Los Angeles County
Commission on HIV Health Services

Guidelines for Implementing HIV/AIDS Medical Nutrition Therapy Protocols

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Developed by:
Dietitians in AIDS Care
AIDS Project Los Angeles

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Revision of:
Guidelines and Protocol of Care for Providing Medical Nutrition Therapy to HIV-Infected Persons
Los Angeles County Commission on HIV Health Services, Approved November 11, 1997

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Executive Summary

Medical Nutrition Therapy for HIV-Infected Persons

This document was designed for all participants in HIV care to easily understand the role of HIV medical nutrition therapy in the comprehensive medical management of HIV disease. These participants include medical practitioners (registered dietitians, physicians, ancillary health professionals, and others), administrators, third party payers and people living with HIV and their families. The guidelines state the minimum nutrition services that should be provided to children, women and men infected with HIV. The guidelines also define the qualifications and accountability of the registered dietitian, who plays an integral role in providing the medical nutrition therapy. The Adult and Pediatric/Adolescent HIV/AIDS Medical Nutrition Therapy (MNT) Protocols,[1] [2] developed by members of the HIV/AIDS and Pediatric Dietetic Practice Groups of the American Dietetic Association, are the basis for the development of these guidelines. The protocols provide the details of the screening and referral, and care provided by the registered dietitian, along with the expected outcomes when a defined, predictable level of care is provided.

In the United States, all HIV-infected individuals have the right to early and ongoing medical nutrition therapy, that is, accurate nutrition assessment, education and intervention by the most qualified medical professionals in a linguistically and culturally non-judgmental manner. The Bureau of Primary Health Care's (BPHC) "Program and Application Guidance" for outpatient early intervention services clearly states that funded programs **must** provide nutrition services.[3] In 1996 BPHC published *Health Care and HIV: Nutritional Guide for Providers and Clients,*[4] to provide "a practical approach for the integration of nutrition services into the care of the individual with HIV disease."[5] Included with the manual is the HIV/AIDS Medical Nutrition Therapy Protocol and a letter that highly encourages nutrition assessment and management be done in conjunction or consultation with a registered dietitian.[6] As one empowered HIV-infected young man put it, "nutrition is not the magic cure, but in the equation of good health, it is an important factor."[7]

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[1]Fenton M, Silverman E, Vazzo L. "HIV/AIDS adult medical nutrition therapy protocol" In: *Medical Nutrition Therapy Across the Continuum of Care, 2nd Edition.* The American Dietetic Association, Oct. 1998. Available through ADA, call 312-899-5000.

[2] Heller L, Morris V, Rothpletz-Puglia P, Papathakis P. "HIV/AIDS children/adolescent medical nutrition therapy protocol" in: *Medical Nutrition Therapy Across the Continuum of Care, 2nd Edition.* The American Dietetic Association, Oct. 1998. Available through ADA, call 312-899-5000.

[3] Bureau of Primary Health Care, HRSA, DHHS: Program and Application Guidance for Fiscal Year (FY) 1998 for the Categorical Grant Program to Provide Outpatient Early Intervention Services with Respect to HIV Disease. Pages 4, 27, 29, July 9, 1997.

[4]Bureau of Primary Health Care, HRSA, DHHS. *Health Care and HIV: Nutritional Guide for Providers and Clients.* May, 1996.

[5]Gaston, MH. Letter. *Health Care and HIV: Nutritional Guide for Providers and Clients.* June 1, 1996.

[6]Kruse, LM. *Letter.* Bureau of Primary Health Care, January 21, 1997.

[7]Silva, J. *Personal Statement.* January 1997.

The major goals of medical nutritional therapy during human immunodeficiency virus infection are:

1. To optimize nutrition status, immunity and overall well being.
2. To prevent the development of specific nutrient deficiencies.
3. To prevent loss of weight and lean body mass.
4. To maximize the effectiveness of medical and pharmacological treatments.
5. To minimize health care costs.

The benefits of establishing these guidelines and providing medical nutrition therapy in HIV care are:

- Preventing malnutrition and opportunistic infections.
- Promoting normal growth and development in children.
- Improving and supporting quality of life.
- Increasing nutrition self-management skills for people living with HIV disease and/or their caregivers.
- Decreasing hospitalizations, emergency room visits, morbidity and mortality, and cost of care.
- Decreasing or delaying invasive or expensive treatments by providing early appropriate nutrition interventions.
- Improving tolerance and adherence to medications.

Those responsible for providing medical care to HIV-infected children and adults must be held accountable for their nutritional health. Medical nutrition therapy directly contributes to the overall well being and can impact progression in those infected with HIV disease. These guidelines are provided to assist in that effort.

Guidelines for Implementing HIV/AIDS Medical Nutrition Therapy Protocols

Position Statement of the American Dietetic Association

> *It is the position of the American Dietetic Association and Dietitians of Canada that efforts to optimize nutritional status, including medical nutrition therapy and nutrition-related education, should be components of the total health care provided to people infected with human immunodeficiency virus (HIV).*[8]

Justification

Good nutrition is important in building and sustaining the immune system. Achieving nutritional health and preventing malnutrition is essential in maintaining positive health outcomes for people living with HIV.

The benefits of establishing these guidelines and providing medical nutrition therapy in HIV care are:

- Preventing malnutrition and opportunistic infections.
- Promoting normal growth and development in children.
- Improving and supporting quality of life.
- Increasing nutrition self-management skills for people living with HIV disease and/or their caregivers.
- Decreasing hospitalizations, emergency room visits, morbidity and mortality, and cost of care.
- Decreasing or delaying invasive or expensive treatments by providing early appropriate nutrition interventions.
- Improving tolerance and adherence to medications.

"The overall rationale for considering nutrition in HIV infection is that malnutrition contributes to the problems of the HIV-infected individual in ways that are independent of immune depletion."[9]

It has long been recognized that there are similarities in immune-system dysfunction between patients with AIDS and those with protein-energy malnutrition,[10] [11] and malnutrition has been

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[8]The American Dietetic Association. Position of the American Dietetic Association and Dietitians of Canada: Nutrition intervention in the care of persons with human immunodeficiency virus infection. *J Am Diet Assoc.* 2000;100:708-717.

[9]Kotler, DP. "Foreword" in *The Wasting Report, Current Issues in Research and Treatment of HIV-Associated Wasting and Malnutrition.* Treatment Advocacy Group, 1996

[10] Gray RH: Similarities between AIDS and protein-calorie malnutrition (letter), *Am J Public Health*,73:1332, 1983.

[11] Jain VK, Chandra RK. Does nutritional deficiency predispose to acquired immune deficiency syndrome? *Nutr Res*, 4:537-43, 1984.

proposed to act as a co-factor of immune dysfunction by influencing both susceptibility to HIV infection and progression of disease.[12] [13]

Nutrient deficiencies can independently impair immune function and negatively impact the progression from HIV to AIDS[14] [15] and from AIDS to death.[16] When weight falls to 66% of ideal body weight or body cell mass falls to 54% of normal, death becomes a near certainty.[17] Researchers have found that "as little as 5% weight loss over a 4-month period is associated with increased risk of death and opportunistic complications in HIV.[18]

"Because many HIV-infected children are malnourished, an improvement in their nutritional status may significantly decrease their morbidity. Thus determining the etiology and temporal course of malnutrition in children with HIV infection will be important for early intervention and development of refeeding regimens."[19]

"Although nutrition interventions are frequently viewed as alternative therapy, they need to be regarded as supportive co-therapy *(adjunctive therapy)*, essential to improving the optimal medical management of HIV disease. Only through the coordinated efforts of food assistance and nutrition counseling and education can we help to improve and extend the lives of men, women, and children with HIV/AIDS."[20]

"Nutrition intervention and education should begin when the HIV diagnosis is made. Nutritional assessment and regular monitoring should be a component of ongoing care. Aggressive nutritional therapy, including enteral feedings and other forms of nutritional support, should be part of overall medical management when symptoms arise."[21]

"Wasting is a major problem in later stages of HIV disease, and is responsible for many deaths. It is very important to get medical attention early, when the condition is easier to treat. Inexpensive treatments work for many people, especially when treatment is started early... A major problem is that there is much denial by patients, and disregarding of the problem by

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[12] Miller TL, Evans SL, Orav EJ et al: Growth and body composition in children infected with the human immunodeficiency virus-1, *Am J Clin Nutr*, 57:588-92, 1993.
[13] Timbo BB & Tollefson L: Nutrition: a cofactor in HIV disease. *J Amer Dietet Assoc*, 94:1019-22, 1994.
[14] Tang AM, Graham, NMH, Kirby AJ, McCall LD, Willet WC, Saah AJ. Dietary micronutrient intake and risk of progression to acquired immunodeficiency syndrome (AIDS) in human immunodeficiency virus type 1 (HIV-1) - infected homosexual men. *Am J Epidemiol*. 1993; 138:937-51.
[15] Abrams B, Duncan D, Hertz-Picciotto I. A prospective study of dietary intake and acquired immune deficiency syndrome in HIV-seropositive homosexual men. *J Acquir Immune Defic Syndr*. 1993;6:949-958.
[16] Tang AM, Graham NMH, Saah Aj, Effects of micronutrient intake on survival in human immunodeficiency virus type 1 infection. *Amer J Epidemiol.* 1996; 143:1244-56.
[17] Kotler DP, Tierney AR, Wang J and Pierson RN. "Magnitude of body-cell-mass depletion and the timing of death from wasting in AIDS" *Am J Clin Nutr* 1989:50:444-7.
[18] Wheeler D, Gilbert CL, Launer CA et al: Weight loss as a predictor of survival and disease progression in HIV infection. *J AIDS Hum & Retr* 18:80-85,1998.
[19] Miller TL, Evans SL, Orav EJ et al: Growth and body composition in children infected with the human immunodeficiency virus-1, *Am J Clin Nutr*, 57:588-92, 1993.
[20] God's Love We Deliver. "Introduction to *Nutrition Needs Assessment*, New York, 1992.
[21] Mulligan, DH. *Personal Communication,* Commissioner Office of Health and Human Service, Department of Public Health, The Commonwealth of Massachusetts, July 1991.

physicians; therefore people do not get medical attention quickly when they start losing weight or lean body mass, or when they fail to regain weight lost during an opportunistic infection." [22]

The new highly active antiretroviral therapy (HAART) has reduced mortality rates. Obtaining consistent, adequate drug levels is critical to reducing viral load as well as minimizing the risk of developing resistance to the drugs. These medications involve a great number of pills, have complicated medication-meal schedules, and often cause symptoms that adversely impact food intake, absorption and overall nutrition status. Registered dietitians specializing in HIV report that substantial numbers of clients have difficulty taking these medications, are unable to adhere to drug regimens and sometimes lose weight as a result. Registered dietitians provide an important role in developing practical medication schedules based upon the individual's medications, lifestyle and daily activities, food preferences, symptom management needs and economic considerations.

An unexpected and troubling condition has emerged with the successful viral suppression through drug treatment. Commonly referred to as the "lipodystrophy syndrome," people are experiencing alterations in body habitus and metabolic parameters. While the exact cause and treatments at this time are unknown, each has important nutrition considerations. The prevailing recommendations have been to monitor anthropometric measurements, follow guidelines established in the National Cholesterol Education Program, and/or diabetic dietary patterns. Registered dietitians are well equipped to play significant roles and to provide the nutrition self-management training necessary.

All persons with HIV infection are at greater risk for malnutrition. Those with HIV commonly face problems of inadequate intake, weight loss, often due to nutritionally compromising conditions such as nausea, diarrhea, anorexia, fatigue, difficulty chewing and swallowing. This puts them at risk for both micro- and macro-nutrient deficiencies. In addition, HIV-infected persons are at higher risk for food and water-borne illnesses. In light of the above stated risks, those with HIV have a great need for nutrition education as well as instruction in food and water safety.

In the same way a client receives baseline and routine medical care, the primary care provider should refer his/her client to a registered dietitian, capable of providing medical nutrition therapy in a competent and sensitive manner. Medical nutrition therapy is less costly and invasive than other HIV-treatment interventions and should therefore be routinely employed on a widespread basis.

Those responsible for providing medical care to HIV-infected children and adults must be held accountable for their nutritional health. Medical nutrition therapy directly contributes to the overall well being and may delay progression of HIV disease. Medical nutrition therapy also saves health care dollars. These guidelines are provided to assist in these efforts.

[22] James, JS. "Human Growth Hormone Approved for Wasting" *AIDS Treatment News Archive*, Issue 254, 9/6/96.

Defined Levels of HIV/AIDS Nutritional Care

1. In adults (18+ years old)

   A. Level of Care 1: HIV Asymptomatic

      The client is diagnosed with HIV infection. At the point of seroconversion, a client may have experienced acute retroviral syndrome (ARS), which may include persistent generalized lymphadenopathy, fever, flu-like symptoms, rash, and weight loss. Seroconversion usually occurs within the first 6 weeks of the HIV infection. After ARS has run its course, HIV-infected persons experience an asymptomatic period. The asymptomatic client may or may not experience complications affecting medical, nutritional, or functional health status. The primary goal of medical nutrition therapy is preservation of lean body mass, prevention of weight loss, and optimization of nutritional health status.

   B. Level of Care 2: HIV/AIDS Symptomatic but Stable

      The client has symptoms attributed to HIV infection or a clinical condition that is complicated by HIV infection. Disease activity is managed and symptoms are controlled. The impact on medical, nutritional, and functional health status is manageable. The primary goal of medical nutrition therapy is maintenance of weight, preservation of lean body mass, minimization of symptoms as well as side effects associated with medical treatment, and optimization of nutritional health status.

   C. Level of Care 3: HIV/AIDS Acute

      The client has acute signs and symptoms of AIDS-defining conditions as a result of disease progression. Medical, nutritional, and functional health status is affected. The client may be hospitalized or the frequency of outpatient visits may increase. The primary goal of medical nutrition therapy is maintenance of weight, preservation of lean body mass, prevention of opportunistic infections, minimization of symptoms, as well as side effects associated with HIV, opportunistic infections and medical treatment, and optimization of nutritional health status.

   D. Level of Care 4: Palliative

      The client has active disease progression, with emphasis of care placed on the last stages of life. Medical, nutritional, and functional health status is compromised. The client's care may be provided in the home or a residential care or long-term care facility. In some instances hospitalization may be required. The primary goal of medical nutrition therapy is alleviation of symptoms while providing nutritional care that maintains hydration status and supports the client through the dying process.

2. In children/adolescents (0-18 years old)[23] [24]

A. CDC Category N and A: No Signs/Symptoms or Mild Signs/Symptoms

The client is diagnosed with HIV infection. At the point of seroconversion, a client may have experienced acute retroviral syndrome (ARS), which may include persistent generalized lymphadenopathy, fever, flu-like symptoms, rash, and weight loss. Seroconversion occurs usually within the first 6 weeks of the HIV infection. After ARS has run its course, HIV-infected persons experience an asymptomatic period. The client is asymptomatic and does not experience complications affecting medical, nutritional or functional health status. The primary goal of medical nutrition therapy is the preservation of lean body mass, the maintenance of both weight growth velocity and height growth velocity, and minimization of side effects associated with medical treatment and optimization of nutritional health status.

B. CDC Category B: Moderate Signs/Symptoms

The client has acute signs and symptoms as a result of disease progression. Medical, nutritional, and functional health status is affected. The client may be hospitalized or the frequency of outpatient visits may increase. The primary goal of medical nutrition therapy is maintaining weight, weight growth velocity, and height growth velocity, preserving lean body mass, the minimization of symptoms of medical treatments and HIV infection and the optimization of nutritional status.

C. CDC Category C: Severe Signs/Symptoms

The client has active disease progression, however may be stable. Medical, nutritional, and functional health status is compromised. There may be an increased number of outpatient visits and hospitalization. The client may be hospitalized or the frequency of outpatient visits may increase. The primary goal of medical nutrition therapy is maintaining weight, weight growth velocity, and height growth velocity, preserving lean body mass, the minimization of symptoms of medical treatments, HIV and opportunistic infections and the optimization of nutritional status. In palliative care, the primary goal of medical nutrition therapy is alleviation of symptoms while providing nutritional care that maintains hydration status and supports the client through the dying process.

[23] Adapted from Heller L, Morris V, Papathakis and Rothpletz-Puglia P: "HIV/AIDS children/adolescents medical nutrition therapy" in *Medical Nutrition Therapy Across the Continuum of Care*, The American Dietetic Association, Chicago, 1998.

[24] Center for Disease Control and Prevention:1994 revised CDC HIV classification system and expanded AIDS surveillance definition for children <13 years. *MMWR* 1994:34(RR-12) 1-18.

Guidelines for Implementing

HIV/AIDS Medical Nutrition Therapy Protocols

Guideline 1 – Initiating Baseline Medical Nutrition Therapy

Within one to six months after an HIV positive diagnosis, the client should be referred to a registered dietitian to receive comprehensive medical nutrition therapy. This includes nutrition assessment, self-management training, nutrition education, recommendations and intervention as outlined the HIV/AIDS Medical Nutrition Therapy Protocols.[25] [26] Comprehensive nutrition assessment includes analysis of dietary history and intake, height, weight, pre-illness usual weight, goal weight, body mass index (BMI), lean body mass and fat. In children, growth history and head circumference (birth to 3 years) are included. Lean body mass, fat, neck circumference, and waist-hip ratio can be assessed by skinfold calipers and measuring tape, DEXA, bio-electric impedance analysis (BIA) or other comparable means.

Appropriate nutrition related lab assessments should be done or provided. Lab tests would include viral load, CD4 and CD8, CBC, fasting blood sugar and lipid panel, liver function tests, BUN, creatinine, electrolytes, protein, albumin, prealbumin and transferrin. Testosterone levels should be done for adults. These tests are done to identify and provide intervention strategies for clinical manifestations of drug toxicities and underlying abnormalities, such as anemia, vitamin depletion, insulin resistance, diabetes mellitus, hyperlipidemias, "lipodystrophy syndrome," hypertension and other medical conditions.

Guideline 2 - Referring for Ongoing Medical Nutrition Therapy

After receiving a baseline nutrition assessment, the client should receive regular and ongoing HIV/AIDS medical nutrition therapy.

Appropriate biochemical lab results and anthropometrics should be included in regular and ongoing HIV/AIDS medical nutrition therapy. See Guideline 1.

Minimum interventions of medical nutrition therapy:

1. Adults:

   Asymptomatic HIV infection: 1-2 times/year.
   HIV/AIDS symptomatic but stable: 2-6 times/year.
   HIV/AIDS acute: 2-6 times/year
   Palliative: 2-6 times/year

[25]Fenton M, Silverman E, Vazzo L. "HIV/AIDS adult medical nutrition therapy protocol," *Medical Nutrition Therapy Across the Continuum of Care, 2nd Edition.* The American Dietetic Association, 1998.
[26] Heller L, Morris V, Rothpletz-Puglia P, Papathakis P. "HIV/AIDS pediatric/adolescent medical nutrition therapy protocol," in: *Medical Nutrition Therapy Across the Continuum of Care, 2nd Edition.* The American Dietetic Association, 1998.

2. Children/adolescents:

   No signs/symptoms or mild signs/symptoms: 1-4 times/year
   Moderate signs/symptoms: 4-12 times per year
   Severe signs/symptoms: 6-12 times/year

3. When there is a new nutrition related clinical development or there are ongoing complications. See Nutrition Screening.

4. The provision of medical nutrition therapy should be determined by a client's or caregiver's ability to understand and incorporate nutrition management skills.

Guideline 3 - Increasing Adherence to Antiretroviral Drugs

Refer for medical nutrition therapy to support adherence to antiretroviral medication and meal schedules, to increase efficacy of medications, to minimize adverse reactions and to decrease risk of developing resistance to medications.

Guideline 4 - Serving Pregnant Women

Refer pregnant women for medical nutrition therapy to assure adequate nutritional intake, to manage symptoms of therapy and pregnancy, to reduce risk of vertical transmission of the virus from the mother to the infant, and to increase favorable outcomes for both mother and infant. [27] [28]

Guideline 5 - Serving Infants and Children

Refer the HIV-infected infant, child or adolescent for HIV/AIDS medical nutrition therapy immediately following the diagnosis to assure adequate calorie, protein and nutrients to promote normal growth and development.[29]

Guideline 6 – Addressing emerging problems: "lipodystrophy syndrome"

Body composition alterations and metabolic abnormalities are seen with the emerging condition currently referred to as "lipodystrophy syndrome." This impacts nutritional status and areas within the scope of practice of the registered dietitian. Both treatment and research strategies should include medical nutrition therapy and practical nutrition parameters.

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[27] Semba RD, Miotti PG, et al. Maternal Vitamin A Deficiency and Mother-to-Child Transmission of HIV-1. *The Lancet*. 1994;343: 1593-97.

[28] Semba RD, Miotti PG, et al. Infant Mortality and Maternal Vitamin A Deficiency During Human Immunodeficiency Virus Infection. *Clinical Infectious Diseases.* 1995; 21: 966-72.

[29]Oleske JM, Rothpletz-Puglia PM, Winter H, Historical Perspectives on the Evolution in Understanding the Importance of Nutritional Care in Pediatric HIV Infection. *Journal of Nutrition*, 1996; 126: 2616S-2619S

Guideline 7 - Assuring Provider Qualifications of Medical Nutrition Therapy

Medical nutrition therapy of HIV-infected adult and pediatric clients should be provided by a registered dietitian with extensive experience in HIV nutrition care. When this is not possible, it is important to have access to such expertise through consultations.

Rights of Clients

Right to Access Services

HIV-infected clients have the right to have access to medical nutrition therapy.

a. All HIV-infected individuals have the right to early and ongoing medical nutrition therapy.

b. Clients have the right to be informed that medical nutrition therapy is available to them.

c. Clients have the right to have medical nutrition therapy offered at a time and location that is convenient to when and where medical services are received.

d. Clients have the right to receive medical nutrition therapy without excessive cost.

Adequacy of Services

Clients have the right to medical nutrition therapy provided by a qualified, HIV knowledgeable and capable registered dietitian. This registered dietitian should be culturally and linguistically competent, and able to communicate and educate effectively in collaboration with the clients' medical team.

Right to Refuse Services

Clients have the right to self-determination and the right to refuse medical nutrition therapy.

Confidentiality

Clients have the right to receive medical nutrition therapy in an environment that safeguards and maintains their confidentiality.

Defining HIV/AIDS Medical Nutrition Therapy Protocol

Medical nutrition therapy refers to the use of specific nutrition procedures and interventions in the treatment of an illness, injury or condition. Medical nutrition therapy protocols clearly define the level, content, and frequency of nutrition care that is appropriate for the disease or condition.[30] The Adult and Children/Adolescents HIV/AIDS Medical Nutrition Therapy Protocols, developed and periodically revised by the American Dietetic Association,[31] have six distinct components: screening, referral, assessment, intervention, communication, and outcomes evaluation. Both of these HIV/AIDS protocols with background materials are available through the American Dietetic Association.[32]

Nutrition Screening

Screening identifies HIV-infected persons in need of medical nutrition therapy based upon specific criteria. Screening criteria include the following:

1. In adults, whenever there is a nutrition related problem, such as:
   - A. >5% unintentional weight loss from usual body weight in last 6 months or since last visit. *(% weight loss formula: usual body weight – current body weight / usual body weight x 100)*
   - B. Visible wasting, <90% ideal body weight, <20 BMI, or decrease in body cell mass (BCM).
   - C. Poor oral intake of food or fluid.
   - D. Persistent diarrhea, constipation, or change in stools (color, consistency, frequency, smell).
   - E. Persistent nausea or vomiting.
   - F. Persistent gas, bloating, heartburn.
   - G. Difficulty chewing or swallowing, mouth sores, thrush, severe dental caries
   - H. Changes in perception of taste or smell
   - I. Food allergies / intolerances (ex. fat, lactose, wheat, etc.)
   - J. Financially unable to meet caloric or nutrient needs
   - K. Concomitant hypo- or hyperglycemia, insulin resistance, hyperlipidemias, hypertension, hepatic or renal insufficiency, heart disease, cancer, pregnancy, anemia or other nutrition related condition

[30] *Reimbursment and Insurance coverage for Nutrition Services*, The American Dietetic Association, 1991.
[31] The American Dietetic Association. *Medical Nutrition Therapy Across the Continuum of Care, Second Edition*, October, 1998.
[32] To purchase *Medical Nutrition Therapy Across the Continuum of Care, Second Edition*, (Oct.1998) contact The American Dietetic Association: PO Box 97215, Chicago, IL 60678-7215, 800/877-1600 ext. 5000, or www.eatright.org; $90.00 non-member, $75.00 ADA members.

L. Albumin <3.5 mg/dl, prealbumin 19-43 mg/dL

M. Abnormal blood lipids: cholesterol <120 mg/dl or >200 mg/dl, or triglycerides > 240 mg/dl

N. Scheduled chemotherapy or radiation therapy

O. Medication involving food or meal modifications

P. Need for enteral or parenteral nutrition

Q. Client or MD initiated weight management, or BMI >30

R. Client initiated vitamin/mineral supplementation; vegetarianism; complementary or alternative diet-related therapies.

2. In children/adolescents whenever there is a nutrition related problem, such as:

A. Weight for age <10th percentile (NCHS)

B. Height for age <10th percentile (NCHS)

C. Weight for height $\geq$ 95% of standard, or weight for height $\leq 25^{th}$ percentile

D. Downward crossing of one major weight for age percentile

E. Visible wasting, 95% ideal body weight, BMI $\leq 25^{th}$ percentile for age and gender, or decrease in body cell mass (BCM)

F. Poor appetite, food or fluid refusals

G. Prolonged bottle feeding or severe dental caries

H. Change in stools (color, consistency, frequency, smell)

I. For children 0-12 months: Low birth weight

J. For children 0-12 months: No weight gain x 1 month

K. For children 0-12 months: Diarrhea or vomiting x 2 days

L. For children 0-12 months: Poor suck

M. For children 1-3 years: No weight gain x 2 consecutive months

N. For children 1-3 years: Diarrhea or vomiting x 3 days

O. For children 4-16 years: No weight gain x 3 consecutive months

P. For children 4-18 years: Diarrhea or vomiting x 3 days

Q. Persistent gas, bloating, heart burn

R. Persistent nausea

S. Difficulty chewing or swallowing, mouth sores, thrush, poor feeding skills.

T. Albumin < 3.5 mg/dl, prealbumin: 9-22 mg/dL (0-6 mo), 11-29 mg/dL (6 mo-6 yr), 15-37 mg/dL (6-16 yr)

U. Abnormal blood lipids: cholesterol < 65 mg/dl or >200 mg/dl, or triglycerides <40

mg/dl or >160 mg/dl

3. In adults at the following levels of care:
   A. Asymptomatic HIV Infection: at least 1-2 times per year.
   B. HIV/AIDS Symptomatic but Stable: at least 2-6 times per year.
   C. HIV/AIDS Acute: at least 2-6 times per year.
   D. Palliative: at least 2-6 times per year.

4. In children/adolescents at the following levels of care:
   A. No Signs/Symptoms or Mild Signs/Symptoms: at least 1-4 times per year.
   B. Moderate Signs/Symptoms: at least 4-12 times per year.
   C. Severe Signs/Symptoms: at least 6-12 times per year.

5. If necessitated by a client's or caregiver's ability to understand and incorporate nutrition management skills.

Nutrition Referral

In California, health care providers who may prescribe dietary treatments to be delivered by the registered dietitian are: physicians and surgeons, osteopaths, physician's assistants, or dentists.

a. Under California law, the health care provider must provide a referral to the registered dietitian. This written prescription must include the diagnosis and nutrition prescription or nutrition outcome desired.

b. Prior to medical nutrition therapy, appropriate referral data should be made available to the registered dietitian. This includes:

   Laboratory data (albumin, prealbumin, CBC, electrolytes, cholesterol, triglycerides, viral load, CD4),

   Referring health care provider's nutrition prescription or nutrition outcome desired, diagnosis and medical history, medications (including over the counter drugs, vitamin/mineral preparations), alternative and complementary therapies, Karnofsky score, living situation, and in children include developmental level.

c. To maintain respect, confidentiality and privacy of the client, the referral will also include the client's consent to release medical information between the registered dietitian and referring physician.

Nutrition Assessment

The nutrition assessment includes the evaluation of current information, changes in status, and goals of therapy. An individualized nutrition care plan is developed and based upon the following:

a) Medical information
b) Laboratory data and biochemical parameters
c) Diet
d) calculated intake compared to nutrient needs
e) Weight and anthropometric measurements and history
f) Lifestyle, financial, education and other psycho-social data, including exercise/activity and smoking/alcohol/cigarette/social drug use patterns

Nutrition Intervention

Based upon the individualized nutrition assessment and plan, the nutrition intervention provides self-management training and appropriate referrals. Intervention also includes an evaluation of the client's knowledge of the plan, and follow-up, as needed.[33] [34] Referrals to other medical professionals include, but not limited to, physicians, social workers, mental health providers, and case managers. Referrals to community resources include food pantries, food stamps, Women, Infants and Children Supplemental Food Program (WIC), nutrition classes, gyms, expanded HIV community services, and other education and economic resource groups.

Communication

Communication refers to the registered dietitian's written report to the referring primary health care provider.

Nutrition Outcomes Evaluation

An outcome is the measured result of a healthcare process, system or episode of care. Medical nutrition therapy includes outcome measurements and evaluation to identify its effect as preventative therapy and as disease management therapy.

Refer to the Medical Nutrition Therapy Protocols for possible outcome variables.

[33]Papathakis, PC. "Professional practice review and report" California Dietetic Association, Feb, 1997, Rev. March, 1997

[34]Fenton M, Silverman E, Vazzo L. "HIV/AIDS adults medical nutrition therapy protocol" In: *Medical Nutrition Therapy Across the Continuum of Care, 2nd Edition.* The American Dietetic Association, Oct. 1998.

Nutrition outcome measures should be identified within the setting used. When at all possible, medical nutrition therapy outcome variables should be included in multidisciplinary research.

Defining the Qualifications of Registered Dietitians

Recommended Qualifications

a. Basic qualifications of registered dietitians:

1) Food and nutrition experts with a baccalaureate, masters or doctorate degree in nutrition and related sciences, and

2) Graduates of a supervised dietetic internship or equivalent, and

3) Nationally credentialed by the Commission on Dietetic Registration as an "RD" by successful completion of a national examination and mandatory continuing education.

b. Additional qualifications of registered dietitians who specialize in HIV nutrition care:

1) Membership and participation in HIV/AIDS Dietetic Practice Group of the American Dietetic Association.

2) Ongoing participation in Dietitians in AIDS Care, Los Angeles.

3) Ongoing attendance at continuing education training programs for HIV nutrition as well as HIV related medical updates.

Skills

a. Broad knowledge of theoretical principles and practices of clinical nutrition and dietetics.

b. Advanced level of knowledge and skill in the nutrition assessment of HIV-infected children or adults of diverse backgrounds, case management and care coordination, health care ethics, documentation in the medical record, quality assurance, management of nutrition services for problem diagnoses, counseling and evaluation of clients from diverse backgrounds and in developing care plans for clients with complex health and nutritional needs.

c. Advanced level of knowledge of current scientific information regarding, nutrition assessment and diet therapy and skill in interpreting this to other health professionals and the public.

d. Full range of skill in presenting ideas orally and in writing in a clear, concise and persuasive manner.

Legal Authority

a) Registered dietitians may provide these services upon referral from a health care provider who is authorized to prescribe dietary treatment. In California, those authorized to prescribe treatments include physicians, surgeons, osteopaths, physician assistants, or dentists

(California Business & Professions Code, chapter 5.65, sections 2585 & 2586).[35]

b) California Business & Professions Code, chapter, 5.65, section 2068 prohibits anyone from practicing medicine or from providing nutrition advice to treat or cure a disease or disorder unless they are legally designated to do so. Individuals who are not specified under California law as being able to provide medical nutrition therapy may not provide it as part of a client's medical treatment, to do so would be considered practicing medicine without a license.

c) The registered dietitian is qualified and permitted by California Law to perform medical nutrition assessment and therapy. Under Medi-Cal managed care, the registered dietitian is the only nutrition professional defined for participation in this program (Medi-Cal Managed Care RFA Section 14, page 4, glossary definition 5., Addendum #6, February 24, 1995).

Case Load

a) The maximum ratio of RD to HIV-infected persons will be 1 full-time equivalent (FTE) RD per 500 in diverse stages of the disease in *adult* (18+ years) medical settings.

b) The maximum ratio of RD to HIV-infected persons will be 1 FTE RD per 250 in *pediatric* medical settings or in adults in *acute* stages of the disease. [36] [37] [38]

c) In the community-based AIDS service organization setting, the recommended maximum ratio is 1 FTE RD per 2000 clients.

d) In the AIDS meals and food service providers settings, the recommended maximum ratio is 1 FTE RD per 1000 clients.

Attachments

1. Nutrition Referral Criteria for Adults (18+ years) with HIV/AIDS
2. Nutrition Referral Criteria for Pediatrics (<18 years) with HIV/AIDS
3. How to Refer HIV Infected Persons for Medical Nutrition Therapy
4. Adult HIV/AIDS Medical Nutrition Therapy Protocol
5. Children/Adolescent Medical Nutrition Therapy Protocol
6. Position of the American Dietetic Association and Dietitians of Canada: Nutrition intervention in the care of persons with human immunodeficiency virus infection.

[35]Papathakis, PC. "Professional practice review and report" California Dietetic Association, Feb, 1997, Rev. March, 1997.
[36]California Dietetic Association and California Conference of Local Health Department Nutritionists. *Provision of Nutrition Services In A Managed Care or Health Plan,* September 1995.
[37]Papp, J. LAC-USC Medical Center. *Personal communication.* 1/97.
[38] Heller, L.. Children's AIDS Center, Children's Hospital Los Angeles, *Personal communication,* 12/96.

Nutrition Referral Criteria for Adults (18+ years) with HIV/AIDS[39]

A referral to a registered dietitian is automatic when any one of the following conditions exist:

1.	Newly diagnosed HIV infection or never been seen by a registered dietitian
2.	Not seen by a registered dietitian in six months.
3.	Diagnosed HIV with symptoms, AIDS, or to receive palliative care.
4.	>5% unintentional weight loss from usual body weight in last 6 months or since last visit. *% weight loss formula: usual body weight – current body weight / usual body weight x 100*
5.	Visible wasting, < 90% ideal body weight, < 20 BMI, or decrease in body cell mass (BCM)
6.	Poor oral intake of food or fluid
7.	Persistent diarrhea, constipation, change in stools (color, consistency, frequency, smell).
8.	Persistent nausea or vomiting
9.	Persistent gas, bloating, heart burn
10.	Difficulty chewing, swallowing, mouth sores, thrush, severe dental caries
11.	Changes in perception of taste or smell
12.	Food allergies / intolerances (fat, lactose, wheat, etc.)
13.	Financially unable to meet caloric and nutrient needs
14.	Concomitant hypo- or hyperglycemia, insulin resistance, hyperlipidemias, hypertension, hepatic or renal insufficiency, heart disease, cancer, pregnancy, anemia, or other nutrition related condition
15.	Albumin < 3.5 mg/dL, prealbumin 19-43 mg/dL
16.	Cholesterol < 120 mg/dl and > 200 mg/dl
17.	Triglycerides > 200 mg/dl
18.	Scheduled chemotherapy or radiation therapy
19.	Medication involving food or meal modification
20.	Need for enteral or parenteral nutrition
21.	Client or MD initiated weight management, or obesity: BMI >30
22.	Client initiated vitamin/mineral supplementation, complementary or alternative diet-related therapies
23.	Vegetarianism

[39] Asarian-Anderson J, Fenton M, Heller L, Vazzo L, et al. Dietitians in AIDS Care, AIDS Project Los Angeles, 1998.

Nutrition Referral Criteria for Pediatrics (<18 years) with HIV/AIDS[40]

A referral to a registered dietitian is automatic when any one of the following conditions exist:

1.	Newly diagnosed HIV infection or never been seen by a registered dietitian
2.	Not seen by a registered dietitian in 3 months.
3.	Diagnosed HIV with symptoms, AIDS, or to receive palliative care.
4.	Weight for age <10th percentile (NCHS)
5.	Height for age <10th percentile (NCHS)
6.	Weight for height ≥95% of standard, or weight for height ≤ 25th percentile
7.	Downward crossing of one major weight for age percentile
8.	Visible wasting, < 95% ideal body weight, BMI ≤ 25th percentile for age and gender, or decrease in body cell mass (BCM)
9.	Poor appetite, food or fluid refusals
10.	Prolonged bottle feeding or severe dental caries
11.	Change in stools (color, consistency, frequency, smell)
12.	For children 0-12 months: Low birth weight
13.	For children 0-12 months: No weight gain x 1 month
14.	For children 0-12 months: Diarrhea or vomiting x 2 days
15.	For children 0-12 months: Poor suck
16.	For children 1-3 years: No weight gain x 2 consecutive months
17.	For children 1-3 years: Diarrhea or vomiting x 3 days
18.	For children 4-16 years: No weight gain x 3 consecutive months
19.	For children 4-18 years: Diarrhea or vomiting x 4 days.
20.	Persistent gas, bloating, heart burn
21.	Persistent nausea
22.	Difficulty chewing, swallowing, mouth sores, thrush, poor feeding skills
23.	Food allergies / intolerances (formula, fat, lactose, wheat, etc.)
24.	Financially unable to meet caloric and nutrient needs
25.	Concomitant hypo- or hyperglycemia, insulin resistance, hyperlipidemias, hypertension, hepatic or renal insufficiency, heart disease, cancer, pregnancy, anemia, inborn error of metabolism, or other nutrition related condition.
26.	Need for enteral or parenteral nutrition
27.	Albumin < 3.5 mg/dL, prealbumin: 9-22 mg/dL (0-6 mo), 11-29 mg/dL (6 mo-6yr), 15-37 mg/dL (6-16 yr)
28.	Cholesterol < 65 mg/dl or >200 mg/dl
29.	Triglycerides < 40 mg/dl and >160 mg/dl
30.	Scheduled chemotherapy or radiation therapy
31.	Medication involving food or meal modifications
32.	Client or MD initiated weight management, vitamin/mineral supplementation, vegetarianism, complementary or alternative diet-related therapies.

[40] Fenton M, Heller L, Vazzo L, et al. Dietitians in AIDS Care, AIDS Project Los Angeles, 1998.

How to Refer HIV Infected Persons for Medical Nutrition Therapy[41]

How to refer to a registered dietitian:

- In California, health care providers who may prescribe dietary treatments to be delivered by the RD are: physicians and surgeons, osteopaths, physician's assistants, and dentists. Nurse practitioners, chiropractors and acupuncturists may not prescribe.
- The health care provider must provide a referral to the RD. The written prescription must include the diagnosis and nutrition prescription or nutrition outcome desired.
- The client must consent to release medical information between the physician and the RD.

How often to meet with a registered dietitian:

- Whenever there is a nutrition related problem, such as those listed in the Nutrition Referral Criteria for Children and Adults
- In adults at the following levels of care:
    1. Asymptomatic HIV Infection: at least one to two times per year.
    2. HIV/AIDS Symptomatic but Stable: at least two to six times per year.
    3. HIV/AIDS Acute: at least two to six times per year.
    4. Palliative: at least two to six times per year.
- In children/adolescents at the following levels of care:
    1. No Signs/Symptoms or Mild Signs/Symptoms: at least one to four times per year.
    2. Moderate Signs/Symptoms: at least four to twelve times per year.
    3. Severe Signs/Symptoms: at least six to twelve times per year.
- If necessitated by a client's ability to understand and incorporate nutrition management skills.

Refer to a registered dietitian (RD)

- Basic qualifications of registered dietitians:
    1. Food and nutrition experts with a baccalaureate, masters or doctorate degree in nutrition and related sciences, and

[41]Fenton M. AIDS Project Los Angeles, Nutrition & HIV Program, 1997. Revised Fenton M, Heller L, Vazzo L, November, 1998.

2. Graduates of a supervised dietetic internship or equivalent, and

3. Nationally credentialed by the Commission on Dietetic Registered as an "RD" by successful completion of a national examination and mandatory continuing education. Verify with copy of current registration as a registered dietitian by the Commission on Dietetic Registration.

- Additional qualifications of registered dietitians who specialize in HIV nutrition care:

1. Membership and participation in HIV/AIDS Dietetic Practice Group of the American Dietetic Association.

2. Ongoing participation in Dietitians in AIDS Care, Los Angeles.

3. Ongoing attendance at continuing education training programs for HIV nutrition as well as HIV related medical updates.

How to locate a registered dietitian:

- Call the HIV Resource Center at AIDS Project Los Angeles 323-993-1612 for an updated list of "*Registered Dietitians Providing Nutrition Care in HIV/AIDS"* or *HIV/LA*, APLA's directory of resources for people with HIV.

- Contact the nutrition department of a local hospital, health care clinic or county heath department.

- California LA District *Nutrition Call Line* 310-459-9343.

- Call the Nationwide Nutrition Network for a nutrition referral: 800-366-1655 or "Find a Dietitian" at www.eatright.org.

- Look in the yellow pages under "Dietitian" or "Nutritionist" and check for the "RD" credential after the name.

Additional ways health care providers, administrators and employers can locate RDs:

- Call *Jobs in Dietetics*, a publication, which lists positions free until it is filled. 310-453-5375.

- Advertise in the California Dietetic Association Los Angeles District newsletter 310-645-8143, 1-35 words is $20, each additional 10 words is $6.00.

- Advertise in local papers' classified sections.