

A physician's guide to
**NUTRITION IN CHRONIC
DISEASE MANAGEMENT**
for older adults



CANCER

CHRONIC OBSTRUCTIVE PULMONARY DISEASE

CONGESTIVE HEART FAILURE

CORONARY HEART DISEASE

DEMENTIA

DIABETES MELLITUS

HYPERTENSION

OSTEOPOROSIS

INCLUDES PATIENT NUTRITION GUIDE

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AMERICAN ACADEMY OF
FAMILY PHYSICIANS



THE AMERICAN
DIETETIC ASSOCIATION

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**The NSI would like to recognize the outstanding work of Dana Purdy and her contributions to promoting the important role of nutrition in the management of cancer. Dana recently succumbed to her own battle with cancer.*

A GUIDE TO THE MATERIALS

PURPOSE

- ▶ Older people have special nutritional needs due to age and disease processes.
- ▶ Public interest in food and nutrition information is at an all time high. The medical community must respond with a scientific basis for the nutrition therapies they prescribe. To help you, the Nutrition Screening Initiative (NSI) offers this guide.
- ▶ These materials are a concise, brief source of disease-specific nutrition information for physicians caring for older individuals. They are not a substitute for a patient consultation with a registered dietitian.
- ▶ The information in this booklet is based on *The Role of Nutrition in Chronic Disease Care*. A print copy may be ordered from the NSI, ph. 202-625-1662 or nsi@gmmb.com. It is also located on the American Academy of Family Physicians (AAFP) Web site <http://www.aafp.org/nsi>

FORMAT

This booklet has two sections:

PHYSICIANS —

- ▶ Eight diseases are summarized with an emphasis on essential nutrition information for each disease including nutrition screening parameters and interventions for each disease.
- ▶ A comprehensive version of each disease synopsis, including references and a bibliography, is on the AAFP Web site, www.aafp.org/nsi

PATIENTS—

- ▶ Patient education materials accompany the disease summaries and include a basic chronic disease nutrition guide for older adults. There are also nutrition tips for specific diseases and patient resources. The patient materials may be copied and given to patients.

PHYSICIAN-DIETITIAN PARTNERSHIP

- ▶ **Physician**
 - Responsible for assessing, diagnosing and treating conditions associated with or contributing to poor nutrition status.
 - Works independently and with a registered dietitian (RD) to develop a nutrition care plan.
- ▶ **Registered Dietitian (RD)**
 - Provides medical nutrition therapy to patients and their families, physicians and their staff.
 - Tailors interventions to individual patient needs.
 - To locate an RD, contact the American Dietetic Association (ADA), findnrd@eatright.org or the ADA's Nationwide Nutrition Network, 800-877-1600, ext. 5000.
- ▶ **Office staff (e.g. nurses)**
 - Provides basic nutrition information and support.
- ▶ **Health care team and patient's family**
 - Supports the patient's nutrition evaluation, interventions, and adherence to the nutrition care plan.

NUTRITION SERVICE REIMBURSEMENT

- ▶ Reimbursement for coverage of physician, and/or RD nutritional services is determined by individual patient health plans but is optimized by a physician referral.
- ▶ Medicare provides coverage for medical nutrition therapy (MNT) for diabetes mellitus and renal disease. Cardiovascular and other diseases may be covered in the near future.

SELECTED NUTRITION SCREENING TOOLS

These nutrition screening tools are referenced in the following disease summaries. (Please note, this is not a comprehensive list.)

- ▶ **Body Mass Index (BMI)**
 - Validated measure of nutrition status which serves as an indicator of over-nourishment and under-nourishment
 - The NSI suggested BMI range is 22-27 (values outside this range indicate over or under weight)
 - Relationship between height and weight = weight (kg) ÷ height (m²)
 - http://www.nhlbi.nih.gov/guidelines/obesity/bmi_tbl.htm
<http://www.nhlbisupport.com/bmi/bmicalc.htm>
- ▶ **Serum albumin of < 3.5 g/dl**
 - Non-specific, initial indicator of individuals who may be at risk for poor nutritional status, including malnutrition
 - Associated with increased risk of morbidity and mortality
- ▶ **Adult Treatment Panel (ATP) III Guidelines (NCEP) - total cholesterol**
 - A sharp decline can indicate poor nutritional status
 - http://www.nhlbi.nih.gov/about/ncep/ncep_pd.htm
<http://www.nhlbi.nih.gov/guidelines/cholesterol/atglance.pdf>
- ▶ **Functional Health Status Assessment Tools**

Self-administered patient surveys of health status useful in determining functional outcomes and therapeutic changes.

 - DETERMINE Checklist – checklist for patients to help identify warning signs of poor nutritional health. www.aafp.org/nsi/
 - SF-36 Health Survey – short-form, 36-item questionnaire that measures eight parameters of physical and mental health. There are also shorter forms, SF-12, SF-8, that offer the same eight-dimension health profile. www.sf-36.com/
 - Quality of Life Indicators – survey based on five domains (health and wellness, relationships, community, personal growth and self-esteem) to assess quality of life in cancer patients. www.supportinc.com/Outcomes.htm
- ▶ **Dietary Reference Intakes (DRIs) and Recommended Dietary Allowances (RDAs)**
 - DRIs – nutrient-based reference values used for planning and assessing diets of healthy people (RDAs and three other suggested nutrient intake levels)
 - RDAs – average daily nutrient intake levels to meet the needs of healthy individuals.
 - National Academy of Sciences, Institute of Medicine
The National Academy Press
<http://www.nap.edu/catalog/6015.html>
<http://www.nap.edu/books/0309071836/html/>
 - Florida International University, National Policy and Resource Center on Nutrition and Aging
http://www.fin.edu/nutrelldr/resources/dris/dri_references.htm
- ▶ **Activities of Daily Living (ADLs)**
 - Measures self-care ability (e.g. transferring, bathing, eating, toileting)
- ▶ **Instrumental Activities of Daily Living (IADLs)**
 - Measures ability to live independently (e.g. transportation, managing medication, managing money, light housework, grocery shopping, meal preparation)
 - Initial decline in cognitive function often appears as impaired ability to manage money and medications.

FACTORS TO CONSIDER:

VITAMINS/MINERALS, COMPLEMENTARY OR ALTERNATIVE THERAPIES AND NON-PRESCRIPTION MEDICATIONS

- ▶ Patients are treating themselves with a wide range of vitamins/minerals, complementary/alternative therapies, and non-prescription medications often without the knowledge of their physician or other health care professionals.
- ▶ It is important to **ask** patients about their use of these therapies since some compromise or complicate other interventions. For more information:
 - PDR for Herbal Medicines, Medical Economics Co., <http://www.pdr.net>
 - American Dietetic Association, www.eatright.org
 - American Herbal Products Association <http://www.ahpa.org/>
 - NIH - National Center for Complementary and Alternative Medicine (NCCAM), <http://altmed.od.nih.gov/nccam/>
 - NIH - Office of Dietary Supplements, <http://www.cc.nih.gov/ccc/supplements/intro.html>

LIFESTYLE CHANGES

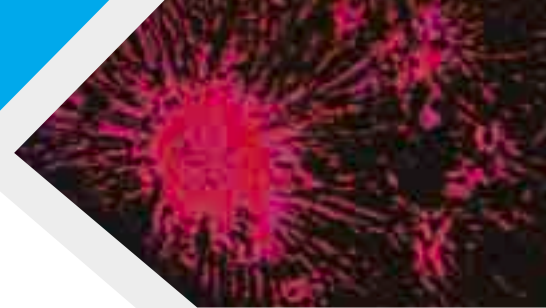
- ▶ In addition to nutrition interventions the NSI endorses:
 - Smoking cessation
 - Regular physical activity/exercise
 - Moderation in alcohol consumption
 - Diet appropriate for the specific disease condition
 - Stress reduction

DEPRESSION

- Depression, often undetected in older adults with chronic conditions, affects self-care and compliance with treatments (medications and food intake).
- Careful screening is essential since depression may not be obvious. Symptoms may include: weight loss or gain, feeling bored or empty, lack of interest in activities, agitation, memory problems, difficulty performing ADLs, non-specific complaints.
- Validated, self-administered instruments:
 - Geriatric Depression Scale (GDS) – <http://www.stanford.edu/~yesavage/GDS.html>
 - Center for Epidemiological Studies-Depression Test (CES-D), National Institutes of Mental Health <http://www.fmhi.usf.edu/amh/homicide-suicide/>

CANCER

NUTRITION INTERVENTIONS



SCREENING PARAMETERS

- Body weight assessment
 - Unintended weight loss
 - BMI < 22
- Serum albumin < 3.5g/dl
- Unintended decline in cholesterol < 150 mg/dl
- History of reduced calories and/or protein intake
- Use of vitamins/minerals and complementary/alternative therapies
- Depression

TREATMENT OPTIONS

Consider consulting a registered dietitian (RD) for nutrition evaluation and care

NUTRITION EDUCATION

- Adequate calories, fat, protein and fluids to regain/maintain reasonable weight during active treatment
- Modify meal frequency, content and presentation as needed; use creative feeding strategies to encourage eating

SUPPLEMENTS

- Consider high calorie, nutrient-rich foods or liquid supplements for malnutrition associated with disease and/or treatment
- Consider vitamin/mineral supplements appropriate to patient's condition

MEDICATIONS

- Recognize that radiation, chemotherapy and/or surgery may negatively impact nutritional and/or metabolic status and/or anatomical function
- Consider use of appetite stimulants, anti-nausea and/or anabolic drugs for management of anorexia or cachexia

THERAPEUTIC OBJECTIVES

- Optimize food intake and diet quality
- Minimize the effect of disease process or treatment on food intake
- Optimize nutritional status to maximize therapeutic regimen
- Avoid nutritional deficiency states

OUTCOME MEASURES

- BMI between 22-27 or attain individually prescribed weight goals
- Serum albumin > 3.5g/dl
May not be achievable
- Serum cholesterol > 150 mg/dl
Prevent or mitigate a sharp decline
- Maintain or improve functional status

Some measures may not be achievable when patient is frail or palliative care is indicated.

DEFINITIONS

CANCER:

A group of related diseases characterized by the uncontrolled growth and potential spread of abnormal cells.

CANCER ANOREXIA:

Absence of appetite common in cancer patients; may be potentiated or relieved by treatment.

CANCER CACHEXIA:

Wasting with anorexia, abnormal metabolism and negative energy balance disproportionate to nutrient intake.

PREVALENCE

- Nearly 9 million Americans have a history of CA
- 2nd leading cause of death in the U.S.
- 550,000 deaths annually
- Accounts for 1 in 4 deaths
- 1.2 million new cases diagnosed annually

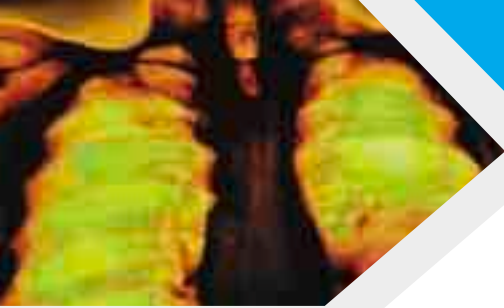
RISK FACTORS

- Tobacco use
- Excessive alcohol use
- Poor diet quality
- Family history
- Environmental factors



CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

NUTRITION INTERVENTIONS



DEFINITION

Group of respiratory diseases characterized by chronic airflow obstruction and/or the potential risk of respiratory dysfunction and/or failure. Includes chronic bronchitis, emphysema and bronchiectasis.

PREVALENCE

- 16 million Americans
- 4th leading cause of death
- More than 100,000 deaths annually in the U.S.
- Mortality rate is 50% 10 years after diagnosis

RISK FACTORS

- History of smoking
- Environmental hazards such as pollution and industrial exposure
- Genetic predisposition

SCREENING PARAMETERS

- Body weight assessment
 - Subject to poor nutrient intake and involuntary weight loss
 - BMI 22-27
 - Serum albumin < 3.5 g/dl
 - Unintended rapid decline in serum cholesterol <150 mg/dl

- Dietary intake of vitamins/minerals and calories
- Use of vitamins/minerals and complementary/alternative therapies
- Depression

TREATMENT OPTIONS

Consider consulting a registered dietitian (RD) for nutrition evaluation and care.

- Cromolyn derivatives or nedocromil sodium - anorexia, nausea
- Corticosteroids - increased appetite, bone demineralization, wasting of lean muscle mass

NUTRITION EDUCATION

- Encourage small, frequent meals with adequate food/nutrients to regain or maintain reasonable weight
- Encourage higher fat intake which may decrease carbon dioxide production
- Encourage frequent intake of fluids, especially water, to maintain adequate hydration and to keep pulmonary secretions thin
- Maintain adequate vitamin and mineral intake
- Discourage excess calories and weight gain which may be detrimental

SELF-MANAGEMENT EDUCATION

- Encourage patients to ask questions and learn about their disease and treatments
- Promote daily physical activity, depending on functional status of the individual

THERAPEUTIC OBJECTIVES

- Optimize medication regimen to improve functional status
- Achieve optimal weight
- Optimize nutrient intake
- Increase activity/exercise tolerance

SUPPLEMENTS

- Consider high calorie nutrient-rich foods or liquid supplements with an increased percent of fat relative to carbohydrate and moderate to high protein.
- Consider multivitamin/mineral supplement for older adults

OUTCOME MEASURES

- Maintain BMI between 22-27 or attain individually prescribed weight goals
- Maintain or improve functional status and ability to live independently
- Improve physical activity tolerance
- Maintain serum albumin > 3.5g/dl
- Maintain serum cholesterol 200 mg/dl

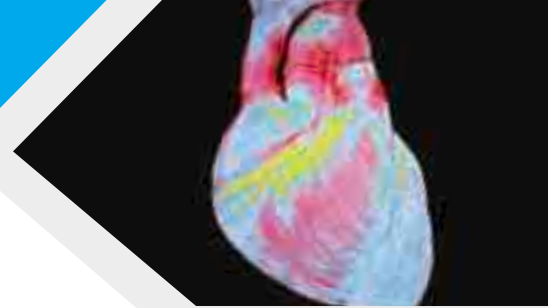
MEDICATIONS

- Drugs commonly associated with COPD may have a significant impact on nutritional status. Common examples:
 - Xanthine derivatives (e.g. theophylline)
 - anorexia, nausea



CONGESTIVE HEART FAILURE

NUTRITION INTERVENTIONS



CHF may be associated with co-morbidities including but not limited to:

CHD, hypertension and diabetes mellitus. Refer to corresponding summaries.

SCREENING PARAMETERS

- Body weight assessment
 - Involuntary loss or gain (check for fluid retention)
 - BMI 22-27
- Blood pressure (watch for hypotension)
- Nutritional intake of electrolytes, including: excessive sodium, inadequate potassium, magnesium and calcium

- Pedal/presacral (dependent) edema and/or ascites
- Serum electrolytes
- Use of vitamins/minerals and complementary/alternative therapies
- Depression

Note: Unrecognized cardiac cachexia with protein depletion may go undetected, even when screening parameters appear normal.

TREATMENT OPTIONS

Consider consulting a registered dietitian (RD) for nutrition evaluation and care

NUTRITION EDUCATION

- Adjust nutrient and fluid intakes to meet disease-specific needs
- Keep sodium intake low, i.e. 2400 mg sodium daily (1 tsp. total salt that includes naturally occurring salt in food and 1/4 tsp. added salt or salt in processed food).
- Consider *Dietary Approaches to Stop Hypertension* (DASH)* [See Hypertension summary]
- Reduce fluid intake if needed
- Change number, timing and content of meals as needed
- Ensure adequate calories and protein
- Limit/eliminate alcohol

SELF MANAGEMENT EDUCATION

- Check compliance with medications
- Consider a graded activity regimen consistent with patient needs and abilities

SUPPLEMENTS

- Consider vitamin/mineral supplements if food intake is poor
- Consider high calorie, nutrient-rich foods or liquid supplements

MEDICATIONS

- Some medications commonly used to treat CHF may have nutritional implications, e.g.:
 - Diuretics - some may lead to electrolyte abnormalities, especially sodium and potassium and/or thiamine deficiency (furosemide).
 - Cardiac glycosides (digitalis) - may result in anorexia and/or nausea

THERAPEUTIC OBJECTIVES

- Maintain reasonable weight (absent fluid weight)
- Reduce signs/symptoms of CHF
- Optimize sodium intake
- Minimize fluid retention
- Limit or eliminate alcohol intake

OUTCOME MEASURES

- Maintain reasonable weight (irrespective of fluid retention) or attain individually prescribed weight goals
- Reduce hospital admissions/readmissions
- Reduce sodium intake < 2400 mg/day
- Reduce alcohol intake (eliminate if needed)
 - 1 drink/day for women
 - 2 drinks/day for men
- Maintain or improve functional health status assessment
- Increase exercise/activity tolerance

*See NY Heart Association Classification of Functional Capacity and Objective Assessment

DEFINITION

Inadequate cardiac output to meet perfusion and oxygenation requirements leading to pulmonary and/or systemic edema.

PREVALENCE

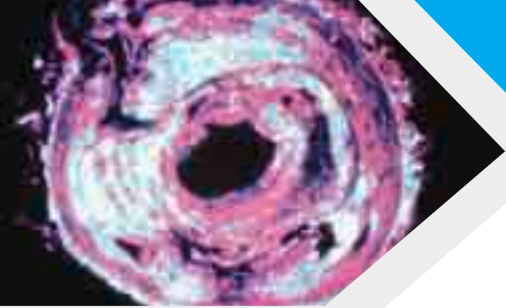
- 4.8 million Americans
- Most common diagnosis in hospitalized patients 65 years and older
- 400,000 new cases annually

RISK FACTORS

- Hypertension
- Previous heart attack
- History of cardiomyopathy
- Coronary heart disease
- Chronic obstructive pulmonary disease (COPD)
- Obesity
- Diabetes mellitus
- Excessive alcohol intake

*See References





CORONARY HEART DISEASE

NUTRITION INTERVENTIONS

CHD may be associated with co-morbidities including but not limited to:

CHF, hypertension and diabetes mellitus. Refer to corresponding summaries.

DEFINITION

Progressive occlusion of coronary arteries compromises blood flow and oxygenation leading to angina and increased risk of myocardial infarction and possible death.

PREVALENCE

- 61 million Americans have plaque formation
- 250,000 sudden deaths annually
- Leading cause of death in both men and women
- 1 death per minute in U.S. due to CHD

RISK FACTORS

- Dyslipidemia
- Smoking
- Hypertension
- Diabetes mellitus
- Family history
- Inactivity
- Obesity
- Race/ethnicity and gender
- Imbalance in diet/nutrients

SCREENING PARAMETERS

- Body weight assessment
 - BMI 22-27
 - Waist circumference 40 inches for men, 35 inches for women).
- Dietary history of cholesterol, saturated and total fat, and calories

- Determine serum cholesterol, (LDL, HDL) triglycerides and C-reactive protein (CRP)
- Diabetes mellitus
- Depression
- Use of vitamins/minerals and complementary/alternative therapies

TREATMENT OPTIONS

Consider consulting a registered dietitian (RD) for nutrition evaluation and care

NUTRITION EDUCATION

- Moderate total fat intake (maximum 1-3 Tbsp. added fat/day)
 - Reduce intake of saturated fat (fat solid at room temperature, i.e. animal fats, hydrogenated fats and tropical oils and *trans*-fatty acids)
 - Monounsaturated fats may lower triglycerides (e.g. olive oil, peanut oil, and canola oil)
 - Polyunsaturated fats may lower LDL levels (e.g. safflower oil, sunflower oil and corn oil)
- Three or more broiled/baked fish meals/week (e.g. salmon, mackerel, tuna and herring)
- Increase daily intake of foods rich in or fortified with folate (e.g. leafy green vegetables, whole grains)
- Calorie intake to achieve optimal weight

SUPPLEMENTS

- Consider high calorie, nutrient-rich foods or liquid supplements if food intake is poor.
- Caution: high doses of fish oil supplements (e.g. omega-3 fatty acid capsules) may increase the risk of hemorrhagic stroke

MEDICATIONS

- Commonly used drugs may have nutritional implications, e.g.:
 - Cardiac glycosides (digitalis) may result in anorexia and/or nausea
 - Statins may result in elevated liver enzymes
 - High doses of niacin (nicotinic acid) may be associated with flushing, hyperglycemia, hypotension, hypo-albuminemia, upper GI distress and liver enzyme elevation (hepatotoxicity)

THERAPEUTIC OBJECTIVES

- Maintain healthy weight
 - Maintain serum lipid levels consistent with the ATP III Guidelines (NCEP)*
 - Improve levels of physical activity
- *See NY Heart Association Classification of Functional Capacity and Assessment Objective

OUTCOME MEASURES

- Maintain reasonable weight:
 - BMI 22-27 or attain individually prescribed weight reduction goals
 - BMI 27-30, weight reduction measures may be indicated
 - Serum albumin > 3.5 g/dl
 - Smaller waist circumference, if appropriate
- Achieve recommended lipid levels per ATP III Guidelines (NCEP)*
- Maintain/improve functional status
- Increase levels of physical activity

*See References



MANAGING CHRONIC DISEASE

A NUTRITION GUIDE FOR OLDER ADULTS



FROM YOUR DOCTOR:

RECOMMENDATIONS FOR:

This guide will help you manage your chronic disease with good nutrition choices. This page applies to most older people with a chronic disease, and the next two pages have nutrition information for specific chronic diseases. Talk to your doctor about which information applies to you. Also, it may be important for you to consult with a registered dietitian for help with your food plan.

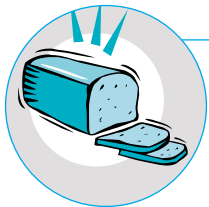
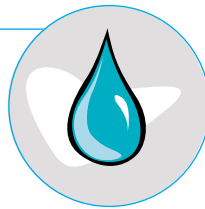


Fewer calories but more vitamins/minerals

As an older adult, you need fewer calories, but you still need plenty of vitamins and minerals. This means you need more calcium and vitamin D to decrease your risk of fractures. You may also need more vitamin B-12, which is important in brain function.

Plenty of liquids

As you get older you *may* not feel as thirsty, even when your body needs fluid. So it's important to drink plenty of water and other liquids without caffeine.

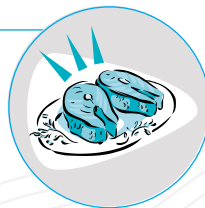


Lots of fiber

Your gastrointestinal tract slows down with age. So be sure to eat fiber-rich foods, like beans, oatmeal, fruits, vegetables, whole grain breads and cereals to help prevent constipation.

Enough protein

Protein builds muscles and helps repair body tissue when you are sick. Make sure you eat protein-rich foods like fish, skinless chicken, lean meats and eggs or egg substitutes.



Limited alcohol

Your alcohol tolerance changes with age. Women should have no more than one drink a day, and men no more than two.

Daily Servings

Liquids: 6-8 glasses per day

- ▶ 1 c. (8 oz.) fruit juice, milk, tea, coffee

Grains: 4-8 or more servings per day

High in fiber

- ▶ 1 slice whole grain bread
- ▶ 1 c. ready-to-eat cereal
- ▶ 1/2 c. cooked cereal, rice, pasta
- ▶ 4 small crackers, 1/2 bagel, 1/2 hotdog or hamburger bun

Fruits: 2-4 servings per day

Rich in vitamins/minerals, High in fiber

- ▶ 1 med. banana, orange, pear, apple
- ▶ 1/2 c. chopped, cooked, canned fruit
- ▶ 1/4 c. dried fruit
- ▶ 3/4 c. (6 oz.) fruit juice

Vegetables: 2-5 servings per day

Rich in vitamins/minerals, High in fiber

- ▶ 1 c. raw leafy green vegetables
- ▶ 1/2 c. other cooked/raw vegetables
- ▶ 3/4 c. (6 oz.) vegetable juice

Meat: 2-3 servings (5-7 oz. per day)

Rich in protein, Meat contains vitamin B-12

- ▶ 2-3 oz. cooked lean meat/fish/poultry
- ▶ 1/2 c. cooked dried beans/peas
- ▶ 1/2 c. tofu
- ▶ 2 Tbsp. peanut butter
- ▶ 1 egg

Milk: 2-4 servings per day

Rich in protein, calcium, vitamin D

- ▶ 1 c. low-fat or fat-free (skim) milk
- ▶ 1 c. low-fat yogurt
- ▶ 1-1/2 oz. aged cheese (cheddar/swiss)
- ▶ 2 oz. processed cheese (American)

Fats: 1-3 servings per day

- ▶ 1 Tbsp. oils or soft margarine
- ▶ 1-2 Tbsp. nuts or seeds

Dietary Supplements:

- ▶ Calcium, vitamin D, vitamin B-12
- ▶ Ask your doctor about your need for supplements

MANAGING CHRONIC DISEASE

FOOD TIPS FOR HEART CONDITIONS AND DIABETES MELLITUS

Eating wisely means you will feel better and may even need fewer medications. If you have a disease that affects your heart and blood vessels, your diet is a key part of your treatment. It is important to keep a healthy weight, and discuss what you need to eat with your doctor and a dietitian. Ask if your medications may give you a poor appetite.

CORONARY HEART DISEASE

Choose foods low in saturated fatty acids, *trans*-fatty acids and cholesterol

- ▶ Choose fat-free (skim) or low-fat milk products.
- ▶ Choose skinless poultry, lean meats, dried beans or fish.
- ▶ Choose fruits, vegetables and whole grains.
- ▶ Liquid or soft margarine is a better choice.

HYPERTENSION

Use less salt

- ▶ Choose fresh or frozen meats and vegetables and canned or processed foods without added salt.
- ▶ Limit added salt when cooking or at the table to no more than 1/4 tsp. per day.
- ▶ Use herbs, spices, lemon juice, vinegar to flavor foods.
- ▶ Before using a salt substitute, ask your doctor.
- ▶ Ask if you need vitamins or other dietary supplements.

CONGESTIVE HEART FAILURE

Use less salt

- ▶ Choose fresh or frozen meats and vegetables and canned or processed foods without added salt.
- ▶ Limit added salt when cooking or at the table to no more than 1/4 tsp. per day.
- ▶ Use herbs, spices, lemon juice, vinegar to flavor foods.
- ▶ Before using a salt substitute, ask your doctor.
- ▶ Ask if you need vitamins or other dietary supplements.

Limiting liquid intake may be needed

- ▶ Limiting the amount of liquids you drink may help reduce the workload on your heart. Ask your doctor for the amount that is right for you.

DIABETES MELLITUS

Keep your carbohydrates (starch/sugar) and calorie intake constant

- ▶ Ask for a referral to a registered dietitian (RD) or a certified diabetes educator (CDE).
- ▶ Choose foods that contain carbohydrates (sugar and starch) in amounts that help keep your blood sugar normal.
- ▶ Carbohydrate needs may change with your daily activity.

Choose foods low in saturated fat, *trans*-fatty acids and cholesterol

- ▶ Choose fat-free (skim) or low-fat milk products.
- ▶ Choose skinless poultry, lean meats, dried beans or fish.
- ▶ Choose fruits, vegetables and whole grains.
- ▶ Liquid or soft margarine is a better choice.

Notes:

MANAGING CHRONIC DISEASE

FOOD TIPS IF YOU NEED EXTRA NUTRIENTS



OSTEOPOROSIS

The foods that you eat may help protect you from bone loss. Here are some nutrition tips:

Increase calcium and vitamin D

- ▶ Eat foods high in calcium and vitamin D such as milk, yogurt and cheese.
- ▶ Eat fortified foods that are high in calcium, including fortified fruit juice, cereals, and soy products.

- ▶ Ask your doctor about supplements, especially calcium and vitamin D.
- ▶ Avoid taking large doses of fish liver oils, especially cod liver oil. It contains large amounts of vitamin A.

Moderate alcohol intake

- ▶ Limit alcoholic drinks per day to one for women, two for men.

Dementia, cancer and chronic obstructive pulmonary disease (COPD) often make it hard for people to eat enough to keep their weight stable. If you are losing weight without trying, you may need to eat more calories, protein, liquids. You may also need to take vitamin supplements. While these tips are helpful, if you have one of these conditions, you should talk with your doctor and a dietitian about your food choices.

DEMENTIA

Tell the doctor about any eating problems the person with mental confusion or memory loss may have. For extra help with these problems, you may wish to talk to a registered dietitian.

Examples of eating problems:

- ▶ Easily distracted.
- ▶ Unable to choose.
- ▶ Forgets to eat.
- ▶ Poor judgement.
- ▶ Forgets to swallow, chokes or gags.
- ▶ Eats too fast or slowly.
- ▶ Agitation.
- ▶ Spits or plays with food.

Tips that may help with eating problems:

- ▶ Reduce choices: serve one food at a time.
- ▶ Offer smaller meals and more snacks between meals.
- ▶ Serve high calorie foods.
- ▶ Consider high calorie liquid supplements.
- ▶ Provide help with eating as needed.
- ▶ Reduce distractions.
- ▶ Offer finger foods.
- ▶ Allow enough time for eating.
- ▶ Offer meals when ability to think and function is best, often at breakfast or lunch.

CANCER

- ▶ Choose foods and liquids that are high in calories and protein.
- ▶ Eat 6 or more small meals and snacks.
- ▶ Drink high calorie liquid supplements or milk shakes when your appetite is poor.
- ▶ Eat high calorie foods first.
- ▶ Use sugar to add calories and improve taste.
- ▶ Ask if your medications cause you to have poor appetite.

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

[Emphysema, chronic bronchitis, bronchiectasis]

- ▶ Choose foods and liquids that are high in calories and protein.
- ▶ Eat 6 or more small meals and snacks.
- ▶ Drink high calorie liquid supplements or milk shakes when your appetite is poor.
- ▶ Eat high calorie foods first.
- ▶ Eating a diet with less carbohydrate (sugar/starch) and more fat may make it easier to breathe.
- ▶ Using sugar adds calories and may improve taste.
- ▶ Rest before eating if eating makes you short of breath.
- ▶ Ask if your medications cause you to have a poor appetite

Notes:

► GENERAL

Nutrition Screening Initiative

1010 Wisconsin Avenue, NW
Suite 800
Washington, DC 20007
202-625-1662
nsi@gmmb.com

American Academy of Family Physicians

11400 Tomahawk Creek Parkway
Leawood, KS 66211-2672
800-274-2237
<http://www.aafp.org>

American Dietetic Association

216 West Jackson Blvd.
Chicago, IL 60606-6995
800-366-1655
<http://www.eatright.org>

► CANCER

American Cancer Society

1599 Clifton Road, NE
Atlanta, GA 30329
800-ACS-2345 (800-227-2345)
<http://www.cancer.org>

NIH/National Cancer Institute

9000 Rockville Pike
Bethesda, MD 20892
800-4-CANCER (800-422-6237)
www.nci.nih.gov/

► CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

NIH/National Heart, Lung, and Blood Institute

31 Center Drive, MSC 2480
Room 4A21
Bethesda, MD 20892-2480
301-496-4236
www.nhlbi.nih.gov

American Lung Association

1740 Broadway
New York, NY 10019
800-LUNG-USA (800-586-4872)
<http://www.lungusa.org>

► CONGESTIVE HEART FAILURE

American Heart Association

7272 Greenville Avenue
Dallas, TX 75231-4296
800-AHA-USA1 (800-242-8721)
www.americanheart.org

NIH/National Heart, Lung, and Blood Institute

31 Center Drive, MSC 2480
Room 4A21
Bethesda, MD 20892-2480
301-496-4236
www.nhlbi.nih.gov

► CORONARY HEART DISEASE

American Heart Association

7272 Greenville Avenue
Dallas, TX 75231-4296
800-AHA-USA1 (800-242-8121)
www.americanheart.org

National Cholesterol Education Program

NIH/National Heart, Lung, and Blood Institute

P.O. Box 30105
Bethesda, MD 20824-0105
301-592-8573
www.nhlbi.nih.gov/about/ncep

► DEMENTIA

Alzheimer's Association

919 North Michigan Avenue
Suite 1100
Chicago, IL 60611-1676
800-272-3900
<http://www.alz.org>

American Heart Association

(vascular dementias)
7272 Greenville Avenue
Dallas, TX 75231-4296
800-AHA-USA1 (800-242-8121)
www.americanheart.org

NIH/National Institute of Neurological Disorders and Stroke

P.O. Box 5801
Bethesda, MD 20824
800-352-3424
www.ninds.nih.gov

► DIABETES MELLITUS

American Diabetes Association

1701 North Beauregard Street
Alexandria, VA 22311
800-DIABETES (800-342-2383)
www.diabetes.org

Joslin Diabetes Center

One Joslin Place
Boston, MA 02215
617 732-2400
www.joslin.harvard.edu

NIH/National Institute of Diabetes and Digestive and Kidney Diseases

31 Center Dr., MSC 2560
Bethesda, MD 20892-2560
301-496-4236
<http://www.niddk.nih.gov>

► HYPERTENSION

American Heart Association

7272 Greenville Avenue
Dallas, TX 75231-4296
800-AHA-USA1 (800-242-8721)
www.americanheart.org

NIH/National Heart, Lung, and Blood Institute

31 Center Drive, MSC 2480
Room 4A21
Bethesda, MD 20892-2480
800-496-4236
www.nhlbi.nih.gov

► OSTEOPOROSIS

National Dairy Council

10255 W Higgins Road, Suite 900
Rosemont, IL 60018-5616
847-803-2000
www.nationaldairycouncil.org

National Osteoporosis Foundation

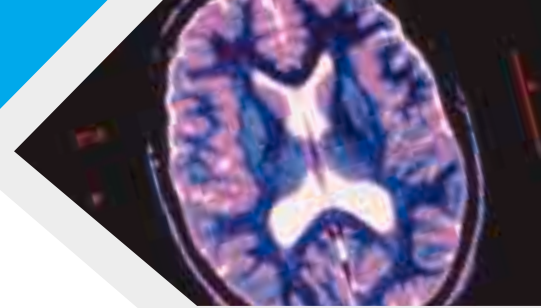
1232 22nd Street, NW
Washington DC 20037-1292
800-223-9994
<http://www.nof.org>

NIH/Osteoporosis and Related Bone Disease

1232 22nd Street, NW
Washington, DC 20037-1292
800-624-BONE (800-624-2663)
www.osteoporosis.nih.gov

DEMENTIA

NUTRITION INTERVENTIONS



SCREENING PARAMETERS

- Body weight assessment
 - BMI < 22
 - Serum albumin < 3.5 g/dl (often reduced by concurrent illness)
- Dietary intake of calories, protein, vitamins/minerals
- Functional status - Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (IADLs)*
- Alcohol intake

- Cognitive, functional and behavioral assessment
- Ability to access/choose/prepare foods and need for feeding assistance
- Presence/absence of dysphagia or aspiration
- Use of vitamins/minerals and complementary/alternative therapies
- Depression

Note: Weight loss is a common early symptom of dementia and is frequently unrecognized in frail patients.

TREATMENT OPTIONS

Consider consulting a registered dietitian (RD) for nutrition evaluation and care

NUTRITION EDUCATION

- Modify meal frequency, content and presentation as needed
- Use creative feeding strategies: e.g. serve frequent small meals/continuous access to food, offer one food at a time
- Adjust food texture (e.g. thicker liquids, finger foods)
- Offer high calorie, fresh, nutrient-rich foods

LIFESTYLE MODIFICATIONS

- Consider the need for home services, assisted living/institutionalization, based on functional assessment (ADLs/IADLs)*
- Consider altering the eating environment: reduce distractions, provide increased privacy, increase socialization, use special techniques for eating behavior problems

SUPPLEMENTS

- Consider B-complex supplements if deficiencies are suspected
- Vitamin E generally indicated in Alzheimer's disease (2000 IU/day) unless contraindicated
- Consider vitamins/mineral supplements for older adults
- Consider high calorie, nutrient-rich foods or liquid supplements.

MEDICATIONS

- Cholinesterase inhibitors (donepezil, rivastigmine, tacrine or galantamine), frequently used in mild/moderate AD – may cause nausea, diarrhea
- Choose antipsychotics/antidepressants without anti-cholinergic side effects (dry mouth, delayed gastric emptying, constipation)
- Antidepressants may enhance appetite in depressed patients but SSRIs may cause a decrease in appetite

THERAPEUTIC OBJECTIVES

- Maintain optimal weight, calorie and fluid intake
- Improve patient/caregiver satisfaction
- Minimize medication effects on food intake (OTC and prescribed)
- Prevent or decrease nutritional co-morbidities
- Maintain or increase functional status

OUTCOME MEASURES

- Optimize ability to function to delay institutionalization
- Maintain BMI 22-27; may not be achievable in patients with advanced dementia
- Maintain hydration
- Reduce hospital admissions/readmissions

DEFINITION

Multiple cognitive defects including memory loss and at least one of the following: aphasia, apraxia, agnosia, and disturbance in executive functioning, severe enough to interfere with daily function. Of the nearly 50 common dementias of later life, the most common is Alzheimer's disease (AD)

PREVALENCE

- 4 million Americans have AD
- 19 million Americans have a family member with AD
- One in ten over 65 years of age and nearly half over 85 have AD

RISK FACTORS

- Diabetes mellitus
- Cerebrovascular diseases, including stroke
- Family history
- Head injury
- Depression
- Hypertension
- Thromboembolism
- Hyperlipidemia
- Deficiencies of B-complex vitamins
- Female
- Age

*Screening tools page 2



Diabetes mellitus may be associated with co-morbidities including but not limited to: CHD, CHF, hypertension and dementia. Refer to corresponding summaries.

SCREENING PARAMETERS

- Body weight assessment
 - BMI 22-27
 - Waist circumference (men 40 in., women 35 in.)
- Blood glucose (reference American Diabetes Association guidelines)*
- Blood pressure 120/80 mm Hg
- HbA1c
- Lipids
- Compliance with nutrition plan
- Use of vitamins/minerals and complementary/alternative therapies
- Depression and dementia

TREATMENT OPTIONS

A referral to a registered dietitian (RD) and/or a certified diabetes educator (CDE) is important for this disease

NUTRITION EDUCATION

- Promote caloric intake to achieve optimal weight
- Select from a variety of culturally-specific educational options, e.g. exchange lists, point systems, a constant carbohydrate regimen.
- Reduce saturated fat and cholesterol intakes
- Consider protein intake formulated to meet disease-specific indications

SUPPLEMENTS

- Consider carbohydrate modified drink or snack bar to keep blood sugar stable when food intake is not possible

MEDICATIONS

- Drugs commonly used to treat diabetes may cause hypoglycemia, especially if nutritional intake is erratic and/or if increased or decreased appetite or diarrhea occurs.
 - Insulin–hypoglycemia
 - Sulfonylureas–epigastric fullness, heartburn, hypoglycemia, nausea, skin rash
 - Biguanides–anorexia, diarrhea, vomiting, lactic acidosis (if renal disease is present)

- A (alpha) glucose inhibitors–elevated liver enzymes, flatulence, diarrhea
- Glitazones–anemia, elevated liver enzymes
- Nateglinide/repaglinide–hypoglycemia

THERAPEUTIC OBJECTIVES

- Normalize blood sugar
- Achieve blood pressure consistent with JNC VI guidelines*
- Maintain serum lipid levels consistent with ATP II Guidelines (NCEP)*
- Achieve/maintain optimal weight

OUTCOME MEASURES

- Maintain blood glucose levels (tested through home-monitoring) 110-140 mg/dl
- HbA1c < 6.5 mg/dl
- Achieve recommended blood lipid levels per ATP III Guidelines (NCEP)*
- Optimize blood pressure
 - Systolic 120 mm Hg*
 - Diastolic 80 mm Hg*
- Maintain optimal weight
 - Maintain BMI between 22-27 or attain individually prescribed weight reduction goal
 - Weight loss, if obese

DEFINITION

Group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action. Chronic hyperglycemia is associated with long-term damage, dysfunction and failure of various organs, especially the eyes, kidneys, nerves, blood vessels.

PREVALENCE

- 16 million Americans
- More than 5 million are undiagnosed
- 7th leading cause of death in the U.S.
- Type 2, diabetes accounts for 90-95% of all diabetes cases

RISK FACTORS

- Obesity
- Inactivity
- Gestational diabetes or history of delivery of infants large for gestational age
- Genetic predisposition
- Ethnicity

*See References

HYPERTENSION

NUTRITION INTERVENTIONS

Hypertension may be associated with co-morbidities including but not limited to: CHD, CHF and diabetes mellitus. Refer to corresponding summaries.



SCREENING PARAMETERS

- Body weight assessment
 - BMI 22-27
 - Waist circumference (men 40 in., women 35 in.)
- Dietary intake of calcium, magnesium, potassium, sodium
- Assess alcohol intake
- Use of vitamins/minerals and complementary/alternative therapies
- Depression and dementia

TREATMENT OPTIONS

Consider consulting a registered dietitian (RD) for nutrition evaluation and care

NUTRITION EDUCATION

- Reduce intake of sodium, saturated fat and cholesterol
- Caloric intake to achieve optimal weight
- If BMI > 27, weight reduction is indicated
- Maintain adequate intake of dietary potassium, calcium and magnesium
- Consider *Dietary Approaches to Stop Hypertension* (DASH) Diet:
 - Level I - 2400mg sodium daily (1 tsp. total salt that includes naturally occurring salt in food and 1/4 tsp. added salt or salt in processed food)
 - Level II - 1500 mg sodium daily
- Centrally acting anti-hypertensives may result in a decline in food intake due to sedation, confusion and depression
- Consider impact of drug/food interactions on nutritional status, e.g. beta blockers may cause constipation and delayed gastric emptying

THERAPEUTIC OBJECTIVES

- Achieve optimal or reasonable reduction of blood pressure
- Maintain optimal weight
- Limit alcohol intake to moderate level or less.
- Maintain optimal calcium, potassium and magnesium intake

OUTCOME MEASURES

- Normalize systolic blood pressure 120 mm Hg and/or 80 mm Hg per JNC VI guidelines*
- Maintain a reasonable weight
 - BMI 22-27 or attain individually prescribed weight reduction goals
- Limit sodium intake 1500-2400 mg/d
- Reduce alcohol intake (eliminate if needed)
 - 1 drink/day for women
 - 2 drinks/day for men

SUPPLEMENTS

- Consider mineral supplements (calcium, magnesium, potassium) if dietary intake insufficient
- Consider high calorie, nutrient-rich foods or liquid supplements if weight loss is a problem

MEDICATIONS

- Use of diuretics may negatively impact nutritional status with depletion of sodium, calcium, magnesium and/or potassium

DEFINITION

Sustained systolic blood pressure >140 mm Hg and/or diastolic blood pressure >90 mm Hg, regardless of the underlying cause. Lower parameters are indicated in diabetes mellitus: systolic blood pressure < 120 mm Hg and/or diastolic blood pressure < 80 mm Hg (see diabetes mellitus summary)

PREVALENCE

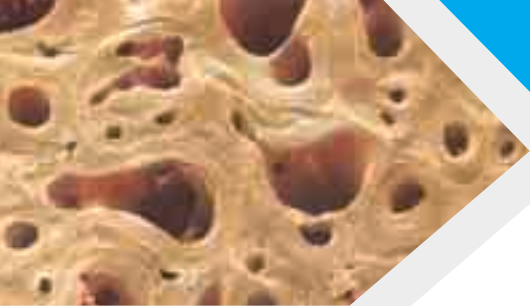
- 50 million Americans (1 in 4)
- Most common chief complaint in ambulatory care settings

RISK FACTORS

- Obesity
- Excess sodium intake (5-15% population)
- Inadequate intake of calcium and/or potassium
- Excess alcohol intake
- Inactivity
- Smoking
- African American
- Living in SE United States

*See References





DEFINITIONS

Systemic disorder characterized by decreased bone mass, micro-architectural deterioration of bone tissue, increased bone fragility, and increased risk of bone fracture.

PREVALENCE

- 28 million Americans annually, 80% of whom are women
- By age 75 years 1/3 of men will develop osteoporosis
- Death rate for men, 1 year after diagnosis, is 26% higher than in women

RISK FACTORS

- Estrogen/testosterone deficiency
- Poor calcium, vitamin D and/or vitamin K intakes
- Inactivity/immobilization
- Tobacco use
- Excess alcohol
- Female
- Hyperthyroidism
- Low BMI (small frame, low muscle mass)
- Chronic steroid therapy
- History of bulimia/anorexia
- Caucasian and Asian
- Family history

SCREENING PARAMETERS

- Annual height measurement, especially in patients with increased risk factors
- Assessment of bone density (T-score > -1 to -2.5)
- Dietary intake of calcium/vitamin D intake/sunlight exposure
- Screen for bone-wasting drugs

- Body weight assessment
 - BMI < 22 as a potential risk factor
- History of frequent fractures
- History of chronic glucocorticoid use
- Use of vitamins/minerals and complementary and alternative therapies
- Depression

TREATMENT OPTIONS

Consider consulting a registered dietitian (RD) for nutrition evaluation and care.

NUTRITION EDUCATION

- Increase intake of foods high in calcium (1000-1200 mg/d) and vitamin D (10-20 µg/day or 200-400 IU) and products fortified with calcium and vitamin D; 75% of calcium intake comes from milk products
- Maintain adequate nutrient intake of protein and calories
- Reduce alcohol intake (eliminate if needed)
 - 1 drink/day for women
 - 2 drinks/day for men
- Prevention is the best treatment: beginning early in life, adequate calcium and protein, intake, and weight bearing exercise are essential, particularly in adolescence and during pregnancy

LIFESTYLE MODIFICATION

- Minimize risk of falls
- Encourage 10-30 minutes exposure to sunlight/day

SUPPLEMENTS

- If intake is inadequate consider:
 - Calcium 500-600 BID (1200 mg/d > 51 yrs)
 - Vitamin D 10-20 ug. (10 µg > 50 yrs, and 20µg > 70 yrs)
- Consider high calorie, calcium and nutrient-rich foods or liquid supplements if weight loss is a problem

MEDICATIONS

- Medications used in long-term treatment of other conditions may lead to loss of bone density and fracture, e.g.:
 - Glucocorticoids
 - Anti-seizure drugs (phenytoin, barbiturates)
- High doses of other minerals, e.g. iron, phosphorus may interfere with effective calcium absorption

THERAPEUTIC OBJECTIVES

- Optimize calcium and vitamin D intake
- Keep alcoholic beverage intake within recommended parameters
- Keep weight bearing exercise consistent with health and ability
- Reduce fracture risk
- Preserve height
- Reduce progression of spinal deformity
- Provide analgesia to reduce pain and improve food intake

OUTCOME MEASURES

- Maintain reasonable weight or attain individual weight reduction goals
- BMI = 22-27
- Maintain height
- Reduce fractures
- Improve functional status
- Preserve independent living

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CANCER

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Resources

American Cancer Society <http://www.cancer.org>, 800-227-2345

Faith Ottery and Associates, Oncology Care Consultants, noatpres@pol.net, <http://cancereducation.uams.edu/Modules/Nutrition/Resources.html>, 215-351-4050

NIH/National Cancer Institute <http://www.nci.nih.gov>, 800-4-CANCER (800-422-6237)

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Donahoe M. Nutritional aspects of lung disease. *Resp Care Clinics of North America*. 1998;4(1):85-112.

Resources

American Lung Association www.lungusa.org, 800-LUNGUSA (800-586-4872)

US Department of Health and Human Services www.os.dhhs.gov, 877-696-6775

NIH/National Heart, Lung, and Blood Institute www.nhlbi.nih.gov, 301-496-4236

CONGESTIVE HEART FAILURE

Bibliography

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Krauss RM, Eckel RH, Howard B, Appel LJ, Daniels SR, et al. AHA Dietary Guidelines: Revision 2000: A statement for healthcare professionals from the nutrition committee of the American Heart Association. *Circulation*. 2000; 102:2284-2299. <http://www.circulationaha.org/>

Obarzanek E, Sacks FM, Vollmer WM, Bray GA, Miller III ER, Lin P-H, et al. Effects on blood lipids of a blood pressure lowering diet: the dietary approaches to stop hypertension (DASH) trial. *Am J Clin Nutr*. 2001; 74:80-89.

Wiseman S, LeJemtel TH, Sonnenblick EH. Congestive heart failure in the elderly. In: *Cardiovascular Disease in the Elderly Patient*. Second edition. Tresch DD, Arnow WS, editors. New York, NY: Marcel Dekker, Inc.; 1999.

Resources

American Heart Association www.americanheart.org, 800-AHA-USA1 (800-242-8721)

NIH/National Heart, Lung and Blood Institute www.nhlbi.nih.gov, 301-496-4236

NY Heart Association Functional Classification of Congestive Heart Failure <http://www.aafp.org/afp/20000301/1319.html>

CORONARY HEART DISEASE

Bibliography

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Nicolosi R, Becker D, Elmer P, Forcyt J, Karmally W, McManus K, et al. *Guidelines for Weight Management Programs for Healthy Adults*. Dallas, TX: American Heart Association; 1994.

Resources

American Heart Association www.americanheart.org, 800-242-8721

NIH/National Heart, Lung and Blood Institute National Cholesterol Education Program www.nhlbi.nih.gov/about/ncep, 301-592-8573

CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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DEMENTIA

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Ham R. *The Dementias (and Delirium) in Primary Care Geriatrics: A Case-Based Approach*. Ham R, Sloane P, Warshaw G, editors. St. Louis, MO: Mosby;2002.

Resources

Alzheimer's Association www.alz.org, 800-272-3900

American Heart Association www.americanheart.org, 800-AHA-USA1 (800-242-8721)

NIH/National Institute on Aging www.nih.gov/nia, 301-496-1752

NIH/National Institute of Neurological Disorders and Stroke www.ninds.nih.gov, 800-352-3424

National Depressive and Manic-Depressive Association <http://www.ndmda.org/depover.htm>, 800-826-3632

DIABETES

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Nicolosi R, Becker D, Elmer P, Forcyst J, Karmally W, McManus K, et al. *Guidelines for Weight Management Programs for Healthy Adults*. Dallas, TX: American Heart Association; 1994.

The sixth report of the joint national committee on prevention, detection, evaluation and treatment of high blood pressure (JNC VI). *Arch Int Med*.1997; 157:2413-2446. <http://www.nhlbi.nih.gov/guidelines/hypertension/jncintro.htm>

Resources

American Diabetes Association www.diabetes.org, 800-DIABETES (800-342-2383)

American Dietetic Association www.eatright.org, 800-366-1655,

International Diabetes Center www.idcdiabetes.org, 888-825-6315

Joslin Diabetes Center www.joslin.harvard.edu, 617-732-2400

NIH/National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) www.niddk.nih.gov, 301-496-4236.

HYPERTENSION

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Krauss RM, Eckel RH, Howard B, Appel LJ, Daniels SR, et al. AHA Dietary Guidelines: Revision 2000: A statement for healthcare professionals from the nutrition committee of the American Heart Association. *Circulation*. 2000; 102:2284-2299. <http://www.circulationaha.org/>

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Resources

American Heart Association www.americanheart.org, 800-242-8121

NIH/ National Heart, Lung and Blood Institute www.nhlbi.nih.gov, 800-496-4236

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Resources

National Dairy Council www.nationaldairycouncil.org, 847-803-2000

National Osteoporosis Foundation www.nof.org, 202-223-2226

NIH/Osteoporosis and Related Bone Diseases- National Resource Center www.osteo.org, 800-624-BONE (800-624-2663)

