Managing a healthy lifestyle
A guide for people living with HIV

EMD Serono
Managing health is important when you have HIV

If you or someone you know is living with HIV, it's important to know that staying healthy can have an important impact on managing the disease. In addition to medical treatment and antiretroviral therapy, a proper balance of appropriate nutrition, exercise, and lifestyle choices can have a beneficial effect on overall health. Remember to always consult a healthcare provider about how maintaining a healthy lifestyle can also help prevent the development or decrease the risk of other conditions.

Nutrition, exercise, and lifestyle choices can have a significant impact on one's health

A resource designed for people living with HIV

Inside this guide you will find an overview of some of the conditions commonly experienced by people living with HIV, along with summaries of available recommendations, tips, and guidelines on nutrition and exercise. Important medical terms will appear in bold throughout this booklet. For your reference, a glossary in the back provides definitions for each of these terms.

Everyone is different, and the health concerns of some may be different than the concerns of others. Factors such as medical history and conditions, geographic location, age, ethnicity, and gender all play a role in the management of one's health. For this reason, this guide addresses the general needs of a range of individuals with HIV.

You are not alone

Managing your HIV and overall health and well-being is a team effort that may involve a dedicated group of medical providers, nurses, registered dietitians and other healthcare professionals. This guide covers some of the more common conditions associated with HIV. It is not intended to be a comprehensive list of health conditions associated with HIV and should not replace the advice of a healthcare professional.

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
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Common concerns and conditions associated with HIV

Not all people with HIV experience the same health concerns. However, some of the more common conditions associated with HIV receive a great deal of attention because they can be serious. In addition to a brief overview of each condition and associated risks, this brochure provides diet and exercise recommendations.

Important:
The suggestions and information in this guide are based on published recommendations from professional health organizations. To learn more about these organizations and their recommendations, see page 56.

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Changes in lipids

People with HIV can experience high or abnormal levels of lipids, or fats in the blood, in connection with the disease itself since HIV has been shown to play a role in how fat is distributed and/or broken down (known as metabolism). Some medicines used to treat HIV can cause changes in lipid levels as well.

Cholesterol is found in fats that circulate in the bloodstream and to the body's cells. “Unhealthy”, or high levels of cholesterol, can be dangerous, as it may lead to cardiovascular events such as heart disease and stroke.

We all have cholesterol in our bodies and cholesterol plays a number of essential roles in maintaining health. There are several components of lipids that are commonly measured by clinicians. A lipid profile will include: low-density lipoprotein (LDL), high-density lipoprotein (HDL), and triglycerides.

• LDL cholesterol is referred to as “bad” cholesterol. Too much LDL in the blood can clog the arteries in the heart and brain, making them narrower and blocking blood flow, a condition called atherosclerosis.

• HDL cholesterol is referred to as “good” cholesterol. HDL carries cholesterol away from the arteries and takes it to the liver, where it's removed from the body. Levels of HDL that are within a healthy range can help reduce the risk of a heart attack.

• Triglycerides are another type of fat in the bloodstream. High levels of triglycerides can be unhealthy and may contribute to heart disease.

Types of lipids and risk levels

<table>
<thead>
<tr>
<th>Type</th>
<th>A health risk if</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDL (“bad”)</td>
<td>Too high</td>
</tr>
<tr>
<td>HDL (“good”)</td>
<td>Too low</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>Too high</td>
</tr>
</tbody>
</table>

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Who is at risk for high cholesterol?

According to the National Cholesterol Education Program of the National Institutes of Health, there are multiple risk factors for developing high cholesterol in the general population. Although some cholesterol is made by the body, foods such as red meats, fats, eggs, and dairy products can increase the level as well. High LDL cholesterol has also been shown to run in the family. Even people who maintain a healthy diet may be at risk for high LDL cholesterol because of a hereditary link. Other factors include:

- Obesity
- Lack of exercise
- Increasing age
- The presence of diabetes

How are lipid levels managed?

In many cases, cholesterol can be managed with a combination of diet and exercise. In some people, or in cases considered to be a threat to one's health, “bad” cholesterol can be controlled with certain prescribed medicines. There are medications that can be prescribed that will increase HDL as well. Studies have also shown that routine exercise and foods that contain soluble fiber can help improve the level of “good” cholesterol (HDL), and reduce the level of “bad” cholesterol (LDL). According to the National Cholesterol Education Program of the National Institutes of Health, certain lifestyle changes can help control and improve cholesterol levels:

Maintain a healthy diet
- Watch for the type of fats consumed
  - Saturated fats, trans fats, and dietary cholesterol can raise LDL cholesterol levels
  - Monounsaturated and polyunsaturated fats can lower cholesterol levels
- Eating too many carbohydrates can lower HDL and raise triglyceride levels in some people
- Alcohol can raise triglyceride levels; limit alcohol intake
- Fiber has also been shown to help lower LDL cholesterol levels

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Maintain a healthy weight

- Being overweight or obese can raise LDL levels. A healthcare professional or dietitian can determine if a patient’s weight is in a healthy range.

Exercise regularly

- Adults should exercise moderately for at least 30 minutes most days of the week.

Do not smoke

- Smoking has been proven to harden arteries and can increase the risk of heart attack and stroke.
- Patients who do smoke should consider a program or treatment that can help with quitting. A healthcare professional can help, too.

Follow a healthcare professional’s advice

- In addition to lifestyle changes, healthcare professionals may prescribe medicine to help achieve ideal lipid levels.
- Patients can work with their healthcare professional to create a treatment program that is tailored to their needs and health goals.

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Diabetes and related conditions

Diabetes is a disease that patients with HIV need to be aware of. In addition to the factors listed below, HIV and its treatments can contribute to the development of diabetes. Some of the health problems that can result from diabetes include heart disease, kidney disease, vision problems, and nerve damage. Maintaining appropriate blood sugar levels may decrease the risk of developing these complications.

Diabetes involves abnormal levels of blood glucose, or blood sugar. The body converts food into blood glucose, which is then delivered by insulin to cells throughout the body to provide the nutrients and energy the body needs to function properly.

Diabetes develops when the body doesn't produce enough insulin to control the level of blood sugar (type 1 diabetes), or the body cannot properly use the insulin it produces (type 2 diabetes).

Knowing your blood sugar level is critical to controlling it. There are a number of blood tests that will tell a healthcare professional if your blood sugar is too high.

Who is at risk for diabetes?

According to the American Diabetes Association, in the general population, risk factors for type 2 diabetes vary from person to person, but the following have been identified as key contributors to the development of high levels of blood sugar:

- People with impaired glucose tolerance and/or impaired fasting glucose
- People over the age of 45
- People with a family history of diabetes
- People who are overweight
- People who do not exercise regularly
- People with low HDL, high triglycerides or high blood pressure

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
How is diabetes managed?

According to the American Diabetes Association, in addition to a healthy balance of diet and exercise, diabetes can be controlled with a wide range of prescription medications. Medicines such as insulin help to regulate the level of sugar in the bloodstream.

- Patients should work with a healthcare professional to choose a treatment option that fits their lifestyle and medical needs
- Patients can keep a record of a dietary habits, exercise, **blood glucose levels**, and changes in health and review these with their healthcare professional
  - Patients can speak to a healthcare professional about using a **blood glucose meter** to monitor their blood glucose at home or on the go

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Liver disease is a serious and potentially dangerous condition for patients living with HIV. The liver is the largest organ inside the body and keeps the body functioning properly. When the liver does not work properly or even shuts down, it can be life-threatening. The liver, however, has the ability to grow back from remaining healthy cells and may be able to function even when parts of it may be damaged.

The liver serves a range of important functions. It:

- Stores glucose (blood sugar), vitamins, and iron, and releases them to provide the body with energy
- Controls the production and removal of cholesterol
- Breaks down toxins and cleans the system of poisons and germs
- Produces important proteins that help form blood clots after injury
- Releases "bile," a substance that helps digest food and absorb nutrients
- Makes proteins to help the immune system fight infection

Who is at risk for liver disease?

Liver disease can occur in different ways. The liver can be infected with a virus, injured by chemicals, or be under attack from the body’s own immune system. According to the American Liver Foundation, some potential contributors to liver disease are:

- Hepatitis B or Hepatitis C
- HIV-associated infections
- Certain over-the-counter medicines. These may include drugs that are used to treat pain and headaches
- Excessive alcohol consumption or recreational drug use
- Side effects of medications

Only a healthcare professional can determine if patients have liver disease and how serious it is. People with HIV should notify a healthcare professional if they experience any of the following:

- Loss of appetite or weight loss
- Nausea
- Yellowing of the skin (called jaundice) and whites of the eyes (called icterus)
- Tiredness
- Feeling full after eating small amounts
- Irregular or light-colored bowel movements

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
How is liver disease managed?

The American Liver Foundation recommends these important steps to manage liver disease:

Eat a healthy diet
- Choose foods from all the food groups: grains, protein, dairy, fruits, vegetables, and fats
- Choose foods that have a lot of fiber such as fresh fruits and vegetables, whole-grain breads, rice, and cereals

Exercise regularly
- Exercise helps the liver work properly

Limit alcohol intake
- Too much alcohol is a common cause of liver damage and can destroy liver cells

Strictly take medicines as prescribed
- The liver can be damaged when medicines are abused or taken incorrectly. Always use medications as prescribed

Don't smoke
- People who smoke should quit. They can get assistance from a healthcare professional

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Hypertension (high blood pressure)

Hypertension is a common condition and concern among people living with HIV. Changes in diet, daily living, medications, and other conditions can contribute to hypertension.

Hypertension is also known as high blood pressure (BP). When the heart beats, it creates a pressure or force that pushes blood through the blood vessels. Too much force, or high BP, can damage the artery walls over time. This can lead to serious health issues such as stroke, kidney (renal) damage, and even loss of vision.

A BP reading uses 2 measures, which are given as a ratio. For example, a BP reading of 120/80 is described as “one twenty over eighty.”

- **Systolic blood pressure** is the larger number. This is the force of blood against the artery walls when the heart is pumping.

- **Diastolic blood pressure** is the smaller number. This is the force when the heart relaxes.

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Who gets hypertension?

The risk of hypertension has been linked to specific ethnic groups. Lifestyle and genetic factors, as well as other health conditions, can put people at risk for developing hypertension. These factors and conditions include:

- Poor diet
- Too much salt in the diet
- Being overweight or obese
- Lack of exercise
- Excessive alcohol consumption
- Family history
- Increasing age
- Stress
- Smoking

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
How can high BP be managed?

According to the National Institutes of Health, there are a number of ways to help manage or reduce the risk of hypertension:

**Eat a healthy diet (National Heart, Lung, and Blood Institute)**

Dietary Approaches to Stop Hypertension, or DASH, recommends:
- 8 to 10 servings of fruits and vegetables a day
- 2 to 3 servings of low-fat dairy foods
- Whole grains, fish, poultry, and nuts
- Limiting salt intake by choosing low-sodium/low-salt foods and by reducing the amount of salt added to food
- Also, be sure to refer to the Chapter on “Healthy eating” for nutrition recommendations

**Engage in regular physical activity**

- Physical activity not only helps control BP, but it also helps patients manage their weight, strengthen the heart, and manage stress levels

**Maintain a healthy weight**

- Dropping as few as 5 to 10 pounds, if overweight, may help patients lower their high BP and reduce the strain on their heart

**Minimize stress**

- Stress plays a significant role in physical and psychological health

**Don’t smoke and limit alcohol consumption**

- Nicotine may temporarily increase BP
- Drink in moderation

**Take medicines as prescribed**

- Patients should follow the instructions provided by their healthcare professional when medications are prescribed

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Some HIV medications can affect bone metabolism and levels of vitamin D. This can lead to osteoporosis, a condition in which bones in the body become brittle and are more likely to break.

When people are young, new bone is added faster than old bone is removed. As people get older, the amount of bone that gets removed outpaces the amount of bone that is added. This process can lead to the development of osteoporosis.

Bone is living, growing tissue. More than 99% of the body's calcium is contained in the bones and teeth. The remaining 1% is found in the blood. Although bone is hard, it is flexible enough to withstand stress and some pressure.

Who is at risk for bone disease?

According to the National Osteoporosis Foundation, increased age and conditions such as menopause (in women) and andropause (in men) can weaken bone and lead to osteoporosis in the general population. Other risk factors include:

- A diet low in calcium
- Food sources that do not contain vitamin D
- Not eating enough fruits and vegetables
- Consuming too much protein, sodium, and caffeine
- Lack of appropriate exercise
- Smoking
- Excessive alcohol consumption
- Certain medications
- Loss of weight

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
How can bone disease be managed?

The National Osteoporosis Foundation recommends a balance of proper nutrition and exercise to limit and minimize the risk of osteoporosis.

Appropriate exercise

- Exercise strengthens bones and muscles and improves coordination and balance. This helps prevent falls and fractures.
- "Weight-bearing" exercises involve working against gravity and are a good way to strengthen bones. Weight training, walking, tennis, and climbing stairs are a few examples. **Never begin a new exercise program before talking to a healthcare professional.**

Bone density test

- A bone mineral density (BMD) test can be used to detect osteoporosis, check bone strength, and see if osteoporosis treatment is helping.

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Foods rich in calcium

According to U.S. Department of Health and Human Services' dietary guidelines, calcium is an excellent contributor to strong, healthy bones. The guidelines provide some well-known sources of calcium, which include:

- Milk, skim, or 1%
- Low-fat dairy products such as yogurt and low-fat cheese
- Sesame seeds, in large quantities
- Tofu
- Canned salmon or sardines
- Almonds (dry-roasted or raw)
- Oatmeal
- Turnip greens
- White beans

Medicine as prescribed

- If patients have low bone density, healthcare providers may prescribe medication to help keep bones strong

Healthy lifestyle choices

- Limit alcohol consumption and don't smoke

Vitamin D

The National Osteoporosis Foundation recommends Vitamin D as an essential nutrient to help the body absorb calcium. The foundation provides the following list as sources of Vitamin D:

- Milk
- Fresh, oily fish (salmon, herring, trout, mackerel, and tuna)
- Canned fish (salmon, tuna, and sardines)
- Eggs
- Juices and beverages that contain added Vitamin D
- Other foods that say “Vitamin D added” on the label
- Supplements, if recommended by a healthcare professional

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Healthy lifestyle choices

Important:
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Making the right lifestyle choices is an important way to stay healthy for anyone living with HIV.

Alcohol, smoking, and drug use

Academy of Nutrition and Dietetics explains that certain substances can change the structure of the brain and affect the way it works, including:

△ Alcohol
△ Tobacco
△ Recreational drugs (drugs used for personal enjoyment rather than a medical need), such as marijuana, cocaine, and heroin
△ The abuse and nonmedical use of prescription drugs, such as pain relievers, tranquilizers, stimulants, and sedatives

Alcohol

The New York State Department of Health AIDS Institute states that the use of excess alcohol can make an individual more likely to engage in risky behavior, which may put one at risk for sexually transmitted diseases.

Alcohol should be used in moderation and avoided by people who have liver disease, as the chart below shows.

The U.S. Government Dietary Guidelines for Americans provides the following guideline for alcohol intake in people with liver disease:

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>If one doesn't have liver disease</td>
<td>2 standard drinks a day*</td>
<td>1 standard drink a day*</td>
</tr>
<tr>
<td>If one has liver disease</td>
<td>NONE</td>
<td>NONE</td>
</tr>
</tbody>
</table>

*A standard alcoholic drink equals:

- 12 ounces of beer (5% alcohol)
- 5 ounces of wine (12% alcohol)
- 1.5 ounces of liquor (40% alcohol / 80 proof distilled spirits)

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Smoking

The American Lung Association makes it clear that smoking tobacco has been linked to many illnesses, including cancer and heart disease. In addition, people who smoke are at high risk for:

- Stroke
- Emphysema (lung disease that makes breathing difficult)
- Osteoporosis
- Atherosclerosis (narrowing of the arteries due to a buildup of fat on the artery walls)

The NY State Department of Health states that in people with HIV, smoking can lead to a number of serious health issues, including infections, problems breathing, heart disease, and cancer.

Drug use and abuse—recreational and prescription

According to the Academy of Nutrition and Dietetics, drugs affect how the brain and body “talk” to each other. By misusing drugs, even drugs prescribed by a healthcare professional, an individual increases the risk of causing serious harm to the body.

According to the World Health Organization, the use of injection drugs has been strongly linked to infections such as Hepatitis B and C, which can lead to liver damage, cancer, and even death. Other risks include:

- Infection at the injection site
- Other bacterial infections, including Tuberculosis
- Sexually transmitted diseases

Help quitting

If a person wants to quit smoking, drinking, or using drugs, help is available. Talk to a healthcare professional or contact any of the organizations listed in the resource section in the back of this guide.

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Nutrition concerns

The importance of good nutrition in people with HIV

Whether a person is living with HIV or not, eating well is essential to maintaining strength, energy, and a healthy immune system. The foods we consume are converted into energy and supply our bodies with the necessary nourishment to stay healthy and keep our bodies functioning properly.

HIV and many of its treatments can change the way the body processes nutrients and other substances. Some of these changes can lead to serious disorders with metabolism and can affect the way a person looks and feels. These changes can happen slowly and over time. That's why it's important to pay attention to diet and eat properly on a daily basis.

Factors that can affect eating

When you are living with HIV, many circumstances can impact your ability to eat healthfully. HIV causes some patients to be too tired to prepare meals on a regular basis. Some of the HIV medicines may cause a loss of appetite or change the taste or smell of food. Nausea, vomiting, or oral sores may make eating difficult or painful. These effects can cause a person to lose essential nutrients or become dehydrated, which can be very dangerous for the immune system.

According to Tufts University School of Medicine, good nutrition has many important benefits, which include:

- Keeping the immune system strong so it can fight disease and infection
- Improving changes in weight and malnutrition
- Helping the body process medicines
- Managing HIV symptoms such as diarrhea, nausea, and fatigue
- Controlling conditions such as hypertension, high or abnormal cholesterol levels, and high triglyceride levels

Important:
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Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
An individual can eat plenty of food but still not eat the right foods that provide the body with the nutrients it needs to be healthy. Remember, there is no single diet that is right for everyone. For this reason, it’s important to work closely with a nutrition expert or dietitian to create a plan that best meets your health, personal, and financial needs.

Choosing a healthy diet — U.S. government nutrition guidelines

- General recommendations:
  - Choose fruits, vegetables, whole grains, and fat-free/low-fat milk and milk products. See the USDA food pyramid on the opposite page for suggested food groups
  - Include lean meats, poultry, fish, beans, eggs, and nuts in your diet
  - Check the nutrition facts label for foods that are low in saturated fats, trans fats, cholesterol, salt (sodium), and added sugars; contain enough potassium, fiber, vitamins A and C, calcium, and iron
  - Use the % Daily Value (DV) column on food packaging when possible. Less than 5% DV is considered low, more than 29% DV is considered high

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Include choices from each of these major food groups daily:

<table>
<thead>
<tr>
<th>From this food group...</th>
<th>You should eat...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein</td>
<td>Lean meats, poultry and fish, baked, broiled or grilled; beans; peas; nuts</td>
</tr>
</tbody>
</table>
| Fruits                  | Fresh, frozen, canned, or dried rather than fruit juice  
                          | 2 cups per day = 2 large bananas, 2 large oranges, 1 cup dried apricots or peaches |
| Calcium-rich foods      | 3 cups low-fat or fat-free milk or an equivalent amount of low-fat yogurt  
                          | and/or low-fat cheese  
                          | 1½ ounces of cheese = 1 cup of milk |
| Vegetables              | Dark green vegetables: broccoli, spinach, and other dark green leafy vegetables  
                          | Orange vegetables: carrots, sweet potatoes, pumpkin, and winter squash  
                          | Beans and peas: pinto, kidney, black, garbanzo, split peas, and lentils |
| Grains                  | Half your grains should be whole grains  
                          | At least 3 ounces of whole-grain cereals, breads, crackers, rice, or pasta every day  
                          | 1 ounce = about 1 slice of bread, ¾ cup of breakfast cereal, or ½ cup of cooked  
                          | rice or pasta |

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Eating for a specific goal—State of New York Department of Health guidelines

People with HIV have different nutrition concerns and weight concerns. Follow these guidelines to meet your health goals:

To gain weight:

- Eat more often (5 to 6 meals a day plus snacks)
- Eat tuna packed in oil, not water
- Add extra oil (olive oil or canola oil) to foods
- Snack on nuts or have nut butters on crackers, fruit or whole grain bread
- Make a smoothie with low-fat milk or yogurt and add bananas and/or berries
- Add avocado to sandwiches and salads
- Avoid tobacco and alcohol. They can make you lose your appetite

To meet higher energy and protein needs, the Academy of Nutrition and Dietetics suggests:

- Eat small meals many times throughout the day
- Make sure each meal is rich in nutrients
- Choose high-protein, high-calorie foods

To lose weight:

- Cut down on high-fat that are greasy or fried, like burgers, french fries, pizza, and pastries
- Decrease intake of high-sugar foods such as juice, soft drinks and candy
- Increase intake of fruits, vegetables, and beans
- Exercise regularly. Talk with a healthcare professional before beginning any exercise program

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Keeping your food safe

People with weakened immune systems have a higher risk of getting sick from food that has become contaminated by bacteria. You can take steps to ensure the food you handle is safe by following these simple tips:

<table>
<thead>
<tr>
<th>When buying food...</th>
<th>When storing food...</th>
<th>When preparing food...</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Avoid damaged cans and packages</td>
<td>• Keep perishable items refrigerated</td>
<td>• Keep everything clean: hands, work surfaces, utensils, and foods</td>
</tr>
<tr>
<td>• Buy only pasteurized products (milk, cheese, honey, and juices)</td>
<td>• Keep meats on the bottom shelf</td>
<td>• Wash your hands with warm, soapy water</td>
</tr>
<tr>
<td>• Avoid alfalfa sprouts, cracked eggs, and bruised fruits and vegetables</td>
<td>• Don’t reuse plastic bags for food storage</td>
<td>• Wash produce under running water</td>
</tr>
<tr>
<td>• Buy cold/frozen foods last before going home</td>
<td>• Discard moldy food</td>
<td>• Thaw frozen foods in the refrigerator, not at room temperature</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Keep raw meats, their juices, and packaging away from other foods</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• After preparing raw meat, clean the preparation surface and equipment with hot soapy water</td>
</tr>
</tbody>
</table>

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Good planning and preparation can help one accomplish tasks and meet goals. The same is true for healthy eating. When one plans meals a few days in advance and follows a grocery list, one will discover a number of health and cost benefits.

Preparing a shopping list ahead of time can help one stick to an original plan. It can also help:

- Save time and energy and make sure one's eating healthy
- Ensure one has enough food and snacks on hand when needed
- Be less tempted to impulsively buy unhealthy items
- Be more likely to stay within one's budget
- Be less likely to forget items and return to the store
- Shop less frequently

Note: The following recommendations for developing a nutrition plan are based on the general advice of a registered dietitian and should be used as a guide only. Speak with a healthcare professional about a plan that meets specific needs and goals.

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
The right foods to eat

According to the Tufts University School of Medicine, general daily dietary intake should include proteins, carbohydrates, and fats. The daily consumption can be broken down into the following percentages:

**15%-20%**

Proteins

Proteins are the building blocks of muscles, organs, and substances that make up the immune system. If one doesn’t supply the body with enough protein through food, the body has to use its own protein to make up for the lack of fuel it needs to function properly.

**20%-30%**

Fats

Fats are the body’s major source of energy storage. Eating too much saturated fat can increase the risk of cardiovascular disease.

**50%-60%**

Carbohydrates

Carbohydrates provide energy. A healthy diet is high in complex carbohydrates (whole-grain products, legumes) and low in simple carbohydrates (candy, soft drinks, cookies, and ice cream).

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
In *Living Well with HIV & AIDS*, a book that provides guidance for people living with HIV, the authors provide the following table of essential nutrients, their functions, and food sources:

<table>
<thead>
<tr>
<th>Type of nutrient</th>
<th>What it does</th>
<th>Where it comes from</th>
<th>Amount you should eat</th>
</tr>
</thead>
</table>
| Protein          | • Builds and repairs muscles and organ tissues  
                   • Fights infection  
                   • Provides energy  
                   • Helps the immune system  
|                  | Animal sources: Meat, fish, poultry, eggs, and dairy  
                   Vegetable sources: Legumes, grains, cereals, nuts, seeds, tofu, and soy  
|                  | 35 grams total for each meal |
| Carbohydrate     | • The main source of energy for metabolism and muscles  
                   • Helps build and maintain muscles  
|                  | **Starches**/complex carbohydrates: Grain, rice, pasta, bread, cereal, legumes, and vegetables  
                   **Sugars**/simple carbohydrates: Fruit, some dairy products, and processed foods  
|                  | NOTE: Table sugar, honey, syrup, and jelly add calories with little or no nutritional value  
|                  | 45–60 grams total |
| Fat              | • Builds body fat and provides extra energy for your body to burn  
                   • Builds, strengthens, and repairs muscles  
                   • Leads to weight gain if eaten in excess  
|                  | Meat, whole-milk dairy products, nuts, peanuts, seeds, oils, salad dressing, and processed food such as cakes and candies  
|                  | NOTE: Saturated fat increases the risk of cardiovascular disease  
|                  | 10 grams total for each meal |

Use caution when taking medications and supplements

While certain vitamins and minerals can have a positive impact on a person's health, too much can be harmful or be useless.

Never add supplements or medications to a diet without speaking to your healthcare professional. In some cases they can interact with one another or with prescription medications and cause an unwanted effect.

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
To help maintain a healthy immune system, aim for an appropriate amount of high-quality protein each day, with foods such as:

- Lean meats
- Fish
- Poultry
- Beans
- Low-fat dairy products
- Soy products

Sources of lean protein:

- Frozen fish fillet
- Canned tuna
- Lean ground turkey breast
- Lean ground beef
- Chicken breast

You will need to consume approximately 3.5 pounds of the above foods combined each week.

Next, plan to include 3 of the following each day to reach your protein goal:

- 1 ounce cheese
- 6 ounces yogurt
- 1 cup soy milk
- ½ cup beans
- ¼ cup egg beaters
- ¼ cup cottage cheese

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
• Remember, aim for 5 cups of fruits and vegetables each day
• Fresh and frozen vegetables/fruits are healthiest
• A diet with the proper amounts of fruits and vegetables helps to:
  – Boost immunity against disease
  – Decrease your risk for cancer, heart disease, and diabetes
  – Maintain a healthy weight

Some helpful reminders:
• 1 bag of frozen vegetables = 4 to 5 cups
• 1 bag frozen fruit = 3 cups
• Bananas, canned peaches, applesauce, and mandarin oranges are inexpensive fruit choices
• Fresh spinach, carrots, and onions are inexpensive vegetable choices. People think of potatoes as inexpensive vegetables, but we count these as starches so they are not listed
• Fruit and vegetable prices change throughout the year. When making a shopping list, consider writing down how many pieces of fresh fruit and cups of vegetables you plan to buy and then purchase those that are on sale

2. Talk to a healthcare professional about eating fruits and non-starchy vegetables

Take a moment to write down how you will choose vegetables and fruits for the week. For example, “I will purchase 4 bags of frozen, non-starchy vegetables and at least 1 bag of frozen fruit. I will purchase 2 cans of fruit. I will purchase 1 package of dried fruit. I will purchase 7 pieces of fresh fruit (bananas are a good choice). I will purchase 1 to 2 cans of vegetables.”

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
3. Let the grains follow

Grains are important sources of many nutrients, including dietary fiber, several B vitamins (thiamine, riboflavin, niacin, and folic acid), and minerals (iron, magnesium, and selenium).

Whole grains contain the entire grain—the bran, germ, and endosperm. Some commonly eaten whole-grain products include:
- Brown rice
- Buckwheat
- Bulgur (cracked wheat)
- Oatmeal
- Popcorn

Whole-grain, ready-to-eat breakfast cereals include:
- Whole-wheat cereal flakes
- Muesli
- Whole-grain barley
- Whole-grain cornmeal
- Whole rye
- Whole-wheat bread
- Whole-wheat crackers
- Whole-wheat pasta

Refined grains have been processed to remove the bran and germ. Most refined grains are enriched. This means certain B vitamins and iron are added back after processing. Fiber is not added back to enriched grains. Check the ingredient list to make sure it says “enriched.” Some foods are made from a mixture of whole and refined grains.

Some examples of refined grain products are:
- Cornbread
- Corn tortillas
- Couscous
- Crackers
- Flour tortillas
- Grits
- Noodles

Pasta
- Spaghetti
- Macaroni
- Pitas
- Pretzels

Ready-to-eat refined grains include:
- Corn flakes
- White bread
- White sandwich buns and rolls
- White rice

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Tips for eating on a budget

After purchasing lean proteins, fruits, and vegetables, see how much is left to spend; this will determine how much variety you can afford in these food groups. Try to choose 1 bread/pita/English muffin, 2 cans of beans, 1 rice/pasta item, a few starchy vegetables, and 1 cereal choice.

- Eat canned, dried, and frozen foods. Canned are usually as nutritious as fresh and frozen, but sometimes cheaper. Look for low-sodium varieties.
- Boil a dozen eggs and keep them refrigerated. Eat them as snacks and toppings for extra protein.
- Add dry milk powder to foods and drinks. It’s a less expensive source of protein.
- Make foods from basic ingredients. They’re often less expensive than purchasing ready-made foods.
- Consider store brands and generic brands. They’re usually less expensive than national brands.
- Clip coupons
  – Be on the lookout for grocery store sales.

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
• Avoid impulse shopping  
  —Plan meals ahead of time and stick to the grocery list. Avoid shopping when hungry

• Add a multivitamin/mineral supplement to your diet  
  —They can be an important source of nutrients

• Use the community services available  
  —Many churches, ministry organizations, and other services provide hot meals and/or deliver meals to homes

• Check government programs  
  —You may be eligible for food stamps or other services

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Quick meals

When a person becomes ill, they may lose their appetite or become too tired to prepare a meal. This can cause weight loss, which can make it harder for the body to fight infection. However, eating at regular intervals throughout the day, even small meals and snacks, can provide energy and help meet daily nutritional needs.

The New York State Department of Health and the University of California, San Francisco recommend:

- **Eating smaller meals 5 to 6 times a day instead of 2 or 3 big ones**
- **Keeping a supply of healthy snacks handy**
  - Choose high-calorie, high-protein foods
- **If you can’t eat, drink your food**
  - Liquids can’t take the place of food, but beverages such as milkshakes, juices, eggnog, soy milk, and liquid nutritional supplements can help you maintain weight – remember that this is not a long term solution
- **Avoiding tobacco, alcohol, and other drugs**
  - They can hurt your appetite and worsen existing health conditions
- **Eat while sitting in front of the TV or while socializing**
  - Distractions will help take your mind off food and take the focus off how much you are eating
- **A little exercise, like going for a walk, can often stimulate appetite**

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
The New York State Department of Health recommends the following quick meals:

<table>
<thead>
<tr>
<th>Stock up on ready-to-eat foods</th>
<th>Try these quick meal ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Canned tuna, salmon, sardines</td>
<td>• Heat up soup or chili. Add a whole-wheat roll or crackers</td>
</tr>
<tr>
<td>• Peanut butter</td>
<td>• Peanut butter sandwich with banana slices. Glass of milk or soy milk</td>
</tr>
<tr>
<td>• Canned or frozen fruits and vegetables</td>
<td>• Add nuts and dried fruit to instant or quick oatmeal</td>
</tr>
<tr>
<td>• Canned soup</td>
<td>• Eat fresh fruits and vegetables, like apples, oranges, and carrots</td>
</tr>
<tr>
<td>• Frozen dinners</td>
<td>• Try single-serving containers of pudding, yogurt, crackers</td>
</tr>
<tr>
<td>• Low-fat yogurt and cottage cheese</td>
<td>• Cook pasta. Drain. Add tomato sauce. Top with cheese</td>
</tr>
<tr>
<td>• Nuts and dried and fresh fruit</td>
<td>• Ask a healthcare professional or registered dietitian about adding liquid nutritional supplements</td>
</tr>
<tr>
<td>• Turkey chili</td>
<td></td>
</tr>
<tr>
<td>• Whole-grain breads, cereals, and crackers</td>
<td></td>
</tr>
<tr>
<td>• Nuts and nut butters</td>
<td></td>
</tr>
<tr>
<td>• Dried fruit</td>
<td></td>
</tr>
</tbody>
</table>
Developing a nutrition plan

A week of eating within a budget

This example of a low-cost weekly meal plan is based on an actual plan suggested by a registered dietitian. These food items are suggestions only and can be substituted based on a program that meets individual needs and goals. Please speak with a healthcare professional about a specific plan that meets your needs and goals.

Day 1

<table>
<thead>
<tr>
<th>Time</th>
<th>Meal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Breakfast</td>
<td>2 slices whole-grain wheat toast with 2 tbsp natural peanut butter and half of 8 oz canned pineapple</td>
</tr>
<tr>
<td></td>
<td>Snack</td>
<td>10 wheat thins and 1 slice of 2% milk Swiss cheese</td>
</tr>
<tr>
<td></td>
<td>Lunch</td>
<td>5 oz can of tuna and ½ cup reduced sodium canned beans on 4 cups salad or fresh spinach. Make your own dressing: 1 tbsp olive oil and unlimited amount of vinegar</td>
</tr>
<tr>
<td></td>
<td>Snack</td>
<td>6 oz container of light yogurt, 1 banana</td>
</tr>
<tr>
<td></td>
<td>Dinner</td>
<td>3 oz white fish or salmon, 1 serving cooked whole-grain pasta (¾ cups dry), 2 cups frozen broccoli, steamed (toss pasta and broccoli in 1 tbsp olive oil with 1 tbsp powdered parmesan cheese)</td>
</tr>
<tr>
<td></td>
<td>Snack</td>
<td>½ cup cooked oatmeal sprinkled with cinnamon and 1 tbsp light margarine</td>
</tr>
</tbody>
</table>

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Day 2

<table>
<thead>
<tr>
<th>Breakfast</th>
<th>Cheese toast: 1 slice 2% milk Swiss cheese, 1 slice whole-grain wheat bread; ½ of 8 oz canned pineapple</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snack</td>
<td>¼ cup raisins, ¼ cup almonds</td>
</tr>
<tr>
<td>Lunch</td>
<td>3 oz white fish or salmon (frozen generic fillets), ⅔ cup instant brown rice (½ cup dry), 2 cups steamed vegetable stir fry mix</td>
</tr>
<tr>
<td>Snack</td>
<td>¾ cup whole-grain cereal or ¾ cup enriched bran flakes with 1 cup light soy, almond or low-fat milk</td>
</tr>
<tr>
<td>Dinner</td>
<td>1 portion skinless chicken breast, 1 large or 2 small new potatoes, 1 cup frozen green beans, 1 tbsp light margarine</td>
</tr>
<tr>
<td>Snack</td>
<td>6 oz generic light yogurt, 1 banana</td>
</tr>
</tbody>
</table>

Day 3

<table>
<thead>
<tr>
<th>Breakfast</th>
<th>½ cup oatmeal sprinkled with cinnamon, 1 tbsp light margarine; ¼ cup all-whites egg substitute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snack</td>
<td>10 wheat thins, 2 tbsp natural peanut butter</td>
</tr>
<tr>
<td>Lunch</td>
<td>1 cup lentil soup, ⅔ cup instant brown rice (½ cup dry), 2 cups steamed frozen green beans</td>
</tr>
<tr>
<td>Snack</td>
<td>6 oz light yogurt with 1 cup frozen strawberries</td>
</tr>
<tr>
<td>Dinner</td>
<td>3 oz white fish or salmon, 1 serving cooked whole-grain pasta (⅔ cups dry), 2 cups frozen broccoli, steamed (toss pasta and broccoli in 1 tbsp olive oil with 1 tbsp powdered parmesan cheese)</td>
</tr>
<tr>
<td></td>
<td>Cheese toast: 1 slice whole-grain wheat bread and 1 slice deli style 2% milk Swiss cheese</td>
</tr>
</tbody>
</table>

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
### Day 4

<table>
<thead>
<tr>
<th>Time</th>
<th>Meal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Breakfast</td>
<td>1 whole-grain English muffin, ¼ cup all-whites egg substitute, 1 slice 2% milk Swiss cheese</td>
</tr>
<tr>
<td></td>
<td>Snack</td>
<td>1 banana, ¼ cup almonds</td>
</tr>
<tr>
<td></td>
<td>Lunch</td>
<td>5 oz can of tuna with 1 serving cooked whole-grain pasta (2/3 cups dry), ½ can canned no salt added diced tomatoes, 1 tbsp olive oil and parmesan cheese</td>
</tr>
<tr>
<td></td>
<td>Snack</td>
<td>½ English muffin with 1 tbsp light margarine, 1 light yogurt</td>
</tr>
<tr>
<td></td>
<td>Dinner</td>
<td>¼ lb ground skinless turkey breast white meat patty, 1 cup frozen green beans, 1 large or 2 small new potatoes with 1 tbsp light margarine</td>
</tr>
<tr>
<td></td>
<td>Snack</td>
<td>1 cup of light soy, almond or low-fat milk, 1 orange</td>
</tr>
</tbody>
</table>

### Day 5

<table>
<thead>
<tr>
<th>Time</th>
<th>Meal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Breakfast</td>
<td>¾ cup whole-grain cereal or ¾ cup enriched bran flakes with 1 cup light soy, almond or low-fat milk</td>
</tr>
<tr>
<td></td>
<td>Snack</td>
<td>½ cup canned peaches in light syrup, ½ cup low-fat cottage cheese</td>
</tr>
<tr>
<td></td>
<td>Lunch</td>
<td>Mediterranean bean salad (½ cup reduced sodium canned chickpeas, ½ cup diced canned tomatoes, 1 tbsp olive oil, red wine vinegar, black pepper), 1 toasted whole-wheat pita</td>
</tr>
<tr>
<td></td>
<td>Snack</td>
<td>5 oz can of tuna</td>
</tr>
<tr>
<td></td>
<td>Dinner</td>
<td>1 serving cooked whole-wheat pasta (2/3 cups dry) with ½ cup spaghetti sauce, ½ lb ground skinless turkey breast white meat patty, 1 tbsp powdered parmesan cheese, 2 cups frozen broccoli, steamed</td>
</tr>
<tr>
<td></td>
<td>Snack</td>
<td>6 oz light yogurt, 1 cup frozen strawberries</td>
</tr>
</tbody>
</table>

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
### Day 6

<table>
<thead>
<tr>
<th>Time</th>
<th>Meal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td>½ cup oatmeal, 1 tbsp light margarine, light soy, almond or low-fat milk, ¼ cup all-whites egg substitute</td>
<td></td>
</tr>
<tr>
<td>Snack</td>
<td>¼ cup almonds</td>
<td></td>
</tr>
<tr>
<td>Lunch</td>
<td>2 cups fresh spinach, 1 cup canned chickpeas, 1 navel orange (sliced), 1 tbsp olive oil, 1 tbsp red wine vinegar, 1 slice whole-wheat bread, toasted</td>
<td></td>
</tr>
<tr>
<td>Snack</td>
<td>½ cup low-fat cottage cheese, ½ cup canned peaches</td>
<td></td>
</tr>
<tr>
<td>Dinner</td>
<td>3 oz frozen salmon fillet, 1 large or 2 small new potatoes with 1 tbsp light margarine, 2 cups fresh spinach, steamed</td>
<td></td>
</tr>
<tr>
<td>Snack</td>
<td>1 slice whole-wheat bread, 1 slice 2% milk Swiss cheese</td>
<td></td>
</tr>
</tbody>
</table>

### Day 7

<table>
<thead>
<tr>
<th>Time</th>
<th>Meal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td>½ cup oatmeal with 2 tbsp raisins and cinnamon, 1 cup light soy, almond or low-fat milk, ¼ cup all whites egg substitute</td>
<td></td>
</tr>
<tr>
<td>Snack</td>
<td>½ English muffin, 1 tbsp natural peanut butter</td>
<td></td>
</tr>
<tr>
<td>Lunch</td>
<td>5 oz can tuna and ½ cup reduced sodium canned beans on 4 cups salad or fresh spinach. Make your own dressing: 1 tbsp olive oil and unlimited amount of vinegar</td>
<td></td>
</tr>
<tr>
<td>Snack</td>
<td>½ English muffin, 1 tbsp natural peanut butter</td>
<td></td>
</tr>
<tr>
<td>Dinner</td>
<td>2/3 cup instant brown rice (½ cup dry), ½ cup reduced-sodium red beans, ½ cup frozen okra, ½ cup diced tomatoes, 1 tbsp margarine</td>
<td></td>
</tr>
<tr>
<td>Snack</td>
<td>1 banana, 1 tbsp natural peanut butter</td>
<td></td>
</tr>
</tbody>
</table>

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Management tips and meeting your nutritional needs

Patients with HIV may experience symptoms that can range from mild to chronic. These symptoms may arise from the disease itself, prescription medication, or as a result of other conditions.

This section outlines some of the most common symptoms a person may experience with HIV and provides helpful suggestions to meet nutritional needs while experiencing symptoms.

Maintaining adequate nutrition while experiencing these symptoms is important. Always tell a healthcare professional about symptoms and any associated complications, and consult a healthcare professional before taking any remedies or medicines to treat symptoms. These may interfere with prescribed therapy and even worsen HIV disease.

Important:
The suggestions and information in this guide are based on published recommendations from professional health organizations. To learn more about these organizations and their recommendations, see page 56.

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Many patients with HIV experience diarrhea. Certain HIV medications may contribute to this symptom and in some cases, chronic diarrhea can lead to unintended weight loss, abdominal pain, and severe dehydration. Chronic, or long term, diarrhea can be a very serious condition that may require immediate medical attention.

Nutritional strategies from the U.S. Department of Health and Human Services for persons experiencing diarrhea

- Consume plain carbohydrates, such as white rice, noodles, white toast
- Eat low-fiber fruits like bananas and applesauce
- Keep foods and beverages at room temperature or cooler
- Drink fluids that replace electrolytes
- Eat small, frequent meals
- Avoid fatty, greasy foods
- Avoid highly spiced foods
- Avoid sugary items like soda and fruit juice
- Avoid milk and dairy products
- Limit caffeine intake

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Delayed gastric emptying (gastroparesis)

Delayed gastric emptying, also called gastroparesis, is a disorder in which the stomach takes too long to empty its contents. Normally, the stomach contracts to move food down into the small intestine for digestion. Gastroparesis occurs when the nerve that controls the movement of food is damaged and the muscles of the stomach and intestines do not work normally. Food then moves slowly or stops moving through the digestive tract.

What are the signs and symptoms of delayed gastric emptying?

- Heartburn
- Pain in the upper abdomen
- Nausea
- Vomiting of undigested food—sometimes several hours after a meal
- Early feeling of fullness after only a few bites of food
- Weight loss due to poor absorption of nutrients or low calorie intake
- Abdominal bloating
- High and low blood glucose levels
- Lack of appetite
- Gastroesophageal reflux
- Spasms in the stomach area

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
The National Institutes of Health recommend changing your eating habits to help control delayed gastric emptying.

A healthcare professional or dietitian may recommend

- Eating 6 small meals a day instead of 3 large ones
- A liquid or pureed diet
- Avoiding fatty foods
- Avoiding high fiber foods, such as raw fruits and vegetables
- Eliminating drinks that are high in fat and carbonation

Trouble digesting fats

Foods high in fat may cause diarrhea.

The following are nutritional strategies from the New York State Department of Health for patients with trouble digesting fats:

Avoid:
- Bacon, sausage, pepperoni, hot dogs, and lunch meats like bologna and salami
- Fried foods such as french fries, potato chips, and donuts
- Butter, margarine, whole milk, mayonnaise, salad dressing, and peanut butter

Try:
- Low-fat dairy products
- Lean meats like turkey and chicken
- Baked, broiled, roasted, or grilled foods
- Fresh fruit and pasteurized juice
- Tuna packed in water, not oil

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Constipation

Constipation is a common symptom of HIV and can result from some of the medications prescribed. Constipation usually involves a frequency of fewer than 3 bowel movements a week, but lower abdominal fullness and hard stools may also occur.

The following are nutritional strategies from the National Institute of Diabetes and Digestive and Kidney Diseases for patients who are experiencing constipation:

- Stay hydrated and drink plenty of water
- Try eating foods that contain fiber, including fruits, vegetables and beans
- Increase physical activity (like walking) as tolerated
- In some patients, a laxative or stool softener may be appropriate
- Try herbal remedies. Talk with a healthcare professional first before using

Gas/bloating

Bloating, burping, and passing gas (flatulence) are natural and are usually caused by swallowed air or the breakdown of food through digestion. A person may experience gas and gas pains only occasionally or repeatedly in a single day. When gas and gas pains interfere with daily activities, it may be an indication of something serious. If symptoms persist, contact a healthcare professional to find out how to reduce them.

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
When gas doesn't pass through belching or flatulence, it can build up in the stomach and intestines and lead to bloating. Bloating is often accompanied by abdominal pain. Passing gas or having a bowel movement may help to relieve the pain.

Bloating may be related to eating fatty foods, stress or anxiety, smoking, gastrointestinal infection, or other conditions.

The following are nutritional strategies from the National Institute of Diabetes and Digestive and Kidney Diseases for patients experiencing gas/bloating:

- Eat and drink slowly. This can help you swallow less air. Avoid drinking through a straw, and eat in a relaxed environment.
- Avoid or reduce foods that produce gas. These can include baked beans, broccoli, brussels sprouts, cabbage, carbonated drinks, cauliflower, and fruits such as apples, peaches, and pears.
- Eat fewer fatty foods. Fat slows digestion, making food stay in your system longer.
- Temporarily cut back on high-fiber foods. These can cause gas. Slowly add fiber back to your diet when you feel comfortable. Adding products that reduce the amount of gas in meals may also help.
- Avoid carbonated drinks and beer. These release carbon dioxide gas.
- Treat heartburn. For mild heartburn, over-the-counter antacids may be helpful. Speak to a healthcare professional if the problem persists.
- Get moving. It may help to take a short walk after eating.
- Try an over-the-counter solution. Certain products can help with digestion. Talk to a healthcare professional before using any of them.
- Don’t smoke.

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Lactose intolerance

People with lactose intolerance may have difficulty digesting foods that contain dairy ingredients. Being lactose intolerant does not mean you are allergic to milk, dairy products, or dairy foods. The inability to easily digest dairy products may vary among patients, but most patients do not require a totally lactose-free or severely restricted diet. Dairy products should not be completely eliminated from a diet because they provide key nutrients such as calcium, vitamins A and D, and phosphorus.

The following are nutritional strategies from the National Institute of Diabetes and Digestive and Kidney Diseases for patients experiencing lactose intolerance:

- Consider drinking milk products specifically made for lactose intolerance or taking calcium supplements. Soy milk, almond milk, and rice milk may also help.
- Avoid medications that contain lactose as filler and certain food products that may contain unrecognized lactose.
- Lactase enzyme supplements may help.
- Try nondairy synthetic drinks, which can be useful substitutes for milk.
- Use caution with bread and other baked goods, processed breakfast cereals, mixes for pancakes, biscuits, and cookies, instant potatoes, soups, and breakfast drinks.

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Nausea and vomiting are common symptoms many people experience from HIV medicines, the foods they eat, or other conditions related to HIV.

The following are nutritional strategies from the U.S. Health Resources and Services Administration for patients experiencing nausea and vomiting:

- Eat small, frequent meals
- Drink fewer liquids with meals
- Drink cool, clear liquids
- Drink products that contain ginger (eg, ginger ale or ginger tea) or peppermint (eg, peppermint tea)
- Try dry crackers or toast
- Try bland foods such as potatoes, rice, or canned fruits
- Limit high fat, greasy foods or foods with strong odors such as cheese or fish
- Eat foods at room temperature or cooler
- Rest sitting up after meals. Do not lie down right after eating
- Drink fluids that contain electrolytes
- Let a healthcare professional know about your diet and about any new foods you may be eating
- Open windows when cooking / preparing meals

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Dry mouth, mouth or throat sores, and change in taste

A weakened immune system, HIV itself or certain HIV medicines can cause dry mouth and mouth sores, making it difficult to chew, swallow, and talk. Some people with HIV may experience taste differently than they once did or even lose some sense of taste altogether.

The following are nutritional strategies from the U.S. Department of Veterans Affairs for patients experiencing dry mouth:

• Start by drinking plenty of liquids during or between meals
• Rinse your mouth throughout the day with warm, salted water
• Use sugarless candies, lozenges, or crushed ice to cool the mouth and give it moisture
• Try slippery elm or licorice tea (available in health food stores). These can moisten the mouth
• Ask a healthcare professional about mouth rinse and other products to treat dry mouth

The following are nutritional strategies from the National Cancer Institute for patients experiencing mouth or throat sores:

• Try soft foods such as mashed potatoes, cottage cheese, oatmeal, applesauce, puddings, milkshakes, or scrambled eggs
• Avoid acidic foods such as citrus, vinegar, spicy, salty, or coarse foods

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
The following are nutritional strategies from the National Cancer Institute for patients experiencing change in taste:

- Add spices and sauces to food
- Use plastic utensils if foods taste metallic
- Rinse mouth with water before eating
- Try citrus fruits unless mouth sores are present
- Eat meat with something sweet, like jelly or applesauce

Fatigue is among the most common and distressing symptoms in patients with HIV. HIV-related fatigue has been described as more than just feeling tired. HIV patients with fatigue complain of weakness, loss of energy, sleepiness, tiredness, exhaustion, and an inability to get enough rest.

The following are nutritional strategies from the U.S. Department of Veterans Affairs for patients experiencing fatigue:

- Follow a healthy, balanced diet
- Keep pre-packaged or simple meal options in the kitchen when too tired to cook
- Get plenty of sleep and rest
- Get more exercise
- Access meals from an agency that delivers meals, visit a friend or a congregate meal site

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Combined with a proper diet and good lifestyle choices, daily exercise is important for staying healthy, not just for people with HIV. Routine activities may improve the heart and circulation, strengthen muscles and bones, reduce body fat, and help maintain a healthy weight. Exercising routinely can also help prevent complications, including diabetes, obesity, hypertension, and high cholesterol.

People can benefit from some alternative forms of exercise as well, such as yoga and meditation. These activities not only provide physical exercise, but have been shown to have a positive effect on spiritual and mental well-being.

It’s always important to use caution before beginning any exercise. Unsafe duration or intensity of exercise may result in injury or even lead to serious health consequences. Always consult a healthcare professional first before starting any exercise program.

The Academy of Nutrition and Dietetics advises the following general guidelines for exercising:

- Talk to a healthcare professional before beginning any exercise program
- Learn proper exercise techniques
- As with any exercise program, always start slowly
- Stay hydrated. Drink plenty of water before, during, and after exercise
- Rest if you are tired or feel pain

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Resistance exercise strategies have been shown to improve many of the metabolic and body composition changes in people with HIV. According to a review on the physiological and psychological effects of exercise interventions in HIV disease, activities such as stretching, weight lifting, and resistance training can help build muscle mass and reduce excess fat. Such exercises are generally recommended up to 3 or 4 times a week. As with any exercise program, start slow and gradually increase the level of intensity.

Aerobic exercises

Moderately intense physical activity for more than 30 minutes a day can help reduce the risk of heart complications, decrease “bad” cholesterol and triglyceride levels, and improve “good” cholesterol levels. Exercises such as walking, dancing, swimming, and biking use muscles for an extended period of time. The intensity and duration should depend on an individual’s overall health.

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Managing HIV is a team effort that often requires the support and education of the people around you, like a healthcare professional, nutritionist, or dietitian. Working together with a healthcare team is key to ensuring the disease is under control and that progress is meeting expectations. You probably have many questions. That's okay. Asking questions is an important step in making choices about your health.

Talk to a healthcare professional about your general health, how you are feeling, and share any changes you may be experiencing. These changes might include new symptoms, life stressors, such as changes in jobs or relationships, substance use, and anxiety.

Be aware of changes in your body
Regular communication with a physician and/or nutritionist keeps them aware of changes in your health and lets them make important decisions. Keeping track of changes can also help you notice any changes that you should discuss with the healthcare team.

Write down a list of concerns and questions that you would like to address while with your provider and bring to your appointment.

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Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
What to expect

Throughout the course of managing one's disease, a healthcare professional will ask questions in order to get a better understanding of changes in the disease and general health. This process helps to assess any necessary adjustments in a person's medical needs and can help prevent complications or serious, chronic illness.

Understanding the types of questions asked and the examinations conducted during routine visits can help make the most out of the time spent with a healthcare professional.

Common evaluations or assessments for people with HIV may include (based on recommendations of the HIV Medicine Association of the Infectious Diseases Society of America):

- **Medical history.** This may include information, history, and symptoms related to a person's HIV condition; sexual history; substance use history; and family history

- **Medication history.** List over-the-counter medications, medications taken infrequently, methadone, and dietary or herbal supplements, some of which have been shown to interact with antiretroviral agents

- **Physical examination.**

- **Laboratory evaluation.** These tests are conducted by drawing blood samples

- **STD screening.** These tests are done to screen for sexually transmitted diseases. This is an especially important assessment in people with HIV

- **Education and counseling.** A healthcare professional may also assess a person's understanding of HIV and offer advice on reducing risks and associated complications

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What to expect

Medical history
Medication history
Laboratory examination
Physical examination
Education and counseling
STD screening
Where to learn more

The following organizations and their Web sites are good resources for additional information concerning nutrition and healthy living as well as the chronic medical conditions mentioned in this guide.

Academy of Nutrition and Dietetics
www.eatright.org

AIDS InfoNet
www.aidsinfonet.org

American Cancer Society
www.cancer.org

American Diabetes Association
www.diabetes.org

American Heart Association
www.heart.org

American Liver Foundation
www.liverfoundation.org

American Lung Association
www.lungusa.org

Centers for Disease Control and Prevention
www.cdc.gov/hiv

Gay Men’s Health Crisis (GMHC)
www.gmhc.org

Hepatitis B Foundation
www.hepb.org

Infectious Disease Nutrition Dietetic Practice Group of the American Dietetic Association
www.idndpg.org

National AIDS Hotline
1-800-CDC-INFO
(1-800-232-4636)

National Institutes of Health
Office of Dietary Supplements
www.ods.od.nih.gov

Nutrition.gov
www.nutrition.gov

POZ
www.poz.com

Project Inform
www.projectinform.org

The Body
www.thebody.com

U.S. Department of Health and Human Services
www.aids.gov

www.health.gov

www.hrsa.gov

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Getting help

The following are some organizations that specialize in helping people who struggle with addictions. For additional assistance, speak to a healthcare professional or an addiction counselor.

Alcoholics Anonymous
www.aa.org

Al-Anon/Alateen
www.alanon.org
www.alateen.org

Freedom From Smoking Online
www.ffsonline.org

Narcotics Anonymous
www.na.org

Nicotine Anonymous
www.nicotine-anonymous.org

Smokefree
www.smokefree.gov

Always speak with a healthcare professional about medications, any symptoms you may be experiencing, and before starting a new exercise or nutrition program.
Glossary of terms

The following pages contain explanations of important medical terms that are bolded throughout this guide.

Atherosclerosis
Clogging, narrowing, and hardening of the body's large arteries and medium-sized blood vessels. Atherosclerosis can lead to stroke, heart attack, eye problems, and kidney problems.

Artery
A large blood vessel that carries blood with oxygen from the heart to all parts of the body.

Blood glucose
The main sugar found in the blood and the body's main source of energy. Also called blood sugar.

Blood glucose level
The amount of glucose in a given amount of blood. It is noted in milligrams per deciliter, or mg/dL.

Blood glucose meter
A small, portable device used by people with diabetes to check their blood glucose levels. After pricking the skin with a lancet, one places a drop of blood on a test strip in the machine. The meter (or monitor) soon displays the blood glucose level as a number on the meter's digital display.

Blood pressure
The force of blood exerted on the inside walls of blood vessels. Blood pressure is expressed as a ratio (example: 120/80, read as “120 over 80”). The first number is the systolic (sis-TAH-lik) pressure, or the pressure when the heart pushes blood out into the arteries. The second number is the diastolic (DY-uh-STAH-lik) pressure, or the pressure when the heart rests.

Blood vessels
Tubes that carry blood to and from all parts of the body. The 3 main types of blood vessels are arteries, veins, and capillaries.

Calorie
A unit representing the energy provided by food. Carbohydrates, proteins, fats, and alcohol provide calories in the diet. Carbohydrates and proteins have 4 calories per gram, fat has 9 calories per gram, and alcohol has 7 calories per gram.

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**Carbohydrate**
One of the 3 main nutrients in food. Foods that provide carbohydrates are starches, vegetables, fruits, dairy products, and sugars.

**Cholesterol**
A type of fat produced by the liver and found in the blood; it is also found in some foods. Cholesterol is used by the body to make hormones and build cell walls.

**Chronic**
Describes something that is long-lasting. Opposite of acute.

**Dehydration**
The loss of too much body fluid through frequent urinating, sweating, diarrhea, or vomiting.

**Diabetes**
A condition characterized by hyperglycemia resulting from the body’s inability to use blood glucose for energy. In type 1 diabetes, the pancreas no longer makes insulin, and therefore blood glucose cannot enter the cells to be used for energy. In type 2 diabetes, either the pancreas does not make enough insulin or the body is unable to use insulin correctly.

**Dietitian**
A healthcare professional who advises people about meal planning, weight control, and diabetes management. A registered dietitian has completed training, has passed a registration exam and must stay current with continuing education.

**Fat**
One of the 3 main nutrients in food. Foods that provide fat are butter, margarine, salad dressing, oil, nuts, meat, poultry, fish, and some dairy products. Excess calories are stored as body fat, which provides the body with a reserve supply of energy to be used when needed.

**Glucose**
One of the simplest forms of sugar.

**Gram**
A unit of weight in the metric system. An ounce equals 28 grams. In some meal plans for people with diabetes, the suggested amounts of food are given in grams.

**HDL cholesterol (high-density lipoprotein cholesterol)**
A fat found in the blood that takes extra cholesterol from the blood to the liver for removal. Sometimes called “good” cholesterol.

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Hypertension
A condition present when blood flows through the blood vessels with a force greater than normal. Also called high blood pressure. Hypertension can strain the heart, damage blood vessels, and increase the risk of heart attack, stroke, kidney problems, and death.

Immune system
The body’s system for protecting itself from viruses, bacteria, or any “foreign” substances.

Insulin
A hormone that helps the body use glucose for energy. The beta cells of the pancreas make insulin. When the body cannot make enough insulin, it is taken by injection or through use of an insulin pump.

Kidneys
The 2 bean-shaped organs that filter wastes from the blood and form urine. The kidneys are located near the middle of the back. They send urine to the bladder.

LDL cholesterol (low-density lipoprotein cholesterol)
A fat found in the blood that takes cholesterol around the body to where it is needed for cell repair and also deposits it on the inside of artery walls. Sometimes called “bad” cholesterol.

Lipids
A fatty substance that can't dissolve in the blood. Cholesterol and triglycerides are lipids. They are transported in the blood. Abnormalities in lipids can contribute to heart disease.

Liver
An organ in the body that changes food into energy, removes alcohol and poisons from the blood, and makes bile, a substance that breaks down fats and helps rid the body of wastes.

Metabolism
The term for the way cells chemically change food so that it can be used to store or use energy and make the proteins, fats, and sugars needed by the body.

Protein
One of the 3 main nutrients in food. Foods that provide protein include meat, poultry, fish, cheese, milk, dairy products, eggs, and dried beans. Proteins are also used in the body for cell structure, hormones such as insulin, and other functions.

Starch
Another name for carbohydrates, one of the 3 main nutrients in food.

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Stroke
Condition caused by damage to blood vessels in the brain; may cause loss of ability to speak or to move certain parts of the body.

Sugar
A class of carbohydrates with a sweet taste, including glucose, fructose, and sucrose. Also, a term used to refer to blood glucose.

Triglyceride
The major form of fat stored by the body that exists in foods and is produced by the body.

Type 1 diabetes
A condition characterized by high blood glucose levels caused by a lack of insulin. Occurs when the body's immune system attacks the insulin-producing beta cells in the pancreas and destroys them. The pancreas then produces little or no insulin. Type 1 diabetes develops most often in young people, but can occur in adults.

Type 2 diabetes
A condition characterized by high blood glucose levels caused by either a lack of insulin or the body's inability to use insulin efficiently. Type 2 diabetes develops most often in middle-aged and older adults, but can occur in young people.

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