HIV NURSING MATTERS

A publication of the Southern African HIV Clinicians Society

HIV Nursing Matters focuses on Advanced HIV Disease (AHD)

How to manage a patient with AHD in primary care

Assessing renal disease in a patient with AHD

Diagnosing respiratory disease in a patient with AHD

An approach to chronic diarrhoea in people living with HIV

Palliative care in patients with AHD

2025 SOUTHERN AFRICAN HIV CLINICIANS SOCIETY CONFERENCE

20 - 22 AUGUST • CAPE TOWN, SOUTH AFRICA

SAVE THE DATE

Exciting news! The Southern African HIV Clinicians Society (SAHCS) popular biennial clinical-skills building conference will return to **Cape Town from 20 to 22 August 2025.** Don't miss out on this opportunity - save the date!

SAHCS 2025 CO-CHAIRS, WELCOME LETTER

We are thrilled to invite you to attend the 7th Conference of the Southern African HIV Clinicians Society (SAHCS), focusing on **"Innovation to Impact: People-Centred Advances in HIV."** The conference, recognised for its leadership in HIV activism and management, is scheduled to be held from 20 to 22 August 2025, at Century City Conference Centre in Cape Town.

Since our inaugural conference in 2012, significant strides have been made in the fight against HIV, TB, and associated illnesses. However, our journey doesn't end here; we strive for further advancements. At SAHCS Conference 2025, our dedication remains unwavering as we aim to enhance evidence-based HIV management and inspire our participants to excel in HIV prevention, care, and treatment. Despite facing challenges, healthcare professionals in South Africa continue to uphold the world's largest HIV treatment program with unparalleled commitment.

SAHCS Conference 2025 will be a catalyst for change, offering a dynamic forum for the latest scientific and clinical research in HIV. Our agenda includes:

- Original research presentations through engaging oral and poster sessions.
- CPD-accredited skills-building workshops for practical, frontline expertise.
- Up to 5 plenary sessions led by global and regional thought leaders, tackling the most pressing and controversial issues in HIV management today.

We have curated 13 themed tracks encompassing a diverse range of crucial topics, including antiretrovirals, primary health care, nursing, ethics, and non-communicable diseases. Each track is crafted to stimulate thorough discussions and offer practical insights.

During SAHCS Conference 2025, we will present groundbreaking data, commemorate our shared accomplishments, explore scientific progress, and influence the future with essential interventions spanning biomedical, psychosocial, and policy realms. Our objective is to significantly reduce new HIV infections, decrease mortality from advanced HIV disease, attain sustained viral suppression, and play a decisive role in ending the AIDS epidemic by 2030.

Your participation is crucial. Together, we can expedite our endeavours, establish fresh collaborations, and reach our ambitious goal of creating an HIV-free generation—ensuring a prosperous future for all South Africans. We look forward to welcoming you to Cape Town.

Dr Nomathemba Chandiwana and Dr Silingene Ngcobo
Co-Chairs, Southern African HIV Clinicians Society Conference 2025

inside

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Summary of articles from our Guest Editor

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We are excited to present the first edition of HIV Nursing Matters for 2024. While significant strides have been made in understanding HIV as a chronic or lifelong condition, and access to antiretroviral treatment has undoubtedly saved numerous lives, mortality rates due to Advanced HIV Disease (AHD) remain deeply concerning. Many people living with HIV (PLWH) may appear well and only access treatment at advanced stages or experience treatment failure leading to AHD.

This edition of HIV Nursing Matters is dedicated to addressing the management of individuals with AHD. This collection of articles offers practical guidance in line with our commitment to empowering nurses and other healthcare workers across all clinical settings with the necessary knowledge and skills to provide exceptional care. Topics covered include managing patients with AHD in primary care, assessing renal disease, diagnosing chronic diarrhoea, managing respiratory conditions, and providing palliative care. Moreover, there is a dedicated section on the importance of language use, highlighting how each of us can contribute to reducing the stigma associated with HIV and other long term health conditions.

In the article entitled 'How to manage a patient with AHD in primary care' Dr Ian Proudfoot explains what AHD is and why they should be identified early and treated appropriately. He highlights key steps that should be taken when encountering a patient with AHD, including identification, immediate treatment and referral. Managing patients with AHD requires a clinician to perform a comprehensive assessment and have a thorough understanding of HIV opportunistic infections, interpretation of blood results, treatment and management of treatment failure. Adequate organisation of care and communication between primary health care and referral facilities is essential to improve the overall care for people with AHD.

Dr Phetho Mangena explains how to assess renal disease in a patient with AHD in primary care, including the possible causes and symptoms of acute and chronic kidney disease. Since kidney disease may be asymptomatic and common in PLWH, specifically those with comorbidities like diabetes and hypertension, screening is important for early identification and secondary prevention. These tests, including urine dipsticks and serum creatinine with eGFR, should be done routinely in primary health care settings. Failure to identify and appropriately refer kidney disease may lead to end-stage kidney disease.

Mortality rates in AHD are primarily attributed to respiratory infections. Drs Ramsamy and Murray offer practical insights into diagnosing respiratory diseases in patients with advanced HIV in primary care settings. Their guidance encompasses an overview of prevalent pathogens, typical symptom presentations, and crucial warning signs associated with conditions like bacterial pneumonia, tuberculosis (TB), and *Pneumocystis jirovecii* Pneumonia (PJP). Conducting thorough assessments, initiating prompt treatment, and facilitating appropriate referrals for individuals presenting with respiratory infections to reduce mortality rates in AHD is paramount.

Chronic diarrhoea is a common cause of morbidity and hospitalisation in patients with AHD. Dr Rosie Burton and colleagues discuss a multidisciplinary approach to addressing chronic diarrhoea in PLWH, including the definition, common causes, assessment, diagnosis and management. They use a patient story to illustrate the application.

Palliative care through integrated primary healthcare services should be accessible to all South Africans as part of universal health coverage. Dr Andrea Mendelsohn and Rene Krause provide an overview of palliative care in patients with advanced HIV disease in primary care. Palliative care requires a multidisciplinary approach to provide holistic care inclusive of medical, psychosocial and spiritual aspects. The authors distinguish between end-of-life and palliative care, offering examples of when PLWH may benefit from palliative care during their illness. They provide practical guidance on identifying those in need of palliative care using the Support and Palliative Care Tool and offer advice on symptom control.

The optimal management of persons with AHD requires multidisciplinary and team approaches on all levels of care to optimise outcomes.

How to manage a patient with advanced HIV disease in primary care

Ian Proudfoot, MBChB (UCT) Dip Obst (SA), FCFP (SA), Dip HIV Man (SA), MPhil HPE (SU)

Introduction

Over the last few years there has been much talk in HIV circles about an entity called Advanced HIV Disease (AHD). This article, oriented towards consulting nurses in primary care clinics will explain what exactly AHD is, how to identify it and why there is such significant morbidity and mortality associated with it. On this theoretical foundation, guidance will be provided on all the key steps that should be taken when encountering a patient with AHD, including how to identify and refer the sick AHD patient as well as manage those who are still ambulant.

What exactly is AHD?

In the early years before the national rollout of antiretroviral therapy (ART) for people with HIV (PWH), patients frequently presented late in the disease progression with high mortality from a variety of opportunistic infections. From 2009, with widespread availability of ART, the mortality rate dropped dramatically but after several years it started to level off with patients still dying of opportunistic infections. The causes were carefully looked for, the problem analysed and a specific entity called Advanced HIV Disease was identified and described by WHO in a 2017 guideline.[1]

Definition of AHD:
AHD refers to a person with HIV with any of the following:

- Anyone with WHO clinical **Stage 3 or 4 disease**
- Children ≥ 5 years of age, adolescents and adults with a **CD4 count < 200 cells/mm³**
- **All children < 5 years** except for children who have been established on ART for >1 year and are clinically stable

IMPORTANT

- All the above represent PWH with a significant degree of immune compromise who are therefore at greater risk of morbidity and mortality due to severe infections. All children living with HIV, less than five years, have immature immune systems and therefore fall into the same category.
- Note the importance of awareness of the CD4 in all our PWH. In one study done in four countries in sub-Saharan Africa, close to half the patients with a CD4 < 100 looked well with no apparent illnesses. Many patients with AHD will be missed if it is assumed that all patients with AHD look sick. Many patients with AHD remain unnoticed in the community and in primary care clinics.

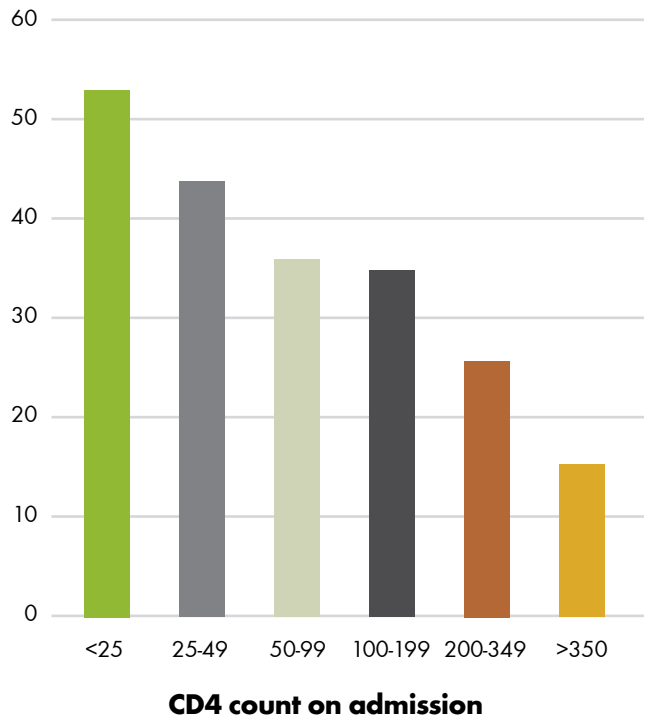
What are the risks if your patient has AHD?

Here are some data from a few studies done in large cohorts of PWH in a few African countries that illustrate the risks that patients with AHD face. Unfortunately, similar data are not available in South Africa, but the same key messages are relevant in all PWH with AHD.

A study done in Kinshasa, Democratic Republic of Congo (DRC), between 2015 and 2017[2] on over 2000 hospitalised patients with HIV with a mean CD4 of 84 cells/mm^3 showed the following key points:

- An in-hospital mortality rate of 37%.
- 31% of these patients died within 48 hours of admission.
- The lower the CD4 count the higher the mortality (see figure 1). This particular study showed a mortality rate of 52% in those with a CD4 < 25 cells/mm^3.
- More than 50% of them had already been on ART for > 6 months.

Figure 1: Percentage mortality by CD4 count.

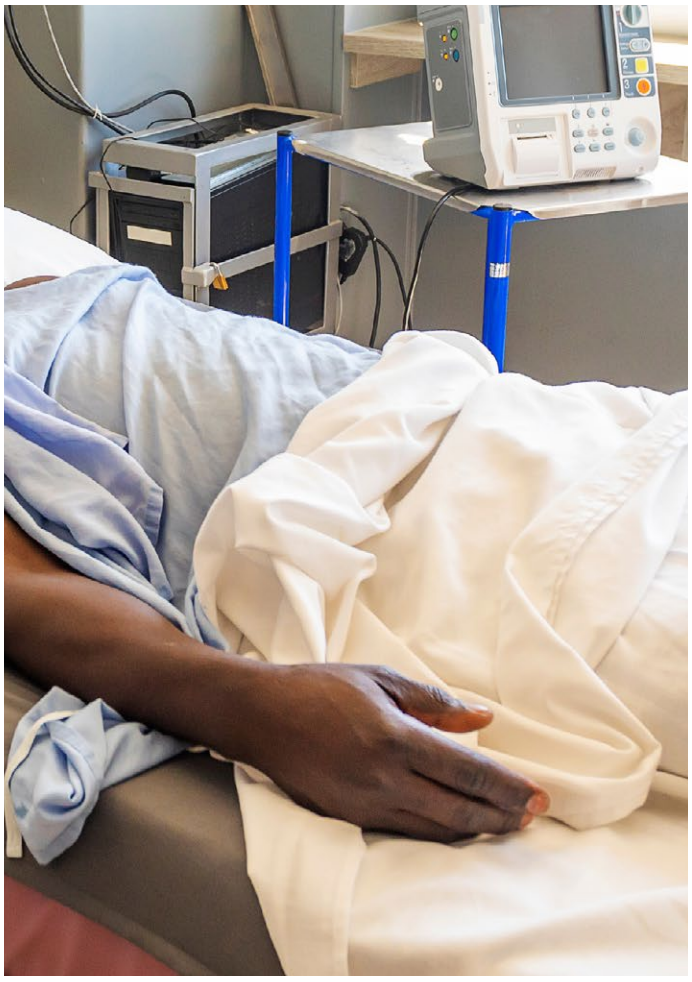


Another study done in 2015 in Homa Bay in Western Kenya[3], on 690 patients showed the following:

- In-patient mortality of 17%
- A 23% mortality rate if CD4 < 100
- A mortality rate of 30% in the presence of severe wasting
- When followed up for nine months, the post-discharge mortality rate was 30%

IMPORTANT

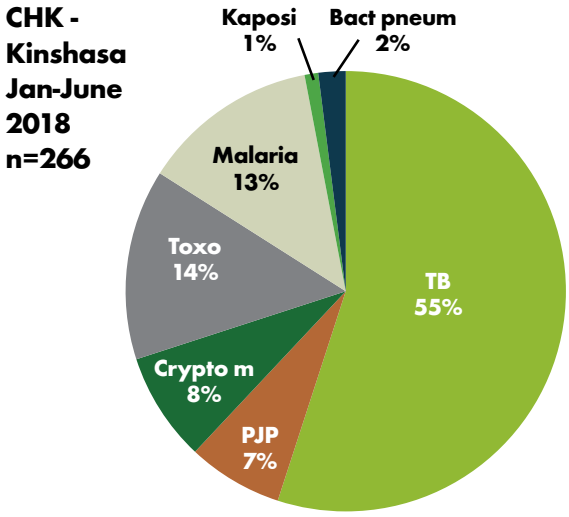
AHD is associated with high mortality rates so something must be done to identify these patients early and to manage them appropriately.



What are patients dying from?

Studies have been done in several African countries showing the range of diseases contributing to mortality. Similar data are not available for South Africa, but the core messages are relevant here too. One example that broadly represents the causes of death in most of Africa can be seen in data drawn from a hospital in Kinshasa, DRC[4] in 2018. This revealed the following causes of mortality as depicted in Figure 2.

Figure 2: Causes of mortality in AHD



Bact pneum, bacterial pneumonia; TB, tuberculosis; Toxo, toxoplasmosis; Crypto m, cryptococcal meningitis; PJP, pneumocystis pneumonia

Notes:

- TB is clearly the most common cause
- Other key conditions contribute to mortality

Figure 3: Co-morbidities noted in patients with TB

1. PCP, 2. Sepsis, 3. Renal failure, 4. Toxo, 5. Crypto, 6. HIVAN, 7. Malnutrition, 8. Hypokalaemia, 9. DILI

PCP, pnuemocystis pneumonia; Toxo, toxoplamosis; Crypto, cryptococcal disease; HIVAN, HIV-associated nephropathy; DILI, drug-induced liver injury

Notes:

- Data gathered from a hospital in Kenya in 2018[5] showed several conditions present at the same time as the TB.

IMPORTANT CONCLUSIONS

- TB is by far the commonest cause of mortality.
- Several other conditions can be present at the same time as the TB.

Managing the patient with AHD

In light of all the above information, several key actions need to be taken to decrease this mortality rate. AHD requires a comprehensive package of diagnostic and therapeutic care that aims to address the challenges associated with it.

This will be addressed in two key areas:
1. The patient being seen routinely in a primary care clinic
2. The patient returning to a primary care clinic after hospitalisation

1. The patient being seen routinely in a primary care clinic

a. Don't miss the patient with AHD in your community or primary care clinic.
b. Rapidly identify the sick patient with potentially high mortality and refer them to hospital.
c. Actively look for and treat all key causes of mortality, as identified above.
d. Prevent the development of specific key contributors to mortality where possible.
e. Initiate or optimise ART.
f. Support patients with adherence to medication, especially ART, by providing appropriate psychosocial support.

a. Don't miss the patient with AHD

Every time you see a PWH the first question you should be asking yourself is what their immunity is like.

- *Any patient presenting with an illness suggesting significant immune compromise may have stage 3 or 4 disease*. It is not necessary to remember all the different diseases in these categories but remember firstly, that all TB is stage 3 or 4. Secondly, be generally aware of the conditions identified as stage 3 or 4 disease and consult the WHO staging tables when encountering a patient with possible significant immune compromise.
- *The CD4 count:* In patients who are stable on ART, virally suppressed and with the most recent CD4 > 200 cells/mm^3, it can be safely assumed that the CD4 is still above 200. However, a CD4 count is required in almost all other situations. The National South African guidelines state that the following patients qualify:
  - After 10 months of initiating ART
  - If CD4 remains < 200 cells/mm^3
  - If VL > 1000 copies
  - If a new stage 3 or 4 disease
  - If returning to care after missing an appointment >90 days or >28 days if unwell.

b. Rapidly identify the sick patient and refer them appropriately

The following represent danger signs qualifying for rapid referral:

Adults
- Respiratory rate > 30/min
- Saturation < 90%
- Temperature > 39°C (especially if associated with a headache or with no obvious cause)
- Heart rate > 120/min
- Systolic BP < 90 mmHg
- Moderate or severe dehydration
- Incapable of walking unaided
- Altered mental state or any other abnormal neurological signs or symptoms

Children
- Lethargy or unconsciousness
- Seizures
- Unable to drink or breastfeed
- Repeated vomiting
- Other clinical conditions such as temperature ≥39°C and age-defined tachycardia and/or tachypnea can be considered based on clinical judgement

All these patients should be referred to the hospital emergency department as soon as possible with a clear referral letter with all relevant history, examination and special investigation findings. While waiting for the ambulance they should be stabilized and, if possible, key empiric treatments could be commenced. An expert could be consulted for guidance where appropriate.

c. Actively look for and treat all key causes of mortality, as identified above

PRACTICE TIP

For rapidly recalling the causes of mortality remember the trunk of the elephant who never forgets
- **T**B
- **R**espiratory disease, especially the big 3: TB, pneumocystis and pneumonia
- **U**nused ART (poor adherence) or Useless ART (HIV resistance)
- **N**eurological disease; especially the big 3: TB meningitis, cryptococcal meningitis, cerebral toxoplasmosis
- **K**idney disease
- **K**aposi's sarcoma
- **S**epsis
- **M**alaria

Practically, in the consulting room:

History

Take a good history, looking for any pointers to any of these:

- **TB**: look for it. If on treatment, why are they not doing well?
- If a **R**espiratory presentation, consider the big 3
- **U**: Need to check carefully for **U**nused (poor adherence) or Useless ART (HIV resistance).
  - If on an NNRTI-based regimen, treatment failure is highly likely
  - If on a DTG- or PI-based regimen, adherence problems are very likely
  - If on a new ART regimen for less than 3 months, consider IRIS.
- If a **N**eurological presentation, take special care with headache, weakness in the arm or leg, new paraplegia
- **K**idney. Acute kidney insult is a common cause of morbidity and mortality and is often missed because it has very non-specific symptoms. If the patient is weak and wasted, he/she may be dehydrated and have renal problems too
- **K**aposi Sarcoma (look for it specifically on examination)
- **S**epsis. Take any fever seriously
- **M**alaria: If in a malaria area, don't forget it

Examination

In primary care, in well patients, it is not always necessary to do a full examination for everyone. It can often just be focal. However, for AHD patients, as you are screening for a wide variety of diseases, a *full examination is vital,* including examination of the entire skin.

Key points not to miss on examination:

- General: nodes, anaemia, Kaposi's sarcoma (skin and mouth), oedema
- Respiratory: pleural effusion, crackles
- CVS: heart rate, bp
- Abdominal: liver, spleen
- Neurological: important if any suggestion of neuro problems
- Skin: look at the skin as well as the palate
- Urine dipstick: ideally this should be done on all patients with AHD

Good documentation

Make clear, legible notes. Good documentation saves lives and poor documentation contributes to mortality.

Important screening tests

- *CD4 count.* The details have been noted above
- *TB screening:*
  - All patients should have a TB symptom screen
  - All patients should have a routine MTB/Rif Ultra (Xpert), regardless of TB
  - All symptomatic patients with a CD4 of < 200 should have a TB-LAM done. Remember that, with CD4 counts > 200 cell/mm^3 the TB LAM test is less reliable.
  - Remember that TB can still be present in the presence of negative tests as there is no test or combination of them that can totally rule out TB.
- *Serum Cryptococcal Antigen (CrAg):*
  - All patients with a CD4 < 100 cell/mm^3 should have a CrAg test done automatically by the laboratory. The CD4 level varies between the provinces in South Africa with some doing the CrAg if CD4 < 200 cell/mm^3.
  - Patients with a positive serum CrAg have a high likelihood of developing cryptococcal meningitis within the next three weeks. This has a high mortality rate so appropriate action should be taken.
  - To identify those patients at high risk of developing meningitis, all patients with a positive serum CrAg should be referred for a lumbar puncture to check the CSF CrAg. If positive, they should immediately be admitted to hospital for treatment. If negative, they need to be given prophylactic fluconazole. See the latest NDOH standard treatment guideline for dosages.

Don't delay commencement of life-saving treatment

Sometimes, in very rural settings, empiric treatment is often essential because of:

- Delays in results
- A lack of diagnostic tests
- The high likelihood of a particular diagnosis, especially TB, even in the presence of a negative test.

d. *Give appropriate preventative treatment where appropriate:*

- *Co-trimoxazole* has been clearly shown to prevent several conditions, especially pneumocystis pneumonia, cerebral toxoplasmosis, some parasitic gastrointestinal infections, some forms of sepsis as well as malaria. See Figure 4.
- *TB preventative therapy (TPT)* has been clearly shown to save lives so should be given in all situations. See South African 2023 ART Clinical Guideline.
- *Fluconazole* should be given to all patients with a positive serum CrAg but with a negative CSF CrAg. See South African Standard Treatment Guidelines

Figure 4: Indications for Starting and Stopping Cotrimoxazole Therapy (CPT).

Age and HIV status	When to Start	When to Stop
HIV-positive infant under 1 year of age	All children under 1 year should be on cotrimoxazole irrespective of CD4% or clinical stage	
HIV-positive child 1-5 years of age	CD4% ≤ 25 %, WHO Stage 2, 3, and 4	Discontinue if CD4 count > 25 % regardless of clinical stage
HIV-positive child under 5 years of age with PJP infection	Start CPT after PJP treatment is completed	Continue CPT until 5 years of age and stop thereafter only if CD4 criteria in the older-than-five category are met
HIV-positive adults and children older than 5 years	CD4 count ≤ 200 cells/μL, WHO Stage 2, 3 and 4	Discontinue if CD4 count > 200 cells/ μL, regardless of clinical stage

Source: 2023 NDOH ART Clinical Guideline[7]

e. *Initiate or optimise ART*

- Ensure rapid ART initiation/re-initiation unless there is a "medical indication to defer initiation" (as per page 4 in the 2023 ART Clinical Guideline)[7]
- If already on ART: optimise regimen and manage high VL as per guideline (see page 14 in the 2023 ART Clinical Guideline)[7]. Consider consulting an expert for advice on ART management as these patients may warrant exceptional management such as earlier resistance testing. Defer switch to 2nd line if there is a "medical indication to defer initiation" (as per page 4 in the 2023 ART Clinical Guideline)[7]

f. *Provide appropriate psychosocial support*

- Enhanced adherence support is essential for all patients with AHD to ensure not only adherence to their ART regimen but also to whatever other medications the patient may be taking as prophylaxis or treatment for active disease. Many of these patients already had psychosocial reasons for developing AHD (causing them to delay testing for HIV, initiating or adhering to treatment), and therefore need careful and considerate counselling to identify and address their psychosocial issues.
- Other support and counselling should include guidance regarding danger signs, side-effects of medications and information about IRIS.

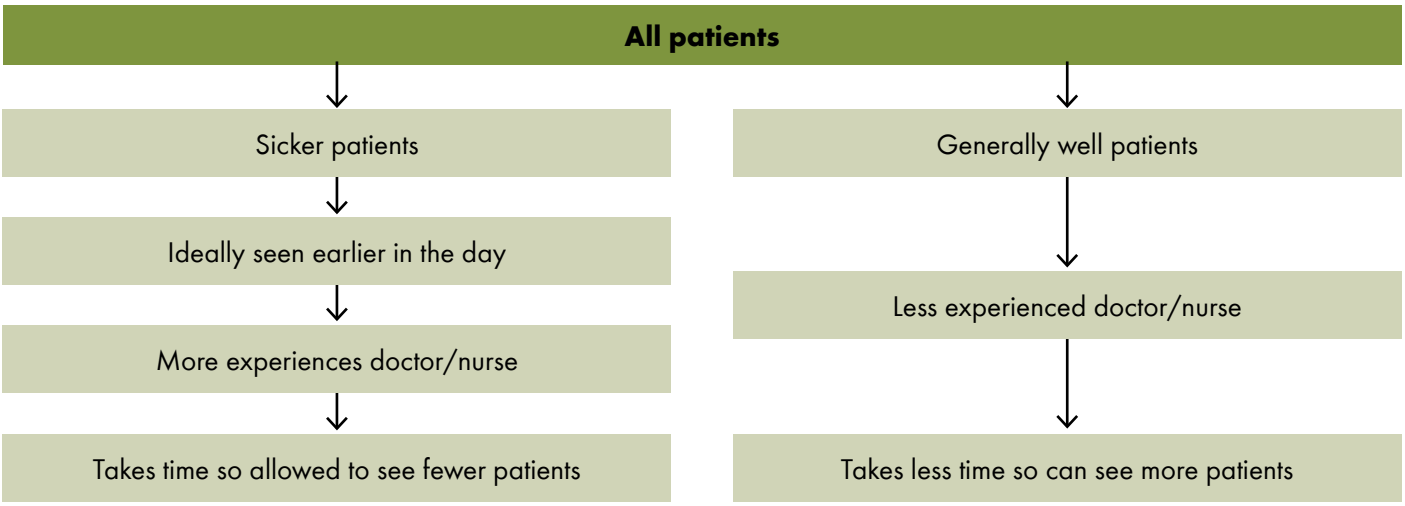
2. The patient returning to a primary care clinic after hospitalisation

As was noted in the post-discharge study there is still a significant mortality rate for patients after discharge from the hospital for HIV-related conditions. The common gaps in care that need to be attended to are as follows:

- Lack of adequate linkage to primary care, including a discharge letter of poor quality and lack of community tracing for patients missing appointments.
- Lack of patient support. There is often high stigma in the community that needs to be countered by empathetic, non-judgmental, supportive counselling by the available healthcare workers. In addition, these patients are often poorly treated by staff in the primary care clinics.
- Failure to continue treatment for opportunistic infections started in the hospital (e.g. fluconazole for cryptococcal meningitis, steroids after TB meningitis or pneumocystis pneumonia etc.)
- Failure to continue routine prophylaxis such as CTX
- Poor attention to ART status – switches to DTG- or PI-based regimens not done and/or adherence issues not attended to. This includes not adjusting dosages for renal impairment when the eGFR worsens or improves
- Other conditions missed because of a focus on only one illness. Remember that several can co-exist in the same patient with AHD.

Programmatic suggestions for enhancing quality in primary care

- PWH attending primary care facilities do not all need the same level of care. Some are stable, requiring merely routine follow-up while others may have AHD and require a consultation with a clinician with:
  - A thorough understanding of ART management, especially treatment failure
  - The knowledge of and ability to look for all possible opportunistic infections and co-morbidities (remember that there are often multiple illnesses in the same patient)
  - Longer consultation times for a more comprehensive evaluation
  - The following diagram provides a graphic summary of how this can be addressed.
- In order to identify and manage PWH with AHD, facilities should practice Active Results Checking and Management Procedures:
  - New printed NHLS results should be reviewed daily by a clinician to identify abnormal results (including CD4 < 200, CrAg positive, eGFR < 50, MTB/Rif Ultra (Xpert) positive and VL > 50).
  - These patient's files should then be retrieved and the patient should be called back early for management.
  - NHLS CrAg+ RfA reports should also be used to ensure all positive CrAg results have been correctly managed.



Conclusion

Advanced HIV disease is a significant contributor worldwide to increased morbidity and mortality in PWH. Addressing this requires a concerted effort by healthcare workers at all levels of care, in the community, in primary care clinics and in hospitals. In primary care, particular attention needs to be given to early identification of patients with AHD and rapid referral if sick. In patients who are still ambulant, an appropriate, targeted approach is needed, including a careful search for the contributors to mortality, using history, examination, and special investigations. Appropriate treatment, both preventative and therapeutic, should be started without delay. The overall care of patients with AHD will be enhanced if attention is also given to patient and community support and programmatic elements, including patient flow in clinics and improved communication between primary care and referral hospitals.

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Assessing renal disease in a patient with AHD

Phetho Mangena, MBCHB, FCP(SA), Cert Nephrol (SA)Phys

Introduction

Kidney disease is a leading cause of death and morbidity globally and it has been estimated that nearly one in ten people have chronic kidney disease.[1] Persons living with HIV (PLHIV) have a higher risk of both acute and chronic kidney disease.[2]

Causes of renal disease in PLHIV

Renal disease is broadly classified into two groups: acute kidney injury (AKI) and chronic kidney disease (CKD).

Acute kidney injury

This refers to impairment of renal function, as represented by either a rising creatinine and/or a decline in kidney function over a period of hours to days.[3] Patients with AKI tend to be acutely symptomatic and will present to their health facility relatively quickly, and sometimes they can be extremely sick requiring emergency measures such as inotropes, intubation and mechanical ventilation, and dialysis.

The most important causes to consider are sepsis (such as pneumonia, gastroenteritis or malaria) and drugs (including tenofovir, radio-contrast and non-steroidal anti-inflammatories [NSAIDs]).

The antiretroviral tenofovir (TDF) can cause an acute severe AKI where patients present with very high creatinine and are severely ill with hyperkalaemia and pulmonary oedema; however, this occurs in a minority (<1%) of patients taking tenofovir.

Table 1. Causes of AKI in PLHIV[4]

Mode of injury	Example
Prerenal	Vomiting, diarrhoea, excessive blood loss
Glomerular injury	Acute post-infective glomerulonephritis
Tubular injury	Drugs: tenofovir, contrast, amphotericin B, gentamycin Shock Sepsis Rhabdomyolysis (trauma patients)
Interstitial nephritis	Drugs: NSAIDs, rifampicin
Post-renal	Tuberculosis, malignancy

Chronic kidney disease

CKD is characterised by a more gradual disease progression than AKI and is defined as structural and functional changes in the kidneys that persist for more than three months.[5] CKD tends to be more insidious, with the abnormalities being diagnosed incidentally (such as when a creatinine is measured for medical/life insurance purposes or a screening creatine during contact with the health service). The causes of CKD in PLHIV can be divided into HIV-related and non-HIV related causes.

Table 2: Causes of CKD in PLHIV

HIV-related causes of CKD	Non-HIV-related causes of CKD
Drugs: tenofovir **HIV-associated nephropathy (HIVAN)** **HIV-associated immune complex kidney disease (HIVICK)** **Cervical cancer with obstructive uropathy**	Diabetic kidney disease Hypertensive renal disease Chronic tubulo-interstitial nephritis (e.g. drugs like NSAIDs)

The success of the antiretroviral program over the last 2 decades including the policy of ART initiation at any CD4 count, has significantly reduced the incidence of the HIV-related causes, while simultaneously, the extended life expectancy for PLHIV on ART has led to an increase in the non-HIV-related causes.[6]

Table 3. Diagnostic clues and clinical features of common types of AKI and CKD in PLHIV

Disease category	Type of renal disease	Diagnostic clues & clinical features
AKI	Tenofovir-associated AKI	Recent introduction of tenofovir; low potassium and calcium; minimal/ no proteinuria plus exclusion of other factors
	AKI associated with a systemic illness e.g. gastroenteritis, complicated UTI, pre-eclampsia, severe malaria, trauma with rhabdomyolysis	Very ill patient Features of the causative condition should be present including fever, severe hypotension/shock, low platelets and organ/system-specific features
CKD	HIVAN	Proteinuria (usually more than 1+ on dipsticks)
	Diabetic renal disease	Proteinuria (usually more than 1+ on dipsticks), duration of diabetes >10 years, other diabetes-related target-organ damage like diabetic eye disease
	Hypertensive renal disease	Known hypertension which may be poorly controlled; other signs of hypertensive end-organ damage such as heart disease and stroke

The course and prognosis of renal disease

AKI without prompt treatment of both the renal dysfunction and the initiating cause can lead to a life-threatening clinical scenario characterised by hyperkalaemia, pulmonary oedema, severe metabolic acidosis and encephalopathy (which presents with drowsiness, coma and seizures). Milder forms of AKI can resolve relatively quickly when the presenting condition improves on treatment. Patients who do not recover back to their known baseline within six weeks should be identified and referred for specialist evaluation.

Chronic kidney disease proceeds more slowly, often over many years. CKD tends to progress without intervention, with a steady increase in the creatinine until eventually, the individual reaches end-stage kidney disease (ESKD), which is defined by the glomerular filtration rate (GFR) being less than 15mls/min/1.73m^2 and a high risk of death without dialysis. In South Africa, with the very limited dialysis slots available especially in the public sector, it is crucial to manage CKD well to avoid this progression to ESKD. Additionally, CKD dramatically increases the risk of cardiovascular disease (CVD) such as strokes and myocardial infarction. Most CKD patients usually die from CVD even before reaching ESKD.

As ART reduces direct HIV-related causes, there is a growing burden of non-HIV-related conditions. Practitioners should screen regularly for CKD especially in patients with risk factors like diabetes mellitus and hypertension.

Screening for and diagnosis of renal disease

Renal disease should be actively screened for, to assist in identifying asymptomatic cases early. The two practical screening tests are urine dipsticks and the serum creatinine with estimation of the glomerular filtration rate (eGFR). Urine dipsticks are used to detect leucocytes (which imply a urinary tract infection), haematuria and proteinuria. Proteinuria (especially if more than 1+) is a sign of renal disease which requires investigation. Haematuria has many causes, ranging from the benign to the life-threatening: trauma, menses, severe exercise, kidney stones and malignancy. Persistent haematuria, after ruling out a benign cause such menstruation, should also be investigated.

Table 4. Recommendations on screening for renal disease in PLHIV

Disease category	Type of renal disease	Diagnostic clues & clinical features
Urine dipsticks	Annual	• Proteinuria: 1+ or more should be investigated (urine protein: creatinine ratio and referral to higher level of care) • Haematuria: exclude a benign cause like menstruation, severe exercise; if haematuria recurs after repeating 2-6 weeks later then refer
Serum creatinine with GFR estimation	• 1st year on ART: at baseline, 3 months, 6 months, and 12 months • Subsequently: every 6-12 months • Consider more frequent testing – 3 monthly – in patients with risks like diabetes mellitus or known GFR <90mls/min/1.73m^2)	Any patient with GFR <60 should be referred to a higher level of care

Management of renal disease

Upon diagnosis of renal disease, a thorough history should be taken. Important aspects of the history include symptoms of sepsis (e.g. fever, diarrhoea, dysuria), a complete drug history (ART, NSAIDs, complementary and traditional medicines) and comorbidities such as diabetes mellitus and hypertension. The examination will evaluate the patient's volume status and must include urine dipsticks testing. Where possible, one should also attempt to trace previous creatinine/eGFR measurements to inform the baseline.

Tenofovir should be discontinued in most cases. If the renal function returns to the patient's baseline, tenofovir can be re-introduced with subsequent monitoring. Patients who have severe renal impairment (eGFR less than 30mls/min/1.73m^2 or those who need dialysis) should not be rechallenged with tenofovir – even if another cause for renal dysfunction was identified.

Fluid management is important, especially for those who present with hypotension.

A detailed review of fluid management is not in the scope of this article.

Referral of patients with renal disease

Virtually all types of patients with renal disease will require referral to a higher level of care where they can access specialised care. In AKI, the causative disease (e.g. severe malaria, pre-eclampsia, severe gastroenteritis with shock) will usually require emergency care, hospital admission and consultation with specialists.

In CKD, patients should have access to consultation by a specialist who can institute therapies to slow the disease progression and potentially address the CVD risk factors and CVD events. These referrals will mostly be elective except for patients who are undiagnosed and only present in ESKD.

Other reasons to refer are patients who have persistent haematuria (blood) or proteinuria on dipsticks.

At referral sites patients may undergo kidney biopsy and renal replacement therapies such as dialysis and kidney transplantation.

Conclusion

Both AKI and CKD are common conditions in PLHIV. As ART reduces direct HIV-related causes, there is a growing burden of non-HIV-related conditions. Practitioners should screen regularly for CKD especially in patients with risk factors like diabetes mellitus and hypertension.

Most patients with CKD will require referral for further evaluation and management.

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Diagnosing respiratory disease in a patient with advanced HIV disease

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Introduction

Despite the increasing availability of antiretroviral therapy (ART), a significant proportion of people with HIV (PWH) present to healthcare facilities with complications of advanced HIV disease (AHD), defined by the World Health Organization (WHO) as a CD4 count <200 cells/mm^3, or WHO stage 3 or 4 disease. Mortality in AHD is largely attributed to respiratory infections[1] which can be caused by bacteria, mycobacteria, viruses, fungi or parasites (Table 1). Most respiratory infections in PWH are caused by bacterial pathogens (bacterial pneumonia), *Mycobacterium tuberculosis* (tuberculosis) or *Pneumocystis jirovecii* (PJP). Being able to diagnose, initiate appropriate therapy and refer appropriately to higher acuity facilities is essential to reduce mortality in patients with AHD.

Bacterial Pneumonia

Bacterial pneumonia is a common cause of respiratory infections in PWH and occurs throughout the course of HIV infection (at any CD4 count), although AHD has been associated with a higher risk of infection. *Streptococcus pneumoniae, Haemophilus influenzae* and *Staphylococcus aureus* are the most common pathogens causing bacterial pneumonia in PWH. "Atypical" pathogens such as *Mycoplasma pneumoniae, Chlamydia pneumoniae* and *Legionella pneumophila,* are more commonly encountered in patients with more advanced immunosuppression. Less common infections include pertussis, nocardiosis and Rhodococcus spp.

Patients with suspected bacterial pneumonia should be assessed using the CURB-65 score (Table 2). In primary

Table 1: Common respiratory conditions in PWH.

	Pathogen/s	Typical Presentation	Laboratory/ Imaging	Warning Signs
Bacterial Pneumonia	Common: *Streptococcus pneumoniae, Haemophilus influenzae* "Atypical": *Mycoplasma pneumoniae, Chlamydia pneumoniae, Legionella pneumophila*	Cough with purulent sputum, fever, chills and rigors Duration of symptoms: acute symptom onset <1 week	High white cell count CXR: Consolidation, with or without pleural effusion	Tachycardia (HR> 120) Tachypnoea (RR>30) Confusion Hypotension (BP <90/60 mmHg) Hypoxia (O_2 saturation <90%, PaO_2 <60 mmHg Significant haemoptysis (>100mL)
PJP	*Pneumocystis jirovecii*	Non-productive cough, dyspnoea and fever. May desaturate with exercise. Duration of symptoms: >2 weeks	CXR: Bilateral interstitial infiltrates, "ground glass" opacification, cystic changes and spontaneous pneumothorax (But CXR may be normal)	
Tuberculosis	*Mycobacterium tuberculosis*	Cough, fever, night sweats, weight loss, and lymphadenopathy Duration of symptoms: 1 day to months (often >2 weeks)	CXR: Consolidation, cavitation, nodules, pleural effusion or "miliary" infiltrate	

health care centres where access to blood investigations is limited, the use of the CRB-65 score, with the exclusion of urea, is useful. Patients with a CRB-65 score of 0, or a CURB-65 score of 0 or 1, can safely be managed as an out-patient, given that there are no warning signs present.[2] A patient with uncomplicated bacterial pneumonia should be treated with broad spectrum antibiotics (Table 3) and should be re-assessed for clinical improvement at day 3.

In preventing bacterial pneumonia, PWH who are antiretroviral therapy (ART) naïve, should be initiated on ART as soon as possible as per National Department of Health Guidelines.[3] Smoking cessation and pneumococcal vaccination have also proven invaluable.

Figure 1. Chest Xray showing extensive consolidation of the right upper lobe in a patient with bacterial pneumonia.[4]

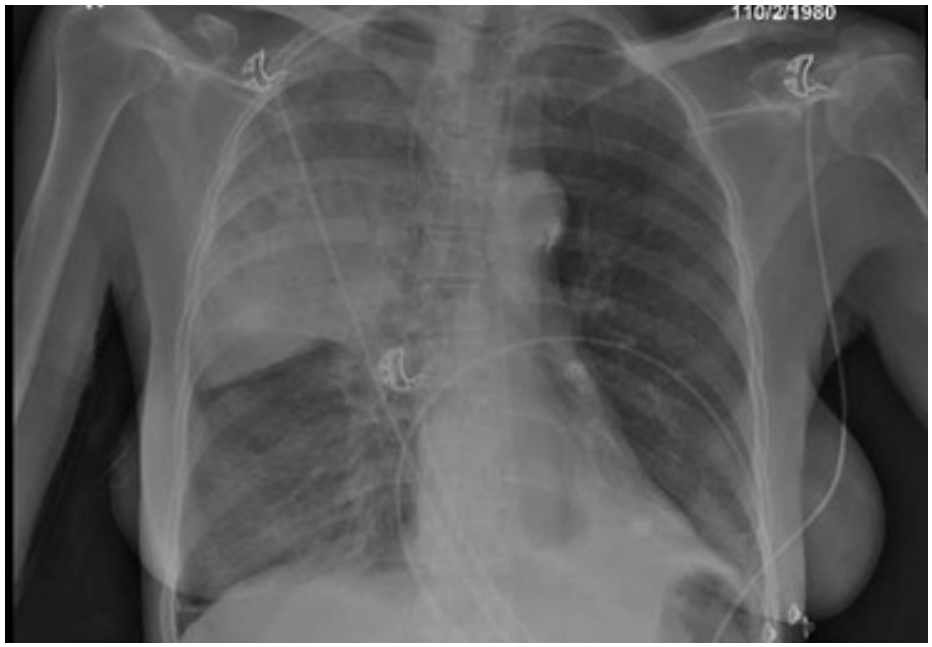


Table 2: CURB-65 Scoring System.

Clinical Feature	Points
Confusion	1
Uraemia: blood urea>7 mmol/L	1
Respiratory rate: ≥30 breaths/min	1
Blood Pressure: systolic <90 mmHg or diastolic ≤60 mmHg	1
Age **>65** years	1
Total Points	*5*

Table 3: Interpretation of the CURB-65 score.

Score	Group	Treatment Options
0 or 1	Group 1; mortality low (1.5%)	Low risk, consider home treatment
2	Group 2; mortality intermediate (9.2%)	Refer to hospital for supervised treatment
≥3	Group 3; mortality high (22%)	Refer to hospital for management in high care or intensive care unit

Tuberculosis

Mycobacterium tuberculosis is a common pathogen associated with HIV infection. Whilst TB occurs in PWH with any CD4 count, patients with AHD are more likely to present with disseminated TB disease. The WHO-recommended four-symptom screening (W4SS) tool (assessing for the presence or absence of cough, weight loss, fever and night sweats) is useful in the out-patient setting in PWH, although the presence of a cough for longer than 2 weeks has a better predictive value.[5]

Patients with suspected pulmonary TB should also be assessed for features of extra-pulmonary TB by assessing for lymphadenopathy, hepatomegaly, ascites, pleural effusions and confusion.

Diagnostic methods for tuberculosis include:

- Chest X-ray – can show upper lobe consolidation, miliary infiltrates, hilar adenopathy, nodules, cavitation and pleural effusions. A CXR may be normal in AHD.
- Sputum – a TB nucleic acid amplification test (NAAT), such as the GeneXpert MTB/RIF must be sent for all patients with respiratory symptoms. Nebulised hypertonic saline may be useful in inducing sputum in patients who have difficulty producing sputum. A negative sputum TB NAAT does not rule out TB.
- Sputum TB Culture – should be requested only if a patient's sputum TB NAAT is negative and a strong suspicion of TB exists, or to confirm active TB in a patient who has been treated for TB in the last two years and has a positive TB NAAT.
- Urine lipoarabinomannan (uLAM) – a good rule-in test for TB and should be done on all PLWH that require admission to hospital and those outpatients with CD4<200 and signs and symptoms of TB.[3] The uLAM test is especially helpful in patients unable to produce sputum.
- TB blood culture – has a 40% diagnostic yield and can be useful for phenotypic drug susceptibility testing and for diagnosing non-tuberculous mycobacteria.
- Ultrasound – An abdominal ultrasound can be useful for detecting features of abdominal TB. Findings that would be consistent include; para-aortic lymph nodes, hepatomegaly, ascites and splenic micro-abscesses.

Uncomplicated rifampicin-sensitive TB can be managed at the community health centre level with standard anti-tuberculous therapy as per national TB guidelines.[6] A patient with warning signs as well as those with resistant TB should be referred to a higher level of care (see Table 3). In patients with pulmonary TB and newly diagnosed HIV, the timing of ART initiation should be as per national guidelines:[3]

- CD4 <50 – ART should be initiated within 2 weeks of starting TB treatment
- CD4 ≥50 – ART should be initiated 8 weeks after starting TB treatment

Pneumocystis jirovecii Pneumonia (PJP)

Pneumocystis jirovecii pneumonia (PJP) is seen in patients with AHD, usually with CD4 counts <100 cells/mm^3). Patients with PJP commonly present with progressive dyspnoea and a non-productive cough. A high index of suspicion is warranted for a patient presenting with a high respiratory rate (>30 breaths per minute) and/or oxygen saturation <94% on room air.[4]

Diagnostic methods for PJP include:

- CXR – May show ground glass opacification, cystic changes or spontaneous pneumothorax.
- PJP PCR – Sputum for PJP PCR, may be helpful in diagnosing patients with suspected PJP
- 1-3 Beta-D-Glucan level (if available) – This is a blood test that may suggest PJP infection if significantly elevated in PLWH

Patients with PJP and hypoxia are usually ill and require referral for supplemental oxygen administration. Stable, uncomplicated patients, may be managed at home with oral therapy (see Table 3). It is important to note that patients with PJP and newly diagnosed HIV should have their ART initiated by 1-2 weeks.

Other Respiratory Infections:

- Fungi – Pulmonary cryptococcosis and endemic mycoses may mimic TB
- Viruses – Influenza and cytomegalovirus, among other viral infections, are seen in AHD. COVID-19 pneumonitis may mimic PJP on CXR. Vaccines against influenza and COVID-19 are recommended for all PLWH.

Figure 2. Chest x-ray of a patient with pulmonary tuberculosis showing right upper zone consolidation.[7]

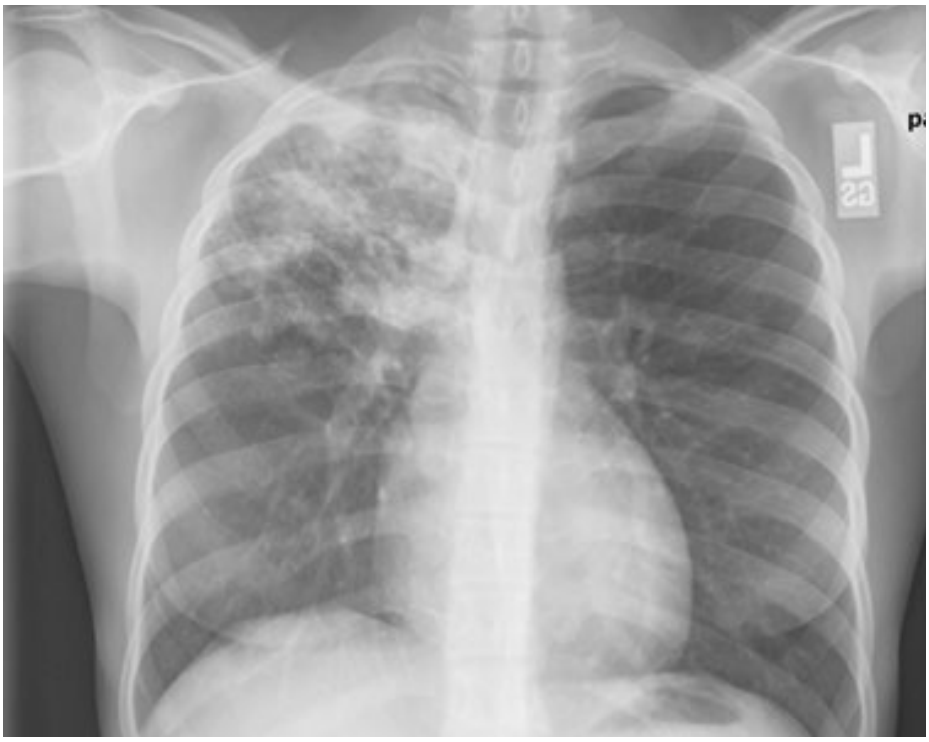
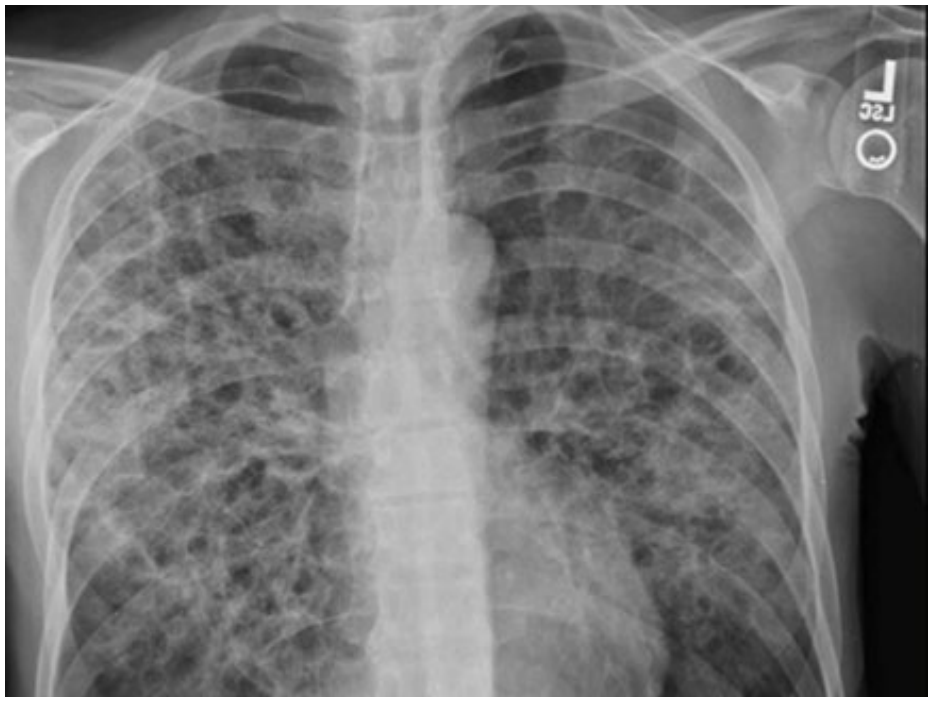


Figure 3. Chest x-ray of a patient with PJP showing bilateral infiltrates.[8]



Patients with PJP and hypoxia are usually ill and require referral for supplemental oxygen administration. Stable, uncomplicated patients, may be managed at home with oral therapy.

Table 4: Management of patients with respiratory infections.[2,9]

Cause of respiratory disease	Treatment	When to Refer
Bacterial Pneumonia Uncomplicated	Amoxicillin 1g PO 8 hourly for 5 days or ampicillin 1-2g IV 6 hourly for 5 days If severe penicillin allergy: Moxifloxacin 400mg or levofloxacin 750mg PO/ IV daily for 5 days	Confusion/depressed LOC Cyanosis Respiratory Rate ≥30 BP <90/60mmHg CURB-65 ≥2 or CRB-65 ≥1 Poor response to treatment after 48 hours
>65 years OR underlying medical conditions	Amoxicillin/clavulanic acid 875/125mg PO 12 hourly for 5 days or ceftriaxone 1g IV/IM daily for 5 days If severe penicillin allergy: Moxifloxacin 400mg or levofloxacin 750mg PO/ IV daily for 5 days	
Severe pneumonia (CURB-65 ≥2)	Ceftriaxone 1g IV/IM daily **PLUS** azithromycin 500mg PO/IV daily Supplemental oxygen to achieve saturation >92%	
Pneumocystis jirovecii Pneumonia (PJP)	Co-trimoxazole (80/400mg) for 21 days <40 kg 2 tablets 6 hourly 40-56kg 3 tablets 6 hourly >56kg 4 tablets 6 hourly **IF oxygen saturation on room air <92% (or PaO2 <70 mmHg) ADD** Prednisone for 21 days: 40mg BD for 5 days **THEN** 40mg OD for 5 days **THEN** 20mg OD for 11 days	

Mortality in AHD is largely attributed to respiratory infections[1] which can be caused by bacteria, mycobacteria, viruses, fungi or parasites.

Conclusion

Respiratory disease is a common reason for presentation to healthcare facilities in AHD. Rapid investigation, initiation of appropriate therapy and referral to higher acuity facilities, when needed, is essential to reduce mortality in AHD.

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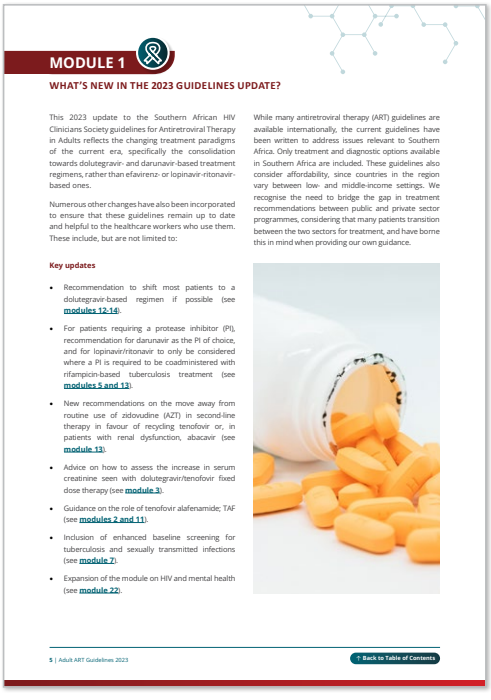
SOUTHERN AFRICAN HIV CLINICIANS SOCIETY **UPDATED GUIDELINES FOR ANTIRETROVIRAL THERAPY IN ADULTS**

SAHCS GUIDELINES

The updates to the Southern African HIV Clinicians Society guidelines for Antiretroviral Therapy in Adults reflects the changing treatment paradigms of the current era, specifically the consolidation towards dolutegravir- and darunavir-based treatment regimens, rather than efavirenz- or lopinavir-ritonavir based ones. Numerous other changes have also been incorporated to ensure that these guidelines remain up-to-date and helpful to the healthcare workers who use them. These include, but are not limited to:

KEY UPDATES:

- **Recommendation to shift most patients to a dolutegravir-based regimen if possible.**
- **For patients requiring a protease inhibitor (PI), recommendation for darunavir as the PI of choice, and for lopinavir/ritonavir to only be considered where a PI is required to be coadministered with rifampicin-based tuberculosis treatment.**
- **New recommendations on the move away from rountine use of zidovudine (AZT) in second-line therapy in favour of recycling tenofovir or, in patients with renal dysfunction, abacavir.**
- **Advice on how to assess the increase in serum creatinine seen with dolutegravir/tenofovir fixed dose therapy.**
- **Guidance on the role of tenofovir alafenamide; TAF.**
- **Inclusion of enhanced baseline screening for tuberculosis and sexually transmitted infections.**
- **Expansion of the module on HIV and mental health.**


MODULE 1

WHAT'S NEW IN THE 2023 GUIDELINES UPDATE?

This 2023 update to the Southern African HIV Clinicians Society guidelines for Antiretroviral Therapy in Adults reflects the changing treatment paradigms of the current era, specifically the consolidation towards dolutegravir- and darunavir-based treatment regimens, rather than efavirenz- or lopinavir-ritonavir-based ones.

Numerous other changes have also been incorporated to ensure that these guidelines remain up to date and helpful to the healthcare workers who use them. These include, but are not limited to:

Key updates

- Recommendation to shift most patients to a dolutegravir-based regimen if possible (see modules 12-14).
- For patients requiring a protease inhibitor (PI), recommendation for darunavir as the PI of choice, and for lopinavir/ritonavir to only be considered where a PI is required to be coadministered with rifampicin-based tuberculosis treatment (see modules 5 and 13).
- New recommendations on the move away from routine use of zidovudine (AZT) in second-line therapy in favour of recycling tenofovir or, in patients with renal dysfunction, abacavir (see module 13).
- Advice on how to assess the increase in serum creatinine seen with dolutegravir/tenofovir fixed dose therapy (see module 3).
- Guidance on the role of tenofovir alafenamide; TAF (see modules 2 and 11).
- Inclusion of enhanced baseline screening for tuberculosis and sexually transmitted infections (see module 7).
- Expansion of the module on HIV and mental health (see module 22).

While many antiretroviral therapy (ART) guidelines are available internationally, the current guidelines have been written to address issues relevant to Southern Africa. Only treatment and diagnostic options available in Southern Africa are included. These guidelines also consider affordability, since countries in the region vary between low- and middle-income settings. We recognise the need to bridge the gap in treatment recommendations between public and private sector programmes, considering that many patients transition between the two sectorsfor treatment, and have borne this in mind when providing our own guidance.

5 | Adult ART Guidelines 2023

↑ Back to Table of Contents

While many antiretroviral therapy (ART) guidelines are available internationally, the current guidelines have been written to address issues relevant to Southern Africa. Only treatment and diagnostic options available in Southern Africa are included. These guidelines also consider affordability, since countries in the region vary between low- and middle-income settings. We recognise the need to bridge the gap in treatment recommendations between public and private sector programmes, considering that many patients transition between the two sectorsfor treatment, and have borne this in mind when providing our own guidance.

Access both the digitised version and downloadble PDF here:
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An approach to chronic diarrhoea in people living with HIV

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Chronic diarrhoea is a common reason for adults living with HIV to need hospital admission – including prolonged duration of hospitalisation and readmission. Chronic diarrhoea negatively impacts quality of life and causes significant morbidity and mortality (Table 1). Lack of free health care is a major barrier to accessing medical care in many countries in Sub-Saharan Africa, both at primary care and hospital levels, meaning that people often present late, when they are critically ill. Socioeconomic problems, stock outs and poor access to ART outside major urban centres contribute to PLHIV interrupting ART, and being vulnerable to serious opportunistic infections, including parasite causes of chronic diarrhoea. In many settings, PLHIV who are ART experienced rather than ART naïve are a majority amongst hospital admissions.

The objective of this article is to discuss a multidisciplinary clinical approach for PLHIV with severe chronic diarrhoea. This article acknowledges that although facilities for optimal investigation may be available, there may be limited access in countries with poorly resourced health systems, and rural hospitals in South Africa.

Definition of chronic diarrhoea:[1]

- Diarrhoea may be defined as passing 3 or more loose or liquid stools within 24 hours
- Chronic diarrhoea is diarrhoea that lasts for ≥ 2 weeks

Causes of chronic diarrhoea in PLHIV: [1,2]

Most PLHIV with chronic diarrhoea have advanced HIV 3 (WHO stage 3 or 4 disease, and/or CD4 < 200 cells/mm^3). WHO Stage 4 opportunistic infections are the most common cause of chronic diarrhoea in PLHIV needing hospital admission, and most have low CD4 counts (Figure 1). Chronic diarrhoea may also occur in people with CD4 counts ≥ 200 cells, caused by opportunistic or non-opportunistic pathogens. [4]

Figure 1: causes of chronic diarrhoea in PLHIV

Infectious causes

Small bowel diarrhoea:

- Large volume, watery diarrhoea without blood or mucous
- Most chronic diarrhoea in PLHIV is small bowel diarrhoea

Parasite causes:

WHO stage 4 opportunistic parasite infections, usually CD4 < 200 cells/mm^3:

- Cystoisospora belli
- Cryptosporidium
- Microsporidia species: not included in WHO staging, however now considered an opportunistic parasite

Other parasites:

- Giardia lamblia
- Neither more common or more severe in PLHIV: can also cause acute diarrhoea

Mycobacteria: WHO stage 4

- Mycobacteria avium-complex (MAC): CD4 < 50 cells/mm^3
- Mycobacteria tuberculosis (MTB): extrapulmonary TB is common, intestinal TB causing diarrhoea is not common. Diarrhoea in a patient with TB is very likely due to another cause

Direct effect of HIV:

- HIV enteropathy: damage to villi of small intestine
- This is a diagnosis of exclusion, and responds to ART

Large bowel diarrhoea:

- Frequent and smaller volume diarrhoea
- Contain blood and/or mucous

Parasite causes:

These are not included in WHO staging:

- Amoebiasis (amoebic dysentery)
- Strongyloides

Parasite causes:

These are not included in WHO staging:

- Amoebiasis (amoebic dysentery)
- Strongyloides

Viral causes: WHO stage 4

- Cytomegalovirus: CD4 < 50 cells/mm^3
- Colitis may co-exist with retinitis

Non-infectious causes

Medication

Ritonavir containing protease inhibitors: no longer in common use:

- Lopinavir-ritonavir: around 20% of people experience diarrhoea
- Less common with Darunavir-ritonavir (3rd line ART) or Atazanavir-ritonavir
- If significant diarrhoea, change ART – if not possible (3rd line ART), add loperamide

HIV related malignancy

Kaposi sarcoma:

- Gastrointestinal KS is common; however diarrhoea is not a common symptom: anaemia is common due to occult blood loss
- Usually there will be evidence of KS elsewhere (skin, palate, lungs – seen on CXR)
- Treatment is chemotherapy

Lymphoma:

- Difficult to diagnose in many settings: endoscopy and biopsy is needed
- Uncommon cause of diarrhoea, usually a diagnosis of exclusion

Initial assessment:
Patients with chronic diarrhoea often present critically ill. See box 1 for a typical patient story. An efficient triage system to identify critical patients is essential at all levels of care (for example the South African Triage Score, or the WHO Interagency Integrated Triage Tool).[5,6] Basic emergency care should be provided by nurses and doctors working together using the ABCDE approach[7], which can be used in all health care settings.

Box 1 – a patient with chronic diarrhoea arrives at the hospital

- A 27-year-old male is carried into the emergency room of a hospital by his family
- He is unresponsive: his triage score is red, using the WHO Interagency International Triage Tool (IITT)[6]
- Basic emergency care is performed using the ABCDE approach by the nurse and doctor working together[7]:
  - A and B are normal – airway and breathing
  - C - circulation: he is shocked, with BP 66/54 mmHg; heart rate 144 bpm; there are peripheral signs of shock - weak pulse, capillary refill time of 4s, cold peripheries and severe dehydration
    - 2 intravenous catheters are inserted, and fluid resuscitation commenced with IV Ringer's solution
  - D - disability: AVPU scale is P (responds to pain); glucose is low, at 2.1 mmol/L
    - He is placed in the recovery position, and 50mls of 50% dextrose given intravenously
  - E - Exposure: he is lying in a pool of watery diarrhoea, there is no blood or mucous

- The patient responds to fluid resuscitation, and 50% glucose. BP and glucose are normal, and AVPU is A (alert)
- He gives the following history:
  - He has had watery diarrhoea for 2 weeks, which he describes as passing watery stool 6 - 8 times a day, and 2-3 times during the night
  - He is vomiting several times a day, and has abdominal cramps every time he tries to eat
  - For the past 3 days he is vomiting everything he tries to eat or drink
  - This is his first episode of diarrhoea of this type
  - He has lost 'a lot' of weight recently
  - He has had fever and night sweats for around 10 days now, and in fact his weight loss started around 2 months ago
  - He started ART 2 years ago, however he then returned from the capital to his village, the local health centre closed around 12 months ago

Important questions for PLHIV presenting with diarrhoea:

Question 1:
Timing – duration and previous episodes:
What is the duration of diarrhoea?

- Is this acute or chronic diarrhoea? Acute – duration < 2 weeks? However it should be noted that PLHIV with severe chronic diarrhoea may present before 2 weeks, and appropriate investigation and treatment should not be withheld because the 2 week point has not yet been reached

Is this the first episode, or is this a repeat admission with the same problem?

- If previous episodes, collect information regarding previous investigations, diagnoses and treatment

Question 2:
What is the type of diarrhoea?[1,2]
Large volume watery diarrhoea, with no blood or mucous:

- This is small bowel diarrhoea – or non-inflammatory diarrhoea
- Most PLHIV with severe chronic diarrhoea needing hospital admission have this type of diarrhoea

Diarrhoea with blood and mucous ('slime'):

- This is large bowel diarrhoea – or inflammatory diarrhoea
- Red blood cells and white blood cells are seen on stool microscopy
- Chronic inflammatory diarrhoea is not so common in our setting

Question 3:
Are there associated symptoms?
Related to the diarrhoea:

- Fever, nausea, vomiting, abdominal pain
- Functional state:

- Is the patient eating and drinking? Many patients with severe chronic diarrhoea avoid eating because this causes abdominal pain, or they also have vomiting
- Is the patient able to mobilise or is generally weak and tired and bed bound at home?

Symptoms of other opportunistic infections:
- PLHIV needing hospital admissions frequently have other opportunistic infections, particularly if CD4 count is ≤ 200
- In particular, always suspect TB

Question 4:
What is the ART history – is a recent CD4 count available?
- Many patients, like the patient presenting here, have interrupted ART
- Most HIV-related causes of chronic diarrhoea occur with low CD4 counts (< 200 or even < 50)
- Unless there is a recent CD4 available, this is a priority investigation

Physical examination:
- Weight the patient and calculate BMI – malnutrition is defined as BMI < 18,5
- Presence and severity of dehydration
- Abdominal examination: abdominal tenderness, distention, masses
- If bed bound at home or during recent hospital admission check for bedsores: Braden score to be completed by nursing staff
- If CD4 < 50: perform fundoscopy looking for CMV retinitis
- Examine other organ systems looking for evidence of TB or other opportunistic infections

Important investigations:

The most urgent investigations for a PLHIV with chronic diarrhoea are the following:
- CD4: this determines which opportunistic infections are most likely
- Potassium: severe hypokalaemia is common
- Creatinine: high creatinine is common – this usually acute kidney injury and reversible if treated promptly with fluid replacement
- TB LAM: many patients also have other opportunistic infections, particularly TB: TB contributes to the severe malnutrition and poor functional state common in these patients, and treatment needs to be initiated promptly
- Glucose: hypoglycaemia may be a consequence of severe malnutrition or another cause such as bacterial sepsis
- Haemoglobin using haemocue
- Rapid malaria test in endemic areas
- Serum CrAg (serum CLAT) – Cryptococcal Antigen test

In Medicins Sans Frontieres (MSF) sites, these investigations are 'point of care' tests, with nurses trained to perform the test, and they are available 24/7. By the time the doctor has taken the patient history and examined the patient, the results will be available. If point of care tests are not available in your setting, obtain the results as urgently as possible from your laboratory.

Back to our patient:
- Box 2 and box 3 follow the patient through the admission process, with the further information obtained, and the problem list. This patient has many of the serious and life-threatening complications outlined in Table 1.
- This patient also has TB, which is contributing to the severe malnutrition and poor functional state.

Box 2: further information

Physical Examination:
- BMI is 12.2 – this is severe malnutrition
- He is severely dehydrated
- There are no bed sores
- He has diffuse mild abdominal tenderness, with no ascites or hepatosplenomegaly
- Respiratory, cardiac and neurological examinations are normal. There is no evidence of pulmonary TB
- There is no clinical evidence of deep vein thrombosis

Important investigations:
- CD4 count 19 cells/mm^3
- TB LAM positive; serum CLAT (serum CrAg) negative; Hb 7.3 g/dl; malaria negative
- Potassium 1.9 mEg/L (normal range 3.5 – 5.2 mEg/L); ECG shows changes of severe hypokalaemia
- Creatinine 397 µmol/L (normal range for males < 110 µmol/L); this is severe acute kidney injury
- Stool microscopy and endoscopy are not available in this setting

Box 3: problem list

- Severe chronic small bowel diarrhoea
- Severe vomiting
- Severe dehydration
- Hypovolaemic shock, responded to fluid resuscitation
- Severe acute kidney injury due to dehydration and vomiting
- Severe hypokalaemia with ECG changes
- Severe malnutrition
- Hypoglycaemia on admission
- TB: TB LAM is positive and weight loss began prior to onset of diarrhoea
- Poor functional state, bed bound prior to admission
- Severe immunosuppression - CD4 count of 19 cells/mm^3
- Interruption of ART

Table 1: Causes of morbidity and mortality due to chronic diarrhoea in PLHIV

Morbidity and mortality	Causes
Physical morbidity	• Dehydration • Hypovolaemic shock • Hypokalaemia • Other electrolyte abnormalities: hypomagnesaemia, hypocalcaemia • Associated fever, vomiting, abdominal pain • Severe malnutrition, high risk of refeeding syndrome • Malabsorption of nutrients, medication • Severe fatigue • Poor functional state: bed-bound • Muscle wasting due to malnutrition and poor mobility • Deep vein thrombosis due to immobility and dehydration • Additional concurrent opportunistic infections: most patients with chronic diarrhoea have CD4 counts < 200 • Not searching for other opportunistic infections in patients with chronic diarrhoea also contributes to morbidity and mortality
Psychological morbidity	• Poor quality of life • Poor access to good hygiene facilities • Depression • Stigma • Socioeconomic stress - Inability to work, lack of means to care for family
Mortality	• Hypovolaemic shock • Hypokalaemia and other electrolyte abnormalities • Severe acute kidney injury • Chronic kidney disease, caused by poor management of acute kidney injury • Pulmonary embolism due to dehydration and immobility • Hospital acquired infection due to prolonged or repeated hospital stay: source of infection including intravenous catheters, urinary catheters, infected bed sores

Investigations and treatment of infectious causes of chronic diarrhoea

Table 2 shows the investigations to determine the organisms that most commonly cause chronic diarrhoea1,2. This can be challenging and take time even in settings where all of these investigations are available. Parasites are shed intermittently, and negative stool microscopy cannot exclude a parasite cause.2,8 In many settings, investigations are not available, and results may take many days. Empiric treatment may therefore be necessary, based on the most probable underlying causes. Unfortunately, in most countries in Sub-Saharan Africa, there is very little definitive data on which to base guidelines for empiric treatment.

Table 2: Diagnosis and treatment of infectious causes of chronic diarrhoea[1,2]

Small bowel diarrhoea: profuse watery diarrhoea		
Cause	**Diagnosis**	**Treatment**
Parasite infections	Stool microscopy: • Special stains are needed for opportunistic parasites: • *Cystoisospora belli* and Cryptosporidium – Modified Acid Fast or Modified Auramine stains • Microsporidia Sp: Calcifluor stain • Send 3 samples for analysis: all are shed intermittently into stool • Even if all 3 samples are negative, parasites cannot be excluded Gastroscopy and duodenal biopsy: • If stool microscopy is persistently negative	*Cystoisospora belli:* • Cotrimoxazole 1920mg twice daily for 10 days (4 tablets of 480mg twice daily), plus folic acid 5mg daily • Good oral absorption • IV cotrimoxazole: same dose, use if profuse diarrhoea (eg tablets found in stool) or frequent vomiting Alternative if cotrimoxazole is contraindicated: • Ciprofloxacin 500mg orally or 400mg IV twice daily for 10 days • If severe life-threatening diarrhoea, give IV cotrimoxazole plus IV Ciprofloxacin for 3-4 days, then change to oral treatment Recurrent *Cystoisospora belli* diarrhoea:[1] • Continue treatment dose of cotrimoxazole for 4-6 weeks • If no further recurrence, wean slowly: - 3 tablets twice daily for one month, then 2 tablets twice daily on a long term basis - If further recurrences, continue treatment dose long term - Continue folic acid 5mg daily
		Cryptosporidium: • ART to restore immunity • No specific treatment
		Microsporidium Sp: • No specific treatment for most species • Albendazole 400mg twice daily for 4 weeks recommended for some species
		Giardia: • Metronidazole 2g orally daily for 3 days or: • Tinidazole 2g orally single dose
Mycobacterium avium complex • **CD4 usually < 50 cells/mm³**	TB blood culture, followed by PCR to identify MAC • Can take up to 6 weeks for a positive culture • Not available in resource limited settings TB LAM may be positive, and Xpert MTB RIF negative: • However this is not diagnostic for MAC; this may also occur in MTB, and because MTB is significantly more common than MAC, most of the time the diagnosis will be MTB	Azithromycin 500mg and ethambutol 15mg/kg daily for 12 months: • If currently taking RHEZ, and azithromycin • Continue RHE plus azithromycin for duration of continuation phase for MTB • When MTB treatment completed, remember to continue azithromycin and ethambutol for the foll 12 months
Large bowel diarrhoea: frequent small volume stools, with blood and/or mucus		
Parasite infections:	Stool microscopy: • Red blood cells, white blood cells and parasites • Shed intermittently, a single negative stool cannot exclude If stool is negative, flexible sigmoidoscopy and biopsy, or colonoscopy and biopsy	Amoebiasis: • Metronidazole 800mg orally every 8 hours for 10 days Strongyloides: • Ivermectin 200µg/kg orally daily for 1 – 2 days: tablets are 3mg dose • Albendazole, 400 mg orally two times a day for 7 days
CMV infection: CD4 < 50 cells/mm³	Colonoscopy and biopsy • Fundoscopy for CMV retinitis should routinely be performed for all patients with CD4 < 50 cells/mm³	Treatment for CMV retinitis or colitis: • Ganciclovir 5mg/kg IV every 12 hours for 2-3 weeks or • Valganciclovir 900mg orally twice daily for 3 weeks • Followed by maintenance treatment with valganciclovir 900mg daily until CD4 > 100 cells/mm³

Cystoisospora belli (formerly Isospora belli), Cryptosporidium and Microsporidium are the most common causes of small bowel parasites identified in studies of chronic diarrhoea in PLHIV from many African countries. They have a worldwide distribution, with higher prevalence in countries with limited resources.[9] Studies from Sub-Saharan Africa have reported *Cystoisopsora belli* and Cryptosporidium in up to 17.7% and 15.9% of samples respectively.[10-14] However these are likely underestimates: studies were based on stool samples, with often only one stool sample being analysed, have included patients with both acute and chronic diarrhoea, or have included all PLHIV admitted to hospital whether or not they have diarrhoea. There are no case series involving systematic duodenal biopsy for patients with chronic watery diarrhoea and negative stool microscopy.

If the cause is identified, specific treatment can be given. In settings of limited resources, where investigations are not available, empiric treatment is necessary based on the most probable and treatable underlying causes. For small bowel diarrhoea, specific treatment is available for *Cystoisopora belli* and Giardia. These are therefore the recommended empiric treatments if investigations are not available, or if only stool microscopy is available, and results are negative. Table 2 shows empiric treatment recommended for small and large bowel diarrhoea. Response to treatment needs to be closely followed, and this provides clinical confirmation of the diagnosis.

It should also be noted that if patients have previously been admitted to hospital or received antibiotics, there is also a risk of diarrhoea caused by *Clostridioides difficile* (formerly Clostridium difficile):[1]

- This usually causes an inflammatory large bowel diarrhoea, however, may present with watery diarrhoea
- It is usually acute, however may sometimes be present > 2 weeks.
- It is highly contagious – ensure good infection control, with good handwashing with soap and water
- Diagnosis is: culture, PCR, toxin detection, however if not available, however empiric treatment may be necessary if diagnostics not available

Treatment:

- Metronidazole 400-500mg orally every 8 hours for 10-14 days; vancomycin 125mg orally every 6 hours if poor response

When patients are admitted with chronic diarrhoea, always verify if there have been previous admissions. If so, document the timing, proven or empiric diagnoses and response to treatment.

Holistic management of a patient with chronic diarrhoea:

Management of a patient with chronic diarrhoea starts in the emergency department and involves the multidisciplinary team. Figure 2 shows the steps in management, and also shows an approach to empiric treatment in resource limited settings where investigations are not available at all or are partially available. Box 4 returns to the patient discussed here, with diagnoses and treatment plan.

Box 4: List of diagnoses for this patient

Severe chronic diarrhoea:

- The most probable treatable diagnoses in this setting are *Cystoisospora belli* diarrhoea and Giardia diarrhoea, treatment is started for both: response to treatment will provide clinical confirmation of the diagnosis
- Severe chronic diarrhoea and associated symptoms are the underlying cause for most of the problems listed here

Disseminated TB:

- This is contributing to the severe malnutrition, and poor functional state
- The diagnosis of proven, with the positive TB LAM. Xpert MTB/RIF is available in this setting, so this would also be requested to check for rifampicin sensitivity

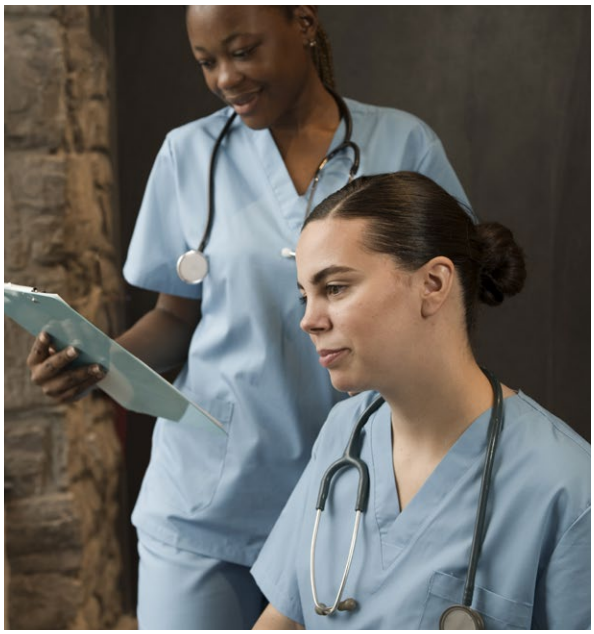

Figure 2: Management of chronic diarrhoea

Emergency care

Fluid and electrolyte management

- ABCDE approach on admission
- Fluid resuscitation for hypovolaemic shock
- Most important investigations:
  - CD4 potassium creatinine
- Continue fluid replacement - reverse acute kidney injury:
  - Monitor fluid input and output
- Potassium replacement: severe hypokalaemia is common and life-threatening, ECG should be performed if potassium < 3.0 mmol/L, if ECG changes admit to highest level of care available. Add magnesium replacement
- Antiemetics if vomiting
- Loperamide to increase gut transit time and water and electrolyte

Look for and treat TB and other opportunistic infections

In particular:
- TB
- Respiratory disease
- Neurological disease

Note: disseminated TB is common, diarrhoea is a rare manifestation of TB
- If TB is proven or empiric treatment is started, do not assume MTB is the cause of diarrhoea
- Continue with investigations and /or plan for empiric treatment

Investigation and treatment of cause of chronic diarrhoea: are investigations available?

Investigations:
- Stool microscopy, special stains for opportunistic parasites
- Endoscopy and biopsy if stool microscopy is negative
- See Table 3 for details and specific treatment

Empiric treatment for the most probable treatable causes may be necessary:
- If investigations are not available
- If all stool samples are negative and endoscopy and biopsy are not available: parasites are shed intermittently and negative stool microscopy cannot exclude parasite infection
- If investigations pending for patients presenting with hypovolaemic shock and ongoing severe diarrhoea: change treatment if indicated when results are available
- See below for suggested empiric treatment

Holistic management

Patient care is multidisciplinary:
Medical care:
- Prescription of fluids, electrolytes, medication
- Evaluation and management of complications

Nursing care:
- Monitoring of fluid balance, vital signs, early identification of deterioration
- Ensure fluids and medication are given as prescribed
- Regular turning of bed-bound patients to prevent bed sores

Physiotherapy:
- Passive exercises for bed-bound patients, support with mobilisation

Nutrition:
- Severe malnutrition is common in PLHIV with chronic diarrhoea

Patient support:
- Depression and anxiety are common

Communication:
- Ensure the patient understands their diagnosis and treatment – this involves all of the multidisciplinary team; good communication within the team is essential

Empiric treatment of small bowel diarrhoea: see Table 3 for doses and duration of treatment

Treat the most probable causes for which specific treatment is available

See Table 3 for dose and duration of medication

CD4 < 200 cells/mm^3 – treat for both of the following parasite infections:
- Cystoisospora belli
- Giardia lamblia

CD4 > 200 cells/mm^3 and no previous episodes of chronic diarrhoea:
- Treat for Giardia only

Previous episodes of chronic diarrhoea with either proven diagnosis of Cystoisopsora belli or suspected Isospora belli (documented response to treatment):
- Treat for Cystoisospora belli with treatment dose for 4-6 weeks
- Follow by high dose prophylaxis: cotrimoxazole 960mg bd or 1920mg bd

If poor response within 5-7 days, start ART

Cystoisospora belli should resolve within 7 days[15]

- ART is the optimal treatment for Cryptosporidium and Microsporidia sp.
- Delay ART only if essential:
  - New diagnosis of cryptococcal meningitis or neurological TB - start ART after 4 weeks

Treat for MAC if CD4 < 50 cells/mm^3 and ongoing diarrhoea

In general, start ART first:
- Cryptosporidium and Microspora sp. are probably more common than MAC

If there is high clinical suspicion of MAC and CD4 < 50 cells/mm^3:
- MAC frequently causes significant bone marrow suppression, with ongoing anaemia requiring repeated blood transfusion: however this is also common in MTB
- Suspect MAC if ongoing chronic diarrhoea, patient already on TB treatment and not improving

If diarrhoea has not resolved, start albendazole

Some microsporidia species can be treated with albendazole:
- Albendazole 400mg orally twice daily for 3-4 weeks

Empiric treatment of small bowel diarrhoea: see Table 3 for doses and duration of treatment

Treat for the most common cause

Treat first whichever is most common in your setting:
- Amoebiasis
- Strongyloides

CD4 < 50 cells/mm^3: fundoscopy for CMV retinitis

Fundoscopy should routinely be performed if CD4 < 50. If CMV retinitis is found this needs treatment in its own right, the same treatment will also treat colitis
- Treat with ganciclovir or valganciclovr

CMV colitis may occur in the absence of retinitis: however these medications can cause significant bone marrow suppression, and the risks of empiric treatment would likely outweigh the benefits

Recurrent *Cystoisospora belli* diarrhoea

Recurrent *Cystisospora belli* is well described, despite apparent immune reconstitution after starting ART and viral load suppression.[8] This includes patients with CD4 counts > 1000 cells /mm^3. It is considered that the cause of recurrent episodes may be impaired immune reconstitution of the gut immune system, with the rise in CD4 count not reflecting restoration of gut immunity.[16]

Recurrent Cystoisospora diarrhoea has high morbidity and mortality.[8]

- All of the complications of severe chronic diarrhoea may recur, including electrolyte abnormalities and acute kidney injury
- Chronic kidney disease may result if acute kidney injury is not treated appropriately with each admission
- Ongoing severe malnutrition may significantly affect quality of life, nutrition support is essential
- Patient support is essential: there may be significant psychosocial distress, with depression and anxieties about their health, and may be reluctant to have repeated hospital admissions for social reasons, for example, if there are childcare problems – which can lead to patients dying at home from electrolyte abnormalities

When patients are admitted with chronic diarrhoea, always verify if there have been previous admissions. If so, document the timing, proven or empiric diagnoses and response to treatment.

Management of recurrent Cystisospora diarrhoea:

- If *Cystoisospora belli* diarrhoea has previously been proven, or there has previously been a clinical response to treatment, further episodes of chronic small bowel diarrhoea should be treated as *Cystoisospora belli* diarrhoea irrespective of CD4 count and viral load suppression, and prolonged treatment given.
- Continue the treatment dose of cotrimoxazole for 4-6 weeks.
- If no further episodes within this time, wean slowly:
  - 3 tablets of 480mg twice daily for one month, then 2 tablets twice daily on a long term basis
  - If further recurrences, continue the treatment dose long term
  - Continue folic acid 5mg daily
  - Regular viral loads, to check adherence and that malabsorption has not reduced efficacy of ART

Chronic Diarrhoea in HIV positive adults - key messages:

- Patients with chronic diarrhoea often present critically ill with hypovolaemic shock
- Emergency care using the ABCDE approach is essential, and involves nurse-doctor co-working to successfully resuscitate the patient and for ongoing fluid management and monitoring
- Complications of chronic diarrhoea include severe acute kidney injury, severe hypokalaemia, severe malnutrition and poor functional state
- Important clues to determining the cause of the diarrhoea:
  - The type of diarrhoea: watery diarrhoea (small bowel diarrhoea) vs diarrhoea with blood and mucous (large bowel diarrhoea)
  - CD4 count: opportunistic infections are usually the cause of chronic diarrhoea when CD4 count is < 200
- Stool microscopy is the initial investigation for parasite causes, however parasites are shed intermittently, and negative stool samples do not exclude any specific cause
- If there is limited access to investigations, start empiric treatment for the most probable underlying causes

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Palliative care in patients with AHD

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What is Palliative Care?

The WHO defines palliative care as "an approach that improves the quality of life of patients (adults and children) and their families who are facing problems associated with life-threatening illness.[1] It prevents and relieves suffering through the early identification, correct assessment and treatment of pain and other problems, whether physical, psychosocial or spiritual." (Box 1).[1,2] Palliative care aims to relieve suffering such that patients with life threatening illnesses may continue to live as actively as possible until death.[2] It neither hastens nor postpones death.[2] Palliative care takes an individualized approach to the relief of pain and other distressing symptoms. A patient's "total pain" cannot be controlled without understanding and addressing all the unique physical, psychosocial, and spiritual factors contributing to their distress. Palliative care utilizes a multidisciplinary team approach–including nurses, doctors, physiotherapists, occupational therapists, dieticians, social workers, counsellors, spiritual leaders, and family members–integrating medical, psychosocial, and spiritual care to holistically support patients and families. The caretakers' wellbeing during the illness and into the bereavement period is essential. Palliative care ensures that dependent children are cared for after the patient's death such that patients are reassured their children will not be abandoned.

The 2017 National Draft Policy Framework and Strategy Paper on Palliative Care, Department of Health, South Africa (SA), states that all South Africans should have access to palliative care as a part of universal health coverage.[3] The treatment of pain

and relief of suffering is a basic human right, included in essential primary healthcare. Palliative care should start at the time of diagnosis of a life-threatening illness and be integrated into curative care such that pain and symptoms are addressed from the time of diagnosis.[4] If the illness progresses despite optimal medical management, and curative care is no longer an option, then the focus of treatment shifts towards palliative care. End of life care is a component of palliative care, but by no means its entirety. Despite the noble aims of the South African Palliative Care policy, few public sector healthcare facilities currently offer palliative care services. Integrating palliative care into the basic package of primary healthcare services provided by generalist doctors, nurses and allied health professionals is the best way to ensure that all South Africans have access to palliative care.

Advanced HIV in South Africa

People living with HIV (PWH) on antiretroviral therapy (ART) with normal or near-normal immune reconstitution and undetectable viral loads (VL<50 copies/mL) have similar life expectancies to the general population.[5] South Africa has made tremendous strides in controlling the HIV epidemic through universal testing and the provision of ART.[6] In 2022, there were 7.6 million PWH in South Africa, of which 5.7 million people were on ART. Advanced HIV disease (AHD) is defined by the World Health Organization (WHO) as a CD4 count <200 cells/mm^3 or a WHO stage 3 or 4 clinical condition.[7] Patients with AHD are at high risk of dying, particularly from tuberculosis, severe bacterial infections, and cryptococcal meningitis, even after starting ART.[8] Despite significant advances in treatment, the number of people presenting with AHD in South Africa remains stubbornly high, with approximately a third of patients entering care having AHD.[9] 45,000 South Africans died of AIDS in 2022, with Tuberculosis (TB) remaining the leading cause of death in South Africa.[5,10]

> In South Africa, many patients with AHD admitted to hospital with severe infections die with no access to palliative care.[11]

Models of HIV-Palliative Care

PWH need palliative care in three general scenarios: (1) when a patient with AHD is admitted with a life threatening acute infection that is not responding to curative treatment; (2) when a patient with very AHD (CD4<50 cells/mm^3) is clinically deteriorating despite ART and enhanced adherence counselling; and (3) when PWH are diagnosed with a life-threatening co-morbidity, such as metastatic cancer not amenable to curative treatment, or have an end-stage chronic disease and are symptomatic despite best medical management.[11]

In South Africa, many patients with AHD admitted to hospital with severe infections die with no access to palliative care.[11] Symptom relief is poorly integrated into acute medical management, and families often feel that the patient is abandoned to suffer by the public healthcare system. Given the lack of palliative care specialists in most hospital settings, general medical teams treating acute tuberculosis and other opportunistic infections in hospitals should aim to integrate palliative care alongside curative care such that patients dying of infections do not suffer.

In the community, most PWH only need palliative care intermittently (Figure 1).[11] Palliative care is sometimes needed at diagnosis to cope with a serious opportunistic infection and symptoms associated with AHD. Once the infection is treated and ART is established, the need for palliative care dissipates. Later, palliative care is needed again when a new life-threatening infection or comorbid disease is diagnosed, for example, metastatic cancer, a patient experiences ART failure, or a PWH develops an end-stage chronic disease—such as chronic obstructive lung disease (COPD), post TB lung disease, chronic renal failure, or congestive heart failure.[11]

How to identify PWH in need of Palliative Care?

The Support and Palliative Care Tool (SPICTTM) is a validated clinical indicator tool developed to help clinicians decide which patients facing a life-threatening condition would benefit from palliative care.[12] The SPICTTM tool has been adapted to South Africa and can be used to determine if a PWH would benefit from palliative care (Figure 4). For PWH on long-term ART, in observational studies, low CD4 cell count (≤200 c/mm,^{3} with ≤50 c/mm^3 having the greatest risk), low BMI (≤18 kg/m^2), low haemoglobin level (Hb<8 g/dL), and unsuppressed HIV VLs are all associated with increased mortality rates.[11] However, the general indicators of deteriorating health in the SPICTTM-SA tool are still useful for predicting which individual patients are likely to benefit from palliative care. The main indicators are the following: has the patient had 2 or more unplanned hospital visits in the past 3 months, is the patient staying in bed more than half the day, is the patient increasingly dependent on others for their care, is the carer struggling to cope, has the patient had progressive weight loss and muscle wasting, does the patient have persistent symptoms despite best available medical treatment, or is the patient requesting palliative care.[13]

If a PWH has any of these general indicators of deteriorating health, then they would benefit from palliative care integrated with their ART and medical management.

The SPICTTM-SA tool additionally delineates disease-specific indicators that should trigger either referral to specialist palliative care services if available or integration of palliative care principles into routine HIV management.[13] For HIV specifically, if a patient is on the best available ART, with proven viral susceptibility by genotype testing if indicated, and the patient is clinically deteriorating despite enhanced adherence counselling, then they would benefit from palliative care.[11] Likewise, if a patient with TB or any opportunistic infection is clinically deteriorating despite maximal curative care, palliative care should be given alongside antimicrobial treatment. In chronic lung disease, if a PWH is on oxygen or short of breath at rest or with minimal exertion, palliative care is indicated. Similarly, coronary artery disease or congestive heart failure with chest pain or dyspnoea at rest, or with minimal exertion, or severe inoperable peripheral vascular disease with limb ischemia all signify end stage disease. Indications for chronic renal failure include stage 4 or 5 kidney failure with deteriorating health, stopping or not starting dialysis or kidney disease complicating another life-threatening illness. Any progressive metastatic cancer not amenable to curative treatment or a PWH and cancer who is too frail for oncological interventions should receive palliative care. Neurologically, if a PWH has progressive deterioration in cognitive function despite ART treatment and no reversible causes of delirium, has increasing difficulty communicating or swallowing, has a significant stroke with ongoing severe disability and dependency, or has recurrent pneumonia, then palliative care is appropriate. Dementia encompasses similar poor prognostic indicators—mainly dependency for activities of daily living, inability to communicate, recurrent infections, fractured hip, and decreased oral intake or difficulty swallowing. Finally, any chronic liver disease patient with diuretic resistant ascites, hepatic encephalopathy, hepatorenal syndrome, bacterial peritonitis, or variceal bleeds has a high mortality rate and palliative care is therefore indicated.

The SPICTTM-SA tool can help guide any HIV clinician, whether in a hospital or clinic setting, to identify which PWH needs palliative care based on either general indicators of deteriorating health or disease-specific indicators that estimate a limited life expectancy. It is recommended that all clinicians use the SPICTTM-SA tool to discuss the life-threatening diagnosis and prognosis with patients and their families, as well as to identify and address all physical, psychosocial, and spiritual symptoms causing distress.

Symptom Control in Palliative Care for PWH

Pain Control

Chronic pain lasting ≥3 months is common in PWH and higher than in the general population.[14,15] Chronic pain is often underdiagnosed and undertreated in PWH.[16] In assessing chronic pain, it is important to elucidate the cause of the pain and if it fits into a recognizable pattern such as peripheral neuropathy, post-herpetic neuralgia, pleuritic pain, pain associated with ulcers or bed sores, cancer pain, or osteoarthritic pain[11] Additionally, PWH experiencing chronic pain should be screened for depression.

The goal of chronic pain treatment is to improve the pain, as well physical and emotional function, such that palliative care patients may increase physical activity and social engagement.

Pain is treated in a stepwise fashion, first line therapy being paracetamol and non-steroidal anti-inflammatory drugs, particularly for musculoskeletal pain. Physiotherapy, exercise, cognitive behavioural treatment, and relaxation exercises can complement pharmacological therapy. Tricyclic antidepressants, mainly amitriptyline, are first line treatment for HIV-associated neuropathic pain in the public sector, including post-herpetic neuralgia and peripheral neuropathy.[17] Pregabalin, carbamazepine, serotonin-noradrenaline reuptake inhibitors, and gabapentin are also used to treat neuropathic pain.[11] Tramadol, a combination weak opioid, can be used for non-cancer pain syndromes uncontrolled by first line treatments, including osteoarthritis, fibromyalgia, and neuropathic pain syndromes.[11]

Opioid therapy is the treatment of choice for severe pain, particularly cancer and inoperable ischemic pain. Oral short-acting morphine is the most common opiate in the public sector as it is inexpensive, readily available, simple for clinicians and patients to titrate, and easy to swallow. Morphine is usually started at 5-10 mg orally 4-hourly, with breakthrough doses of 50-100% of the baseline dose given if pain is experienced between standing doses.[18] If the patient routinely suffers end of dose pain–pain prior to the next scheduled dose–the baseline dose of morphine may be increased by 30-50% until the pain is controlled. Common opiate adverse effects are somnolence, nausea, and constipation.[19] Laxatives and stool softeners–senna and lactulose–are prescribed for the duration of chronic opiate therapy to prevent constipation.

When initiating chronic opiate therapy, families should be taught how to give the patient morphine and reassured that morphine will not hasten death. Increasing morphine requirements represents disease progression, rather than addiction.[18] In fact, palliative care patients rarely develop addiction[18] Signs of opiate toxicity are excessive sedation, pinpoint pupils, and myoclonic jerks, with respiratory depression being a late sign. Opiate therapy should be discontinued if toxicity occurs. Protease inhibitors, especially lopinavir/ritonavir, have a small risk of potentiating opiate toxicity and, therefore, heightened monitoring is advised with coadministration[11] Likewise, caution should be exercised in hepatic and renal failure as morphine is metabolized in the liver and excreted via the kidneys. Lower doses of morphine with longer dosing intervals can be used with close monitoring. Fentanyl is the opiate of choice in end stage renal disease.

Fatigue, Weakness, Anorexia, and Wasting

Fatigue is common in PWH and likely multifactorial. Physiologic factors contributing to fatigue may include increased resting energy expenditure despite ART, liver disease, hypothyroidism, hypogonadism, anaemia, and duration of HIV infection.[20] Psychosocial factors include food insecurity, stressful life events, depression, anxiety, posttraumatic stress disorder, and low income.[17] Weight loss and wasting are common in AHD and respond rapidly to ART initiation. Unintentional weight loss increases mortality in PWH, with the lower the patient's BMI below 18 kg/m^2, the greater the risk of death.[21]

All attempts should be made to identify and treat reversible causes of fatigue and wasting. Oral ulceration, herpes, thrush, and oesophageal candidiasis impact food intake and are readily treatable. Chronic diarrhoea and gastrointestinal tumours can lead to malabsorption. Gastrointestinal TB and non-tuberculous mycobacterial infection such as mycobacterium avium complex (MAC) should be excluded in AHD.[11] Repeated stool samples should be sent to look for parasites such as cryptosporidia and cystoisospora.[11] Protease inhibitors can also cause vomiting and diarrhoea, particularly lopinavir/ritonavir. If food insecurity is contributing to weight loss, patients should be referred to a social worker and initiated on a social grant. Psychological counselling and medication should be started for concurrent mental health conditions. Exercise may also improve fatigue and patients are encouraged to pace themselves with activity.

Dieticians can provide nutritional therapeutic products and cachectic patients are encouraged to consume calorically dense, small frequent meals that are rich in protein. Once patients approach the end of life, families must be reassured that actively dying patients typically do not want to eat or drink. The only reason for a dying person to eat or drink is for pleasure. Forcing people to take in food or hydration may increase discomfort by worsening nausea, vomiting, bloating, and secretions. Invasive procedures at the end of life, such as nasogastric tubes, intravenous fluids, and percutaneous gastrostomy tubes, are discouraged unless a reversible condition has been identified.[11]

The goal of chronic pain treatment is to improve the pain, as well physical and emotional function, such that palliative care patients may increase physical activity and social engagement.

Dyspnoea and Cough

AHD increases the risk of severe bacterial pneumonia, pulmonary TB, and pneumocystis jiroveci (PJP). All are associated with productive coughs and worsening dyspnoea. In addition to curative antimicrobial therapy, patients hospitalized with acute pulmonary infections may experience severe hypoxia and respiratory failure. Oxygen, diuretics in the case of pulmonary oedema, and bronchodilators are continued as supportive care if indicated. However, morphine is the treatment of choice for the symptom of severe dyspnoea to relieve the distress. Oral low dose morphine is used if the patient can swallow, or subcutaneous morphine is administered via a syringe driver when a patient is actively dying. Severe breathlessness and the sensation of asphyxiation triggers anxiety which is managed with short acting benzodiazepines such as lorazepam.

Given the high prevalence of TB, post TB lung disease is a common cause of chronic cough and dyspnoea due to lung destruction. Patients with end stage post TB Lung disease or COPD who experience dyspnoea at rest or with minimal exertion, despite maximal bronchodilator therapy, may benefit from oral morphine. In advanced COPD, opiates can be started at low doses and titrated to achieve tolerable levels of dyspnoea without causing respiratory depression.[22] Opiate therapy for dyspnoea has been shown to improve patients' sleep and reduce the sensation of breathlessness, which allows patients to more actively engage in life. Nonpharmacological treatments such as pursed lip breathing, relaxation techniques, and fans with cool air blowing also help to relieve dyspnoea. Lorazepam may be used as an adjunctive therapy for anxiety triggered by breathlessness. Long term oxygen therapy is only appropriate for patients with chronic hypoxia, non-smokers, but requires a stable home electricity supply.

Nausea and Vomiting

Nausea and vomiting can be caused by a variety of conditions, including gastroenteritis, gastroparesis, intestinal disease, CNS disease including meningitis and raised intracranial pressure, uraemia in end stage renal disease, liver disease, and drug side effects. Zidovudine and lopinavir/ritonavir should be substituted with alternative ART if causing significant nausea and vomiting. Management of nausea and vomiting should be directed at the cause. Metoclopramide is first line treatment for nausea and vomiting in the public sector.[17] If metoclopramide is ineffective or contraindicated, haloperidol, promethazine, and ondansetron can effectively relieve nausea.[17]

Constipation

Chronic constipation is common due to immobility, poor fluid intake, and analgesic side effects, particularly in chronic opiate therapy. It is recommended that patients on opiates are prescribed senna and lactulose to prevent constipation. Additionally, bisacodyl suppositories, glycerine suppositories, and fleets enemas may be given rectally as needed.

Confusion and Neurological disease

HIV infects the nervous system, including the brain. AHD can result in a chronic dementia characterized by motor-slowing, abnormal movements, and progressive cognitive decline.[11] Every attempt should be made to start ART to improve cognitive function. However, for PWH with end stage dementia, resulting from their HIV or other aetiologies, haloperidol can be used to treat restlessness or delirium at the end of life. Similarly, lorazepam may be used to treat anxiety. HIV also infects the peripheral nervous system and can cause a painful, symmetric sensory polyneuropathy that people describe as burning pain. HIV-associated peripheral neuropathy can be disabling in AHD.[11] Peripheral neuropathies also usually improve with ART, but any residual neuropathic pain is managed with amitriptyline.

Psychosocial and Spiritual distress

Psychosocial and spiritual problems are highly individualized, but often cause as much distress as physical symptoms. Social histories are essential, including elucidating where the patient lives, do they have any dependent children, who are their support structure, who will be able to take care of the patient when they are too weak to take care of themselves, who is financially supporting the family, what gives the patient pleasure or meaning, and what worries the patient most. It is recommended that all palliative care patients are screened for depression and treated if indicated. Often patients have significant financial distress, especially if they are too weak to work. Social workers, disability

grants, and carers grants (grant in aid) can provide much needed financial support for patients and their family. Likewise, assisted mobility devices, such as wheelchairs, allow weak or immobile patients to continue to engage with spiritual communities, friends, or activities outside of their home, greatly alleviating feelings of isolation and hopelessness. Sharing honest prognostic information allows patients and families to visit and complete necessary administrative plans in anticipation of death before it is too late. Often patients desire to travel to their homeland before they become too weak to travel. Given South Africa has many economic migrants from other provinces and countries, it is spiritually and financially important for some patients to go home before they die. Finally, it is important for patients with young children to understand their prognosis so that they may plan for their children's future care. Spiritual carers and traditional healers should be included in the palliative care team if the patient desires their support.

ART management in Palliative Care

For patients with AHD, every attempt should be made to start or reinitiate ART. Patients struggling with adherence should undergo enhanced adherence counselling to explore individual barriers to care, including substance abuse, depression, treatment fatigue, lack of disclosure, drug side effects, and difficulties collecting medication due to transport or long clinic queues. PWH receiving palliative care for a secondary, end-stage comorbidity or cancer should continue ART to prevent additional opportunistic infections, wasting, and avoidable complications. ART should only be discontinued on patient request after thoughtful discussion with patient and family members about the goals of care, or if the patient is actively dying and unable to take oral medication.

Cancer Care and HIV

Patients with AHD have a significantly increased risk of cancer, particularly Kaposi's sarcoma, non-Hodgkin's Lymphoma, cervical carcinoma and CNS lymphoma.[11] Non-AIDs defining carcinomas are additionally increasing in incidence in South Africa—including Hodgkin's disease, lung carcinoma, gastrointestinal and breast cancers—and affect PWH 10-15 years earlier than their peers despite ART.[11] Early diagnosis and linkage to both HIV and oncology treatment are essential for cure. For patients presenting late with metastatic cancer not amenable to treatment, it is important to integrate palliative care with palliative oncology treatment, if indicated, as well as ongoing ART.

Conclusion

Despite the great successes of universal test and treat programs in South Africa, the incidence of AHD in South Africa remains stubbornly high and both TB and HIV account for significant mortality. It is essential that all South Africans, including PWH, have access to palliative care when facing a life-threatening illness—whether it be a severe acute AIDs-defining infection, an end stage chronic disease associated with organ failure, or an incurable cancer. Given the scarcity of palliative care specialists, palliative care should be integrated into general HIV management such that both curative and palliative care are offered simultaneously, as indicated by the stage of disease. The SPICTTM-SA tool can help clinicians identify which PWH would benefit from palliative care. It is recommended that HIV clinicians work with a multidisciplinary team to assess and treat palliative care patients' "total pain," including their physical, psychosocial, and spiritual distress, such that PWH and their families are fully supported at their most vulnerable time of life and may find relief from suffering. Family support, including bereavement support and the care of vulnerable children after patients die, should be included in palliative care plans.

BOX 1: WHO principles of palliative care

- Provides relief from pain and other distressing symptoms
- Affirms life and regards dying as a normal process
- Intends neither to hasten nor postpone death
- Integrates the psychological and spiritual aspects of patient care
- Offers a support system to help patients live as actively as possible until death
- Offers a support system to help the family cope during the patient's illness and in their own bereavement
- Uses a team approach to address the needs of patients and their families, including bereavement counselling, if indicated
- Will enhance quality of life, and will also positively influence the course of illness
- If applicable early in the course of illness, in conjunction with other therapies that are implemented to prolong life, such as chemotherapy or radiation therapy, and includes those investigations needed to better understand and manage distressing complications

Figure 2: SPICTTM-SA, The Support and Palliative Care Tool for South Africa
Figure reproduced with permission.[11]

SA Supportive and Palliative Care Indicators Tool (SPICT™-SA)

SPICT™-SA is a generic tool to help identify adults with advanced life-limiting illnesses when the best available and appropriate treatment has been given and their condition continues to deteriorate. These people benefit from a palliative care approach as well as ongoing care by their current clinician or team. SPICT™ is designed for South Africa and similar middle income countries and settings.

Look for disease specific indicators:

Cancer

- Cancer not amenable to curative treatment.
- Progressive or metastatic cancer with symptoms.
- Too frail for oncological interventions.

Kidney Disease

- Stage 4 or 5 chronic kidney disease with deteriorating health.
- Stopping or not starting dialysis.
- Kidney disease complicating other life-limiting conditions or treatments.

Neurological Disease

- Progressive deterioration in physical and/or cognitive function.
- Increasing difficulty communicating and/or progressive difficulty with swallowing.
- Stroke with significant loss of function, and ongoing disability and dependency.
- Recurrent pneumonia, breathlessness or respiratory failure.

Haematological Disease

- Haematological cancer with recurrent bleeding or infection or needing repeated transfusions.
- Any haematological condition or cancer with deteriorating clinical condition and not responding to best available treatment.

Lung Disease

- Patients on long term oxygen.
- Breathlessness at rest or on minimal effort between exacerbations.

Dementia / Frailty

- Unable to dress, walk or eat without help.
- No longer able to communicate using verbal language; little social interaction.
- Recurrent febrile episodes or infections.
- Fractured femur (hip).
- Swallowing difficulties and/or significant reduction in oral intake.

Infectious Disease

HIV
HIV with deteriorating clinical condition and not responding to best available treatment.

TB
TB with deteriorating clinical condition and not responding to best available treatment.

Other
Other infections with deteriorating clinical condition and not responding to best available treatment.

Heart / Vascular Disease

- Heart failure or extensive, untreatable coronary artery disease with breathlessness or chest pain at rest or on minimal exertion.
- Severe, inoperable peripheral vascular disease.

Liver Disease

Cirrhosis with one or more complication in the past year:

- Diuretic resistant ascites
- Hepatic encephalopathy
- Hepatorenal syndrome
- Bacterial peritonitis
- Variceal bleeds

Trauma

- Severe burns (ABSI score >10).
- Brain injury with clinical deterioration and no benefit from surgical intervention.

Other Diseases

- Any deteriorating clinical condition not responding to best available or appropriate treatment.

Look for one or more general indicators of deteriorating health:

- Two or more unplanned health care facility visits within a period of 3 months with deteriorating life-limiting illness despite best available or appropriate treatment.
- Performance status is poor or deteriorating, with limited reversibility e.g. the person stays in bed or in a chair for more than half the day.
- Dependent on others for care due to increasing physical, and/or emotional, and/or mental health problems.
- The person's carer needs more help and support in caring for the patient.
- Progressive weight loss over the last few months, or remains underweight, or has low muscle mass.
- Persistent symptoms despite best available or appropriate treatment of the underlying condition(s).
- The person (or family) ask for palliative care; chooses to reduce, stop or not have treatment; wishes to focus on quality of life.

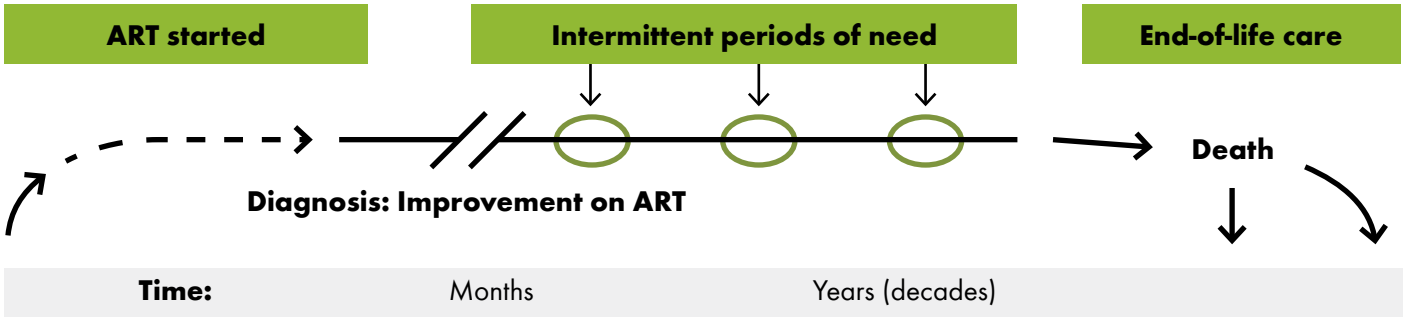
Review supportive and palliative care and care planning

- Review current treatment and medication so the patient receives best available or appropriate care.
- Consider referral for specialist assessment if symptoms or needs are complex and difficult to manage.
- Agree current and future care goals, and a care plan with the patient and family.
- Plan ahead if the patient is at risk of loss of capacity.
- Record, communicate and coordinate the care plan.

Please register on the SPICT™ website (www. spict.org.uk) for information and updates

SPICT™ - SA, December 2020

Figure 1: Palliative Care during periods of need
Figure reproduced with permission.[11]



Drug toxicity
Drug interactions

Mostly well. Intermittent issues: drug toxicities and treatment changes; ageing and co-morbid disease, e.g. cancer, metabolic (diabetes mellitus), cardiovascular and end-organ disease, for example, renal, liver and central nervous system (CNS) impairment.

Intermittent periods of need: Infection including TB, community-acquired pneumonia (CAP); drug-related toxicity; chemotherapy, radiotherapy (cancer); non-adherence; etc.

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The ITREMA project wins a prestigious award!

SAHCS was part of the collaborative ITREMA project, which aimed to enhance HIV treatment monitoring in South Africa.

The ITREMA project, led by Dutch researcher Professor Annemarie Wensing from the UMC Utrecht/ University of the Witwatersrand has been awarded the ZonMw Parel (Pearl Award) – a prestigious award presented to exceptionally good ZonMw-funded projects. Dr. Lucas Hermans, currently a registrar in Internal Medicine at the University of Cape Town, obtained his PhD based on the research performed within ITREMA. ZonMW is the Dutch national organisation that funds research and innovation in healthcare.

The ITREMA project, which has resulted in important scientific and clinical progress in the field of HIV treatment monitoring in South Africa, was a successful and innovative collaborative project between the Netherlands and South Africa.

The project involved laboratory capacity building training as well as knowledge transfer between partner institutions in the Netherlands and in South Africa. One such partner - the Ndlovu Research Laboratory - reported that the ITREMA project played a significant role in their current laboratory capacity and infrastructure. As a result of ITREMA they obtained essential infrastructure that they still use today for a wide variety of tests including chemistry, endocrinology, tumor markers and HIV treatment monitoring.

The project also importantly contributed to the capacity building of South African healthcare workers by way of multiple training and educational activities as hosted by the Southern African HIV Clinicians Society (SAHCS). These training workshops, conference sessions, and webinars, focused on Viral Load Monitoring in Clinical Practice, provided an understanding of the three key messages from the ITREMA study: 1) Low-level viraemia does not equal virological suppression; 2) Delayed response to viral rebound puts individuals and society at risk; and 3) Use tools to generate insight in virological failure.

Low level viremia ≠ treatment success

Patients on treatment with low-level viremia below the 1000 copies/mL threshold for virological failure set

by WHO are currently labelled as successfully treated. However, these patients are at increased risk of poor treatment outcomes when compared to patients with successful virological suppression of less than 50 copies per mL.[1]

Delayed response to viral rebound puts individuals and society at risk

When treatment failure is detected, clinical action is often delayed. In the absence of easy access to tools to detect ongoing non-adherence or drug resistance, clinicians tend to keep patients on a failing treatment regimen. As a result, it takes often more than a year for patients with virological failure and an infectious viral load to be given new and appropriate treatment.[2]

Use tools to generate insight in virological failure

Diagnostic tools enabling insight into the causes of treatment failure are urgently required. Qualitative drug exposure testing has been shown to accurately exclude the presence of drug resistance in patients with failure of ART.[3,4]

In case of viral rebound it is often unknown whether there is an intake issue (incomplete adherence to the therapy) or failure of the HIV medication because the virus has become less sensitive to the drugs (drug resistance).

Drug resistance testing to assess whether drug resistant HIV has been selected informs the clinician on the effectiveness of the therapy and supports clinical decision making. But these tests are costly and require extensive laboratory infrastructure as well as specialist interpretation, limiting the capacity in most low- and middle-income countries. Moreover, drug resistance mutations are more difficult to detect in case of non-adherence lowering the usefulness of resistance testing in these cases.

Drug exposure testing is a low-cost tool that provides valuable information on adherence and may guide intensified adherence counselling. Given limited resources, targeted use of drug resistance testing only in patients who have a positive drug exposure test increases efficiency and reliability of resistance testing.

Currently the ITREMA team, of which the Southern African HIV Clinicians Society is part of, is performing a pilot study about the implementation of drug exposure testing in clinical management (www.itrema.org). We look forward to sharing these learnings with you in the future.

Revisit a previous article – 'Improving viral load monitoring in South Africa: Lessons from the ITREMA project' to learn more: https://sahivsoc.org/Files/Nursing%20Matters%20Volume12.pdf

SAHCS is honoured to have been part of this important study, and we look forward to future cross-border collaborations that further strengthen and support quality comprehensive, evidence-based HIV healthcare.

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SAHCS 2023 Conference, Cape Town, South Africa
From left to right: CJ Umunnakwe, Hugo Tempelman, Kim Steegen, Annemarie Wensing, Lucas Hermans, Monique Nijhuis, Sean Currin

SAHCS NEWS

This year marks the **25th year since the Southern African HIV Clinicians Society (SAHCS) was started** by a group of clinical experts who identified the need to develop a structure to coordinate the response to the HIV/AIDS epidemic and to provide up-to-date information and guidelines.

Given the burden on HIV in the country, with an estimated 7.8 million people living with HIV in South Africa in 2023 (12.6% of the population), South Africa has an outsized role to play in managing, and striving towards ending, this HIV pandemic.

SAHCS has grown substantially over the years and continues to be an important voice in the fight against HIV, and a provider of knowledge-based information to you, our valued members. SAHCS is a non-profit company and public benefit organisation, and is governed by a Board of Directors, led by **newly elected President Dr Ndiviwe Mphothulo.**

Dr Mphothulo is a HIV Clinician with over 20 years' experience. He obtained his undergraduate medical degree from the Medical University of South Africa in 2001 (now Sefako Makgatho Health Sciences University) followed by a master's in public health in 2009. He then went on to do a Diploma in HIV Management in 2012, and a master's in business leadership in 2014. Ndiviwe's' unwavering thirst for academic excellence led him to register for a PhD through the University of KwaZulu-Natal School of Public Health, where he is currently in his third year of study. The focus of his PhD is centered on the grave challenges faced by people living with drug resistant tuberculosis.

Dr Mphothulo has held senior leadership positions within the South African health care system at local, provincial, and national levels, and is also credited with transforming Taung District Hospital's TB ward into a regional center of excellence, and managing a MDR-TB unit that served the entire district with over 60 facilities. He is the recipient of multiple accolades in recognition of his activism and leadership in rural health advocacy. Ndiviwe has been an active member of SAHCS since 2012 and became a member of the Board of Directors in 2016. He also recently chaired the highly successful 6th SAHCS conference held in Cape Town in November 2023.

Whilst the work of SAHCS spans across all south and southern Africa, the secretariat is based in Johannesburg, Gauteng, led by the **newly appointed Chief Executive Officer (CEO), Fiona Storie.**

Fiona has been with SAHCS since 2016 and held the role of Chief Operating Officer prior to being promoted to CEO earlier this year. Fiona brings a full and comprehensive understanding of all the key elements involved in successful operational management, as well as management accounting and program management abilities, and a passion to continue the SAHCS mission to promote evidence-based, quality HIV healthcare in southern Africa.

In this **25th year of existence** SAHCS reflects on the tremendous work done to test, treat and improve quality of life of people with HIV (PWH), and we continue to work to identify additional targeted approaches to reach epidemic control by 2030.

Significant strides have been made towards meeting the 2030 UNAIDS targets of identifying at least 95% of those living with HIV, initiating at least 95% living with HIV onto effective ART and ensuring that at least 95% on treatment remain virologically suppressed. However, progress towards these targets has slowed, with just under 5.9 million of the 7.8 million (75%) PWH having been initiated on antiretroviral therapy (ART). In addition, new infections among young women and girls remains unacceptably high coupled with low uptake of Pre-Exposure Prophylaxis (PrEP).

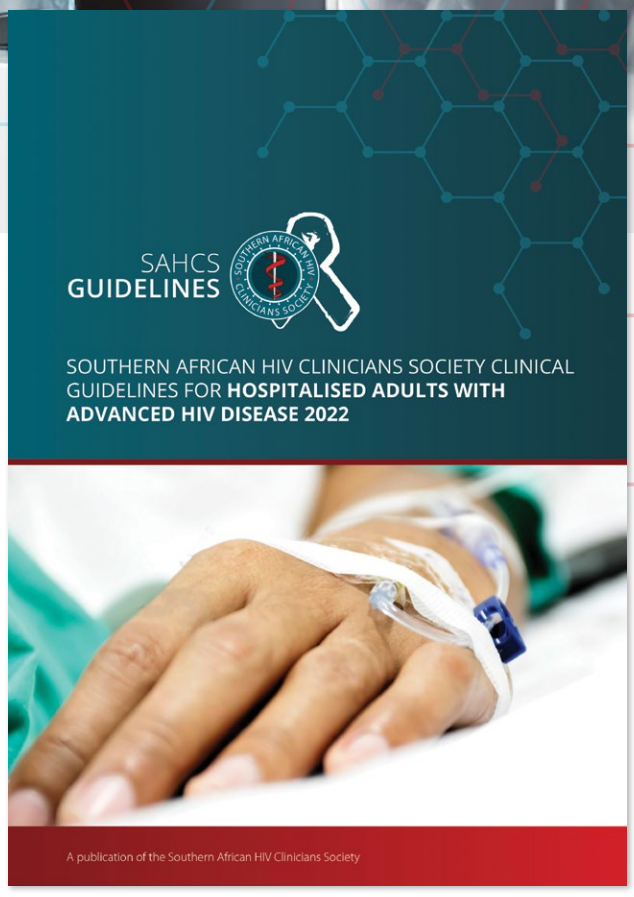
To close these gaps innovative healthcare worker (HCW) capacity building initiatives are urgently needed.

SAHCS continues to be at the forefront of the battle against this epidemic by driving and coordinating continuous medical education to all levels of healthcare workers, with the support of local and international clinical HIV experts committed to improving HIV/TB care in southern Africa.

Capacity building, guideline development, high quality virtual learning, mentorship programs for HCWs, a network of HIV practitioners, and optimal use of data for programmatic improvements are core to SAHCS. Over the years SAHCS has prided itself on nurturing partnerships, with a primary focus on evidence-based learning, using innovative tools for sustained benefit. SAHCS has dedicated itself to working with the National Department of Health (NDoH), provincial and district health bodies to use epidemiologic, program and process data for comprehensive, quality, cost-effective, and tailored interventions.

Most recently SAHCS developed updated adult ART guidelines, updated guidelines for post-exposure-prophylaxis (PEP) and updated guidelines for the management of drug-induced liver injury (DILI) in PWH treated for tuberculosis. All the SAHCS guidelines, additional resources, and information on training courses such as the Nurse Initiated Management of Antiretroviral Therapy (NIMART) Course, and the Advanced HIV Management Course for nurses are available on the website – www.sahivsoc.org.

SAHCS remains committed to supporting and strengthening the capacity of its members, as we continue to collectively strive towards the end of HIV through quality comprehensive, evidence-based education, training and clinical advocacy, and we applaud you for continuous perseverance and commitment to patient care.



SOUTHERN AFRICAN HIV CLINICIANS SOCIETY **CLINICAL GUIDELINES FOR HOSPITALISED ADULTS WITH ADVANCED HIV DISEASE**

Get clinical guidance in the care of hospitalised patients with AHD, who often present with complex problems and multiple opportunistic infections.

VIEW OR DOWNLOAD THE GUIDELINES HERE

WWW.SAHIVSOC.ORG - RESOURCES - SAHCS GUIDELINES

Clinical tips

1. With acute kidney injury (AKI), adjust NRTI dose based on eGFR. Interrupt TDF even if it is not thought to have caused AKI.
2. Resistance testing may not detect archived mutations if the patient is not receiving the drugs at the time of resistance testing.
3. In patients with renal impairment (eGFR < 50) the alternative to TLD is 3TC + ABC + DTG.
4. DRV/r 800 mg/100 mg once daily is recommended as the first choice PI if a PI is used in second-line therapy.
5. In patients who interrupt ART and returned to care, always screen for opportunistic infections.
6. In a patient who has interrupted treatment, VL measurement should be performed 3 months after ART re-initiation.
7. When starting/switching antiretroviral drugs or concomitant medications, evaluate for potential drug interactions.
8. ATV can cause jaundice due to elevation of unconjugated bilirubin - this is benign.
9. The combination of TDF (or TAF) + 3TC (or FTC) + DTG is regarded as least hepatotoxic.
10. All patients with HIV should be screened for active hep B virus– hepatitis B surface antigen (HBsAg) screening is an appropriate test.
11. For all HIV-positive HBsAg-positive patients, the ART regimen should include TDF (or TAF) + 3TC (or FTC).

DTG - dolutegravir; VL - viral load; U=U - undetectable = untransmittable; TB - tuberculosis; TLD - tenofovir/lamivudine/dolutegravir; AZT - zidovudine; 3TC - lamivudine; NVP - nevirapine; ART; antiretroviral therapy; PCR - polymerase chain reaction; PrEP - pre-exposure prophylaxis.

Please contact valencia@sahivcs.org if you would like to receive our bi-monthly clinical tips

National HIV & TB Health Care Worker Hotline

This is a free service for all health care workers

What questions can you ask?

The National HIV & TB Health Care Worker Hotline provides information on queries relating to:

- Pre-exposure prophylaxis (PrEP)
- Post exposure prophylaxis (PEP)
- HIV testing
- Management of HIV in pregnancy
- PMTCT
- Drug interactions
- Treatment/prophylaxis of opportunistic infections
- Drug availability
- Adherence support
- Management of DS and DR tuberculosis
- Antiretroviral Therapy (ART):
  - When to initiate
  - Treatment selection
  - Recommendations for laboratory and clinical monitoring
  - How to interpret and respond to laboratory results
  - Management of adverse events

We are available Monday to Friday 08:30 - 16:30

PHONE
0800 212 506
021 406 6782

E-MAIL
pha-mic@uct.ac.za

SMS/PLEASE CALL ME/WHATSAPP
071 840 1572

WEBSITE
www.mic.uct.ac.za

FACEBOOK
HIV & TB Health Care Worker Hotline, South Africa

FREE ANDROID & APPLE APP
SA HIV/TB Hotline

MEDICINES INFORMATION CENTRE

health
Department:
Health
REPUBLIC OF SOUTH AFRICA

JOIN US AS A MEMBER!

WE ARE A COMMUNITY OF HEALTHCARE PROVIDERS DEDICATED TO DELIVERING EVIDENCE-BASED, HIGH-QUALITY HIV CARE

The Southern African HIV Clinicians Society (SAHCS) is a community of healthcare professionals that work in a variety of spaces, including public, private, and allied healthcare organisations. Our commitment lies in empowering our community to deliver evidence-based, up-to-date, and patient-centred HIV healthcare of the highest quality.

We strive to support and strengthen the capacity of our members. We achieve this through the development of our clinical guidelines and job aids, offering training courses and conferences, publishing the SAJHIVMED scientific journal and the HIV Nursing Matters publication, organizing regular Continuous Medical Education meetings and webinars. We are dedicated to fostering collaboration across cadres and borders to improve the lives of all those affected by HIV.

As a member of SAHCS, you will have access to trusted clinical knowledge, enabling you to enhance your clinical practice and provide high quality HIV prevention, treatment, and care.

SAHCS MEMBERSHIP BENEFITS INCLUDE:

- Free access to CME meetings and webinars
- CPD certificates for courses and webinars completed
- Free access to previous webinars to enable you to learn when it suits you
- Preferential registration to SAHCS workshops
- The opportunity to network and collaborate with other healthcare providers who have an interest in HIV
- Free access to:
  - the DHET PubMed® accredited Southern African Journal of HIV Medicine (SAJHIVMED)
  - SAHCS HIV Nursing Matters Publication
  - HIV and related diseases clinical updates and articles
  - Evidence-based SAHCS and NDoH clinical guidelines

CLICK HERE TO JOIN THE SAHCS COMMUNITY FOR FREE!

Or send an email to mirriam@sahivcs.org

CONTACT US

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UNITING HEALTHCARE WORKERS IN HIV CLINICAL EXCELLENCE