

Why Nutrition Matters in Healthcare Outcomes

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INTRODUCTION

Thirty years ago, healthcare providers had to convince their patients that nutrition was important for their health and well-being. Even though many may be aware of that fact, not enough people are actually applying it to their lives, as evidenced by the increase in obesity, diabetes, and cardiovascular disease in Americans.

The physician is in a primary role of influencing people to take better care of themselves and make healthier choices in terms of both lifestyle and food. Most patients believe their physicians can make them better, and many listen to their doctors more closely than they listen to any other healthcare professional.

The Healthy People 2010 program under the Office of Disease Prevention and Health Promotion (DHHS) has established two primary goals:

1. Increase quality and years of healthy life.
2. Eliminate health disparities.

Some specific nutrition-related goals for Healthy People 2010 in the adult population (>20 years) are shown in Table 1.

Table 1. Healthy People 2010 Goals

	Baseline (Year 2000)	Target (Year 2010)
Hypertension	28%	16%
Healthy weight	42%	60%
Reduce total cholesterol	206 mg/dL	199 mg/dL

Adapted from Healthy People 2010.¹

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Evidence suggests that the Western-style diet, which is high in red meat, fats, fast foods, sugars, and desserts, carries a significantly higher risk for obesity, type 2 diabetes, and heart disease—and, furthermore, that nutrition intervention can improve health outcomes.^{1,2} The primary areas for physician intervention in these goals are lipid metabolism, adult weight management, and hypertension.

LIPID METABOLISM

The following statements have **strong** evidence for recommendation:³

- **Fat Intake.** The dietary pattern should be individualized to provide a fat intake of 25%–35% of total calories, with <7% of calories from saturated fat and trans-fatty acids, and <200 mg total cholesterol (TC) per day. This dietary pattern can decrease low-density lipoprotein (LDL) cholesterol up to 16%, and can also decrease the incidence of cardiovascular disease.³ Calories may be replaced with unsaturated fat and/or complex carbohydrates.
 - *Replacing saturated fats with mono- and poly-unsaturated fat* can lower LDL cholesterol, without lowering high-density lipoprotein (HDL) cholesterol or increasing triglycerides. Research is needed for recommendations on replacement percentages.
 - *Trans-fatty acid consumption* should be as low as possible, as this group of fatty acids raises total cholesterol and LDL-C and may decrease HDL-C, thereby increasing the TC/HDL-C and LDL-C/HDL-C ratios. Increasing fatty acid intake increases risk of CHD events. For individuals at their ideal body weight (IBW) and a normal lipid profile, a cardioprotective diet pattern should be <7% of calories from saturated fat and trans-fatty acids (1 gram fat = 9 kcal).
- **Specific foods and micronutrients** may be included as part of a cardioprotective diet, if they are not contraindicated by risk or harm and if the patient is agreeable to the change:
 - *Omega 3 fatty acids.* Two 4-oz. servings of fish per week.

- *Fiber*. The cardioprotective diet contains 25–30 g of fiber per day.
- *Plant stanols and sterols* are effective and should be used with other foods for maximum effectiveness.
- Moderate intensity *physical activity* should be included for at least 30 minutes, preferably daily.

The following statements have **fair** evidence for recommendation:³

- *Soy protein* (26–50 g/day) in place of animal protein can improve lipid profile.
- *Limiting alcohol* to 1 drink per day for women and 2 drinks per day for men in individuals who already consume alcohol.
- *Antioxidant-rich foods* such as fruit, vegetables, and whole grains have been shown to be associated with reduced disease risk.
- Dietary intake of *homocysteine, folate, or Vitamin B6 or B12* should meet the Dietary Reference Intake (DRI).

ADULT WEIGHT MANAGEMENT

Overweight is defined as a body mass index (BMI) of 25.0 to 29.9 kg/m² and *obesity* as a BMI >30.0 kg/m². *Morbid obesity* is defined as a BMI >40.0 kg/m². Abdominal fat should also be assessed, as a girth of >35" for women and >40" for men is considered higher risk for metabolic syndrome and heart disease.⁴

The following statements have **strong** evidence for recommendation:³

- Weight loss guidelines:
 - A *comprehensive weight management program* includes diet, physical activity, and behavior therapy.
 - Patients should aim for a *calorie deficit* of 500–1000 kcal below estimated energy needs.
 - Individualized goals for weight loss should be to reduce body weight by 1–2 *pounds per week* for 6 months, and an initial weight loss of 10% from baseline.
 - A *meal replacement* (e.g., liquid meals, meal bars, calorie-controlled packaged meals) may be used as part of a comprehensive weight management program for people with difficulty in diet selection and portion control.
 - *Physical activity* should be assessed and goal established to reach 30 minutes or more of moderate intensity all days of the week.
- Additional therapies:
 - Medical *nutrition therapy* for weight loss should last 6 months or until goal is reached. A greater

frequency of contacts with patient has improved outcomes.³

- *Behavior therapy* in addition to physical activity leads to additional weight loss.
- *Pharmacotherapy* may enhance weight loss through FDA-approved weight loss medications.
- *Bariatric surgery* may be an option for people who have not achieved weight loss goals and meet the National Heart Lung and Blood Institute (NHLBI) criteria.⁵

The following statements have **fair** evidence for recommendation:³

- **BMI and waist circumference** are highly correlated to obesity or fat mass.⁵
- Total **caloric intake** should be distributed through the day, with an intake of 4–5 meals/snacks per day.
- **Portion control** is included in a comprehensive weight management program.
- Individualized **nutrition education** increases knowledge and may improve food choices.

HYPERTENSION

Lifestyle modifications are known to be effective in the prevention and treatment of hypertension, including improvement in the quality of an eating plan and weight reduction in those who are overweight or obese.² The Seventh Report of the Joint National Committee on the Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC-7) presented revised blood pressure guidelines in May 2003.²

The following statements have **strong** evidence for recommendation:^{6,7}

- Maintenance of a **normal body weight** with a BMI between 18.5 and 24.9.
- The **DASH eating plan** outlines a diet low in fat with plenty of fruits and vegetables, and good sources of potassium, magnesium, calcium, fiber, and protein.⁶ The DASH plan has two phases, with sodium limits of 1500 and 2400 mg/day.²
- Moderate intensity **physical activity** should be included for at least 30 minutes, preferably daily.
- **Alcohol**. Limiting alcohol to 1 drink per day for women and 2 drinks per day for men in individuals who already consume alcohol has been shown to have cardioprotective benefits.
- An **adequate potassium intake** of 3500 mg/day can be achieved with a diet high in fruits and vegetables (9–12 servings per day).

The following statements have **fair** evidence for recommendation:

- Studies indicate that there is evidence that dietary and non-dietary **calcium** contributes to a small

reduction in blood pressure.⁸⁻¹⁰ The National Health and Nutrition Examination Survey (NHANES III) suggests that an increase in calcium intake above 1200 mg/day could reduce isolated systolic hypertension in the elderly.¹⁰

- Although **moderate alcohol consumption** has been shown to have cardioprotective benefits, excessive alcohol intake and binge drinking have been associated with overall mortality, congestive heart failure, stroke, diabetes, dementia, and other health conditions.¹¹
- Many people have inadequate levels of **Vitamin D**, a nutrient that plays a role in cardiovascular diseases, cancer and autoimmune diseases. More research is needed to clarify these relationships.¹²

METABOLIC SYNDROME

Also known as insulin resistance or syndrome X, metabolic syndrome is associated with diabetes type-2, dyslipidemia, hypertension, atherosclerotic disorders, impaired fibrinolysis, and polycystic ovary syndrome. According to the Adult Treatment Panel III, three or more of the five conditions in Table 2 will meet the criteria for metabolic syndrome.¹³ The code for metabolic syndrome is IDC 277.7.

Appropriate changes to address these conditions

Table 2. Conditions Related to Metabolic Syndrome

Central obesity	Waist circumference $\geq 40''$ in men and $\geq 35''$ in women
Fasting serum triglycerides	≥ 150 mg/dL
HDL cholesterol	Men < 40 mg/dL. Women < 50 mg/dL
Blood pressure	$\geq 130/85$ mmHg
Fasting glucose	≥ 110 mg/dL

are weight loss in the presence of obesity, increasing physical activity to 150 minutes per week, reducing saturated fat intake, reducing sodium to lower blood pressure, and reducing simple carbohydrate intake to lower triglyceride level.¹⁴

CONCLUSION

The challenge to healthcare providers is to manage the overwhelming amount of information in the areas of nutrition-related research, media coverage, product information, and legislation. Another is to provide accurate, up-to-date education to help people to understand their personal roles, assume responsibility for their own wellness, and obtain adequate information to do so. Managing nutrition information and changes, and information disbursement, is an integral part of managing the patient.

TIPS FOR HELPING PATIENTS TO IMPROVE LIFESTYLE FOR IMPROVED OUTCOMES^{2,3,5}

- Inform your patient of disease processes and how intervention can improve outcomes. Patients may not be fully aware of the consequences of their decisions.
- Provide handouts in office area.
- Have office personnel encourage appropriate lifestyle changes.
- Make basic nutrition information on lifestyle changes available.
- Provide patients with Internet resources.
- Consider a nutrition consult if the patient is ready to learn and needs additional education.
- Refer to Registered Dietitian in Clinic or Diabetes Institute for weight management program.¹⁵
- Document nutrition intervention in patient medical record.

RESOURCES AVAILABLE AT OCHSNER HEALTH SYSTEM

- **Registered Dietitian** at main hospital and clinics. Medicare provides reimbursement for medical nutrition therapy for chronic kidney disease, diabetes, and post-kidney transplant. Insurance coverage for nutrition services depends on individual insurance plans.
- **Diabetes Institute.** Medicare provides reimbursement for medical nutrition therapy for diabetes.
- **Bariatric Clinic.** Nutrition services included in bariatric program.
- **Micromedex Care Notes** for patient nutrition education materials in English and Spanish.
- **Medical Library and Archives** provides a variety of resources:
 - for physicians and staff:
 - literature searches
 - training on databases such as PubMed, Micromedex, MedlinePlus, UptoDate, and MDConsult
 - patient education materials
 - for patients:
 - literature searches
 - patient education materials

Patient Information Resources

American Heart Association: www.americanheart.org
 Nutrition and Your Health: Dietary Guidelines for Americans: www.health.gov/dietaryguidelines

American Dietetic Association:

Nutrition Fact Sheets: http://www.eatright.org/cps/rde/xchg/ada/hs.xsl/nutrition_350_ENU_HTML.htm

Good Nutrition Reading List: http://www.eatright.org/cps/rde/xchg/ada/hs.xsl/nutrition_4927_ENU_HTML.htm

MedlinePlus: www.medlineplus.gov

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