**Recommended Reading**

- Antiretroviral Treatment for HIV Prevention. Consultation, 2-4 November 2009 WHO
- Essential prevention and care Interventions for Adults and Adolescents living with HIV in Resource-Limited Settings 2008 WHO
- Advancing the Sexual and Reproductive Health and Human Rights of PLHIV- A guidance package 2009 Global Network of PLHIV
- Incorporating HIV Prevention into the Medical care of Persons Living with HIV MMWR 2003 CDC
- Other activities, services and strategies: incorporating HIV Prevention into the medical care of PLHIV CDC 2009
HIV Testing, Counselling and Psychological support

HIV Testing
Routine HIV screening is recommended in the following situations:

- Annual HIV screening of all sexually active persons between the ages of 16-49
- All patients accessing care at a hospital, public health centre or private practitioner annually
- All STI Clinic Attendees
- All Antenatal Clinic Attendees

Rapid testing using either finger stick or oral swab methodology is recommended. All initial positive test results must have confirmatory testing performed.

Pre-test Counselling
This aspect of the HIV screening process is no longer an absolute requirement for provider initiated testing and counselling (PITC); the concept of PITC requires the opportunity for the patient to “opt-out” of testing (the patient must be informed that an HIV test is being performed and given the opportunity to refuse the test).

Post-test counselling
All patients should be notified in person of the test result.

Post-test counselling is a component of disclosing results and administered as followed:

If the result is negative:
- Provide the blood results with an explanation
- Reinforce safe sexual behaviours
- Discuss retesting in 3-6 months if recent high risk exposures
- Answer any questions
- Facilitate referral to support services.

If the result is positive:
- Provide blood result and explain its meaning
- Clarify the difference between HIV and AIDS

If the setting is favourable these concepts should also be discussed:
- Emphasize that patients can live with HIV/AIDS
- Encourage patient to share their diagnosis with a close family member or friend
- Discuss medical follow up options
- Discuss partner notification
• Reinforce safe behaviours
• Emphasize availability for future contact

Counselling and psychological support

Counselling must be part of the HIV testing and treatment programme.

The objectives of psychological support and counselling are:
1. to assist persons to cope with HIV
2. to prevent the transmission of HIV to others
3. to prevent re-infection
4. to enable persons living with HIV to improve the quality of their life and the outcome of the disease

Some common psychosocial concerns, which may need referral either to a psychologist or to a social worker, are:
• Reaction to life threatening illness
• Reaction to need for partner notification
• Effects of illness and treatment e.g. medication
• Social stigma if illness revealed; threat of rejection by family, termination of employment.
• Dealing with sexuality and changing sexual behaviours
• Economic implications e.g. cost of treatment, loss of employment
• Inordinate anxiety and/or depression in PLHIV (These conditions are more common in PLHIV than in the average population.)
SECTION 3: INITIAL EVALUATION OF THE HIV INFECTED PATIENT
When the diagnosis of HIV infection has been serologically confirmed, the patient should be counselled and undergo a complete assessment as described below.

In counselling the patient it is important to recognize the patient as an individual and listen to his/her concerns. The physician or health care worker must be understanding and non-judgmental, willing to explain issues and address fears. Management of the HIV positive patient must emphasize

1. The need for a positive approach to life, reinforcing that HIV is not a death sentence
2. The need to disclose their status to all sexual partners and to identify a confidant, whether friend or family member, to provide support
3. Safe sexual practices and positive prevention
4. The critical importance of adherence to medication, clinical visits and investigations.

**History Taking**

In taking the history, attention must be paid to maintaining confidentiality:

- Confidential record keeping procedures
- Discussing only with those who need to know
- Treating patients in a non-discriminatory manner

**HIV History**

- Date and place of HIV testing (document any previously negative tests)
- Management of HIV disease prior to presentation
  - Previous opportunistic or AIDS defining illnesses
  - Previous CD4 counts or viral load assessments
  - Previous exposure to ART (including adherence levels)
  - Use of prophylaxis
General Health
- General well-being
  - Dental Health
  - Routine health screening (e.g. Pap smear date and result)
  - Last eye examination
- Constitutional symptoms
- Past Medical History
  - Previous sexually transmitted infections (date and treatment received)
  - Chronic illnesses (Diabetes, hypertension, cardiovascular disease, dyslipidemia, kidney or liver disease, mental health disease, hepatitis, sickle cell)
- Immunization status- specifically hepatitis B, HPV, pneumococcus, influenza, BCG

Drug History
- Medication and dosage of prescription and non-prescription therapies
- Substance use (Cigarettes, crack, cocaine, alcohol, marijuana etc.)
- Any known allergies

Sexual History
Successful sexual history taking requires the establishment of a good rapport with the patient. The appropriate history includes:

1. Sexual practices
   - Number and gender of **past and present** partners,
   - Type of sexual contact (oral, genital, anal)
   - Any sexual contact with commercial sex workers

2. Previous or present STI (see STI Manual)

3. Partner Notification
   Sexual contacts need to be identified and arrangements made for them to be counselled and tested or contact traced (while preserving confidentiality of information source). Explain that the source of the information will be kept confidential. Encourage partners to come in, or go to their regular doctor.

4. Contraceptive use – ask about condom usage, and other forms of family planning methods being used.
5. Past Obstetric/Gynaecological History

**Family History**
- Family history of illnesses (including TB, hypertension, diabetes mellitus)
- Other HIV positive family members (e.g. children)

**Occupational History**
Increased risk for opportunistic infections
- travel
- occupation (e.g. farming, pet shop workers), hobbies
- pets
- crowds
- hospitals
- incarceration

**Social History**
- Availability of amenities (housing, water, electricity, access to refrigeration)
- Employment status, sources of financial support
- Availability of friend and/or family support
- Children (age and sero-status)

### Review of Systems

<table>
<thead>
<tr>
<th>GENERAL</th>
<th>GI</th>
<th>RS</th>
<th>CVS</th>
<th>CNS</th>
<th>GU</th>
<th>SKIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Night Sweats</td>
<td>Oral Lesions</td>
<td>SOB</td>
<td>Chest Pain</td>
<td>Depression</td>
<td>Discharge</td>
<td>Rash</td>
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<tr>
<td>Lethargy</td>
<td>Diarrhoea</td>
<td>Chest Pain</td>
<td>Palpitations</td>
<td>Anxiety</td>
<td>Sores</td>
<td>Sores Ulcers</td>
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<tr>
<td>Weight Loss</td>
<td>Dysphagia</td>
<td>Cough</td>
<td>Ankle Swelling</td>
<td>Headaches</td>
<td>Warts</td>
<td>Itching</td>
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<tr>
<td>Fever</td>
<td>Vomiting</td>
<td>Wheezing</td>
<td></td>
<td>Neck Pain</td>
<td>Urinary Symptoms</td>
<td>Abnormal Growths</td>
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<tr>
<td>Anorexia</td>
<td>Odynophagia</td>
<td>Prolonged nasal stuffiness</td>
<td></td>
<td>Visual Disturbances</td>
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<tr>
<td>Lymphadenoathy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Seizures</td>
<td></td>
</tr>
</tbody>
</table>
Comprehensive Physical Examination

- Vital signs
  - temperature, pulse, respiratory rate, blood pressure
- Anthropometrics
  - weight, height, waist measurement
- General
  - pallor, body habitus (wasting, fat distribution)
- Oral cavity
  - ulcers, thrush, poor dentition, gingival disease
- Dermatologic examination
  - The entire skin, taking particular note of conditions such as herpes zoster, folliculitis, seborrheic eczema, severe tinea corporis, abscesses, straightening and thinning of hair, BCG scar
- Examine all lymph node areas noting any enlargements and tenderness
- Breast examination should be offered initially and then annually
- Abdominal examination
  - distension, obesity and hepatosplenomegaly
- CVS:
  - Apex beat, heart sounds, elevated JVP, ankle swelling
- RS:
  - Signs of pulmonary infiltrates, pneumothorax, pleural effusion
- MS:
  - Wasting with globally decreased power, arthropathy, peripheral neuropathy
- Rectal/genital examination noting the presence of peri-anal/genital herpes or genital warts, evidence of proctitis.
- Pelvic examination noting vaginal discharge and cervical erosions (Pap smear see pg 43).
- Eyes: fundoscopy
- ENT: Recurrent acute sinusitis, chronic sinusitis hearing loss, vertigo
- CNS: paralysis, monoparesis, hemiparesis, cranial nerve abnormalities
Laboratory Evaluation

- CD4 count (all HIV positive patients must have an initial CD4 count)
- NO routine Viral load for initial assessment (first test 6 months post-ART commencement)
- CBC (Hb, WBC, diff, plat.)
- VDRL or RPR
- Urinalysis
- HBsAg
- Renal Function Tests (urea, creatinine)
- LFTs, serum proteins, Alb., Glob.
- Serum lipid profile
- Fasting Blood Glucose
- Pap smear
- Mantoux test
- +/- Anal smears
SECTION 4:
CLINICAL MANAGEMENT OF HIV DISEASE
1. **Management of Acute HIV Infection**

Acute HIV infection is the first constellation of symptoms that occurs from 2-4 weeks after exposure, affecting between 40%-90% of individuals. Its presentation can range from mild non-specific symptoms to severe illness requiring hospitalization in rare cases. Symptoms range from fever, sore throat, lymphadenopathy, rash, diarrhoea and myalgias. Aseptic meningitis can also occur with symptoms of headache, photophobia and neck stiffness.

The symptoms of acute HIV infection are self-limiting and last for up to 4 weeks. ELISA and Western Blot analyses will likely be negative; however, p24 antigen, PCR and viral load testing will reveal a positive result. Most patients do not present at this stage and the symptoms often go unrecognized, but may be revealed with a detailed history.

Management consists of early recognition and symptomatic treatment. During this phase of the disease, the HIV viral load is very high and patients are at increased risk of transmitting the virus. Therefore, recognition and early diagnosis of HIV infection is important in order to institute appropriate positive prevention messages to avoid further spread of the virus. **ART is not recommended during acute HIV infection.**

Primary infection is followed by an asymptomatic period, which lasts an average of 10 years in most individuals.
2. Management prior to ART Commencement

The emphasis in this phase of management is on:

- **Prevention of HIV transmission**
  - Positive prevention messages
  - Education in condom use and negotiation
  - Management of any STIs

- **Preparation for ART commencement**
  - Patient optimization*:
  - Monitoring CD4 counts 6-12 monthly
  - Performing all baseline evaluations

- **Prevention and management of chronic diseases and other illnesses**
  - Healthy diet and exercise practices
  - Screening and control of hypertension, diabetes and dyslipidemia
  - Smoking prevention
  - Substance abuse

- **Promotion of general health practices**
  - Health screening: Pap smear, breast examination, prostate evaluation
  - Immunizations: According to national guidelines, avoiding live vaccines,
  - Hepatitis B vaccine should be considered.
  - Dental Care
  - Family Planning

* Patient optimization is an active process of identifying barriers to ART adherence prior to commencement. Issues that should be addressed include:
  - HIV knowledge including fears and perceptions of ART
  - Motivation and self-efficacy
  - Stigma and discrimination
  - Social support systems
  - Transportation and nutritional issues
  - Depression or other mental health disease
  - Substance abuse counselling
3. Adherence

Adherence to antiretroviral therapy is critical if patients are to achieve and maintain undetectable viral loads and avoid preventable opportunistic infections. Adherence is critical to HIV infections because

1. The virus has a very high replication and mutation rate – if drug doses are missed the virus quickly begins to replicate, and in the presence of low levels of drug, will develop viral mutations conferring drug resistance.
2. Non-nucleoside Reverse Transcriptase Inhibitors (NNRTI) have broad class resistance: when resistance to one drug develops; often resistance is developed to all the drugs in that class, e.g. K103N mutation in NNRTI drugs.
3. Protease Inhibitors (PI) can retain activity to other drugs within the class following failure depending on how long the patient remains on the failing PI containing regime.

Before initiating therapy, adherence must be made part of the patient’s routine care. Learn as much as possible about the patient’s health history, level of literacy, beliefs and attitudes about HIV, social support, housing, medical insurance, alcohol and drug use, mental illness and any other pressing issues which may be potential barriers to compliance. **Studies have shown that patients who miss no more than 1 drug dose per month (95% adherence) do significantly better than those who miss more than 1 dose per month (< 95% adherence). It is important to emphasize this at each visit.**

Other factors have been found to be predictive of adherence or non-adherence among HIV infected individuals

- Large pill burden and dosing frequency - be alert to actual strength of dose, because patients often get tablets from other sources
- Medication with food restriction
- Length of time of therapy – adherence decreases with time
- Adverse drug reactions

Adherence improves with

- Self – efficacy - the belief in one’s ability to take medication as instructed
- Belief that medication can fit into their day.
- Understanding the relationship of viral resistance and adherence
- Previous adherence
- Trust in doctor
- Patient friendly system of care that facilitates access to medicine
- Reminders to fill prescriptions for medication
- General patient education
Strategies to improve adherence include

- Establishing trust between patient and the healthcare team
- Educate, inform patients and serve as a source of information
- Anticipate and treat side effects
- Avoid adverse drug reactions
- Reduce dose frequency and number of pills if possible
- Monitor on-going adherence, intensify management in periods of low adherence (more frequent visits, recruitment of family and friends to support treatment plan.)
- Develop concrete plan for specific regimen, relation to meals, daily schedule and side effects.
- Consider impact of new diagnoses on adherence (e.g. depression, liver disease, wasting syndrome)
- Directly observed therapy in hospital settings
- Psychosocial issues must be taken into consideration (e.g. incarcerated patients, homeless patients)
4. **ART Commencement**

**When to start**

All adults and adolescents should be offered ART when CD4 count < 350 cells/mm$^3$.

Criteria for commencement on ART regardless of CD4 count
- Pregnancy
- Active Tuberculosis
- Hepatitis B requiring therapy
- HIV Associated Nephropathy

Prophylaxis with Trimethoprim/Sulfamethoxazole (TMP/SMX) should also be offered when CD4 < 350cells/mm$^3$ and discontinued when CD4>350 cells/mm$^3$ (see section on prophylaxis).

**Pregnant women** should begin or continue triple therapy (HAART) regime, which is compatible with the pMTCT regimes as indicated below.

Commence HAART for women in pregnancy at **14 weeks gestation** (after the first trimester)

- **CD4 < 350cells/mm$^3$**: Zidovudine + Lamivudine + Nevirapine
  - Continue ART postpartum

- **CD4 >350cells/mm$^3$**: Zidovudine + Lamivudine + Lopinavir/r
  - Discontinue ART postpartum

Avoid efavirenz in the first trimester of pregnancy; may consider continuation of efavirenz after the first trimester.

**Women of child bearing age receiving efavirenz should be counselled on the need for contraception due to the risk of teratogenicity.**
**What to Start**

**Recommended first line antiretroviral regimens for adolescents and adults**

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenofovir/Emtricitabine (TDF/FTC)</td>
<td>Efavirenz (EFV)</td>
</tr>
<tr>
<td>Zidovudine/Lamivudine (AZT/3TC)</td>
<td>Nevirapine (NVP)</td>
</tr>
</tbody>
</table>

**Choose 1 from column A and 1 from column B**

These are the standard regimes recommended. Please refer to specialist centre for further guidance if necessary.

The initial regimen is the most important regimen, because it is associated with the greatest probability of achieving prolonged viral suppression.

The reasons for altering an initial antiretroviral regimen include intolerance, poor adherence, drug toxicity, the occurrence of active tuberculosis, pregnancy, and treatment failure.

Subsequent regime options will depend on the choice of the initial regimen. **ART changes due to treatment failure require changing the entire regimen.**

Failure to continuously emphasize the critical importance of medication adherence and the avoidance of frequent medication interruptions along with a lack of instruction on safer sex practices and other harm reduction interventions will contribute to the evolution and spread of drug resistance.

If the supply of one component of a multi-drug regimen is interrupted, a suitable replacement should be instituted to avoid viral rebound. If no alternative is available the entire regimen should be switched. Temporarily discontinuation may also be considered,
under the guidance of an experienced provider, until all drugs can be administered simultaneously.

However, the possibility of drug resistance is not a reason to delay the commencement of HAART. Patient education and strict attention to drug adherence, utilizing a multi-disciplinary team approach, are the components of an appropriate response. The benefits of ART to the individual and to society overwhelm the potential risk of the development of drug resistant virus strains in the population.

**When to Switch**

The prerequisite for assessment of treatment failure is **adequate adherence (>95%)** for at least the last 6 months.

Criteria for treatment failure:
- Virologic failure: Confirmed VL > 1,000 copies/ml
  - Failure to suppress VL after 6 months of ART

Suspect treatment failure:
- Immunologic failure: CD4 counts fall below pre-treatment level
- Clinical failure: New or Recurrent AIDS defining illness after 6 months of ART

**Recommended Second Line antiretroviral regimens for adolescents and adults**

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
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<tbody>
<tr>
<td>Tenofovir/Emtricitabine (TDF/FTC)</td>
<td>Lopinavir/ritonavir (LPV/r)</td>
</tr>
<tr>
<td>Zidovudine/Lamivudine (AZT/3TC)</td>
<td>Atazanavir/ritonavir ATV/r</td>
</tr>
</tbody>
</table>

*Choose 1 from column A and 1 from column B*

*Consultation with the National HIV/STI Programme or an experienced HIV healthcare provider is recommended after failure of first line therapy.*
Recommencing therapy after prolonged discontinuation

- Address reasons for discontinuation and possible future impact on ART of these factors.
- Resolve all new or pre-existing barriers to ART adherence to the greatest extent possible prior to recommencing ART
- TMP/SMX prophylaxis and vitamin supplementation should be offered during this process. Perform CD4 analysis.
- Recomence ART with previous active regime
- Repeat CD4 at 3 months
- Repeat CD4 and VL at 6 months. If VL not suppressed with evidence of good adherence, consider treatment failure and switching ART regimes.
- NVP dosing should recommence once daily for the first 2 weeks.
### Characteristics of Antiretroviral Agents

<table>
<thead>
<tr>
<th>Generic name</th>
<th>Trade name</th>
<th>Adult dosage</th>
<th>Paediatric Dosage</th>
<th>Potential side effects and monitoring</th>
<th>Food effect</th>
<th>Drug Interactions</th>
<th>Intervention</th>
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<tbody>
<tr>
<td>NRTIs</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Zidovudine</td>
<td>(AZT, ZDV)</td>
<td>300mg b.d.</td>
<td>180mg/kg b.d.</td>
<td>Anaemia, neutropoenia, nausea, headache, Fatigue CBC every 6-12 months</td>
<td>Take without regard to meals</td>
<td>Increased risk of neutropenia with TMP-SMX and ganciclovir. Antagonism with d4T</td>
<td>Severe anaemia or neutrophils &lt;1000/mm3- alternative NRTI GI intolerance- take with food or alt. NRTI</td>
</tr>
<tr>
<td>Lamivudine</td>
<td>(3TC)</td>
<td>150mg b.d.</td>
<td>4mg/kg b.d.</td>
<td>Anaemia, Mild rash, diarrhoea, nausea, hair loss. Pancreatitis may occur in children</td>
<td>Take without regard to meals</td>
<td>TMP-SMX increases 3TC levels</td>
<td>Pancreatitis (children only)- alternative NRTI, not ddI or d4T</td>
</tr>
<tr>
<td>Tenofovir</td>
<td>(TDF)</td>
<td>300mg o.d.</td>
<td>Age ≥2 years 8mg/kg o.d. maximum 200mg</td>
<td>Nausea, renal toxicity, bone mineral loss</td>
<td>Take without regard to meals</td>
<td>Increases ddI levels</td>
<td>Staggered coadministration (2hrs after TDF, fasted) with ddI 250mg o.d.</td>
</tr>
<tr>
<td>Didanosine</td>
<td>(ddI)</td>
<td>&gt;60kg body wt.:200mg b.d. &lt;60kg body wt.:125mg b.d.</td>
<td>90mg/m2/dose b.d. or 240 mg/kg/dose o.d.</td>
<td>Nausea, diarrhoea, rash, Pancreatitis, peripheral neuropathy, lactic acidosis</td>
<td>Take ½ hour before or 2 hours after meal.</td>
<td>Affects dapsone, ketoconazole, protease inhibitors, quinolones and tetracycline levels. (All to be taken 2 hours after ddI) Ganciclovir increases ddI levels</td>
<td>Pancreatitis- alternative NRTI other than d4T Peripheral neuropathy – alternative NRTI other than d4T</td>
</tr>
<tr>
<td>Generic name</td>
<td>Adult dosage</td>
<td>Paediatric Dosage</td>
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<tr>
<td>Stavudine (d4T)</td>
<td>30mg b.d.</td>
<td>&lt;30kg 1mg/kg/dose b.d. 30-60kg 30mg/kg/dose b.d.</td>
<td>Peripheral neuropathy, increased LFTs, Pancreatitis, nausea, diarrhoea, myalgia, lipoatrophy, lactic acidosis</td>
<td>Take without regard to meals</td>
<td>Overlapping toxicity with drugs causing peripheral neuropathy. Antagonism with AZT</td>
<td>Peripheral neuropathy-alternative NRTI other than ddi Lipoatrophy-alternative NRTI if cosmetic change concerns patient</td>
<td></td>
</tr>
<tr>
<td>Abacavir (ABC)</td>
<td>300mg b.d.</td>
<td>8mg/kg q12h maximum: 300mg b.d.</td>
<td>Hypersensitivity reaction (esp. in 1st 8 weeks): fever, rash, nausea, vomiting, malaise, fatigue, anorexia, sore throat, cough, SOB. <strong>Discontinue and never re-challenge</strong></td>
<td>Take without regard to meals</td>
<td>Alcohol increases ABC levels.</td>
<td>Hypersensitivity-confirm diagnosis discontinue ABC and do not re-challenge</td>
<td></td>
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<tr>
<td>NNRTIs</td>
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<tr>
<td>Nevirapine (NVP)</td>
<td>200mg o.d. x 2wks then 200mg b.d.</td>
<td>120mg/m2/dose q12h x 2wks, then 200mg/m2/dose b.d.</td>
<td>Rash, fever, thrombocytopenia, elevated LFTs, hepatitis, rash Monitor liver function tests (ALT) at 2-4 week intervals during 1st 3 months, then every 1-3 months</td>
<td>Take without regard to meals</td>
<td>Ketoconazole, rifampicin not recommended. Decreases rifabutin, clarithromycin, ethinyl oestradiol levels (additional or alternate contraception advised</td>
<td>Hepatitis: otherwise unexplained increase in ALT to &gt;5xULN-avoid NVP and EFV, use PI Rash: if accompanied by fever, mucous membrane involvement, blistering, desquamation and/or Stevens Johnson</td>
<td></td>
</tr>
<tr>
<td>Generic name</td>
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<tr>
<td>Efavirenz</td>
<td>(EFV)</td>
<td>600mg o.d.</td>
<td>10-15kg 200mg 15-20kg 250mg 20-25kg 300mg 25-32kg 450mg 33-40kg 510mg &gt;40kg 600mg o.d.</td>
<td>Rash, headache, dizziness, light headedness, elevated LFTs, nightmares, caution with driving machinery for 1st 3 weeks Hepatitis Warn of pregnancy consequences and possible inactivation of oral contraceptives</td>
<td>Take on an empty stomach before bedtime</td>
<td>Rifampicin decreases Efavirenz levels. Rifabutin levels decreased Clarithromycin levels decreased, alternate recommended.</td>
<td>CNS toxicity usually resolves in 2-3 weeks Rash: as with NVP above Pregnancy- avoid EFV if pregnant or with pregnancy potential</td>
</tr>
<tr>
<td>Etravirine</td>
<td>(ETR)</td>
<td>200mg b.d.</td>
<td>&gt;6yrs 5.2mg/kg b.d.</td>
<td>Rash, myopathy, peripheral neuropathy</td>
<td>Take after meals</td>
<td>Rifampin</td>
<td>Rash: as with NVP, Myopathy, neuropathy discontinue if severe.</td>
</tr>
<tr>
<td>PIs</td>
<td></td>
<td></td>
<td></td>
<td>Warn of fat redistribution Obtain fasting glucose and blood lipids at baseline and three months after commencement</td>
<td></td>
<td>Rifampin, sildenafil, salmeterol, Statins (simvastatin + lovastatin contraindicated), OCP, anticonvulsants, warfarin, benzodiazepines.</td>
<td>Fat redistribution- consider NVP or EFV Diabetes-adjust diet + oral hypoglycemics Increased LDL cholesterol or triglyceride&gt;1000 use statins or consider ATV</td>
</tr>
<tr>
<td>Lopinavir</td>
<td>(LPV)</td>
<td>400mg b.d.</td>
<td>230 – 350 mg/m2 b.d.</td>
<td>GI intolerance: nausea, vomiting diarrhoea Dyslipidaemia Hyperglycemia</td>
<td>Take without regard to meals</td>
<td>Calcium channel blockers Warfarin</td>
<td>Taking tablets with food in the initial stages can improve GI tolerance.</td>
</tr>
<tr>
<td>Generic name</td>
<td>Trade name</td>
<td>Adult dosage</td>
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<tr>
<td>Atazanavir</td>
<td>(ATV)</td>
<td>300mg o.d. – boosted with ritonavir</td>
<td>25-32kg: 200 mg ATV/100 mg RTV 32-39kg: 250 mg ATV/100 mg RTV</td>
<td>Indirect hyperbilirubinemia Hyperglycemia Nephrolithiasis</td>
<td>Take without regard to meals</td>
<td>H2Receptor blocker and PPI contraindicated</td>
<td>Hyperbilirubinemia is non-pathogenic, switch to LPV if cosmetic concerns</td>
</tr>
<tr>
<td>Indinavir</td>
<td>(IDV)</td>
<td>800mg bd – boosted with ritonavir</td>
<td>800mg q8h - unboosted</td>
<td>Nephrolithiasis, nausea, hyperbilirubinaemia, headache, dizziness, rash, thrombocytopenia, alopecia, hyperglycemia, lipid abnormalities Need for 1.5-2L fluids daily Urinalysis (dipstick) every 3 months to detect blood and protein</td>
<td>Boosted- take without regard to meals Unboosted – Take 1 hour before or 2 hours after meal or with low fat meal, take at least 8 glasses of water everyday</td>
<td>Rifampicin C/I, ketoconazole increases Indinavir levels, decrease dosage to 600mg t.i.d. Rifabutin, carbamazepine decreases Indinavir levels. Clarithromycin, ethinyl oestradiol levels decreased. (alt/add method advised) Take 2hrs after ddI</td>
<td>Nephrolithiasis- increase fluid consumption or alternative PI GI intolerance- consider alternative PI</td>
</tr>
<tr>
<td>Darunavir</td>
<td>(DRV)</td>
<td>600mg bd</td>
<td>10 – 20 mg/kg q b.d.</td>
<td>Skin rash (sulphonamide moiety),diarrhoea &amp; vomiting, headache, Serum transaminase elevation</td>
<td>Take without regard to meals</td>
<td>Paroxetine</td>
<td>Stevens-Johnson syndrome, erythema multiforme requires discontinuation.</td>
</tr>
<tr>
<td>Generic name</td>
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</tr>
</tbody>
</table>
| **Integrase Inhibitor**  
**Raltegravir (RAL)** | 400mg b.d. | | Nausea, Headache  
Diarrhoea, Pyrexia  
CPK elevation, muscle weakness, rhabdomyolysis | Take without regard to meals | Rifampin | Discontinuation may be required with rhabdomyolysis. |
5. Primary Prophylaxis Protocols for Common Opportunistic Infections

Pneumocystis Jiroveci Pneumonia

Indicators for PCP prophylaxis

- Routine primary prophylaxis – CD4 count < 350 cells/ml
- The presence of oral candidiasis
- Other minor signs or any AIDS defining illness e.g. papular urticaria

TMP/SMX 1 D/S tablet/day or 2 SS tablets/day or 1 D/S tablet 3 times weekly, until CD4 counts > 350 cells/ml for > 3months.

Patients who experience mild-moderate allergic symptoms to TMP/SMX consider desensitization (Appendix 4)
Or Dapsone 100mg/day (check G6PD levels; if deficient do not give dapsone)

Withhold all prophylaxis in the first trimester of pregnancy

Tuberculosis

Indicators for TB prophylaxis
Not routinely recommended in Jamaica.

Toxoplasma Gondii

Indicators for toxoplasma prophylaxis

- Previous positive serology
- CD4 count< 100/mm³

TMP/SMX 1 D/S tablet/day

Or Dapsone 50mg/day + Pyrimethamine 50mg/week (check G6PD levels before starting dapsone)

Withhold prophylaxis in the first trimester of pregnancy
**Mycobacterium Avium Complex**  
*Indicators for MAC prophylaxis*

- CD4 count < 50/mm³

  Azithromycin 1200mg weekly  
  OR Clarithromycin 500mg b.d

  *Withhold azithromycin and clarithromycin in the first trimester of pregnancy*

**Cytomegalovirus**  
*Early recognition of CMV Retinitis for early treatment*

- CD4 counts < 50 cells/mm³ perform ophthalmic examination looking for cotton wool exudates or haemorrhages. Ophthalmology specialist intervention should be accessed where available.
- Advise patients with respect to early recognition of floaters and acute visual loss.

**Cryptococcal Infection**

Routine prophylaxis is **not recommended**.
6. Treatment Guidelines for Opportunistic and Common Infections

Commencing ART in the setting of an Acute Opportunistic Infections

- Cases of opportunistic infections for which there is no specific therapy (e.g. cryptosporidiosis, microsporidiosis or progressive multifocal leukoencephalopathy) ART should be commenced immediately.

- For PCP, the optimal time of ART commencement is within 10-14 days of therapy, once PCP therapy is shown to be tolerated.

- For TB delay ART until 2 weeks to 2 months of anti-TB therapy (see section TB Co-infection).

- For opportunistic infections with a higher risk for immune reconstitution syndrome (Cryptococcus, non-tuberculous mycobacterial infections), initial phases of therapy for the opportunistic infection should be completed prior to ART commencement.

Immune Reconstitution Inflammatory Syndrome

- This is defined as the worsening of signs and symptoms due to known infections or the development of disease due to occult infections, resulting from an excessive inflammatory response by a re-invigorated immune system following the initiation of anti-retroviral therapy.

- Clinical manifestations vary depending on the underlying opportunistic infection, generally more severe symptoms than those expected from the responsible opportunistic infection.

- Presentation can occur anywhere between 6 weeks to 6 months after commencement of ART.

- Treatment generally involves the use of NSAIDs or steroids. Treatment for the underlying opportunistic infection may also be warranted.
Specific Treatment - Opportunistic and Common Infections

Pneumocystis Pneumonia (PCP)

Symptoms
- The most common presenting symptoms are progressive shortness of breath, non-productive cough and fever.
- Auscultatory physical findings often limited and not in keeping with the level of hypoxia at presentation.
- CXR may show bilateral, diffuse, interstitial infiltration involving all portions of the lung.

Treatment
- TMP/SMX 15-20mg/kg/day q6h p.o./IV x 21 days

Alternatives
- Clindamycin 600-900mg IV q6h. x 21 days,
  300-450mg p.o. q6h. x 21 days
- Or
- Dapsone 100mg once daily
- Trimethoprim 15mg/kg once daily (For mild to moderate disease)

Adjunctive corticosteroids: Prednisone 40mg daily, with tapering dose.
(Severe PCP – A-a gradient >35, PaO₂ <70mmHg)

Secondary prophylaxis
- TMP/SMX 1 DS (2 SS) once daily
- or
- Dapsone 100mg once daily

Until CD4> 350mg for at least 3 months
Mycobacterium Tuberculosis:

All patients at EVERY visit must be evaluated for TB infection. Symptom directed screening should be initiated with the following: Cough > 2 weeks, fever and weight loss.

Symptoms

<table>
<thead>
<tr>
<th>Presentation of pulmonary TB in early and late HIV infection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Features of PTB</strong></td>
</tr>
<tr>
<td></td>
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<tr>
<td>Clinical picture</td>
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<tr>
<td>Sputum smear result</td>
</tr>
<tr>
<td>CXR appearance</td>
</tr>
</tbody>
</table>

Treatment

For uncomplicated pulmonary infection

- **Initial Quadruple therapy for 2 months (Inpatient)**
  
  INH 10-20mg/kg/day, Rifampicin 10-20mg/kg/day,
  Pyrazinamide 15-30mg/kg/day, Ethambutol 15-25mg/kg/d

- **Maintenance therapy for 4 months**
  
  INH 10-20mg/kg/day, Rifampicin 10-20mg/kg/day

*Notify to local health department within 24 hours of suspicion of diagnosis*  
(For more detail see section TB Co-infection)
Candidal Infections

Symptoms
- May present as whitish plaques on the oral mucosal, less commonly as erythematous macule, glossitis or an adherent pseudomembrane. Oral candidiasis may be a sign of advanced disease but is not considered AIDS-defining.
- Extention into the oesophagus can occur and is considered AIDS-defining. Oesophageal involvement is usually associated with odynophagia (pain on swallowing).

Treatment
Oropharyngeal
- Fluconazole 100mg once daily. x 1 week

Candidal Oesophagitis
- Fluconazole 200mg once daily x 2-3 weeks
- Ketoconazole 200mg once daily x 2-3 weeks
  - N.B. interaction with didanosine, indinavir and nevirapine

Cryptococcal Meningitis
Symptoms
- Fever, dull headache, malaise, blurred vision, altered personality, altered mental status
- Nausea, vomiting
- CSF – lymphocytosis, CSF cryptococcal Ag positive in over 90%, India ink positive in 50-60%

Treatment (Inpatient)
- Initial therapy
  Amphotericin B 0.7-1.0 mg/kg/day + flucytosine 100mg/kg/d IV for 10-14 days, may be nephrotoxic, reduce dose in renal patients
  Alternatives: Amphotericin B 0.7-1.0 mg/kg/day + Fluconazole 800mg daily +/- Therapeutic lumbar puncture

- Consolidation
  Fluconazole 400mg daily for 8 weeks

- Maintenance
  Fluconazole 200mg daily until CD4 counts > 200 cells/mm³ for at least 6 months.
Toxoplasma encephalitis

Symptoms

- +/- fever, headache
- altered mental status e.g. confusion, lethargy, delusional behaviour, cognitive impairment in 60% of patients
- seizures, focal signs
- IgG positive serology.
- CT scan shows multiple ring enhanced lesions of toxoplasmosis, however nothing may be seen
- If no treatment response after initial 2 weeks of therapy, may consider brain biopsy.

Treatment

- **Initial treatment – Complete 6 weeks**
  - Pyrimethamine 200mg loading dose then 50mg (<60kg weight), 75mg (>60kg weight) daily + folinic acid 10 -25mg daily.
  - Sulfadiazine 1g (<60kg weight) 1.5g (>60kg weight) daily
- **Alternatives to Sulfadiazine component** (use pyrimethamine as described above)
  - Clindamycin 600mg q6h p.o. or I.V.
  - Azithromycin 1,200mg weekly.
- **Alternative Regime**
  - TMP/SMX 10-15mg/kg/d divided q6-8h x 6weeks
- **Chronic Maintenance therapy** – With significant clinical and radiologic improvement.
  - Continued until CD4 count >200cells/mm³ for at least 6 months of ART
  - Pyrimethamine 25-50mg + folinic acid 10-25mg daily
  - Sulfadazine 200-400mg divided 2-4 times daily

Herpes Simplex

Symptoms

- Grouped vesicular lesions, usually in the oral and anogenital region
- Large chronic erosions refractory to treatment can be considered as AIDS-defining

Treatment

- Acyclovir 400mg q8h for 7-10 days.
- Valaciclovir 1gm twice daily for 7-10 days.
- Chronic suppressive therapy valaciclovir 500mg b.d. or acyclovir 400mg b.d.
**Herpes Zoster**

**Symptoms**
- A painful, unilateral, vesicular, *multidermatomal* involvement is considered AIDS-defining

**Treatment**
- Acyclovir 800mg orally five times daily for 7-10 days *or*
- Valaciclovir 1g p.o. t.i.d. x 7-10 days *or*
- Acyclovir 30mg/kg IV daily x 7-10 days for severe cases.
- Analgesics

**Cytomegalovirus retinitis**

**Symptoms**
- Decreased visual acuity, presence of floaters or unilateral visual field loss are common presenting complaints.
- Ophthalmic examination can reveal large creamy granular areas with perivascular exudates and haemorrhages on the fundus.
- CMV also cause CNS, gastro intestinal and pulmonary disease.

**Treatment**
Refer to Ophthalmologist
- Ganciclovir intraocular therapy plus valganciclovir 900mg twice daily
- Maintenance therapy valganciclovir 900mg once daily
  Discontinue with inactive disease and CD4 > 100 cells/mm$^3$ for 6 months.

**Mycobacterium Avium Complex**

Presents at a late stage of HIV disease and requires referral to a specialist centre

**Symptoms**
- May present as fever, malaise, weight loss, anaemia, neutropoenia
- Chronic diarrhoea and abdominal pain
- Chronic malabsorption
- Extra-biliary obstructive jaundice
- Blood culture, lymph node biopsy.
Treatment
• Clarithromycin 500mg twice daily. + ethambutol 15mg/kg/day +/- Rifabutin 300mg once daily.
  Alternative: Azithromycin 500mg once daily replacing clarithromycin.
7. Treatment Guidelines for other AIDS-defining Illnesses

**HIV Wasting Syndrome**

- Characterized by a loss in total body mass, in contrast to the more localized lipoatrophy.

**Diagnosis**
Remains a diagnosis of exclusion (rule out opportunistic infections, gastrointestinal infections and malignancies) and is characterized by:
- Unintentional weight loss >10%
- Chronic diarrhoea ± fever

**Treatment**
- Commence ART: may not reverse wasting
- Nutritional supplementation (targeted vitamin and calorie replacement)
- Exercise if appropriate
- Treatment of exacerbating nausea and diarrhoea
- Testosterone replacement therapy may be considered in cases of deficiency

**HIV Associated Nephropathy (HIVAN)**

HIV can infiltrate renal parenchymal cells and cause direct damage to the kidney. Patients may present with mild renal impairment or overt renal failure.

**Diagnosis**
- Presentation usually of chronic renal failure
- Kidneys tend to be normal/large sized
- Often a paucity of lower limb oedema
- Hypertension not usually associated

**Treatment**
No specific treatment is available. However, early commencement of ART, with doses adjusted for renal function ([Appendix 5](#)) can lead to a significant improvement or complete reversal in renal function.
**HIV Associated Neurocognitive Disease (HAND)**

HIV can cause direct effects on the CNS and replicates in macrophages and microglia. HAND describes a constellation of neurocognitive disorders ranging from mild impairment of function (minor cognitive motor disorder – MCMD) to more severe, debilitating dementia (HIV-associated dementia – HAD) comprising a combination of mood, motor and cognitive deficits.

**Symptoms**

**MCMD**
- Impaired Concentration and memory
- Slowed movements and impaired coordination
- Personality change, irritability, emotional lability

**HAD**
- Acquired abnormality in motor function
- Decline in motivation, emotional control, social behaviour
- Impaired memory/learning
- Impaired attention concentration
- Impaired speech/language
- Difficulty with reasoning/abstraction

**Treatment**

There is no specific treatment for HAND. Commencement of ART may reverse the disease process. ART agents that have good CNS penetration may be of additional benefit in these cases (NRTI: abacavir, zidovudine and emtricitabine; NNRTI: nevirapine; PI: lopinavir and indinavir)
8. Oral Health

- Poor oral health and dentition can complicate the medical management of PLHIV by affecting adherence to ART and exacerbating nutritional and psychosocial problems.

- All HIV infected patients should receive routine biannual comprehensive oral maintenance.
- Information sharing between physicians and dentists should also take place

Specific Disease Conditions

- Oral Hairy Leucoplakia
  - Epstein-Barr Virus (EBV) infection
  - Shaggy, hyperkeratotic lesions on the lateral aspects of the tongue.
  - A sign of advanced HIV disease requiring the commencement of ART.

- Oro-pharyngeal Candidiasis (See treatment of Common Infections)

- Gingivitis
  - Linear gingival erythema
  - Necrotizing ulcerative gingivitis/periodontitis
  * Recommend consultation with a dental professional.

- Oral Ulcers
  - Aphthous ulcers: Minor (<10mm) or Major(>10mm)
    Appearance: Solitary lesion, sloughy base and erythematous halo
  - HSV ulcers: Groups of vesicles that transform into small ulcers and may Coalesce.
  - Other: CMV, MAC, Histoplasma, Cryptococcus, neoplasm

  * Usually self-limiting. For ulcers that disturb eating, compromising nutrition, topical mixtures with analgesia, antibiotics and steroids can be prepared.

- Xerostomia (dry mouth)
  - HIV-related salivary gland disease
  - Malignancy
  - Kaposi sarcoma
  - Non-Hodgkin’s Lymphoma
9. Management of Special Populations

HIV POSITIVE WOMEN

The general management for HIV, in terms of ART choices, effectiveness and monitoring, do not differ significantly between men and women. However, there are several nuances to the care of the HIV infected woman.

Women infected with HIV Recommendations

- Counselling and psychological support.
- Advice on condom use (male and female) and condom negotiation.
- Advice on family planning and pregnancy outcomes.
- Screening for cervical dysplasia (Pap smear), which has a higher incidence in HIV positive women, is more likely to progress to cancer and more likely to present at a more advanced stage of disease. Pap smears should be performed every 6 months until at least 3 consecutive negative pap smear results. Then annual screening is recommended.
- More aggressive therapy for gynaecological infections as compared to the HIV negative population is recommended.
- Women of child bearing potential receiving efavirenz should be receiving contraception.

In addition, several interactions of HIV are peculiar to woman including:
- Changes in menstruation and fertility
- Osteoporosis
- Contraception
- Adverse drug reactions

Changes in menstruation and fertility
Women may experience the following changes in their menstrual cycle and fertility, especially with low CD4 counts and advanced HIV infection:
- Extended time between periods.
- Missed periods without pregnancy.
- Dysfunction of oestrogen and progesterone production leading to reduced fertility and early menopause.

Osteoporosis
Women, particularly post-menopausal women, in the general population are at an increased risk of osteoporosis. This risk can be exacerbated by both HIV infection and
ART agents. Agents that have been found to be associated with osteoporosis include tenofovir and a class effect with boosted PIs. However, presently there is no evidence to suggest an indication for changes in screening or treatment of osteoporosis in the HIV population.

**Contraception in HIV**

There are several methods of contraception available to women, however in the HIV population many of these techniques are not recommended.

- **Condoms**: both male and female condoms should be used consistently to prevent pregnancy, transmission on HIV and most other sexually transmitted infections.
- **Intra-uterine devices** have been shown to be safe and effective in HIV infected women. However, there is an increased risk of PID and its complications, in women who continue to engage in high risk sexual behaviour, associated with these devices.
- **Hormonal contraception** can be used, but should be limited to parenteral preparations, e.g. Depo Provera, implant devices and IUDs as there are significant drug-drug interactions between ART and oral contraceptive pills.
- **Dual contraception is recommended**.

**Adverse Drug Reactions**

Women may face an increase in drug reactions to certain ART agents, including:

- Lactic acidosis with NRTI (especially stavudine and didanosine)
- Hepatotoxicity and rash with nevirapine (use when CD4 counts < 200 cells/ml)
- Higher risk of lipodystrophy

Certain gynaecological conditions may be more common in HIV positive women and must be diagnosed and treated early. Some conditions may require ART commencement including:

- Recurrent or resistant vaginal candidiasis.
- Severe, frequent or refractory HSV genital lesions (**commence ART**).
- Severe, frequent or resistant pelvic inflammatory disease.
- Aggressive HPV-related infections (Cervical/vaginal/penile carcinoma- **commence ART**)

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HIV AND THE LESBIAN, GAY, BISEXUAL, TRANSGENDER POPULATION

There has been an increased effect of HIV on the LGBT population. Since the beginning of the epidemic, the MSM population in particular, has had greater rates of infection than the general population. Recent estimates in 2010 in Jamaica have shown a prevalence rate of 33.2% in the MSM population versus 1.7% for the general population. Sexual orientation remains a taboo subject in the Caribbean region which results in under reporting and increased barriers to health care for this population. Layered stigma and social discrimination have been identified as important factors associated with the poor outcomes experienced by this population. There is also an increased burden of mental health disease, including anxiety and depression, as well as substance abuse. This chapter will highlight some of the specific considerations for this population. However, much of the clinical management for HIV in this population remains the same as for the general population.

Specific Prevention Techniques

- Consistent condom use remains a mainstay for the prevention of HIV and STIs. For the LGBT population who engage in anal sex, the provision of water-based lubricants is essential.

- This population, especially the lesbian population, must be educated about the risk of transmission via shared sex toys and the need for disinfection of these toys after use. The use of dental dams for oral sex should also be promoted.

- Sero-sorting, defined as “a person choosing a sexual partner known to be of the same HIV sero-status often to engage in unprotected sex, in order to reduce the risk of acquiring or transmitting HIV”, is another concept which has come into question in recent years. However, with very high prevalence rates seen in this population, the relatively low health seeking behaviour and infrequent HIV screening, this technique is not recommended.

- HIV testing and counselling with specific prevention messages can result in significant reductions in risk behaviour.

- Access to appropriate interventions for substance abuse should be provided as with the general population.
- New biomedical prevention techniques have been recently explored in this population, however they are not routinely recommended in Jamaica and cases should be referred to an experienced HIV healthcare provider.

**Treatment**
- Access to ART, choice of ART and monitoring of ART response, should follow the same guidelines as for the general population.
- For STIs, the treatment remains as with the general population. However, screening for asymptomatic urethral, pharyngeal and rectal infections, e.g. chlamydia, gonorrhoea and syphilis should be conducted more frequently than in the general population.
- A tailored approach to the specific needs identified above is recommended.

**Recommended Reading**

- WHO Prevention and treatment of HIV and other sexually transmitted infections among men who have sex with men and transgender people: Recommendations for a public health approach. 2011


**HIV and AGING**

The age of the population of PLHIV in Jamaica is steadily increasing. This is, in part, a result of the increased life expectancy due to the availability of HAART, but also the increasing contribution of the older age group to the number of new infections occurring. The general treatment of this population for HIV remains similar to the younger adult. However there are additional aspects of their management that require consideration.

A few key points in this population:
- **Poor CD4 count recovery** with HAART in the elderly population. The mechanism of this poor immune response is part due to the natural immune senescence seen in aging coupled with the immune depletion of HIV. It is also noted the elderly population generally have fibrotic lymph nodes with poor regenerative capacity. This effect may not be persistent and CD4 count responses may improve over time with ART.
- **Later presentation** to treatment and care with corresponding low CD4 counts seen. Elderly patients often don’t consider themselves at risk for HIV and safe sexual practices must be emphasized.

- **High frequency of comorbid illness** with high potential for treatment related toxicities. With aging, there is a gradual decline in the function of the liver and the kidneys, decreasing the metabolism of pharmacologic agents resulting in high drug levels and increased toxicity.

- **Increased risk of drug-drug interactions** with polypharmacy required for co-morbid illnesses.

- **Misinterpretation** of some non-specific symptomatology of HIV as due to aging, e.g. fatigue.

- **Cancer risk**: No studies have proven the need for more stringent cancer screening protocols for non-AIDS defining cancers in the PLHIV population. However, elderly PLHIV are at increased risk for some non-AIDS defining cancers, e.g. primary lung or liver cancers.

- **Bone disease**: is another important factor for consideration especially osteopenia and osteoporosis. Vitamin D and Calcium supplementation should be considered early in the management of the elderly PLHIV.

- **Neurological and psychosocial health**: age and HIV infection are independent risk factors for the development of dementia. High viral load and low CD4 counts have also been associated with an increased risk.

- **Improved adherence** in older patients has however been noted compared to their younger counterparts to ART regimes.

**Recommended reading**


HIV AND CHRONIC DISEASES

Hiv And Cardiovascular Disease

Many studies have supported the increased risk of cardiovascular disease in PLHIV. The underlying mechanisms appear to be complex, with factors associated with HIV itself, ART and traditional risk factors all playing a role. Despite this complexity, control of traditional, modifiable risk factors continues to have the greatest impact on cardiovascular disease including:
- Diet
- Exercise
- Tobacco Smoking
- Diabetes Mellitus

Specific ARVs which are associated with cardiovascular disease are summarized below:
- NRTI: Stavudine and didanosine have been associated with increased risk in dyslipidemia, lipodystrophy (body habitus changes). A few reports on the association between zidovudine and dilated cardiomyopathy have been published, although the risk remains low. Many studies have been performed on the association between abacavir and myocardial infarction and the latest meta-analysis failed to show a conclusive result. Studies looking at NRTI-sparing regimes have been conducted showing favourable lipid effects and may be of use in difficult cases.

- NNRTI: Long term use of these agents may be associated with increases in lipid parameters. The impact appears to be variable between patients.

- PI: All PI drugs are associated with dyslipidemia, but the degree of effect varies within the class. Indinavir and lopinavir are associated with the greatest increases while atazanavir and darunavir have the lowest impact on lipid parameters.
The Management of Dyslipidemia

Diagnosis
Samples for lipid profiles should be taken after a minimal of 8 hours, preferably 12 hours, of fasting.

An estimate of the cardiovascular risk of each patient can be attained using the Framingham Risk Score. Framingham Risk Calculator can be accessed online free of charge at: http://www.cphiv.dk/TOOLS/Framingham/tabid/302/Default.aspx

Framingham Risk Assessment

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Percentage Risk for CVD in 10 years</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low risk</td>
<td>&lt;10%</td>
<td>Lifestyle modification</td>
</tr>
<tr>
<td>Intermediate Risk</td>
<td>10-20%</td>
<td>B/P&lt; 120/80 Lipid Lowering therapy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acetylic Acid</td>
</tr>
<tr>
<td>High Risk</td>
<td>&gt;20%</td>
<td>B/P&lt; 120/80 Lipid Lowering therapy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acetylic Acid</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cardiology Referral</td>
</tr>
</tbody>
</table>

Monitoring of lipid levels should also be done at the time of switching ART and annually for all PLHIV receiving therapy, especially in those receiving PI–based therapy.

The primary goal of management is the reduction in low density lipoprotein (LDL). Treatment guides for lipid levels can be found with the US National Cholesterol Education Program Adult Treatment Panel (NCEP ATP III).
ATP III LDL-cholesterol goals and cut points for therapeutic lifestyle changes and drug therapy in different risk categories

<table>
<thead>
<tr>
<th>Risk category</th>
<th>LDL-cholesterol goal</th>
<th>LDL-cholesterol level at which to initiate therapeutic lifestyle changes</th>
<th>LDL-cholesterol level at which to consider drug therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coronary heart disease (CHD) or CHD risk equivalent (10-year risk &gt;20 percent)*</td>
<td>&lt; 2.58 mmol/L</td>
<td>≥ 2.58 mmol/L</td>
<td>≥ 3.36 mmol/L; drug optional at 2.58 to 3.33 mmol/L</td>
</tr>
<tr>
<td>2 or more risk factors (10-year risk ≤20 percent)Δ</td>
<td>&lt; 3.36 mmol/L</td>
<td>≥ 3.36 mmol/L</td>
<td>10-year risk 10 to 20 percent: &gt; 3.36 mmol/L 10-year risk &lt;10 percent: ≥ 4.13 mmol/L</td>
</tr>
<tr>
<td>0 to 1 risk factor◊</td>
<td>&lt; 4.13 mmol/L</td>
<td>≥ 4.13 mmol/L</td>
<td>≥ 4.91 mmol/L; LDL-cholesterol lowering drug optional at 4.13 to 4.88 mmol/L</td>
</tr>
</tbody>
</table>
Treatment Algorithm for Dyslipidemia

- **Check Fasting Lipids prior to commencement and 3-6 weeks post commencement of ART**

- **Calculate Framingham Risk**

- **YES**
  - **Address traditional risk**
  - **Must take place before consideration in pharmacological treatment of changes in ART**

- **NO**
  - **Elevated Lipid Profile/Increased risk of cardiovascular disease**
  - **Continue prevention**

- **Lipid levels remain**

  - **TG <5.6mmol/l**
    - **Commence Statin:**
      - Atorvastatin 10-40mg
      - Pravastatin 20-40mg
      - Rosuvastatin 10mg
  
  - **TG >5.6mmol/l**
    - **Commence fibrate:**
      - Gemfibrozil 600mg bd
      - Fenofibrate 54mg od

  - **Refractory to initial therapy**

  - **Consider switch of ART with least lipid effects**
    - **NNRTI:** Nevirapine
    - **PI:** Atazanavir
Drug-Drug Interaction Considerations

Interaction between ART and lipid lowering therapies occurs at the level of the CYP 450 enzyme system in the liver. Significant drug-drug interactions can occur as outlined below:

<table>
<thead>
<tr>
<th>Lipid Lowering Drug</th>
<th>Effects of Drug Combinations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ritonavir</td>
</tr>
<tr>
<td>Simvastatin</td>
<td>AVOID USE</td>
</tr>
<tr>
<td>Lovastatin</td>
<td></td>
</tr>
<tr>
<td>Atorvastatin</td>
<td>Caution, start with low doses</td>
</tr>
<tr>
<td>Pravastatin</td>
<td>Possible reduced effect</td>
</tr>
<tr>
<td>Rosuvastatin</td>
<td>Caution, start with low doses</td>
</tr>
<tr>
<td>Gemfibrozil</td>
<td>Induction Possible reduced effect</td>
</tr>
<tr>
<td>Fenofibrate</td>
<td>Induction Possible reduced effect</td>
</tr>
</tbody>
</table>

Recommended Reading


- Stein JH. Managing cardiovascular risk in patients with HIV infection. JAIDS. 2005; 38:115-123.
**Insulin Resistance and Diabetes Mellitus**

Patients may present to care already being diabetic or it may develop de novo after commencing ART. Several ART agents have been associated with hyperglycemia and diabetes. Offending agents include:
- NRTI: principally stavudine
- PI: most commonly associated with indinavir and lopinavir

**Diagnosis**

Fasting blood glucose assessments should be conducted as part of the initial investigation of all PLHIV presenting to care.

- Fasting blood glucose > 5.6 mmol/l and 2 hour post-prandial > 7.8 mmol/l indicate impaired glucose tolerance.
- Fasting blood glucose > 7.0 mmol/l indicating overt diabetes

Evaluations should also be repeated 3-6 months after commencing or switching ART. HbA1c levels can also be utilized, but may underestimate hyperglycemia in PLHIV.

**Treatment**

Due to the underlying pathology of insulin resistance in this population, insulin sensitizers such as metformin (treatment of choice in overweight individuals), or thiazolidinediones can be utilized.

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**HIV AND CO-INFECTIONS**

**Hepatitis B**

HIV co-infection impacts hepatitis B (HBV) disease in the following ways:
- Decreased chance of spontaneous clearance
- Acceleration of progression of chronic HBV disease
- Increased risk of hepatocellular carcinoma

The management of HIV and hepatitis B co-infection involves the following
- Determination of hepatitis B activity: treatment is required for chronic (>6 months), active infection (elevated ALT or evidence of fibrosis).
- Use of ART agents that have activity against both hepatitis B and HIV: tenofovir and lamivudine/emtricitabine (e.g. Truvada).
**Diagnosis**
Serological testing for hepatitis B should include: HBsAg ± HBeAg
Monitoring of ALT levels can assist in determining activity (> 1-2x Upper Limit of Normal)

**Treatment**
Co-infected patients should be offered 2 active agents against hepatitis B (tenofovir AND emtricitabine/lamivudine)
If while on therapy, HIV virologic failure occurs, the next line of treatment for HIV must still include these agents treating hepatitis B. The risk of sudden discontinuation of hepatitis therapy is a flare of HBV which may be life threatening.

**Immunization**
PLHIV should be offered HBV vaccination and for the best responses should be administered when CD4 counts are at least >200 cells/ml. Only patients who are HBsAb and HBsAg negative should be offered immunization.

**Recommended Reading**

**Tuberculosis**

All patients at EVERY visit must be evaluated for TB infection. Symptom directed screening should be initiated with the following: Cough > 2 weeks, fever and weight loss.

**Clinical Presentation**
- CD4 count > 350 cells/ml: Typical presentation with:
  - Constitutional symptoms: fever, night sweats, weight loss, cough >2-3 weeks and haemoptysis.
  - Pulmonary infiltrates in upper lobe with possible cavitation
- CD4 count <350 cells/ml: Extra-pulmonary and atypical pulmonary presentations become more common

Extra-pulmonary infection commonly involves:
- Lymph nodes – lymphadenitis
- Brain – Meningitis, tuberculoma
- Bone – typically spinal involvement (Pott’s Disease)
- Adrenal gland – adrenal insufficiency
**Diagnosis**

Diagnosis typically begins with the history and examination. Investigations include:
- Mantoux test (>5mm in the HIV co-infected patient)
- Chest X-ray
- Sputum analysis for acid-fast bacilli, culture and sensitivity.

Asymptomatic cases with a positive Mantoux test >5mm and a negative chest x-ray should be diagnosed as **Latent TB**

**Treatment**

**In Jamaica, treatment for TB requires admission to Hospital** (National Chest, University Hospital of the West Indies or Cornwall Regional Hospital)

Active pulmonary disease should be treated for a total of 6 months with a rifampin containing regimen:
- **Induction:** 2 months with 4 active agents (rifampin, isoniazid, ethambutol and pyrazinamide)
- **Maintenance:** 4 months with 2 active agents (rifampin and isoniazid)

For extra-pulmonary disease, treatment should be extended to between 9-12 months depending on the site of infection.

Latent TB should be treated with isoniazid 300mg with vitamin B6 50mg daily for 6 months.

**ART commencement in the face of active TB**
- The ideal regime in this situation is **Truvada and Efavirenz and is recommended regardless of CD4 count.**
- IRIS is of particular concern with early initiation of ART
- Tolerability of anti-TB therapy must first be demonstrated prior to ART commencement
- **CD4< 50cells/ml consider ART after 2 weeks of anti-TB therapy**
- **CD4> 50cells/ml ART can be delayed up to 8 weeks of anti-TB therapy.**

**All patients should be offered TMP/SMX prophylaxis.**

Prophylaxis against TB with Isoniazid therapy is not currently recommended in Jamaica.
Recommended reading

- PAHO. Caribbean Guidelines for the Prevention, Treatment, Care, and Control of Tuberculosis and TB/HIV. PAHO 2010

Management of Genital Disease

In Jamaica, STI co-infection is one of the major drivers of HIV transmission. All HIV positive patients must be screened for STIs.

History:
- Full sexual history
- Duration and location of lesions
- Abnormal discharge, pruritus, odour, burning, pelvic pain in women
- Previous history of genital ulcers (e.g. syphilis or herpes) or genital discharge
- Any associated symptoms (e.g. inguinal lymphadenopathy)
- Any past or present treatment

Examination:
- Number, dimensions and location of lesion
- Examination of genital discharge and speculum examination in women
- Presence of pigmentation, oedema, erythema, induration, exudates, tenderness
- Associated oral lesions, lymphadenopathy or rash.
- Examination of the pharynx and anus

Laboratory Evaluation:
- Syphilis serology
- ± Herpes Ab
- ± HVS
**Genital Ulcer Disease**

**Syphilis**

- **Diagnosis**
  HIV positive patients may have unusually high titers or false negatives, but generally serology can be interpreted in the usual manner.

- **Presentation**
  Solitary, firm, painless ulcer, spontaneously resolves in 6 weeks. However, presentation may be atypical.

- **Treatment**
  Primary, secondary and early latent: benzathine penicillin 2.4 MU IM weekly x 2wks
  For penicillin allergy: Doxycycline 100mg b.d. x 15 days
  Late latent, unknown duration:
  CSF positive – crystalline penicillin 18-24MU/day (3 to 4 MU IV q4hx 10-14 days.)
  CSF negative – 2.4 MU benzathine penicillin weekly x 3 wks
  Follow up serological exams for all stages of syphilis should be done at 3, 6, 12, 24 months.

  Screen the CSF with serum titers >1:32 prior to commencing specific treatment.
  *CSF examination may not always be available prior to treatment and should be considered if no response to standard therapy within 3-12 months.
**Herpes simplex**

- HIV positive patients may have more frequent, prolonged, and severe episodes with progressive immunosuppression; lesions may be atypical in appearance or location. Viral shedding increases with declining CD4 counts.
- Treatment: first episode: valaciclovir 1gm b.d. x 7-10dys.
  acyclovir 400mg t.i.d. x 7-10dys.

  Recurrences: valaciclovir 500mg b.d. x 5dys.
  acyclovir 400mg t.i.d. x 7-10dys

  Chronic suppressive therapy: valaciclovir 500mg daily
  acyclovir 400mg b.d.

  Severe disease: Double standard dosing for 5 – 7 days
  or until clinical resolution
  ART is also recommended

**Urethral/vaginal discharge**

Treatment of urethral discharge follows a syndromic management system

**Please see Brathwaite AR. 2001. Practical case management of common STI syndromes.NHP, MOH, Jamaica.**
9. **Management of Occupational Exposure to HIV**

Prevention of occupational exposure to HIV includes risk assessment and risk reduction activities such as:
- Using Universal Precautions;
- Wearing heavy-duty gloves when disposing of "sharps";
- Assessing protective and other equipment for risk and safety;
- Adopting safe techniques and procedures, such as
  - Disposing of needles without recapping, or recapping using the single-handed method
  - Using sterile nasal catheters and other resuscitation equipment,
  - Using a separate delivery pack for each delivery, and
  - Not using episiotomy scissors to cut the umbilical cord.
- Making appropriate disinfectants and cleaning materials available
- Sterilizing equipment properly

**Accidental exposure to Blood and Body Fluids**

The following steps should be followed in case of accidental exposure to blood or blood products inclusive of needle stick injuries.

**Immediately following an exposure to blood or body fluids:**

1. **Exposed area should be thoroughly washed with running water**
   - Needle sticks and cuts should be washed with water.
   - Splashes to the nose, mouth or skin should be flushed with water.
   - Eyes should be irrigated with clean water or saline
   - **The use of bleach, alcohol, Savlon or other disinfectants is not recommended.**

2. **The incident should be promptly reported (See Appendix 10).**
   - In hospital - to the infection control nurse or designate on each shift.
   - At Health Centre to the Nurse in Charge (Public Health Nurse - to the parish Medical Officer of Health)
   - At the lab to the Chief Medical Technologist or designated individual

3. **Exposure Report Form should be completed.**
   - This should be done while interviewing the affected person.
   - The completed form must be submitted to the Parish Medical Officer of Health.
4. Assess the risk of acquiring Hepatitis B, Hepatitis C and HIV.
Most exposures do not result in HIV infection. The risk of infection varies with the type of exposure (See table below) and factors such as:
- The amount of blood involved in the exposure
- The HIV status and the amount of virus in the patient's blood at the time of exposure
- The severity of the injury e.g. scalpel or large bore needle injury increases risk

5. Patients at moderate and high risk of HIV and Hepatitis B infection should be considered for post exposure prophylaxis (PEP).
Initiation of PEP should be decided on a case-by-case basis and after full discussion with each exposed person. It should begin ideally within hours of exposure but no later than 72 hours.
Individuals who have not previously been immunized against Hepatitis B should commence the vaccine immediately and be given Hepatitis B Immunoglobulin if available.

6. Ensure that the health worker is fully counselled regarding the potential implications of the injury e.g. abstinence, symptoms of acute illness, side effects of drugs, psychological reactions. Refer for further counselling as required.

7. Take blood for baseline HIV and Hepatitis B & C (if applicable) status.
Repeat blood test for HIV antibodies and Hepatitis surface antigen (if applicable) at 3 and 6 months.

Regime should be continued for four weeks unless the source patient is known and subsequently tests HIV negative.
The risk of HIV-1 transmission varies based on the type of exposure and factors related to the source patient.

Type of exposure with infectious fluid

<table>
<thead>
<tr>
<th>High Risk</th>
<th>Low Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percutaneous</td>
<td>Mucous membrane</td>
</tr>
<tr>
<td>Hollow bore needle</td>
<td>Solid needle</td>
</tr>
<tr>
<td>Deep penetration</td>
<td>Superficial injury</td>
</tr>
<tr>
<td>Visible blood</td>
<td></td>
</tr>
</tbody>
</table>

Source patient factors
- Known HIV positive
- Terminal AIDS patient, known high viral load

Infectious fluids
- Blood, CSF
- Semen, vaginal secretions
- pleural, peritoneal, pericardial, amniotic fluid

Non-infectious fluids (without visible blood)
- Urine, faeces, saliva, tears, gastric fluid

HIV-1 and HIV-2 are not the only infectious agents that can be transmitted by accidental exposure to blood or other body fluids. After single percutaneous injury, the risk of transmission is estimated between 2-40% for Hepatitis B virus, 3-10% for Hepatitis C virus and 0.2-0.5% for HIV.

During counselling patients should be reassured that WITHOUT TREATMENT, transmission occurs approximately once in every 300 instances of needlestick injury from a known HIV-positive source. Where PEP is recommended, the use of condoms is recommended for any sexual exposures for the duration of therapy.
RECOMMENDED PROPHYLAXIS FOLLOWING OCCUPATIONAL EXPOSURE TO KNOWN HIV +

<table>
<thead>
<tr>
<th>Type of Exposure</th>
<th>Risk</th>
<th>Source</th>
<th>Antiretroviral</th>
<th>Suggested Regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percutaneous</td>
<td>High risk</td>
<td>Known HIV positive</td>
<td>Recommended</td>
<td>AZT/3TC+ LPV/r</td>
</tr>
<tr>
<td></td>
<td>Low risk</td>
<td>Unknown Serostatus</td>
<td>Should be offered</td>
<td>AZT/3TC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Consider for unknown serostatus)</td>
<td>(Duration 4 weeks)</td>
</tr>
<tr>
<td>Mucous Membranes, Non-intact skin</td>
<td>Large volume</td>
<td>Known HIV positive</td>
<td>Should be offered</td>
<td>AZT/3TC+ LPV/r</td>
</tr>
<tr>
<td></td>
<td>Small volume (few drops)</td>
<td>Unknown Serostatus</td>
<td>Should be offered</td>
<td>AZT/3TC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(not recommended for unknown serostatus)</td>
<td>(Duration 4 weeks)</td>
</tr>
</tbody>
</table>

*Alternatives for ART choices
- AZT/3TC alternative TDF/FTC
- LPV/r alternative ATV/r

NOTE
- Prophylaxis should be offered ideally within hours of exposure, however clinical benefit remains up to 72 hours.
- Begin prophylaxis if source patient is HIV positive or of unknown HIV Status as recommended - perform HIV serology on Source patient and if result is negative stop prophylaxis. If HIV screening refused by source patient consider as unknown HIV status.
- Recommended dose for AZT/3TC (Zidovudine+Lamivudine) is one tablet PO twice per day for four weeks
- LPV/r (Aluvia) 400/100mg PO twice times per day for four weeks
- Conduct baseline HIV serology on exposed worker and repeat after three months
- Consider HIV drug resistance patterns in the source patient when selecting ART.
10. **Non-Occupational Exposure**

HIV may be transmitted through mucous membrane exposure to infected semen or blood. The risk and treatment is parallel to occupational exposure through mucous membrane contact. Trauma and STDs will enhance HIV transmission. Post exposure prophylaxis (PEP) when offered **within 72 hours** from exposure has been shown to reduce the risk of sero-conversion. PEP should be offered to all clients with self-perceived high risk of HIV acquisition.

**Eligibility criteria for PEP**
- Direct contact of vagina, mouth or anus with semen or blood from an infected source.
- Tissue damage or presence of blood at site of assault with or without physical injury.
- PEP should be offered as soon as possible following exposure, preferably within 24 hours and not beyond 72 hours from exposure.

**Assessment should include**
- History – duration of time since exposure
- Nature of exposure
- Physical Examination
- Emotional status – trauma following assault/exposure
- Readiness to consider possible HIV infection immediately following sexual exposure
- Decision making ability
- Support systems – psychosocial
- Clinical
- Education

**Consider the HIV status of the Source**
- Recommendations for initiating HIV PEP should *not* be based on likelihood of HIV infection of the source
- If HIV status confirmed, this should guide PEP recommendations
- The perceived seroprevalence of HIV in a particular geographic location where the assault occurred should not influence the decision to recommend HIV PEP.
**Initiation of therapy**

Discussion should include
- Potential benefits of prophylaxis
- Possibility of side effects
- Nature/duration of treatment and monitoring
- Importance of adherence and drug resistance
- Assessment of patient’s willingness and readiness to begin PEP.

**If pregnant**
- *Full discussion of benefits and risks of PEP for both maternal and foetal health should occur*
- *Therapy with certain antiretroviral agents during the first trimester may be associated with foetal toxicity*
- *Advise not to breast feed until definitive diagnosis has been made*

**Recommended Regimen**

**High Risk:** AZT 300mg + 3TC 150mg + LPV/r (Aluvia) 400/100mg all twice daily.

**Low Risk:** AZT 300mg + 3TC 150mg twice daily.

**For four weeks**

The provider should
- Educate the patient about clinical signs and symptoms of primary HIV infection
- Instruct him or her to seek immediate care from a specialist should they occur
- Review information the next day whether or not PEP is initiated
- **Focus should be place on risk reduction techniques.**

Ensure patients have
- Appropriate arrangements for follow up care
- Referral to or consultation with a specialist
- Monitoring ARV therapy
- Repeat diagnostic testing

In the case of an indeterminate test or symptoms suggestive of primary HIV infection refer the patient to the NHP or an experienced HIV healthcare provider. (unless the patient is confirmed to be HIV negative) the clinician should continue PEP (with triple therapy) until a definitive diagnosis is established.

- Baseline HIV serologic testing to be obtained prior to PEP initiation
- PEP should be started immediately after serologic testing
- Confidential HIV testing should be provided by the treating physician
- Repeat testing should be performed at 2-4 weeks with a combined Ab/Ag Rapid HIV test.
- Rape crisis counsellors should be active participants in the discussion where indicated.
- Recommend additional testing for
  - Hepatitis B
  - STDs: Trichomonas Vaginalis, Chlamydia, Gonorrhoea, Syphilis

- Follow up visit within 24 hours to review
  - PEP regimen
  - Adherence
  - Follow up care
  - If PEP was not initiated – possible initiation of PEP
    - possible alternatives
SECTION 5: APPENDICES
Appendix 1. CDC Classification System for HIV-Infected Adolescents and Adults

Clinical categories
The three clinical categories are:

Category A
Category A consists of one or more of the conditions listed below in an adolescent or adult (13 years or older) with documented HIV infection. Conditions listed in Categories B and C must not have occurred.
**asymptomatic HIV infection**
**persistent generalised lymphadenopathy (PGL)**
**acute (primary) HIV infection with accompanying illness (sometimes known as seroconversion illness) or history of acute HIV infection**

Category B
Category B consist of symptomatic conditions in an HIV-infected adolescent or adult that are not included among conditions listed in Category C and that meet one of the following criteria:
**the conditions are attributed to HIV infection or are indicative of a defect in cell-mediated immunity, or**
**the conditions are considered by physicians to have a clinical course or to require management that is complicated by HIV infection**

This category includes all such symptomatic conditions, with the exception of those placed in Category C. Examples of conditions in this category include, but are not limited to:
**bacillary angiomatosis**
**candidiasis (thrush) in the mouth and/or upper throat**
**candidiasis of the vagina and/or vulva which is persistent, frequent, or responds poorly to treatment**
**cervical abnormalities of moderate or severe extent or cervical cancer**
**constitutional symptoms such as fever (38.5 C) or diarrhoea lasting longer than one month**
**herpes zoster (shingles) involving at least two distinct episodes or more than one dermatome (skin area)**
**idiopathic thrombocytopenia purpura**
**listeriosis**
**oral hairy leukoplakia**
**pelvic inflammatory disease, particularly if complicated by tubo-ovarian abscess**
**peripheral neuropathy**

For classification purposes, Category B conditions take precedence over those in Category A. For example, someone previously treated for oral or persistent vaginal candidiasis (and who has not developed a Category C disease) but who is now asymptomatic should be classified in clinical Category B.

**Category C**

Category C includes the following conditions listed in the AIDS surveillance case definition. For classification purposes, once a Category C condition has occurred, the person will remain in Category C.

**Candida in the oesophagus, trachea, bronchi or lungs**
**invasive cervical cancer**
**coccidiodomycosis**
**Cryptococcus outside the lungs**
**cryptosporidiosis with diarrhoea lasting for more than one month**
**CMV disease outside the liver, spleen or lymph nodes**
**CMV retinitis**
**herpes simplex virus causing prolonged skin problems or involving the lungs or oesophagus**
**HIV-related encephalopathy**
**chronic intestinal isosporiasis lasting longer than one month**
**Kaposi’s sarcoma**
**Burkitt's, immunoblastic or primary (i.e. not involving other parts of the body) brain lymphoma**
**Widespread Mycobacterium avium intracellulare (MAI), M kansasii or other species**
**Pneumocystis carinii pneumonia (PCP)**
**recurrent bacterial pneumonia**
**progressive multifocal leukoencephalopathy (PML)**
**recurrent Salmonella septicaemia**
**toxoplasmosis of the brain**
**HIV wasting syndrome**
CD4 count categories

The three CD4 count categories are:

**Category 1:** MORE than 500 cells/mm³

**Category 2:** 200 - 499 cells/mm³

**Category 3:** LESS than 200 cells/mm³

Categorisation should be based on the **lowest** accurate CD4 count, not necessarily the most recent one.
Appendix 2: Revised WHO Clinical Staging of HIV/AIDS For Adults And Adolescents

Primary HIV infection
Asymptomatic
Acute retroviral syndrome

Clinical stage 1
Asymptomatic
Persistent generalized lymphadenopathy (PGL)

Clinical stage 2
Moderate unexplained weight loss (<10% of presumed or measured body weight)
Recurrent respiratory tract infections (RTIs, sinusitis, bronchitis, otitis media, pharyngitis)
Herpes zoster
Angular cheilitis
Recurrent oral ulcerations
Papular pruritic eruptions
Seborrhoeic dermatitis
Fungal nail infections of fingers

Clinical stage 3
Conditions where a presumptive diagnosis can be made on the basis of clinical signs or simple investigations
Severe weight loss (>10% of presumed or measured body weight)
Unexplained chronic diarrhoea for longer than one month
Unexplained persistent fever (intermittent or constant for longer than one month)
Oral candidiasis
Oral hairy leukoplakia
Pulmonary tuberculosis (TB) diagnosed in last two years
Severe presumed bacterial infections (e.g. pneumonia, empyema, pyomyositis, bone or joint infection, meningitis, bacteraemia)
Acute necrotizing ulcerative stomatitis, gingivitis or periodontitis

Conditions where confirmatory diagnostic testing is necessary
Unexplained anaemia (< 8 g/dl), and or neutropenia (<500/mm3) and or thrombocytopenia (<50 000/ mm3) for more than one month
Clinical stage 4  
*Conditions where a presumptive diagnosis can be made on the basis of clinical signs or simple investigations*
- HIV wasting syndrome
- Pneumocystis pneumonia
- Recurrent severe or radiological bacterial pneumonia
- Chronic herpes simplex infection (orolabial, genital or anorectal of more than one month’s duration)
- Oesophageal candidiasis
- Extrapulmonary TB
- Kaposi’s sarcoma
- Central nervous system (CNS) toxoplasmosis
- HIV encephalopathy

*Conditions where confirmatory diagnostic testing is necessary:*
- Extrapulmonary cryptococcosis including meningitis
- Disseminated non-tuberculous mycobacteria infection
- Progressive multifocal leukoencephalopathy (PML)
- Candida of trachea, bronchi or lungs
- Cryptosporidiosis
- Isosporiasis
- Visceral herpes simplex infection
- Cytomegalovirus (CMV) infection (retinitis or of an organ other than liver, spleen or lymph nodes)
- Any disseminated mycosis (e.g. histoplasmosis, coccidiomycosis, penicilliosis)
- Recurrent non-typhoidal salmonella septicaemia
- Lymphoma (cerebral or B cell non-Hodgkin)
- Invasive cervical carcinoma
- Visceral leishmaniasis
**Appendix 3: Renal and Hepatic Adjusted Dosing of ART**

<table>
<thead>
<tr>
<th>ART</th>
<th>Renal Dysfunction (CrCl)</th>
<th>Haemodialysis</th>
<th>Hepatic Dysfunction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zidovudine</td>
<td>CrCl &gt;15: 300mg od</td>
<td>300mg od</td>
<td>Consider decreased dose</td>
</tr>
<tr>
<td></td>
<td>CrCl 15-29: 100mg od</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lamivudine</td>
<td>CrCl 5-14: 50mg od</td>
<td>25-50mg od</td>
<td>Usual dose</td>
</tr>
<tr>
<td>Tenofovir</td>
<td>CrCl 30-49: 300mg q48hrs</td>
<td>Avoid</td>
<td>Usual Dose</td>
</tr>
<tr>
<td>Abacavir</td>
<td>Usual dose</td>
<td>Usual dose</td>
<td>Usual dose for *CP class A, contraindicated for classes B &amp; C</td>
</tr>
<tr>
<td>Stavudine</td>
<td>CrCl 26-50: 20mg bd</td>
<td>20mg od</td>
<td>Caution</td>
</tr>
<tr>
<td>Didanosine</td>
<td>CrCl 10-29: 300mg twice weekly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nevirapine</td>
<td>Usual dose</td>
<td>Usual dose</td>
<td>Avoid with hepatotoxicity</td>
</tr>
<tr>
<td>Efavirenz</td>
<td>Usual dose</td>
<td>Usual dose</td>
<td>Use with caution</td>
</tr>
<tr>
<td>Lopinavir</td>
<td>Usual dose</td>
<td>Usual dose</td>
<td>Use with caution</td>
</tr>
<tr>
<td>Atazanavir</td>
<td>Usual dose</td>
<td>Usual dose</td>
<td>Use with caution</td>
</tr>
</tbody>
</table>

*CP class – Child Pugh Class
Appendix 4: Desensitization with Trimethoprim/Sulfamethoxazole (TMP/SMX)

<table>
<thead>
<tr>
<th>DAY</th>
<th>DILUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1:1,000,000</td>
</tr>
<tr>
<td>2</td>
<td>1:100,000</td>
</tr>
<tr>
<td>3</td>
<td>1:10,000</td>
</tr>
<tr>
<td>4</td>
<td>1:1,000</td>
</tr>
<tr>
<td>5</td>
<td>1:100</td>
</tr>
<tr>
<td>6</td>
<td>1:10</td>
</tr>
<tr>
<td>7</td>
<td>1:1</td>
</tr>
<tr>
<td>8</td>
<td>Standard Suspension – 1mL 40mg SMX – 8mg TMP</td>
</tr>
<tr>
<td>≥9</td>
<td>IDS tab/day</td>
</tr>
</tbody>
</table>

** Patients who experience mild reactions during the desensitization process should be maintained at that drug concentration and be treated symptomatically with antihistamines until tolerance has been achieved.
## Appendix 5: General Principles of Positive Health, Dignity and Prevention

<table>
<thead>
<tr>
<th>Category</th>
<th>Specifics</th>
<th>Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Risk Assessment</td>
<td>Knowledge on HIV transmission and prevention methods</td>
<td>- Opportunity to educate and correct misinformation - Prioritize patients risk behaviours</td>
</tr>
<tr>
<td>Sexual Practices</td>
<td>- Build rapport - Detailed sexual history identifying approach to sex, condom use and negotiation, factors surrounding risky sexual practices - Screen for pregnancy</td>
<td>- Assess level of transmission risk - Assess ability for consistent condom use, correct misinformation - Supply with condoms and lubricants</td>
</tr>
<tr>
<td>Partner Notification</td>
<td>- Assess patient’s thoughts and past experiences - Assess fear of violence or discrimination.</td>
<td>- Initiate contact tracing - Provide support and counselling for disclosure</td>
</tr>
<tr>
<td>STI Screening</td>
<td>- Screen at presentation and after sexual exposure to new partner (GUD is of particular concern for increased risk of transmission)</td>
<td>- Provide syndromic therapy</td>
</tr>
<tr>
<td>Substance Abuse (including alcohol)</td>
<td>- Assess use, experiences, desires of discontinuation - Assess impressions of impact of use on sexual behaviour</td>
<td>- Assess readiness for quitting - Provide access to intervention teams - Provide specific risk reduction methods e.g. not sharing needles or straws (for cocaine)</td>
</tr>
<tr>
<td>Mental Health Assessment</td>
<td>- Assess past history of mental health illness including any pharmacotherapy - Perform depression screen</td>
<td>- Provide access to mental health services</td>
</tr>
<tr>
<td>Antiretroviral Therapy (ART)</td>
<td>- Assess knowledge on relationship between viral load and transmission risk</td>
<td>- Provide access to ART and emphasize adherence  *Beware of increases in risky behaviour with new found “protection”</td>
</tr>
</tbody>
</table>
Appendix 6: Local organizations working with AIDS and HIV

Centre for HIV/AIDS Research, Education and Services, University Hospital West-Indies (CHARS)
UHWI, Mona Kingston
Tel: (876) 977-6921 Fax: (876) 977-6921

Jamaica Network of Seropositives (JN+)
14 South Avenue
Kingston 10
Tel: (876) 929-6946
Fax: (876) 929-6946
Email: jnplusgipa@hotmail.com

Jamaica Red Cross
Central Village
St. Catherine
Tel: (876) 984-7860-3 Fax: (876) 984-8272
Email: JRCS@infochan.com

Jamaica AIDS Support
4 Upper Musgrave Road
Kingston 5
Tel: (876) 978-2345
Fax: (876) 978-7876
Email: info@jamaicaaidssupport.com
Website: www.jamaicaaidssupport.com

Comprehensive Health Centre
55 Slipe Pen Road
Kingston 5
Tel: (876) 922-2095 / 924-9673

Windward Road Health Centre
18 Paradise Street
Kingston 16
Tel: (876) 938-3910

Beth Jacobs Clinic
14 Kingston Street
St Ann's Bay St. Ann
Tel: (876) 972-2259

AIDS Prevention and Education Campaign
517 Eltham View
Spanish Town St Catherine
Tel: (876) 983-5370
Email: yvonne216@hotmail.com

Brothers of the Poor
7 Laws Street
Kingston
Tel: (876) 922-2996

Children First
9 Monk Street
Spanish Town, St Catherine
Tel: (876) 984-0367
Fax: (876) 984-2839
Email: kidz@cwjamaica.com

Poor Relief Department
65 Hanover Street
Kingston
Tel: (876) 922-6936-7
Fax: (876) 967-3470

Jamaica AIDS Support
P.O. Box 133
Ocho Rios St. Ann
Tel: (876) 974-7236
Fax: (876) 974-6461
Email: ochorios@jamaicaaidssupport.com
**HIV / AIDS Helpline**
Tel: (876) 967-3830 / 3764
Free Tel: 1-888-991-4444

**Ministry of Health**
**Epidemiology Unit**
4th Floor
2-4 King Street
Kingston
Tel no: (876) 967-1100 / 1103/1105/1092
Fax: (876) 967-1280
Website: [http://www.jamaicanap.org](http://www.jamaicanap.org)

**Behaviour Change Communication Manager**
Ministry of Health
4th Floor
2-4 King Street
Kingston
Tel: (876) 967-1100/1103/1105/1092
Fax: (876) 967-1280
Email: byfieldl@moh.gov.jm

**National Family Planning Board**
5 Sylvan Avenue
Kingston 5
Tel: (876) 968-1633 / 906-9707 / 754-4557

**Marge Roper Hotline:**
Tel: (876) 968-1634-35 Kgn

**Family Counselling Centre**
56 Windsor Road
St Ann's Bay
Tel: 972-1805
Email: gifmour@email.com

**Guidance and Counselling**
Ministry of Education
Caenwood Centre
37 Arnold Road
Kingston 5
Tel: (876) 922-9370 / 967-5193
Fax: (876) 967-5193

**Child Development Agency**
The Ministry of Health
2-4 King Street
Kingston
Tel: (876) 922-8857 / 8461
Fax: (876) 924-9401

**YOUTH NOW**
The Ministry of Health
5th Floor, 2-4 King Street
Kingston
Tel: (876) 967-1100 / 1103 / 1105 Ex: 2045
Fax: (876) 967-1280

**West Help and VIP**
C/O St James Health Department
Montego Bay St James
Tel: (876) 979-7820
Fax: (876) 979-7802

**Jamaica Foundation for Children**
119 Old Hope Road
Kingston 6
Tel: (876) 977-0040
Fax: (876) 977-0997
Email: jfc@cwjamaica.com

**The Salvation Army**
3 Waterloo Road
Kingston 10
Tel: (876) 929-6190-2
Fax: (876) 929-7560

**Caribbean Conference of Churches**
14 South Avenue
Kingston 10
Tel: (876) 926-7007/7114
Fax: (876) 926-6990
Email: ccchurch@cwjamaica.com

**Planning Institute of Jamaica**
10-16 Grenada Way
Kingston 5
Tel: (876) 906-4386/4453
Mustard Seed Community
1 Mahoe Drive
Kingston 11
Tel: (876) 937-0331
Fax: (876) 923-6000

Victim Support Group
9 Eureka Crescent
Kingston 5
Tel: (876) 906-8548/ 8554
Fax: (876) 922-5236

Iolie Whorms Innercity Counselling Centre (IWICC)
155 Church Street
Kingston
Tel: (876) 948-2948 (Mon.-Fri. 9AM-5PM)
Tel: (876) 948-3805 (after 5PM)
Email: iwicc@yahoo.com

Hope Worldwide Jamaica
7 Oxford Park Avenue
Kingston 5
(876) 754-4446
(876) 754-4012
hopeja@cwjamaica.com
www.hopewww.org

Adolescent Reproductive Health
2-4 King Street
Kingston
Tel:(876) 967-1100/1105
Fax: (876) 967-1280

ACOSTRAD
C/O National Public Health Laboratory
21 Slupe Pen Road, Kingston
Tel: (876) 967-0169
Fax: (876) 978-1532
Email: gram@kasnet.com

Jamaica Forum for Lesbians, All-Sexuals and Gays (JFLAG)
PO Box 1152
Kingston 8
Tel: (876) 978-3727
Fax: (876) 978-7876
Email: info@jflag.org
Website: www.jflag.org

Jamaica Employers Federation (JEF)
2a Ruthven Road
Kingston 5
Tel.: (876) 926-6908/6762/5524
Fax: (876) 754-2132/968-4576
Email: jef@cwjamaica.com
Website: www.jamaicaemployers.com

Youth at the Cross Roads
Campus Crusade for Christ
11 Earls Court
PO Box 1308
Kingston 8
Tel.: (876) 931-4269
Fax: (876) 931-4264
Email: cccj@cwjamaica.com

Bureau of Women's Affairs
4 Ellesmere Road
Kingston 10
Tel.: (876) 754-8575-8
Fax: (876) 929-0549
Email: cpetgrave@yahoo.com
Appendix 7: Reporting algorithm

Ministry of Health
- Minister of Health
- Chief Medical Officer
- Director, NHP
- Policy and Planning unit
- National Epidemiologist

Ministry of Health National Epidemiology/Surveillance Unit
- HATS database officer
- HATS data entry clerk
- Director: Treatment, Care & Support
- Director: Monitoring & Evaluation, NHP
- Medical Epidemiologist, Communicable Diseases
- HIV Surveillance Officer

Parish Health Departments (13)
- Medical Officer (Health)
- Parish Epidemiology Officer

Health Centres
- Surveillance Coordinators
- Contact Investigators
- Midwives
- Doctors, Family Nurse Practitioners
- Health Records Officers

Hospitals
- HATS Officers
- Doctors
- Medical Technologist

Treatment and care sites
- BCC officers

NGO’s
- Medical Officers in other sectors

Private Doctors

Annual Epi Update:
Regional and international Reports:
Global Fund, World Bank, PAHO, UNAIDS, WHO, USAID, PEPFAR, Universal Access

HIV/AIDS confidential reporting form generated in the field
Appendix 8: HIV Algorithm for Field Rapid Testing in Jamaica

HIV RAPID TEST ALGORITHM

HIV Rapid Test 1
Determine 1/2

Rapid Test
Negative

Patient HIV
Negative

Indicate positive result to
Patient with Post-test
Counseling and Risk
Reduction

Rapid Test
Positive

HIV Rapid test 2
Colloidal Gold

Rapid test
Positive

Indicate positive result to Patient
with appropriate counseling

Rapid Test
Negative

Recheck sample ID
/Quality assurance
Indicate Preliminary
Indeterminate result
with need for
confirmation

Additional Venous
Sample to NPHL for
confirmation with
4th Generation ELISA
Appendix 9. HIV/AIDS Confidential Reporting Form – Page 1

HIV/AIDS CONFIDENTIAL REPORTING FORM
Send all reports to S.M.O., Surveillance Unit
2 King Street, Kingston,
Ministry of Health,
Telephone: 967-1100/1 3/3, Fax # 967-1230
AIDS STD Helpline Tel: 967-3830

1. NAME: ______________________________________ Sex: M( ), F( )
   Last      First       Middle       Pet name

2. ADDRESS: ________________________________________ Tel: ____________________
   2b. CHECK HERE IF HOMELESS ()

   dd mm yy weeks if infant employed □ unemployed □ MARITAL STATUS: ________

4. HIGHEST LEVEL OF EDUCATION: ____________________________

5. Number of children under 15 years of age: ________ 6. Deported? Y( ) N( )

7. NEXT OF KIN: ______________________________________
   Name: ______________________ Relation: ______________________ Address: ____________
   7b. MOTHER’S NAME _____________________________

8. SEXUAL CONTACTS
   (Surname)        First Name        Sex (m/f)        Relation        Address        Parish
   ___________________________ ___________________________ ___________________________ ___________________________ ___________________________
   ___________________________ ___________________________ ___________________________ ___________________________ ___________________________
   ___________________________ ___________________________ ___________________________ ___________________________ ___________________________
   ___________________________ ___________________________ ___________________________ ___________________________ ___________________________
   ___________________________ ___________________________ ___________________________ ___________________________ ___________________________
   ___________________________ ___________________________ ___________________________ ___________________________ ___________________________

9. SEXUAL PRACTICE of Patient: Heterosexual ( ) Homosexual ( ) Bisexual ( ) Not known ( )

10. RISK HISTORY

<table>
<thead>
<tr>
<th></th>
<th>Date: <strong>/</strong>/____</th>
<th>Ever: <strong>/</strong>/____</th>
</tr>
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<tbody>
<tr>
<td>Blood transfusion</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
</tr>
<tr>
<td>Cocaine use</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
</tr>
<tr>
<td>Intravenous drug use</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
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<td>Infection of STI</td>
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<td>Y( ) N( )</td>
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<tr>
<td>Sex with CSW</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
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<tr>
<td>Multiple Partners</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
</tr>
<tr>
<td>Ever in Prison</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
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<tr>
<td>Victim of sexual assault</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
</tr>
<tr>
<td>Sex with known HIV</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
</tr>
<tr>
<td>-ve person</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
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</table>

11. CLINICAL STATUS

<table>
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<th>Date: <strong>/</strong>/____</th>
<th>Ever: <strong>/</strong>/____</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight loss (&gt;10%)</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
</tr>
<tr>
<td>Cough (&gt;4 weeks)</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
</tr>
<tr>
<td>Fever (&gt;1 month)</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
</tr>
<tr>
<td>PCP</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
</tr>
<tr>
<td>Recurrent Pneumonia</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
</tr>
<tr>
<td>Tuberculosis:</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
</tr>
<tr>
<td>- If Yes: Pulmonary</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
</tr>
<tr>
<td>- Extra Pulmonary</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
</tr>
<tr>
<td>Disseminated</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
</tr>
<tr>
<td>CNS involvement</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
</tr>
<tr>
<td>- Invasive cervical cancer</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
</tr>
<tr>
<td>Severe Bacterial Infection (Specify)</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
</tr>
<tr>
<td>- Chronic Hepatitis</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
</tr>
<tr>
<td>- AIDS dementia</td>
<td>Y( ) N( )</td>
<td>Y( ) N( )</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If pregnant, please complete box on reverse of this form

12. TRANSMISSION CATEGORY: Sexual ( ) Vertical ( ) IV Drug Use ( ) Haemophiliac ( ) Blood Transfusion ( )

13. CD4 COUNT _____ CD4 CD8 ratio _____ Date of CD4 count _____ / _____ Year Lost: _____ Date of Vital Loss: _____ / _____

14. IS PAT ON ANTIRETROVIRAL TREATMENT (ARV)? Y( ) N( ) START DATE OF ARV: _____ / _____ / _____

14b. ARV Line: 1st line ( ) 2nd line ( ) Salvage therapy ( ) Unknown ( )

Page 1 of 2

P.T.O. ____________
Appendix 9. HIV/AIDS Confidential Reporting Form – Page 2

Page 2 HIV/AIDS CONFIDENTIAL REPORTING FORM

15. CURRENT STATUS OF PT: HIV (no symptoms) ( ) HIV (minimal symptoms) ( ) Advanced HIV (CD4 count 201 – 350) ( )
   AIDS ( ) AIDS-related Death ( )

16. DATE OF ONSET OF SYMPTOMS: ____________

17. Date diagnosed as Advanced HIV/AIDS: ____________ Date of Death: ____________ Cause of Death: ____________

18. Rapid Test: Date: / / Result: Pos [] Neg [] Test Type: ___________________________
   Where tested? Antenatal Clinic [ ] Private Antenatal [ ] STI Clinic [ ] Blood Bank [ ] Hospital [ ] Private doctor [ ]
   Other [ ] Specify: ___________________________
   Confirmatory HIV Test DATE: / / Result: Pos [] Neg [] Test Type: ___________________________
   Lab: ___________________________


20. FOR PREGNANT WOMEN ONLY, PLEASE ENTER THE FOLLOWING INFORMATION:
   a. Estimated gestational Age: _______ weeks Estimated date of delivery: _______/
   b. Clinic site: ____________________________ Parish: ____________________________ Clinic MRN #: ____________________________
   c. Patient referred to: VJH clinic ( ) UHWI ( ) Spanish Town ( ) CRH ( ) Mandeville ( ) St Ann’s Bay ( )
   Other: ____________________________ Date of referral appointment: _______/
   Pt. Not referred ( ) Pt. Refused referral: ( )
   d. Post test counselling done by: ____________________________ (Enter name) Date of Post test counselling: _______/

Definitions:
- Transfer — Indicate if the patient transferred to from another treatment site or private physician.
- Date of Initial Contact — Date on which risk history of clinical status is being updated.
- Multiple partners — Persons who report having sex with more than one person within a year.
- CSW — Commercial sex worker, exchange of sex for money as a main source of income.
- Sexual Assault — Anal or vaginal intercourse without explicit consent, incident involved intimidation or threat or fear of violence.
- Transactional Sex — Exchange of sex for food, goods or cash (but not as main source of income).
- FCP — Pharyngitis, Involv NonSTD
- CNS involvement — Unexplained recent onset of seizures, dementia, toxoplasmosis, CMV, Cryptosporidium, encephalopathy
- Recurrent pneumonia — Two or more episodes within a 1-year period.
- Gen. lymphadenopathy — Two or more sites with enlarged lymph nodes.
- ARV Line — HAART line patient is currently on or last took - 1st, 2nd, or Salvage therapy.
- Education — No formal schooling, Basic, Primary/All Age, Secondary/High School, Technical, Skills training, Other (specify).
- Marital Status — legally married, common law, visiting union, single

PLEASE NOTE:
- Enter all dates in the format dd/mm/yyyy.
- Reporting physicians are advised to initiate interview of index case to identify sexual contacts and encourage partner notification.
- If all sexual partners have been investigated, please tick “Do not contact trace” on front of form.
- DO NOT SEND PATIENTS to the Ministry of Health, 2-4 King Street with confidential reporting forms.
- If you have an “update” on the clinical condition or death of a patient please complete and send new HIV Confidential Reporting Form.
- Send report under confidential cover to the MOH at the Parish Health Department or S.M.O. at top of page 1 of this form.

PATIENT’S DOCTOR: ____________________________ Address/hospital: ____________________________ Tel: ____________

SOURCE OF INFORMATION: ____________________________ Reported by: ____________________________ Date reported: _______/

Confidential patient counselling information for providers, and automated information are available from AIDS/STD Helpline
Tel: 967-3830, 967-3764, 1-888-991-4444 Hours: 10:00 a.m. – 10:00 p.m. Monday through Friday
Web Page: www.ahpjamaica.org

Revised: June 2012
**Appendix 10 – Post Exposure Prophylaxis (PEP) Reporting Forms**

**Needle Stick, Sharp Object Injury and Fluid Exposure Report**

1. Name: ____________________________ DOB: _______________ Sex: M  F  
   Occupation: _____________________________________________

2. Date/Time of Exposure/Injury: ____________________________________________________________

5. Reported by: ________________________________ Date: _______________________________________

7. Institution where exposure/injury occurred: _______________________________________________

8. Where did the exposure/injury occur?
   A Ward (specify) ________  G Operating Theatre
   B Dressing Room  ________  H Dialysis Unit
   C Phlebotomy room ________  I Labour & Delivery Room
   D Outpatient clinic ________  J Service/ Utility Area (laundry, garage, disposal, etc.)
   E ICU ________  K Other (specify): _______________________________________________________
   F A&E / Casualty

9. Name of the source patient: ________________________________________  □ Source Unknown

10. Docket No. _____________________________________________________________  □ Not Applicable

11. Source patient HIV Status:  □ Positive  □ Negative  □ Unknown  □ Unknown
    □ Source Patient tests positive for other blood borne pathogen (specify) ______________________

12. Type of exposure:  □ Sharp item  □ Body Fluid exposure (specify type and volume):_____

13. In the case of body fluid exposure, was the skin of the exposed person intact? (if not body fluid exposure skip this question)  
    □ YES  □ NO (explain) ________ ______________________________________________________________________________________

14. Specify Sharp Item (if not sharp item, skip to Question 17):  
    □ Needle, specify gauge  □ Blade
    □ Branula, specify gauge __________________________  □ Glass, specify (broken test tube, etc.) _______
    □ Other Needle (suture needle, etc.) specify type & size  □ Other (specify) ___________________________
15. Was the injury:  
☐ Superficial (little or no bleeding)  ☐ Moderate (skin punctured, some bleeding)  
☐ Severe (deep stick/cut, or profuse bleeding)

16. If the injury was to the hands, did the sharp item penetrate: (check one)

☐ Single pair gloves  ☐ No gloves  ☐ Other (specify)_______________________

17. Did the injury/exposure occur:

☐ Restraining Patient
☐ Disassembling device or equipment
☐ In preparation for reuse of reusable instrument (sorting, disinfecting, sterilizing, etc.)
☐ While recapping used needle
☐ Withdrawing a needle from rubber or other resistant material (rubber stopper, I.V. port, etc.)
☐ Device left on floor, table, bed or other inappropriate place
☐ Other after use, before disposal (in transit to trash, cleaning, sorting, etc.)
☐ From item left near or on disposal container
☐ While putting the item in a disposal container
☐ After disposal, stuck by item protruding from opening of disposal container
☐ Item placed on side of disposal container
☐ After disposal, item protruded from trash bag or inappropriate waste container
☐ Other, describe ______________________________________________________________________

18. Describe the circumstances leading to this injury: (please note if a device malfunction was involved)
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

19. State the location of the exposure/injury: ________________________________________________

20. Hepatitis B immunisation?  ☐ None  ☐ YES Dates: ______________________________________

21. Immunisation Card seen?  ☐ YES  ☐ NO

22. Has the injured person had any previous needle stick injuries?  ☐ YES  ☐ NO

23. If yes, were the previous incidents reported?  ☐ NO  ☐ YES Date(s): ______________________

24. Risk Category:  ☐ Low  ☐ Moderate  ☐ High

25. Was area bled/flushed/washed?  ☐ YES  ☐ NO

26. Was disinfectant used?**  ☐ YES  ☐ NO

**NOTE: The use of bleach, alcohol, Savlon or other disinfectants is not recommended.

27. Action taken by head of department:

a. Counselling?  ☐ YES  ☐ NO
b. Blood taken for HIV testing? □ YES □ NO (if “NO”, explain) __________________________________________

c. Blood taken for Hepatitis B Antigen? □ YES □ NO (if “NO”, explain) ______________________________

d. PEP Medication Given? (see last page of this form for PEP Guidelines)
□ YES TYPE __________________________ Date/Time Started ______________________________
□ NO (if “NO”, explain) _________________________________________________________________
□ Low Risk □ Not Available □ Exposed Person Refusal* □ Other (specify)____________________

*In the case of refusal the exposed person must sign the attached waiver form

To be sent to Medical Officer of Health for surveillance

Form completed by:
Name: ________________________________
Designation: ________________________________
Signature: ________________________________

Post Exposure Prophylaxis (PEP) Dosages:

All of the following are to be given within 1-2 hours or at most 72 hours after exposure* and continued for four weeks:

Low Risk:
   a. Zidovudine (AZT) 300 mg bid AND Lamivudine (3TC) 150 mg po bid
   OR
   b. Tenofovir/emtricitabine (TDF/FTC)1 tab od

High Risk: Either of the above PLUS
   a. Lopinavir/Ritonavir (LPV/r) 2 tabs bid
   OR
   b. Atazanavir 300mg od with Ritonavir 100mg od (ATV/r).

*Studies in animals (no human studies done) suggest that treatment is not as effective when started more than 24-36 hours after exposure. PEP has no value after 72 hours in humans.
PEP Refusal form:

I, __________________________________, hereby waive my right to take the PE Prophylaxis to prevent possible infection of the HIV virus. I understand that by refusing to take the medication I am putting myself at greater risk for infection.

Signed: __________________________________________________________

Date: _____________________________________________________________

Witness signature: _________________________________________________

Witness (print name neatly): ________________________________________
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