

HIV/AIDS Evidence Based Nutrition Practice Guideline

Executive Summary of Recommendations

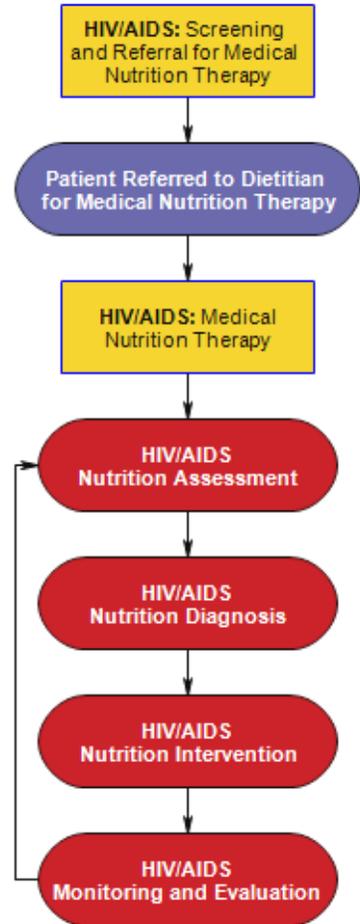
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Executive Summary Recommendations

- 19 major recommendations with ratings
- Recommendations are (see table on last page):
 - Rated: Strong, Fair, Weak, Consensus, or Insufficient Evidence
 - Considered: Conditional or Imperative
- Published in 12/2010 by the Academy of Nutrition and Dietetics (AND).

What is an Evidence-Based Nutrition Practice Guideline?

- A series of guiding statements and treatment algorithms
- Developed using a systematic process for identifying, analyzing and synthesizing scientific evidence.
- Designed to assist practitioner and patient decisions about appropriate nutrition care for specific disease states or conditions in typical settings.
- Key elements include:
 - Scope of the Guideline
 - Interventions
 - Practices considered
 - Major recommendations and
 - Corresponding rating of evidence strength
 - Areas of agreement and disagreement
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Medical Nutrition Therapy, Screening and Referral

1. HIV/AIDS: Medical Nutrition Therapy (MNT)

Medical nutrition therapy (MNT) provided by a registered dietitian (RD) is recommended for individuals with HIV infection. Four studies regarding MNT (with or without oral nutritional supplementation) report improved outcomes related to energy intake, symptoms and cardiovascular risk indices. Two studies regarding nutritional counseling (non-MNT) also report improved outcomes related to weight gain, CD4 count and quality of life.

**Strong
Imperative**

2. HIV/AIDS: Frequency of Medical Nutrition Therapy (MNT)

The Registered Dietitian (RD) should provide at least one to two Medical Nutrition Therapy (MNT) encounters per year for people with HIV infection (asymptomatic) and at least two to six (or more) MNT encounters per year for people with HIV infection (symptomatic but stable, acute or palliative), based on the following:

- Appropriate disease classifications
- Nutritional status
- Comorbidities
- Opportunistic infections
- Physical changes
- Weight or growth concerns
- Oral or gastrointestinal symptoms
- Metabolic complications
- Barriers to nutrition
- Living environment
- Functional status
- Behavioral concerns or unusual eating behaviors.

Studies regarding MNT (with or without oral nutritional supplementation) report improved outcomes related to energy intake, symptoms, and cardiovascular risk indices, especially with increased frequency of visits.

Consensus
Imperative

3. HIV/AIDS: Screening for People with HIV Infection

The registered dietitian (RD) should collaborate with other health care professionals, administrators and public policy decision-makers to ensure that all people with HIV infection are screened for nutrition-related problems, based on referral criteria regardless of setting, at every visit. People with HIV infection are at nutritional risk at any time-point during the course of their illness.

Consensus
Imperative

4. HIV/AIDS: Referral for Medical Nutrition Therapy

The RD should collaborate with other health care professionals, administrators and public policy decision-makers to ensure that all people with HIV infection are referred for Medical Nutrition Therapy (MNT) based on nutritional risk. The timeline for referral of patients categorized by nutritional risk is as follows: High risk, to be seen by an RD within one week; moderate risk, to be seen by an RD within one month; low risk, to be seen by an RD at least annually.

Consensus
Conditional

Nutrition Assessment

5. HIV/AIDS: Nutrition Assessment

The registered dietitian (RD) should assess the following for people with HIV infection:

- Food/nutrition-related history, such as knowledge, beliefs and attitudes and factors affecting access to food and food/nutrition-related supplies (see Assess Food/Nutrition-Related History recommendation)
- Anthropometrics (see also the Anthropometric Assessment recommendation)
- Biochemical data, medical tests and procedures such as lipid profile, fasting blood glucose, electrolytes, complete blood count and bone density measurements

- Nutrition-focused physical findings
- Client history
 - Patient, client and family medical/health history
 - Social history
- Comparative standards.

Assessment of nutritional and medical status is crucial to quality nutrition care for every person living with HIV infection.

Consensus
Imperative

6. HIV/AIDS: Assess Food/Nutrition-Related History

The registered dietitian (RD) should assess the food and nutrition-related history of people with HIV infection, including but not limited to:

- Food and nutrient intake, focusing on energy, protein, fat, fiber, sodium, calcium and vitamin D
- Medications, herbal supplements and their potential negative interactions
- Knowledge, beliefs and attitudes
- Behavior
- Factors affecting access to food and food and nutrition-related supplies
- Physical activity and function
- Nutrition-related patient and client-centered measures

Several studies report variations in energy and nutrient intake in people with HIV infection, some were under- and over-estimated requirements. A clear understanding of food and nutrient intake will form the basis for the nutrition diagnosis, prescription and intervention.

Strong
Imperative

7. HIV/AIDS: Determining Energy Needs

The registered dietitian (RD) should use clinical judgment and consider several factors when determining the energy needs of adults and children with HIV infection to maintain a healthy body weight. Factors related to energy needs in people with HIV infection include age, gender, stage of disease, nutritional status, opportunistic infections and comorbidities, inflammation and effects of medications. Although research reports increased resting energy expenditure (as much as 5% to 17%) in people with HIV infection, total energy expenditure may be similar to that of healthy control subjects.

Fair
Imperative

8. HIV/AIDS: Anthropometric Assessment

The registered dietitian (RD) should include the following anthropometric measurements in the initial assessment: Weight, height and body mass index; for children, growth pattern indices. In addition, measurements of body compartment estimates should also be included, such as circumference measurements (mid-arm muscle, waist, hip and waist-to-hip ratio) or measurements of body cell mass and body fat [measured with dual energy X-ray absorptiometry (DXA), bioelectrical impedance analysis (BIA), bioimpedance spectroscopy or skinfold thickness measurements]. Baseline anthropometric measurements provide information for the nutrition assessment and the majority of research in men,

women, children and adolescents reports that fat-free mass and fat mass are altered in people with HIV infection.

Strong
Imperative

Nutrition Intervention

9. HIV/AIDS: Educate on Food and Water Safety

The registered dietitian (RD) should educate people with HIV infection, especially those who are severely immunocompromised (having CD4 levels less than 200 cells per mm³) and others involved in their care, about food and water safety. Studies report that people with HIV infection are more susceptible to foodborne illness and also lack knowledge regarding food safety.

Strong
Imperative

10. HIV/AIDS: Encourage Physical Activity

If not contraindicated, the registered dietitian (RD) should encourage physical activity for people with HIV infection. Studies report that performing constant or interval aerobic exercise, progressive resistance exercise or a combination of both, for at least 20 minutes per session at a frequency of three times per week is generally safe in adults with HIV infection and may lead to significant improvements in strength, endurance, cardiopulmonary fitness and reductions in depressive symptoms.

Strong
Conditional

11. HIV/AIDS: Treatment of Diarrhea/Malabsorption

For people with HIV infection who have diarrhea/malabsorption, the registered dietitian (RD) should encourage the consumption of soluble fiber, electrolyte-repleting beverages and medium-chain triglycerides (MCT) and decrease the consumption of foods that may exacerbate diarrhea. Studies of fat malabsorption reported that consumption of MCT resulted in fewer stools, decreased stool fat and weight and increased fat absorption.

Fair
Conditional

12. HIV/AIDS: Vitamin and Mineral Supplementation

If people with HIV infection can not meet their Recommended Dietary Allowance (RDA) levels for micronutrients through diet, the registered dietitian (RD) should recommend vitamin and mineral supplements, especially for calcium and vitamin D. Micronutrient deficiencies are common in HIV-infected individuals and studies report increased morbidity and mortality in those not taking vitamin supplementation.

Strong
Conditional

13. HIV/AIDS: Macronutrient Composition

- The registered dietitian (RD) should prescribe an individualized diet with a macronutrient composition based on the Dietary Reference Intakes (DRI, 20% to 35% of calories from fat, 45% to 65% of calories from carbohydrate, 14g fiber per 1,000kcal and 10% to 35% of calories from protein)
- In people with HIV infection, protein needs are highly individualized. Low-fiber/high-fat diets are associated with fat deposition, insulin resistance and obesity. Studies indicate that diets low in saturated and total fat resulted in reduced triglyceride levels, increased HDL-cholesterol levels and a lower risk of lipohypertrophy.

Fair
Imperative

14. HIV/AIDS: Macronutrient Composition for Hyperlipidemia

- For people with HIV infection who have hyperlipidemia, the RD should encourage consumption of a cardioprotective dietary pattern tailored to the individual's needs to provide a fat intake of 25% to 35% of calories, less than 7% of calories from saturated fat, less than 1% of calories from trans-fatty acids and under 200mg of cholesterol per day
- Research on several lifestyle modification interventions for the treatment of hyperlipidemia in people with HIV infection reports improvements in serum lipid profile. Studies indicate that diets low in saturated and total fat and including omega-3 fatty acids resulted in reduced triglyceride levels, increased HDL-cholesterol levels and a lower risk of lipohypertrophy.

Strong
Conditional

15. HIV/AIDS: Coordination of Care

- For people with HIV infection, the registered dietitian (RD) should implement medical nutrition therapy (MNT) and coordinate care with an interdisciplinary team and community resources. The interdisciplinary team is composed of health professionals including, but not limited to: RDs, physicians, physician assistants, nurse practitioners, nurses, pharmacists, case managers, substance use disorders treatment providers, respiratory care practitioners, occupational therapists, physical therapists, speech therapists, exercise physiologists, dentists and mental health professionals. Community resources may include, but are not limited to, food assistance programs, support systems and recreational facilities.
- This approach is necessary to effectively integrate MNT into overall management for people with HIV infection.

Consensus
Imperative

16. HIV/AIDS: Educate on Presence of HIV in Breast Milk

The registered dietitian (RD) should educate women with HIV infection who are pregnant or lactating about the presence of HIV in breast milk.

- In the United States and other parts of the world where replacement feeding is affordable, feasible, acceptable, sustainable and safe, breastfeeding by HIV-infected women (including those receiving antiretroviral drugs) is **NOT** recommended.

- In certain international settings, where replacement feeding is not affordable, feasible, acceptable, sustainable and safe, the registered dietitian (RD) should refer to the World Health Organization (WHO) guidelines, as well as country-specific Ministry of Health or other locally adapted guidelines, when educating women with HIV infection who are pregnant or lactating.

Note: Since the evidence was not analyzed using ADA's evidence analysis methodology this recommendation was based on the references cited below and it is rated consensus meaning the Work Group concurs.

Consensus
Conditional

17. HIV/AIDS: Educate on Medications

For people with HIV infection who are prescribed medications, the registered dietitian (RD) should provide education regarding food and drug interactions, nutrition-related adverse effects and risk of teratogenicity. Adverse effects of medications, including metabolic complications, gastrointestinal disturbances, and compromised nutrition intake, may lead to non-adherence and/or resistance to the prescribed medication regimen and poor nutrition status.

Consensus
Conditional

Nutrition Monitoring and Evaluation

18. HIV/AIDS: Monitor and Evaluate Food- and Nutrition-Related History

The registered dietitian (RD) should monitor and evaluate the food and nutrition-related history of people with HIV infection, including but not limited to:

- Food and nutrient intake, focusing on energy, protein, fat, fiber, sodium, calcium and vitamin D
- Medications, herbal supplements and their potential negative interactions
- Knowledge, beliefs and attitudes
- Behavior
- Factors affecting access to food and food- and nutrition-related supplies
- Physical activity and function
- Nutrition-related patient and client-centered measures.

Several studies report variations in energy and nutrient intake in people with HIV infection. Some were under- and over-estimated requirements. A clear understanding of food and nutrient intake will form the basis for the nutrition diagnosis, prescription and intervention.

Strong
Imperative

19. HIV/AIDS: Monitor and Evaluate Anthropometric Measurements

Using the same methodology as in the assessment of anthropometric measurements, the registered dietitian (RD) should monitor and evaluate body weight and height, body mass index, body compartment estimates and for children, growth pattern indices. The majority of research in men, women, children and adolescents reports that fat-free mass and fat mass are altered in people with HIV infection. **Strong, Imperative**

Recommendation Rating Criteria¹

Recommendation Rating	Definition	Implication for Practice
Strong	A Strong recommendation means that the workgroup believes that the benefits of the recommended approach clearly exceed the harms (or that the harms clearly exceed the benefits in the case of a strong negative recommendation), and that the quality of the supporting evidence is excellent/good (grade I or II). ² In some clearly identified circumstances, strong recommendations may be made based on lesser evidence when high-quality evidence is impossible to obtain and the anticipated benefits strongly outweigh the harms.	Practitioners should follow a Strong recommendation unless a clear and compelling rationale for an alternative approach is present.
Fair	A Fair recommendation means that the workgroup believes that the benefits exceed the harms (or that the harms clearly exceed the benefits in the case of a negative recommendation), but the quality of evidence is not as strong (grade II or III). [*] In some clearly identified circumstances, recommendations may be made based on lesser evidence when high-quality evidence is impossible to obtain and the anticipated benefits outweigh the harms.	Practitioners should generally follow a Fair recommendation but remain alert to new information and be sensitive to patient preferences.
Weak	A Weak recommendation means that the quality of evidence that exists is suspect or that well-done studies (grade I, II, or III) [*] show little clear advantage to one approach versus another.	Practitioners should be cautious in deciding whether to follow a recommendation classified as Weak , and should exercise judgment and be alert to emerging publications that report evidence. Patient preference should have a substantial influencing role.
Consensus	A Consensus recommendation means that Expert opinion (grade IV) supports the guideline recommendation even though the available scientific evidence did not present consistent results, or controlled trials were lacking.	Practitioners should be flexible in deciding whether to follow a recommendation classified as Consensus , although they may set boundaries on alternatives. Patient preference should have a substantial influencing role.
Insufficient Evidence	An Insufficient Evidence recommendation means that there is both a lack of pertinent evidence (grade V) [*] and/or an unclear balance between benefits and harms.	Practitioners should feel little constraint in deciding whether to follow a recommendation labeled as Insufficient Evidence and should exercise judgment and be alert to emerging publications that report evidence that clarifies the balance of benefit versus harm. Patient preference should have a substantial influencing role.

Conditional versus Imperative Recommendations

- **Conditional statements** clearly define a specific situation and can be stated in if/then terminology.
- **Imperative recommendations** “require,” or “must,” or “should achieve certain goals,” and not limited in applicability to specified circumstances.

¹ Adapted by the Academy of Nutrition and Dietetics from the American Academy of Pediatrics, Classifying Recommendations for Clinical Practice Guidelines, Pediatrics.2004;114;874-877; Revised by the Academy Evidence-Based Practice Committee, Feb 2006. <http://andevidencelibrary.com/topic.cfm?cat=2690>

² **Conclusion statements** are assigned a grade based on the strength of the evidence. Grade I is good; grade II, fair; grade III, limited; grade IV signifies expert opinion only and grade V indicates that a grade is not assignable because there is no evidence to support or refute the conclusion.