

Food and Nutrition Guidance for HIV Medications

People living with HIV who are on antiretroviral therapy (ART) need appropriate and adequate nutrition to achieve the full benefits of the medications.

Food and medication interactions:

- Some antiretroviral drugs (ARVs) affect nutrient availability, absorption, and utilization in the body. ART can change the way the body uses fats, proteins, and energy.
- Some drugs interact with food in ways that can affect nutritional status and the effectiveness of the drugs.
- Drug side effects can reduce food intake, absorption of nutrients, and adherence to the drugs. Side effects may be a sign of an opportunistic infection or other problems requiring medical treatment.
- Some foods when taken with ARVs may reduce drug effectiveness and worsen side effects (e.g., eating fatty meals with Efavirenz will worsen side effects).
- Alcohol and ARVs do not mix.
- Some people on ARVs experience increased appetite, which can lead to weight gain.
- ART response can be assessed through clinical (weight and growth), immunological, and virological methods. Children's growth on ART is a good indicator of response to treatment and ongoing adherence.

Messages:

- Carefully select food and plan meals to minimize drug side effects to improve adherence to and the effectiveness of ART.
- Tell a health care provider if you experience side effects. Not everyone experiences side effects. They usually stop after 6 weeks when the body gets used to the drugs.
- Take drugs as prescribed (following the recommended timing and dosage). Otherwise they will not be effective and may be dangerous.
- Some ARVs call for drinking plenty of water to avoid side effects or complications that may affect important body organs such as the kidneys. Make sure the water is boiled or treated, because HIV makes people more vulnerable to water-borne infections.
- Avoid drinking alcohol, which can interfere with the effectiveness of ARVs.
- With your health care provider, plan a daily routine for taking drugs and meals to maximize the effectiveness of the drugs, ensure good nutrition, and minimize side effects.

Food guidance for ARVs

Medication	Nutrition guidance	Possible side effects
Antiretroviral medications (ARVs)		
Nucleoside and nucleotide reverse transcriptase inhibitors (NRTIs)		
Abacavir (ABC)	Take with or without food, but taking with food reduces side effects. Alcohol increases levels of side effects.	Nausea, vomiting, fever, allergic reaction, anorexia, abdominal pain, diarrhea, anemia, rash, hypotension, pancreatitis, dyspnea, weakness and insomnia, cough, headache
Emtricitabine (FTC)	Take with or without food.	
Lamivudine (3TC)	Take with or without food. Avoid alcohol.	Nausea, vomiting, headache, dizziness, diarrhea, anemia, abdominal pain, nasal symptoms, cough, fatigue, pancreatitis
Stavudine (d4T)	Take with or without food. Avoid alcohol.	Nausea, vomiting, peripheral neuropathy, chills and fever, anorexia, stomatitis, diarrhea, anemia, headaches, rash, pancreatitis
Tenofovir (TDF)	Take with or without food.	Headache, diarrhea, nausea, vomiting, abdominal pain, rash, headache, flatulence, anorexia, dizziness, insomnia, depression, sweating, renal function impairment
Zidovudine (ZDV, AZT)	Take with or without food, but NOT a high-fat meal. Avoid alcohol.	Anorexia, anemia, nausea, vomiting, bone marrow suppression, headache, fatigue, constipation, fever, dizziness, dyspnea, insomnia, muscle pain, rash
Non-nucleoside reverse transcriptase inhibitors (NNRTIs)		
Nevirapine (NVP)	Take with or without food. Avoid St. John's wort.	Nausea, vomiting, rash, fever, headache, skin reactions, fatigue, stomatitis, abdominal pain, drowsiness, paresthesia, high hepatotoxicity
Efavirenz (EFZ)	Take with or without food, but NOT with a high-fat meal. Take just before bedtime. Avoid alcohol.	Elevated blood cholesterol levels, elevated triglycerides, rash, dizziness, anorexia, nausea, vomiting, diarrhea, dyspepsia, abdominal pain, flatulence

Medication	Nutrition guidance	Possible side effects
Protease inhibitors (PIs)		
Atazanavir (IDV)	Take with food.	Gastrointestinal complaints, renal toxicity (especially when renal function is already reduced)
Lopinavir/Ritonavir (LPV/r)	Take with or without food. Avoid St. John's wort.	Nausea, vomiting, weakness, diarrhea, headache, dizziness, abdominal pain, fever, diabetes, anorexia, hepatitis, jaundice
Nelfinavir (NFV)	Take with meal or light snack. Avoid St. John's wort.	Diarrhea, flatulence, nausea, abdominal pain, rash; possible increased risk of lipodystrophy
Ritonavir (RTV)	Take with food. Avoid St. John's wort.	Nausea, vomiting, diarrhea, hepatitis, jaundice, weakness, anorexia, abdominal pain, fever, diabetes, headache, dizziness, possible increased risk of lipodystrophy
Once daily single tablet regimen		
Atripla (Efavirenz, Emtricitabine, Tenofovir (EFV/FTC/TDF)	Take on an empty stomach, preferably at bedtime. Avoid alcohol.	See above for Efavirenz, Emtricitabine, and Tenofovir
TLE Fixed Dose Combination (Efavirenz, Lamivudine, Tenofovir)	Take with or without food.	See above for Efavirenz, Lamivudine, and Tenofovir
Atazanavir/Ritonavir /Tenofovir (ATV/r/FTC/TDF)	Take with or without food.	See above for Ritonavir and Tenofovir
Antibacterial medications for TB		
Isoniazid	Take on an empty stomach, 1 hour before or 2 hours after a meal. This drug increases the body's requirement for pyridoxine, folate, niacin, and magnesium.	Hepatitis, constipation, anemia, fatigue

Medication	Nutrition guidance	Possible side effects
Rifampicin	Take on an empty stomach, 1 hour before or 2 hours after a meal. Supplement with 10 mg vitamin B ₆ daily. Do not take with alcohol.	Gastrointestinal irritation, anemia, jaundice, pancreatitis, altered taste, anorexia

Source: Tanzania Food and Nutrition Centre (TFNC). 2016. *Nutrition Assessment, Counselling and Support (NACS): Job Aids for Facility-Based Service Providers*. Dar es Salaam, Tanzania: TFNC.