

# EVIDENCE-BASED NUTRITION PRACTICE GUIDELINES & TOOLKITS

Research and Strategic Business Development  
Academy of Nutrition and Dietetics  
January 2012

# History of Academy's Guidelines

1990's

- Medical Nutrition Therapy Across the Continuum of Care (MNTACC)

2001/2002

- MNT Evidence-Based Guideline for Practice (Hyperlipidemia, Diabetes, CKD, Gestational Diabetes)

2004

- Evidence Analysis Library

2005-2009

- Evidence-Based Nutrition Practice Guidelines and Toolkits



# What's New?

- Movement in healthcare towards evidence-based practice
- More systematic, rigorous process of evidence analysis
- Use of the Academy's Nutrition Care Process
  - Assessment
  - Diagnosis
  - Intervention
  - Monitoring & Evaluation
- Guidelines are a *free* member benefit of the Academy Evidence Analysis Library®
- Toolkits consist of resources for application of the Guidelines
- Oversight by the Academy Evidence-Based Practice Committee



# Definition

**Evidence-Based Nutrition Practice Guidelines** are a series of guiding statements and treatment algorithms which are developed using a systematic process for identifying, analyzing and synthesizing scientific evidence. They are designed to assist the registered dietitian and patient/client in making decisions about appropriate nutrition care for specific disease states or conditions in typical settings.

*Scope of Dietetics Practice Framework Definition of Terms 2008*

# What are Evidence-Based Nutrition Practice Guidelines?

**Evidence Summaries & Conclusion Statements** = what the evidence says

**Guideline** = course of action for the practitioner based on the evidence



## Criteria/Resources Used for Development

- ASTM standard Specification Guideline Elements Model (GEM) for Clinical Practice Guidelines
  - Computer program that can store and organize the information in practice guidelines
- National Guidelines Clearinghouse standards
  - AHRQ initiative, certain criteria required for publication
  - Guidelines.gov
- AGREE Instrument
  - Appraisal of Guidelines for Research & Evaluation
  - 6 domains tested



# Steps in Evidence Analysis Process

Step 1: Develop Question

- Formulate the Question

Step 2: Gather Research

- Gather and Classify the Research

Step 3: Appraise Articles

- Critically Appraise Each Article

Step 4: Summarize

- Summarize the evidence in an Overview Table and Evidence Summary

Step 5: Grade

- Develop Conclusion Statement and Grade the Strength of the Supporting Evidence

# Guideline Development

After analysis is completed

Develop algorithms based on Nutrition Care Process

Draft guideline recommendation

In-person 2-day meeting to finalize entire guideline

Internal/external review and revise

Publish guideline on EAL®



## Structure of EBP Committee

- Joint HOD and BOD appointed committee
- Actively practicing in acute care, long-term care, ambulatory care, and public health
- Trained as evidence analysts
- Representatives from QM, Research, NCP/SL, DPBRN Committees and BOD



## Features of Each Guideline

➤ **Executive Summary of Recommendations:** list only of recommendations, no supporting evidence

➤ **Introduction:** scope, intent, methods, benefits/harms

➤ **Recommendations:** a series of guiding statements that propose a *course of action* for practitioners

➤ **Algorithms:** step-by-step flowchart for treatment of the specific disease/condition

➤ **Appendices:** food tables, RMR information, etc.



eat right. Academy of Nutrition and Dietetics www.eatright.org

SEARCH [input field]

**EVIDENCE ANALYSIS LIBRARY**

Sign In | Register | Contact Us | Help

Library Guidelines Methodology Resources Contributors A-Z Index Store About

Diseases/Health Conditions Nutrients Foods Life Cycle & Nutrition Nutrition Care Process

Welcome

TO THE LIBRARY SECTION

ACADEMY OF NUTRITION AND DIETETICS  
EVIDENCE ANALYSIS LIBRARY

1 2 3 4 5 6 7

**EVIDENCE BASED PRACTICE**

- enhances credibility with other healthcare team members.
- will help you be more effective and efficient in your practice.

**SUBSCRIBE**

Weekly, Annual and Group Subscriptions to the EAL® are available for non-Academy members.

Subscribe Now

**EAL PAGE VIEWS**

As of Monday, February 06 2012 we have recorded **13,193,908** page views on the online Evidence Analysis Library®

Copyright 2012 © Academy of Nutrition and Dietetics (A.N.D.), All Rights Reserved | [Disclaimer](#)

Select "Guidelines" tab

- Guideline List
- Adult Weight Management
- Critical Illness
- Diabetes
- Disorders of Lipid Metabolism
- Heart Failure
- Hypertension
- Oncology
- Pediatric Weight Management

Evidence Based Guidelines > Guideline List Welcome ADA - [log out](#)

[Click here](#) to view the EAL<sup>®</sup> in our previous design.

### Nutrition Practice Guidelines Currently Available Online

[What is a guideline? What is a toolkit? How can I print information from guidelines?](#)

[Adult Weight Management Evidence-Based Nutrition Practice Guideline](#) (May 2006)  
[AWM Toolkit](#) information

[Critical Illness Evidence-Based Nutrition Practice Guideline](#) (Sept 2006)  
[Critical Illness Toolkit](#) information

[Diabetes Type 1 and 2 Evidence-Based Nutrition Practice Guideline for Adults](#) (March 2008)  
[Diabetes Type 1 and 2 Toolkit](#) information

[Disorders of Lipid Metabolism Evidence-Based Nutrition Practice Guideline](#) (August 2005)  
[DLM Toolkit](#) information

**NEW!** [Heart Failure Evidence-Based Nutrition Practice Guideline](#) (July 2008)  
Look for the HF Toolkit in 2009

**NEW!** [Hypertension Evidence-Based Nutrition Practice Guideline](#) (April 2008)  
Look for the HTN Toolkit in 2009

[Oncology Evidence-Based Nutrition Practice Guideline](#) (October 2007)  
[ONC Toolkit](#) information

[Pediatric Weight Management Evidence-Based Nutrition Practice Guideline](#) (June 2007)  
[PWM Toolkit](#) information

#### What is a guideline?





Evidence-Based Nutrition Practice Guidelines are a series of guiding statements and treatment algorithms which are developed using a systematic process for identifying, analyzing and synthesizing scientific evidence. They are designed to

Select "Guideline List" and Choose Guideline

and detail how the as documentation implementing the Evidence-Based Nutrition Practice Guideline. Evidence-Based Nutrition Practice Guidelines and Toolkits incorporate ADA's Nutrition Care Process and Model as the standard process for patient/client care.

#### How to Print Materials

You have the option of printing individual pages or pre-formatted sections of the guideline. For additional information, select

Evidence Based Guidelines > Guideline List > Oncology > Executive Summary of Recommendations Welcome ADA - [log out](#)    

[Click here](#) to view the EAL<sup>®</sup> in our previous design.

## ADA Oncology Evidence-based Nutrition Practice Guideline

### Executive Summary of Recommendations

Below are the major recommendations, and ratings for the American Dietetic Association Oncology Evidence-Based Nutrition Practice Guideline. [Click here](#) to view the Guideline Overview. More detail (including the evidence analysis supporting these recommendations) is available on this website to ADA members and EAL subscribers under [Major Recommendations](#).

To see a description of the ADA Recommendation Rating Scheme (Strong, Fair, Weak, Consensus, Insufficient Evidence) [click here](#).

The Oncology and Nutrition Recommendations are organized by Type of Cancer. (Note: If you mouseover underlined acronyms and terms, a definition will pop-up.)

### Breast Cancer and Oncology Nutrition

#### Chemotherapy

##### Oncology (Onc) Breast Cancer: Chemotherapy Determination of Resting Energy Expenditure

###### Onc-Breast cancer: Determination of REE and Chemotherapy

Use of indirect calorimetry to measure REE is more accurate than estimation in early stage and advanced metastatic breast cancer patients. If measurement of REE is not possible or not thought to be imperative, use the HBE to estimate calorie requirements. Limited evidence indicates that the mean estimated REE was comparable to measured REE in these populations. No research was available to compare HBE using individual error or to compare HBE with other predictive equations in these populations.

**Weak  
Imperative**

##### Oncology (Onc) Breast Cancer: Chemotherapy and Use of Arginine Oral Supplement

###### Onc-Breast cancer: Arginine and Chemotherapy

Use of an oral arginine supplement to improve long-term clinical response for patients with breast cancer prior to the start of neoadjuvant chemotherapy is not currently recommended. Evidence is not available to evaluate the safety of arginine or its effect on cancer symptoms for patients with breast cancer receiving chemotherapy. One RCT demonstrated a statistically significant histopathological response in tumor sizes less than 6 cm, however there was no improvement in short-term clinical response.

**Weak  
Imperative**

Pediatric Weight Management

-  [Executive Summary of Recommendations](#)
-  [Introduction](#)
-  [Major Recommendations](#)
-  [Algorithms](#)
-  [Appendices](#)
-  [Background Information](#)
-  [References](#)

*Evidence Based Guidelines > Guideline List > Pediatric Weight Management*

[Click here](#) to view the EAL<sup>®</sup> in our previous design.

## Evidence-Based Pediatric Weight Management Nutrition Practice Guideline

This American Dietetic Association evidence-based pediatric weight management nutrition practice guideline is meant to serve as a general framework for treating pediatric overweight through intervention with children, adolescents, and their families.

### Organization of the Guideline

This guideline is designed so that you can access key information quickly and easily without having to wade through detail. If you want or need more detail on an item or topic, you will be provided with hyperlinks to more information

### Contents of the Guideline

Below is an outline of the resources in this guide. Simply click on the heading to view materials and resources.

[Introduction](#)

[Major Recommendations](#)

[Algorithms](#)

[Appendices](#)

[Background Information](#)

[References](#)

### Printing Guideline Materials

Each page of the guideline has several options for printing at the top right corner of the page. You may also print entire sections of the guideline under [Print Reports](#) (see tab at top of page to navigate to the Print Reports section).

Evidence Based Guidelines > Guideline List > Recommendations

## Recommendations for Sodium/Fluid Intake and Heart Failure

[Click here](#) to view the EAL<sup>®</sup> in our previous design

### Recommendations Summary Page

#### Heart Failure (HF) Sodium and Fluid Restriction and Heart Failure

[Click here](#) to see the explanation of recommendation ratings (Strong, Fair, Weak, Consensus, Insufficient Evidence) and labels (Imperative or Conditional). To see more detail on the evidence from which the following recommendations were drawn, use the hyperlinks in the [Supporting Evidence Section](#) below.

#### Recommendation(s)

##### HF: Fluid Intake

For patients with heart failure, fluid intake should be between 1.4 and 1.9 L (48-64 oz.) per day, depending on clinical symptoms (i.e. edema, fatigue, shortness of breath). Fluid restriction will improve clinical symptoms and quality of life.

Fair  
Imperative

##### HF: Sodium Intake

For patients with heart failure, sodium intake should be less than 2 g per day. Sodium restriction will improve clinical symptoms (i.e. edema, fatigue) and quality of life.

Fair  
Imperative

#### Risks/Harms of Implementing This Recommendation

One potential risk of a fluid and sodium restricted diet is elevated electrolytes. If electrolyte parameters are elevated, the patient may be hypovolemic and a fluid restriction should be considered.

#### Conditions of Application

- Use caution when a patient has an elevated BUN or creatinine
- Consider a lower range of fluid restriction in [NYHA](#) stage I

#### Potential Costs Associated with Application

None

#### Recommendation Narrative

Four studies found that sodium restriction with or without fluid restriction improved at least one of the following: quality

- Risks/Harms
- Conditions of Application
- Potential Costs
- Narrative
- Rationale for Rating

Rating	Definition
<b>Strong</b>	<ul style="list-style-type: none"> <li>• <b>benefits clearly exceed the harms (or harms clearly exceed the benefits for a negative recommendation)</b></li> <li>• <b>the quality of the supporting evidence is excellent/good (grade I or II)</b></li> </ul>
<b>Fair</b>	<ul style="list-style-type: none"> <li>• <b>benefits exceed the harms (or harms clearly exceed the benefits for a negative recommendation)</b></li> <li>• <b>quality of evidence is not as strong (grade II or III)</b></li> </ul>
<b>Weak</b>	<ul style="list-style-type: none"> <li>• <b>quality of evidence that exists is suspect</b></li> <li>• <b>or that well-done studies (grade I, II, or III)* show little clear advantage to one approach versus another</b></li> </ul>
<b>Consensus</b>	<ul style="list-style-type: none"> <li>• <b>Expert opinion (grade IV) supports the guideline recommendation</b></li> </ul>
<b>Insufficient Evidence</b>	<ul style="list-style-type: none"> <li>• <b>both a lack of pertinent evidence (grade V)* and/or an unclear balance between benefits and harms</b></li> </ul>



- Use caution when a patient has an elevated BUN or creatinine
- Consider a lower range of fluid restriction in NYHA stage IV patients

**Potential Costs Associated with Application**

None

**Recommendation Narrative**

Four studies found that sodium restriction with or without fluid restriction improved at least one of the following: quality of life, NYHA functional class, sleep disturbance, physical activity, edema, BNP and blood pressure.

**Recommendation Strength Rationale**

- Three RCT and one prospective study found consistent results
- Co

**Minority Op**

None.

Drill down to supporting evidence

**Supporting Evidence**

The recommendations were created from the evidence analysis on the following questions. To see detail of the evidence analysis, click the blue hyperlinks below.

[For the patient with heart failure, is there evidence to suggest that there is an optimal level of fluid and/or sodium restriction, which will reduce HF symptomology and morbidity/mortality in heart failure?](#)

**References**

[Alvelos, M, Ferreira, A, Bettencourt P, et al. The effect of dietary sodium restriction on neurohumoral activity and renal dopaminergic response in patients with heart failure. \*Eur J Heart Failure\*. 2004; 6: 593-599.](#)

[Arcand JL, Brazel S, Joliffe C, et al. Education by a dietitian in patients with heart failure results in improved adherence with a sodium-restricted diet: A randomized trial. \*Am Heart J\*. 2005; 150: 716e1-716e5.](#)

[Damgaard M, Norsk P et al. Hemodynamic and neuroendocrine responses to changes in sodium intake in compensated heart failure. \*Am J Physiol Regul Integr Comp Physiol\*. 2006; 290: R1294-R1301.](#)

[Kuehneman T, Saulsbury D, Splett P, Chapman DB. Demonstrating the impact of nutrition intervention in a heart failure program. \*J Am Diet Assoc\*. 2002; 102: 1790-1794.](#)

[Ramirez EC, Martinez LC, et al. Effects of a Nutritional Intervention on Body Composition, Clinical Status, and Quality of Life in Patients with Heart Failure. \*Nutrition\*. 2004; 20: 890-895.](#)

Citations Not used in the Evidence Analysis

1. Task Force for the Diagnosis and Treatment of Chronic Heart Failure, European Society of Cardiology. Guidelines for the diagnosis and treatment of chronic heart failure. *Eur Heart J*. 2001;22:1527-60.
2. American College of Cardiology/American Heart Association. [2005 Guideline Update for the Diagnosis and Management for CHF in the Adult](#). *Circulation*. 2005;Sept 20:1-28.
3. [Heart Failure Society of America 2006 Comprehensive Heart Failure Practice Guideline](#). *Journal of Cardiac Failure*. 2006; 12.

Quick Links

Evidence Summaries

Fluid and/or Sodium Restriction and Heart Failure

Search Plan and Results

Fluid and sodium restriction

View Recommendation

Heart Failure (HF) Sodium and Fluid Restriction and Heart Failure

# Question, Conclusion Statement and Grade

## For the patient with heart failure, is there evidence to suggest that there is an optimal level of fluid and/or sodium restriction, which will reduce HF symptomology and morbidity/mortality in heart failure?

The limited available evidence supports a 2,000-mg-per-day sodium diet and 1.5L per day fluid restriction. Some studies found a benefit in quality of life, NYHA functional class, sleep disturbance, physical activity, edema, BNP and blood pressure. One recent RCT, with small sample size and short duration, indicated a tolerance for a sodium range of 1,610mg to 5,750mg per day for the compensated medically-treated heart failure patient.

### Grade II

Overall strength of the available supporting evidence: Grade I - good; Grade II - fair; Grade III - limited; Grade IV - expert opinion; Grade V: not assignable. For additional information regarding how to interpret grades, [click here](#).

Date of Literature Review for the Evidence Analysis: June 2008

### Evidence Summaries

How did we reach this conclusion? For more information, click on the Evidence Summary link below.

[Fluid and/or Sodium Restriction and Heart Failure](#)

# Link to Evidence Summaries, Search Plan

Send Feedback

\* This is a user feedback tool only. If you have specific questions requiring a response, please use the contact link at the top of this page.

© 2008 American Dietetic Association (ADA)

# Evidence Summary: narrative summary

Quick Links

View Conclusion Statement  
 For the patient with heart failure, is there evidence to suggest that there is an optimal level of fluid and/or sodium restriction, which will reduce HF symptomology and morbidity/mortality in heart failure?

Ev  
 Re

[Click here](#) to view the EAL in our previous design.

## Fluid and/or Sodium Restriction and Heart Failure

The guidelines for the management of patients with heart failure (HF) from the American College of Cardiology and American Heart Association and the European Society of Cardiology recommend restricted intakes of sodium and fluid. This recommendation is based on research from HF. These nurse-led or multi-discipline programs closely monitor patients for compliance with daily weight recording, medicine and diet. Positive results considered end points of decreased hospitalizations and improved quality of life. Because of a lack of randomized control trials, the diet guidelines are level D, which is equivalent to an ADA Grade III.

Five papers were identified that provide information regarding the benefit of sodium and fluid restriction in HF. Three of the papers reported on the impact of nutrition intervention by RDs (Arcand JL, Brazel S et al, 2005; Kuehneman T, Saulsbury D et al, 2002; Ramirez EC, Martinez LC et al, 2004).

Avelos, M, Ferreira, A et al, 2004 (positive quality), studied 24 patients with mild to moderate stable HF. 12 patients were studied before and after a 15-day low-sodium diet (2,300mg) and 12 maintained their usual diet. Patients following the low-sodium diet had significant decreases in blood pressure, body weight and creatinine clearance. They also experienced an increase in the renal rate of L-Dopa utilization as a counter regulatory mechanism.

In a randomized control trial, Arcand JL, Brazel S et al, 2005 (neutral quality), found no changes in heart rate or serum sodium levels, but found a trend toward reduced blood pressure in patients with HF after three months of being educated on a two-gram sodium diet (N=47, 35 males and 12 females). Those receiving two individualized sessions with an RD had a significant decrease (P<0.05) in sodium intake.





A randomized control trial, Damgaard M, Norsk P et al, 2006 (neutral quality), found changes in the intervention group who served as their own controls, while following a 1,600-mg sodium diet vs. a 5,700-mg sodium diet. After seven days on each diet (N=12 male patients with HF and 12 male healthy controls), there was an increase in plasma volume and an increase in weight for both groups, slightly higher for the patients with HF during the higher sodium intake period. There was not a significant difference in exercise time for the patients with HF between diets. Conversely, there was a significant improvement (P<0.05) in cardiac index, stroke volume index and total peripheral resistance on the high-sodium diet while exercising on the bicycle. Additionally, excessive sodium or water retention was not recorded in the patients with HF on the high-sodium diet. The authors state that their findings during short-term conditions should be interpreted with caution, in relation to the usual clinical practice.

A three-year longitudinal study of patients with HF, Kuehneman T, Saulsbury D et al, 2002 (neutral quality), found an increased quality of life (QOL) in patients, following a diet with a fluid restriction of 48oz to 64oz and a sodium intake of less than 2,000mg. However, sample size limited the correlation with dietary changes. After three and six months, the group (N=79) showed significant decreases in sodium and fluid intakes (P<0.001 and P<0.003, respectively), compared to baseline. The improvement in QOL (N=63 at three months and 44 at six months) was also significant at both timelines (P<0.003 and P<0.04, respectively). Of 83 patients who were hospitalized during this time period, it was documented that six decompensated, due to a previous day's sodium intake of four grams or more. Hospitalization costs ranged from \$2,291 to \$12,151 for one- to four-day admissions on these six individuals.

A randomized control trial, Ramirez EC, Martinez LC et al, 2004 (positive quality), found improvements in clinical state, NYHA functional class and QOL in patients with HF, following a two- to 2.4-gram sodium diet with 1.5L per day of fluid. After six months (N=58; 21 males and 37 females), there was a significant decrease in sodium (P<0.012) and fluid (P<0.01) intake between the intervention and control groups. There was also a significant improvement in sleep disturbance (P=0.05), QOL (P=0.02) and physical activity (P<0.05). Other significant improvements in the intervention group included less edema (P=0.008), less fatigue (P<0.012) and change in NYHA class (P=0.025), compared to baseline. There were no changes in

# Example Worksheet

Evidence Based Guidelines > Guideline List > Heart Failure > Major Recommendations

Welcome ADA - [log out](#)    

[Click here](#) to view the EAL<sup>®</sup> in our previous design.

**Citation:**

Kuehneman T, Saulsbury D, Splett P, Chapman DB. Demonstrating the impact of nutrition intervention in a heart failure program. *J Am Diet Assoc.* 2002; 102: 1,790-1,794.

**Study Design:**

Longitudinal

**Class:**

C - [Click here](#) for explanation of classification scheme.

**Quality Rating:**

NEUTRAL: See Quality Criteria Checklist below.

**Research Purpose:**

- To develop the role of the dietitian and evaluate the impact of nutrition intervention in a heart failure program
- Indicators of success were defined as positive changes in sodium intake, fluid intake and quality of life
- The study also investigated hospital admissions resulting from dietary non-compliance.

**Inclusion Criteria:**

Patients with heart failure.

**Exclusion Criteria:**

None.

**Description of Study Protocol:**

- Recruitment:* New patients were automatical referred to the Registered Dietitian.
- Design:* Time series
- Intervention:* Fluid restriction (48oz to 64oz) and sodium intake under 2,000mg.

**Statistical Analysis**

- Sodium and fluid intakes from the second and third dietary recall were compared with baseline, using a

- Citation / PubMed ID
- Date
- Study Design
- Class
- Rating (+/0/-)
- Research purpose
- Inclusion Criteria
- Exclusion Criteria
- Description of Study Protocol
- Data Collection Summary
- Description of Actual Data Sample
- Summary of Results
- Author Conclusion
- Reviewer Comments

# Features of Recommendation Page

## Recommendation:

- Describe “what to do” and “why”
- **Rating:**
  - Strong
  - Fair
  - Weak
  - Consensus
  - Insufficient Evidence
- **Classification: Imperative or Conditional**
- **Other categories-→**



# Process for Writing Recommendations

## Risks/Harms:

- Potential risks, anticipated harms or adverse consequences associated with *applying* recommendation(s) to target population

## Conditions of Application

- Organizational barriers and conditions which may limit

## Recommendation Narrative

- Brief summary of main points of supporting evidence (provide author/year)

## Recommendation Strength Rational

- List of the evidence strength and methodological issues that determined the strength, includes grades for the conclusion statements

## Minority Opinion

- Only if needed

## References

- List of articles that met the inclusion criteria and were abstracted and part of the evidence analysis

## References Not Used in the Evidence Analysis

- Relevant articles and publications that did not meet the inclusion criteria for evidence analysis



Pediatric Weight Management

- Executive Summary of Recommendations
- Introduction
- Major Recommendations
- Algorithms
- Appendices
- Background Information
- References

Welcome Kari - [log out](#)

Evidence Based Guidelines > Guideline List > Pediatric Weight Management

[Click here](#) to view the EAL<sup>®</sup> in our previous design.

## Evidence-Based Pediatric Weight Management Nutrition Practice Guideline

This American Dietetic Association evidence-based pediatric weight management nutrition practice guideline is meant to serve as a general framework for treating pediatric overweight through intervention with children, adolescents, and their families.

### Organization of the Guideline

This guideline is designed so that you can access key information quickly and easily without having to wade through detail. If you want or need more detail on an item or topic, you will be provided with hyperlinks to more information

### Contents of the Guideline

Below is an outline of the resources in this guide. Simply click on the heading to view materials and resources.

[Introduction](#)

[Major Recommendations](#)

[Algorithms](#)

[Appendices](#)

[Background Information](#)

[References](#)

### Printing Guideline Materials

Each page of the guideline has several options for printing at the top right corner of the page. You may also print entire sections of the guideline under [Print Reports](#) (see tab at top of page to navigate to the Print Reports section).



Algorithms

- Nutrition Assessment
- Nutrition Diagnosis
- Nutrition Intervention
- Nutrition Monitoring and Evaluation
- Related Guideline Algorithms

Evidence Based Guidelines > Guideline List > Heart Failure > Algorithms

Welcome ADA - [log out](#)

[Click here](#) to view the EAL<sup>®</sup> in our previous design.

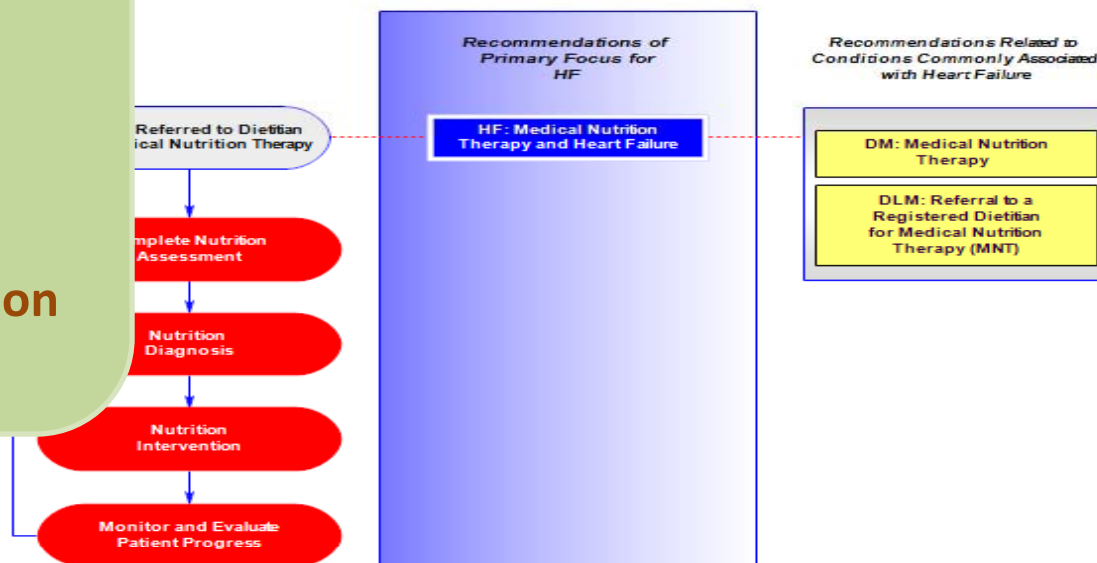
Heart Failure Nutrition Guideline Algorithm

Key:

- Red shading indicates link to a sub-flowchart
- Blue shading indicates link to a recommendation
- Yellow shading indicates a link to a recommendation from another ADA Evidence Based Guideline
- Blue line indicates the path of the algorithm
- Red and blue line indicates important items to consider (though not necessarily recommendations) at a given

# Algorithms

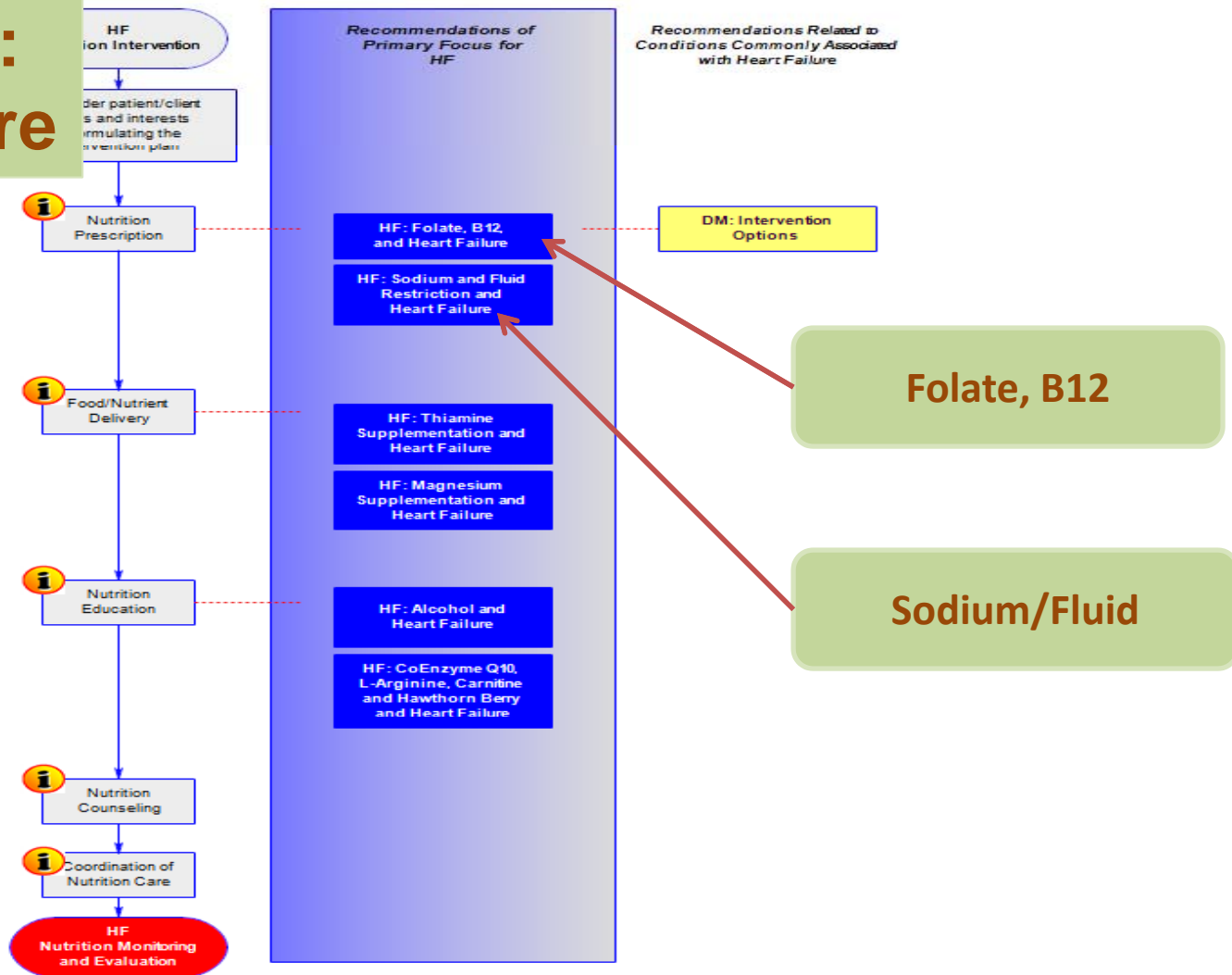
- Assessment
- Diagnosis
- Intervention
- Monitor/Evaluation





# Nutrition Intervention Algorithm: Heart Failure

Red shading indicates link to a sub-flowchart  
Blue shading indicates link to a recommendation  
Yellow shading indicates a link to another ADA Evidence-Based Guideline  
 solid blue line indicates the path of the algorithm  
 dashed blue line indicates important items to consider (though not necessarily recommendations) at a given step.



# ADA Evidence-Based Nutrition Practice Guidelines

Published on EAL®:

2005

- Disorders of Lipid Metabolism

2006

- Adult Weight Management
- Critical Illness

2007

- Pediatric Weight Management
- Oncology

2008

- Diabetes
- Hypertension
- Heart Failure
- Chronic Obstructive Pulmonary Disease
- Gestational Diabetes

2009

- Celiac Disease
- Spinal Cord Injury

## Work in Process

- *Chronic Kidney Disease*
- *Vegetarian Nutrition*
- *Unintended Weight Loss*
- *HIV-AIDS*
- *Pediatric Weight Management (update)*

# Toolkit Development

Develop toolkits to apply guidelines

Conduct 60-day usability test of toolkit and revise

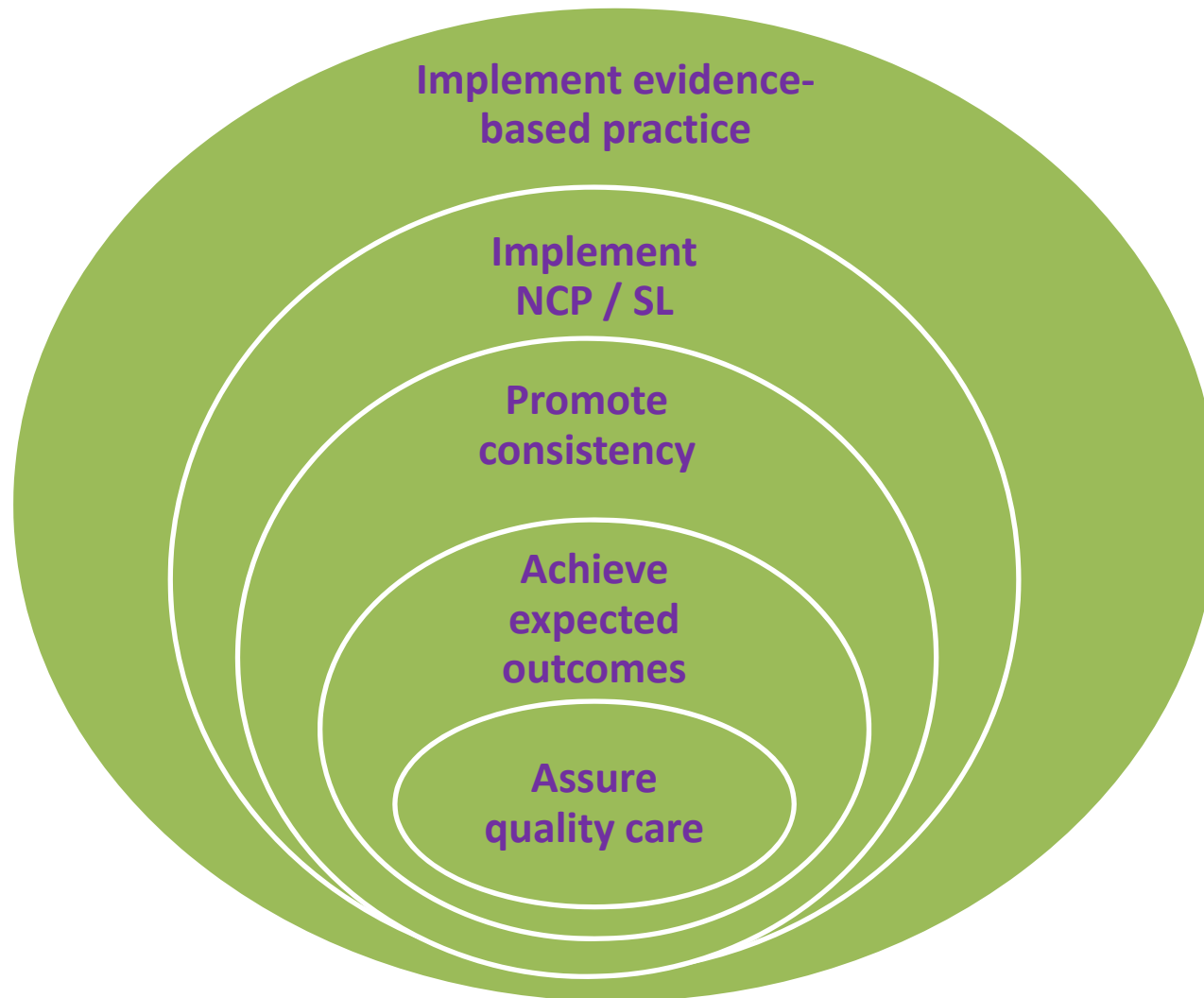
Make toolkits available for purchase

## Features of Evidence-Based Toolkits

- Set of companion documents for application of the practice guideline
- Disease/condition specific
- Include:
  - documentation forms
  - outcomes monitoring sheets
  - client education resources
  - case studies
  - MNT protocol for treatment of disease/condition
- Incorporate Nutrition Care Process/SL as the standard for care
- Electronic downloadable purchase item



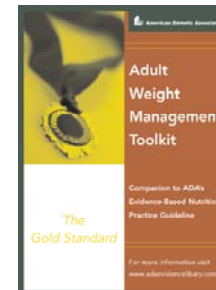
# Objectives of Toolkits



# Toolkits

Available:

- Disorders of Lipid Metabolism
- Adult Weight Management



Under Development:

- Critical Illness
- Oncology
- Diabetes
- Pediatric Weight Management

[www.adaevidencelibrary.com](http://www.adaevidencelibrary.com)




# EAL Store

- Choose quantity
- Add to Cart

cannot purchase a subscription.

Price: \$14.00   
Member Price: \$0.00



## Toolkits



### Adult Weight Management Toolkit (Electronic)

This is an *electronic downloadable* item. Once you make your purchase, you will be able to download the toolkit and save it to your computer. Includes the companion materials for applying the Adult Weight Management Evidence-Based Nutrition Practice Guideline (23 files, 85 pages). This includes the MNT protocol, documentation forms, client education resources and outcomes management forms.

Click here to see toolkit documents:

[Adult Weight Management Toolkit Table of Contents](#)  
[MNT Adult Weight Management Initial Progress Note](#)  
[Portion Distortion](#)

Price: \$50.00   
Member Price: \$20.00





### Adult Weight Management Toolkit (Print & Electronic)

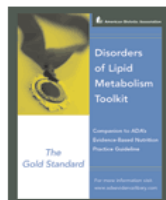
By purchasing this item you will receive the **electronic** downloadable *and* a **printed** version of the Adult Weight Management Toolkit. Once you make your purchase, you will be able to download the toolkit and save it to your computer. You will also receive the printed version by mail. Includes the companion materials for applying the Adult Weight Management Evidence-Based Nutrition Practice Guideline (23 files, 85 pages). This includes the MNT protocol, documentation forms, client education resources and outcomes management forms.

Click here to see toolkit documents:

[Adult Weight Management Toolkit Table of Contents](#)  
[MNT Adult Weight Management Initial Progress Note](#)  
[Portion Distortion](#)

Price: \$62.00   
Member Price: \$32.00





### Disorders of Lipid Metabolism Toolkit (Electronic)

This is an *electronic downloadable* item. Once you make your purchase, you will be able to download the toolkit and save it to your computer. Includes the companion materials for applying the Disorders of Lipid Metabolism Evidence-Based Nutrition Practice Guideline (approximately 70 pages). This includes the MNT protocol, documentation forms, outcomes monitoring forms and client education resources.

[Click here](#) for Table of Contents and to view sample materials from the toolkit.

Price: \$50.00   
Member Price: \$20.00



### Disorders of Lipid Metabolism Toolkit (Print & Electronic)

## Adult Weight Management Toolkit Contents

- ✓ Overview

- ✓ MNT Protocol Forms

- ✓ Summary  
Recommendations for  
AWM
- ✓ Flowchart of Encounters
- ✓ Encounter Process

- ✓ Documentation Forms

- ✓ Sample Referral Form for  
MNT
- ✓ Initial & follow-up MNT  
Progress Note
- ✓ Sample Case Study

- ✓ Outcomes management  
Forms in Excel

- ✓ Client Education  
Resources

- ✓ Executive Summary
- ✓ Client Agreement for Care  
& Encounter Contract
- ✓ Can Dairy Help Control  
Weight
- ✓ Low-Carbohydrate Diets:  
Hype or Hope?
- ✓ Meals on the Go
- ✓ Portion Distortion
- ✓ Weight Control Meal  
Patterns



Setting: Ambulatory Care or adapted for other health care settings (Adult 18+ years old)

Encounter	Length of contact	Time between encounters
1	45-90 minutes	2-4 weeks
2 to 6	30-60 minutes	2-4 weeks (# of encounters depends on risk level, amount of desired weight loss, weight goal) <b>(Strong)*</b>
Outcome Assessment Factors	Expected Outcomes of MNT	Ideal or goal value of MNT
Summary of Adult Weight Management Evidence-based Recommendations		
Biochemical Data and Anthropometric Measurements		
Height, Weight, BMI, Waist Circumference Resting metabolic rate (RMR) via Indirect Calorimetry or using Mifflin-St. Jeor equation with actual body weight, adjusted for physical activity level	Weight loss of 1-2 # per week x 6 mo. 5-10%↓ from baseline in 6 months ↓ in abdominal adiposity Weight loss maintenance	Within reasonable body weight, BMI 18.5-24.9 kg/m <sup>2</sup> Waist Circumference <40" (102 cm) males, <35" (88 cm) females <b>(Fair)</b>
Lipid Profile (Fasting Blood Cholesterol, Triglycerides, LDL-C, HDL-C), Fasting Glucose, BP	↓ Total Cholesterol Trig ↓ or no change Non-HDL ↓ (if Trig >200mg/dL)* LDL-C ↓ HDL-C ↑ or no change Fasting Glucose WNL or ↓ BP WNL or ↓	Total Chol <200, Fasting Trig <150 mg/dL Non-HDL=LDL-C goal +30 LDL-C <160 (0-1 Risk Factor) LDL-C <130 mg/dL (Multiple (2+) Risk Factors) LDL-C <100 mg/dL (CHD and CHD Risk Equivalent) HDL-C >40 mg/dL (males), >50 mg/dL (females) (ATPIII) BP <130/<85mmHg, Fasting Glucose <100mg/dL
Food variety and caloric intake	Selects nutrient-dense foods plans calorie intake 500-1000 kcal	<div style="background-color: #d4edda; padding: 10px; border: 1px solid #c3e6cb;"> <ul style="list-style-type: none"> <li>• Summary of Recommendations</li> <li>• Length of encounters</li> <li>• Expected outcomes of MNT</li> </ul> </div>
Fat intake	Limits foods high in fat part of a low calorie diet	
Carbohydrate intake	Considers red- and refined grains calories as part of a low calorie diet	
Eating frequency and pattern	Consumes 4-5 meals/snacks per day, including breakfast. Limits eating during evening.	
Portion control	Limits portion sizes of foods and beverages.	
Meal replacements	Uses meal replacements as substitute for 1-2 meals per day	Calorie intake to lose weight or maintain weight loss <b>(Fair)</b>
Dairy foods	Selects low fat dairy foods as part of a low calorie diet	Calorie intake to lose weight or maintain weight loss <b>(Strong)</b>
		Daily intake of 3-4 low fat dairy foods <b>(Fair)</b>

## Encounter Process for Adult Weight Management

**ENCOUNTER:** Initial Encounter 45 to 90 minutes

### Assessment

Obtain the following: Clinical referral form or medical record or information system, within 30 days of encounter. Please refer to the Sample Referral Form: Referral for Medical Nutrition Therapy and Instructions for Medical Nutrition Therapy Sample Referral Form within this toolkit to assist with this step.

Assessment of Nutrition Status consists of five areas including Food/Nutrition History; Biochemical Data, Medical Tests and Procedures; Anthropometric Measurements; Physical Examination Findings; and Client History.

**Food/Nutrition History** consists of four categories including Food Intake, Nutrition and Health Awareness and Management, Physical Activity and Exercise and Food Availability.

1) Food Intake must establish a baseline for:

- Energy intake
- Percentage of estimate energy needs
- Percentage calories from fat and carbohydrate
- Other nutrient analysis
- Patient/client behaviors
- Consumption of dairy foods
- Dining away from home and selections
- Reading food labels
- Modification of food preparation and recipes
- Limiting of portion sizes
- Intake of vitamins and minerals

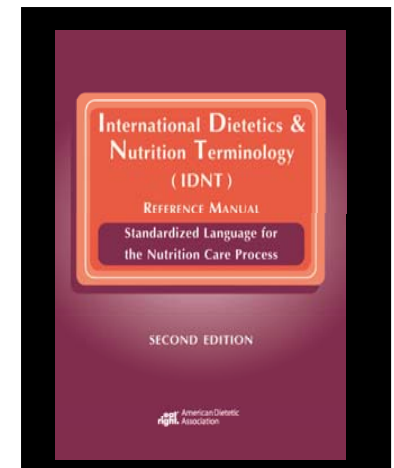
This may include detailed food and nutrient intake, calculation of specific nutrients, meal and snack patterns....

**Encounter Process:**  
describes use of NCP related to  
AWM

## Nutrition Care Process & Standardized Language

**A means to apply the NCP in a standard way using common language.**

- **Nutrition Assessment**
- **Nutrition Diagnosis**
- **Nutrition Intervention**
- **Monitoring and Evaluation**



**Nutrition Diagnosis: (Select priority nutrition diagnoses)**

<input type="checkbox"/> NI-1.5 Excessive energy intake	<input type="checkbox"/> NC-2.3 Food-medication interaction
<input type="checkbox"/>	<input type="checkbox"/> NC-3.3 Overweight/obesity
<input type="checkbox"/>	<input type="checkbox"/> NC-3.1 Food, nutrition, and physical activity-related risk factors
<input type="checkbox"/>	<input type="checkbox"/> NC-3.3 Not ready for change
<input type="checkbox"/> NI-53.5 Inadequate fiber intake	<input type="checkbox"/> NB-2.1 Physical activity
<input type="checkbox"/> Other:	<input type="checkbox"/> NB-1.6 Limited

# MNT Initial Progress Note

- Check off Nutrition Dx
- Write PES Statement
- Determine Nutrition Rx
- Check off nutrition intervention
- Document intervention details
- Document goals and expected outcomes

**Nutrition Diagnosis Statements (Nutrition Diagnosis, Related To (Etiology) As Evidence)**

**Nutrition Intervention Plan:**

**Nutrition Prescription:**

**Nutrition Interventions (√ and explain)**

<p>ND-1 Meal and Snacks:</p> <input type="checkbox"/> Oral diet: _____	<p>ND-3.2 Vitamin</p> <input type="checkbox"/> Multivitamin _____
<input type="checkbox"/> Modify type or amount of food at meals or snacks: _____	<input type="checkbox"/> Vitamin _____
<input type="checkbox"/> Provide specific foods or beverages: _____	<input type="checkbox"/> Mineral _____
<input type="checkbox"/> Other: _____	
<p>E-1 Initial/Brief Nutrition Education (Implement):</p> <input type="checkbox"/> Purpose of nutrition education _____	<p>ND-6 Nutrition-Related Medication Management:</p> <input type="checkbox"/> Initiate _____
<input type="checkbox"/> Priority modifications _____	<input type="checkbox"/> Dose or form change: _____
<input type="checkbox"/> Survival skills information _____	<input type="checkbox"/> Route change: _____
<input type="checkbox"/> Other: _____	<input type="checkbox"/> Administration schedule: _____
	<input type="checkbox"/> Discontinue _____
<p>E-2 Comprehensive Nutrition Education (Implement):</p>	<p>C-1 Nutrition Counseling:</p>

Medical Nutrition Therapy Initial Progress Note- Case Study 1

Name: Alice Jones MR# 0596283 Ethnicity: white Referring physician: Dr. John Morgan Date: 7/15/2005  
DOB: 2/10/1939 Age: 66 Medical Dx: Combined Hyperlipidemia; hypothyroidism Time: start:1:35pm End:2:20 total: 45min

**Recommendations to other Providers** (request for labs, nutrition relationship to changes in meds, need for reinforcement of lifestyle changes):  
Physical encouragement of physical activity might move patient toward action in this area.  
Please recheck lipid profile before her next nutrition therapy appointment on 9/9/2005.  
Referred patient to mental health professional for grief counseling or grief support groups.

Nutrition Diagnosis:	
<input type="checkbox"/> NI-1.5 Excessive energy intake	<input checked="" type="checkbox"/> NC-2.3 Food-medication interaction
<input type="checkbox"/> NI-2.2 Excessive oral food/beverage intake	<input type="checkbox"/> NC-3.3 Overweight/obesity
<input type="checkbox"/> NI-4.3 Excessive alcohol intake	<input type="checkbox"/> NB-1.1 Food, nutrition and nutrition related knowledge deficit
<input checked="" type="checkbox"/> NI-51.3 Inappropriate intake of food fats- specify: saturated and trans fats	<input checked="" type="checkbox"/> NB-1.3 Not ready for diet/lifestyle change
<input type="checkbox"/> NI-53.3 Inappropriate intake of types of carbohydrate—specify:	<input type="checkbox"/> NB-1.6 Limited adherence to nutrition-related recommendations
<input type="checkbox"/> NI-53.5 Inadequ	

Other:

**Nutrition Diagnosis**  
(NI-51.3) related of saturated and tr

(NB-1.3) related

(NC-2.3) related 24-hour recall.

**Nutrition Assessment**

This is a 45 minute months ago.

**Client History** (m smoking and alco  
Pertinent I  
Social Hx  
Family Hx  
Medical Hx was discon  
Pt has a me

**Baseline for Outcome**  
Anthropometric I  
Ht: 5'2" Wt: 192 lbs when husband died  
Physical exam fin  
BP 162/92 Well nc

**Biochemical Data:**

Lipid Profile/pertinent labs	Date:	Date:	Date:	Date:	Date:	Date:	
Total Cholesterol mg/dL	285		HDL mg/dL	25		HbA1c %	6
LDL $\uparrow$ calculated X direct mg/dL	162		TG mg/dL	386		Other:	
Non HDL (if TG >200 mg/dL)	230		Glucose mg/dL	112		ALT	40 units/L
						AST	46 units/L
						TSH	4.16 uIU/mL

**Food and Nutrition History:**

Energy intake: 2343 kcal (circle) Inadequate Adequate  
% calories from sat and trans fat: 10% Total fiber:

Cholesterol: 342 mg Soluble fiber:

Other nutrient analysis: Dietary intake of low vitamin K-containing foods, omega-3: 0.27g PA/exercise (

Patient regularly incorporates the following (check yes or no)

Y	N	Amount/freq	Food	Y	N	At
<input checked="" type="checkbox"/>	<input type="checkbox"/>	g/day	Plant stanols/sterols	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	g/day	Soy protein	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Selects appropriately when dining out (specify in pt		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Modifies fat in food preparation/recipe		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Maintains vitamins/minerals adequacy (specify pos		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Additional Pertinent Information** (food consumption [soluble fiber, fish, soy, plant sterols] nutrition/health ava availability):

She eats only one meal per day plus sugared tea throughout 2c) of starch. The patient came with a limited knowledge ba end vegetable intake.

**Barriers to Behavioral Goals:**  
She appeared to grasp the concepts well, but depression rel making significant changes.

**Barriers towards Biochemical, Anthropometric, Phys**  
(see barriers to behavioral goals)

**Nutrition Intervention**

**Nutrition Prescription:**

1. Reduce calorie intake to 1800 kcal/day.
2. Less than or equal to 50% calories from carbohydrate int
3. Increase soluble fiber to at least 10 g/day.
4. Include fish 3x per week as a source of omega-3 fat.
5. Keep vitamin K intake consistent to assist in careful titra

**Nutrition Education** (instruction/training in a skill or kn [risk factors, physical activity]):  
Comprehension \* (circle) 1 2 3 4  
Education provided on low sat/trans fat intake with reducti between dietary vitamin K intake and coumadin.

**Nutrition Counseling** (theory or approach, strategy and phase used to set priorities, go Receptivity \* (circle) 1 2 3 4 5

Motivational interviewing was used to help patient identify that improved health is a priorit Based on contemplation stage of trans-theoretical model, discussed rationale for nutrition Patient jointly agreed to the following goals:

1. Eat 3 small meals per day
2. Substitute low calorie sweetener for sugar in tea
3. Select leaner choices of animal protein and include fish

**Coordination of Care** (referral to or coordination of nutrition care with other health care providers [referral, recommendations]): (see top of progress note)

**Food and/or Nutrient Delivery** (meals/snacks, medical food supplements, vitamin/mineral supplement, bioactive substance supplement, feeding environment and nutrition-related medication management): none

**Expected Outcomes** (Biochemical, Anthropometric, Physical and Food/Nutrition):

Outcome	Amount (if applicable)	Timeline
1. Move from contemplation to preparation and action stage		6 weeks
2. Increase soluble fiber	to 10 g/day	2 months
3. Lower LDL	decrease 10 mg/dL	3 months
4. Reduce BMI	down to 28 (loss of about 6 lbs)	3 months
5. Decrease serum TG	20%	3 months
6. Reduce saturated fat intake	to <8% of energy	6 months

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	Do You Have Questions About Alcohol *	Hypercholesterolemia Nutrition Therapy **
<input checked="" type="checkbox"/>	Soluble Fiber*	Hypertriglyceridemia Nutrition Therapy **
<input checked="" type="checkbox"/>	Trans Fat Facts*	Sterols/Stanol Tips **
<input checked="" type="checkbox"/>	Health Benefits of Nuts *	Soy Protein Tips**
<input checked="" type="checkbox"/>	Omega-3 Fatty Acids *	Label Reading, Shopping Tips, Cooking Tips**
<input checked="" type="checkbox"/>	Other: Vitamin K food list	Meal Planning Tips**

\* from ADA Disorders of Lipid Metabolism Toolkit, \*\* from ADA Nutrition Care Manual  
\*Key for Comprehension, Receptivity, Adherence: 1=Never demonstrated, 2=Rarely demonstrated, 3=Sometimes demonstrated, 4=Often demonstrated, 5=Consistently demonstrated

**Follow Up Plan for Monitoring and Evaluation**

**Follow-up on Expected Outcomes:**

Appt in 6 weeks to assess stage of change and improvement in dietary intake and lipid profile.

**Future plans for care:**

Address plant stanols/sterols if LDL level not at goal, inclusion of omega 3 fatty acids to reduce TG reduction and consider issue of increasing physical activity.

Next Visit: 9/9/2005 RD Signature: Holly Huffman RD

# Case Studies:

- Initial and Follow-up Encounters
- Illustrates the Nutrition Care Process
- Uses new SL for Nutrition Diagnosis, Intervention, Mon

## Low-Carbohydrate Diets: Hype or Hope?

### What Is a “Low-Carb” or “High-Protein” Diet?

- Such diets limit carbohydrate intake.
- Most of the plans tell you to eat a certain amount of carbohydrate. That amount of carbohydrate is usually 20 to 60 grams for adults. (The government recommends 48 grams from carbohydrates.)
- The diets replace some carbohydrates with protein. Protein helps you lose weight.

## Client Education Materials:

5-6<sup>th</sup> grade reading level

### Do Low-Carb Diets Lead to Weight Loss?

Research shows that low-carbohydrate diets can lead to slightly more weight loss than eating plans that cut fat and calories especially in the first six months. However, in studies lasting a year or longer, people on low-carb diets did not lose any more weight than people on low-calorie diets. Scientists don't know exactly why low-carb diets don't seem to work for more than six months. People may get bored with the diets and return to old eating habits. It may also be that the body stops losing weight when it adapts to the low-carb way of eating. Other studies are currently underway to find out more about low-carb diets and weight loss programs.

So you may be able lose weight on a low-carbohydrate diet. However, some of these diets are not nutritionally balanced:



- Very-high-protein diets often include lots of meat and dairy products. These foods are high in saturated fat and cholesterol, which can clog arteries. You can choose lower-fat meats and dairy foods. However, as animal products, they still provide dietary cholesterol.
- Diets that cut out foods from the grain, fruits, and vegetable groups can be too low in many nutrients such as fiber, phytochemicals, vitamins and minerals that you need for good health.
- Diets that emphasize certain types of carbohydrates over others (see box on the Glycemic Index) have not been shown to be effective.

**MEDICAL NUTRITION THERAPY INDIVIDUAL OUTCOMES MONITORING FORM**

2005 American Dietetic Association  
Adult Weight Management Toolkit

Patient/Clients Name:  
Patient ID/Medical Record No:

**Outcomes forms:** monitor change (e.g. kcal, fat values)

- Document over several encounters
- Programmed formulas for % change and averages

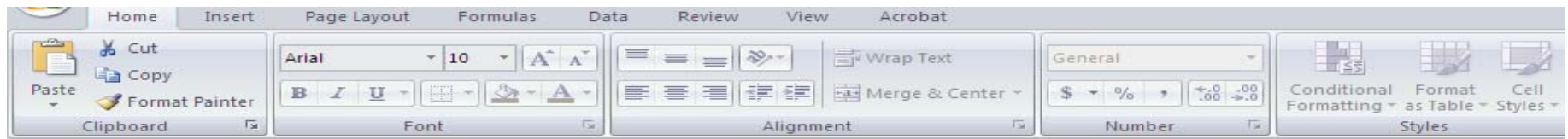
Medical Diagnoses:

Nutrition Diagnoses:

Date:

Encounter	1	2	3	4	5	6	% Change	Ideal Goals	Patient Goals
<b>Direct MNT Intervention Goals</b>									
Kcalorie intake							0%	*	
Total fat (g)							0%	**	
Saturated fat (g)							0%	**	
Trans fat (g)							0%	**	
Saturated and trans fat (g)							0%	**	
Omega-3 fat (g/day)							0%	***	
% kcal from fat							0%	25-35% DLM	
% kcal from sat fat							0%		
% kcal from sat and trans fat							0%	<7%	
Dietary cholesterol (mg/day)							0%	<200 mg	
% kcal from carbohydrate							0%	50-60%	
Total fiber (g/day)							0%	25-30 g/d	
Soluble fiber (g/day)							0%	7-13 g/d	

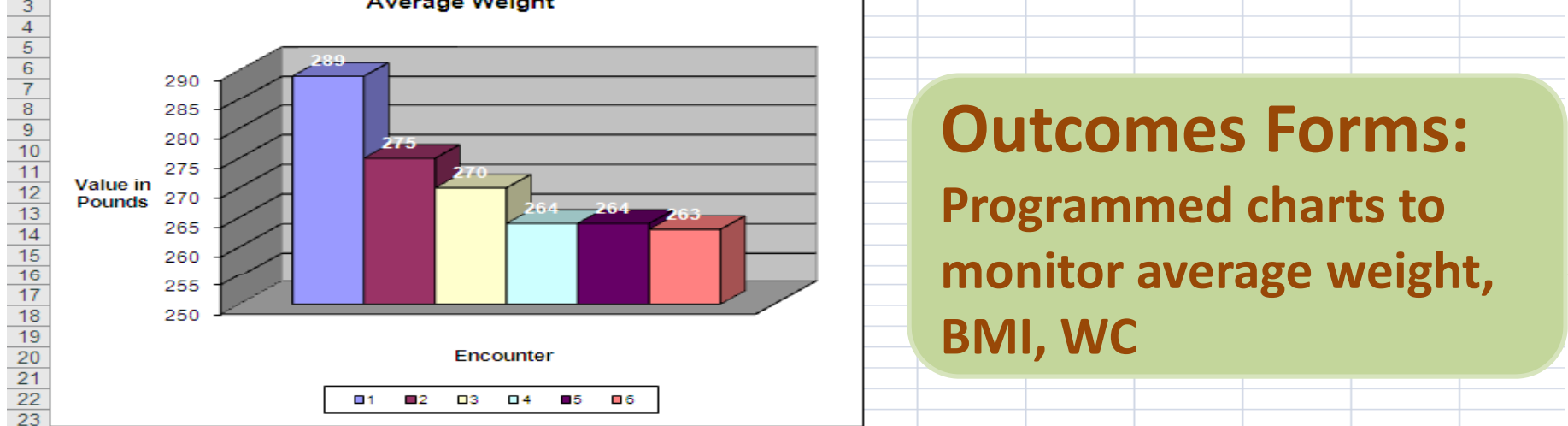




Note: Data entered in the "Weight, BMI, WC Tracking" sheet will be charted here.

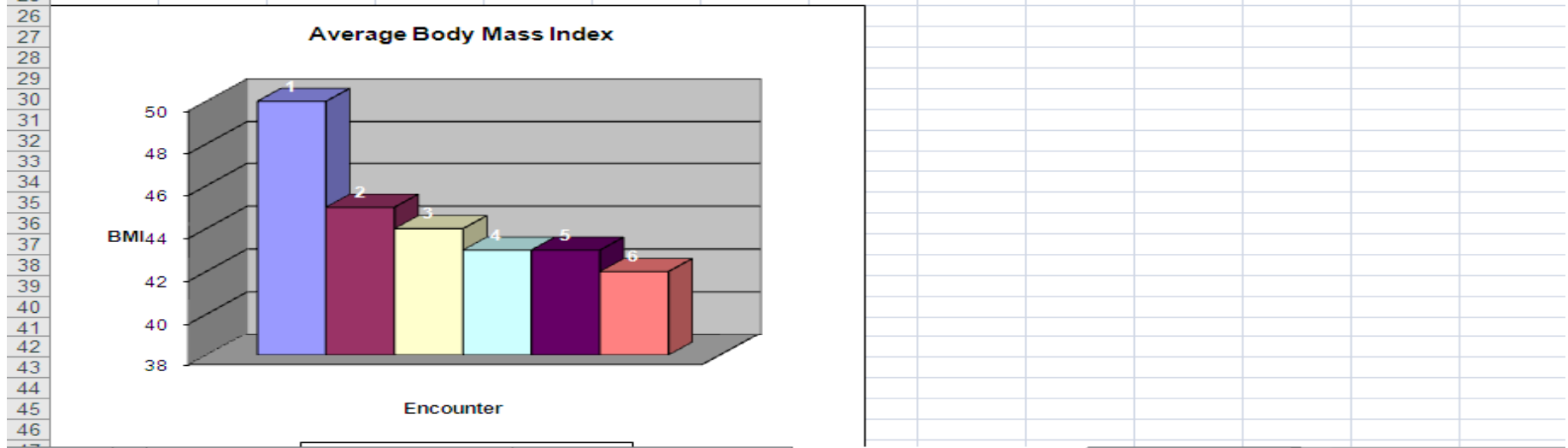
A1

A B C D E F G H I J K L M N



**Outcomes Forms:**  
Programmed charts to monitor average weight, BMI, WC

23  
24  
25





# Thank you!

Questions?

[eal@adaevidencelibrary.com](mailto:eal@adaevidencelibrary.com)

