

Nutrition Assessment Module 4

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References: Lee RD, Nieman DC. Nutritional assessment. 6th ed. New York, NY: McGraw-Hill; 2013.

Lecture Title: Dietary Guidelines and Food Guides

Hour 1: The Evolution and Application of Dietary Guidelines

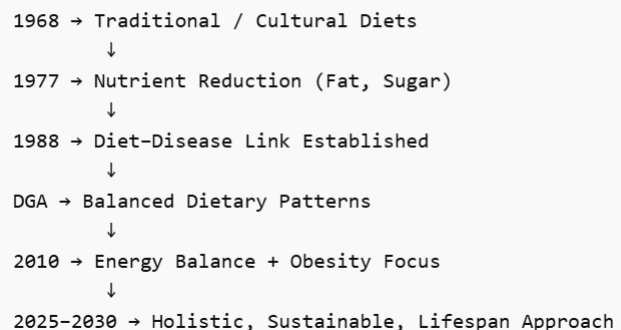
I. Introduction to Dietary Guidelines

As nutrition and dietitian practitioners, you must be able to translate complex scientific data into practical advice for the public. Dietary guidelines are statements from authoritative scientific bodies intended to translate nutritional recommendations into understandable eating habits for consumers. Unlike the quantitative Dietary Reference Intakes (DRIs) that provide numerical values for nutrient intake and are designed to prevent nutrient deficiencies and ensure adequate physiological function, guidelines are primarily intended to reduce the risk of chronic non-communicable diseases such as heart disease, stroke, hypertension, and diabetes.

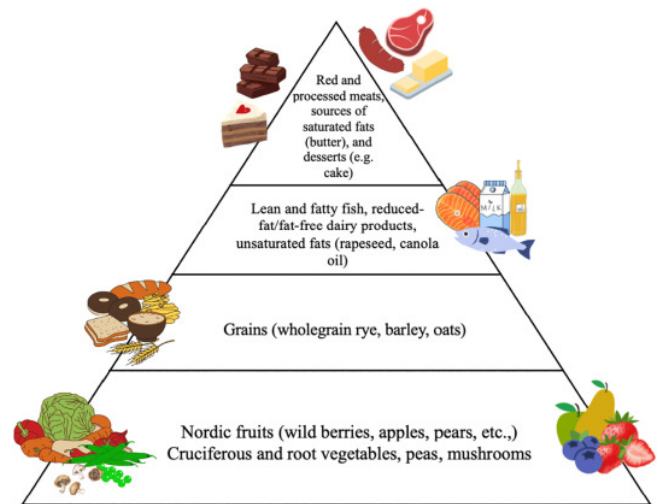
II. Historical Context: From Deficiency to Excess

Early dietary standards were observational and focused on preventing starvation and deficiency diseases like scurvy. However, the late 20th century saw a shift toward addressing our **“food toxic environment,”** characterized by excess consumption of total fats, refined sugars, and sodium.

Evolutionary Trend (Conceptual Visualization)



- **1968 Nordic Guidelines:** The first formal set of modern guidelines, emphasizing reduced fat and sugar intake.



- **1977 U.S. Dietary Goals:** A landmark report by the U.S. Senate that sparked significant debate by recommending specific reductions in saturated fat and cholesterol.

- **1988 Surgeon General’s Report¹:** A landmark publication that identified the reduction of **saturated fat** as the primary dietary priority for the American people².



Two of many Time magazine covers since the 1950s that promoted physiologist Ansel Keys’s alleged link between fat, cholesterol and heart disease.

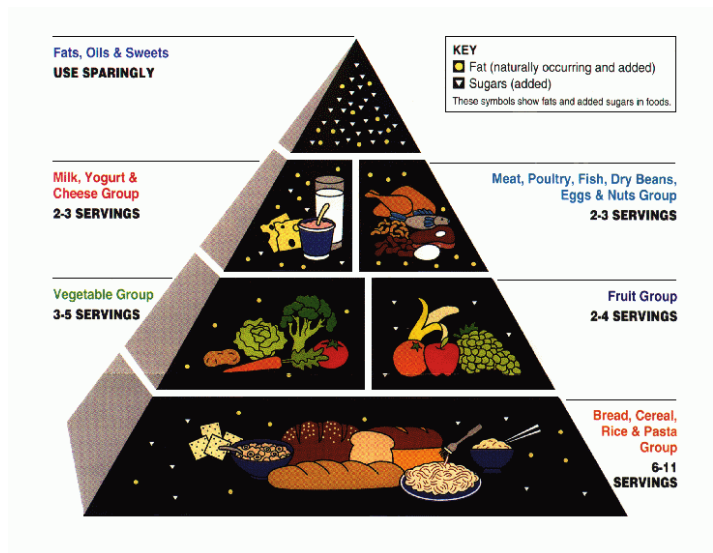
¹ The 1988 Surgeon General’s Report on Nutrition and Health was a landmark 700-plus page document released by Dr. C. Everett Koop, which established a comprehensive scientific review linking diet to chronic disease. It aimed to reduce fat intake and advise a shift toward complex carbohydrates and fiber.

² Parallel evolution in cardiovascular prevention: 1977–1988 dietary guidelines emphasized fat reduction, while 1987 marked the introduction of statins; both developments reflect recognition of cholesterol as a key risk factor and a shift toward preventive cardiology.

III. The Dietary Guidelines for Americans (DGA)

Jointly published by the USDA and U.S. Department of Health and Human Services (DHHS) every five years since 1980, the DGAs are the **cornerstone of federal nutrition policy**.

- **Evolution:** The guidelines have evolved from seven simple statements in 1980 to 29 specific recommendations in 2010.
- **Increased Specificity:** Modern editions include quantitative limits (e.g., sodium < 2300 mg) to ensure government assistance programs, like the National School Lunch Program, can measure compliance.
- **The 2010 Major Themes:**
 - **Balancing Calories:** Focuses on weight management through improved eating and physical activity.
 - **Foods to Reduce:** Targets sodium, saturated fatty acids, dietary cholesterol, *trans* fats, and calories from solid fats and added sugars (SoFAS).
 - **Foods to Increase:** Encourages a variety of vegetables (especially dark-green and red/orange), whole grains, fat-free/low-fat dairy, and seafood.



IV. The 2025-2030 Dietary Guidelines for Americans (DGAs)

The (DGAs) were released this week with the tagline “eat real food,” and a stronger stance on limiting added sugars and highly processed foods. The new guidelines move in the direction by reinforcing the importance of reducing added sugars and cutting back on refined grains and other highly processed foods. There appear to be several contradictions within the DGAs and between the DGAs and the new pyramid. The mixed messages



surrounding saturated-fat-rich foods such as red meat, butter, and beef tallow may lead to confusion and potentially higher saturated fat intake, increased LDL cholesterol, and increased cardiovascular risk.

Below are some key changes in this newest edition of the DGAs:

1. Calling out “highly processed” foods.
2. Further reductions on added sugar.
3. Contradictory guidance on healthy fats
4. The new DGAs suggest that adults consume 1.2 to 1.6 grams of protein per kilogram of body weight per day.
5. “Less” Alcohol.

Hour 2: Food Guides: Translating Science into the Plate

IV. Understanding Food Guides

A food guide is a nutrition education tool that translates scientific knowledge into practical information for those without formal nutrition training. They are problem-oriented, addressing specific nutritional issues, such as the consumption of "shortfall nutrients" (nutrients whose intakes are below recommended levels in the population).

V. A Century of USDA Food Guides

- **Early Buying Guides (1916–1930s):** Developed by Caroline Hunt and Hazel Stiebeling, these categorized food into five groups to ensure energy adequacy and variety. Foods were categorized into basic groups such as: Milk and dairy, Meat and protein foods, Cereals/grains, Fruits and vegetables, and Fats and sugars (or sometimes a separate “energy foods” group).

It is the first formal nutrition guidance tool developed in the United States to help households make economical and nutritionally adequate food choices, particularly during periods of economic constraint.

- **Basic Seven and Basic Four (1940s–1956):** These provided a "foundation diet," intended to supply a major portion of the RDAs. It represents a major transition in dietary guidance—from ensuring adequacy during wartime to simplifying nutrition education for the public. The seven groups are:
 - Green and yellow vegetables

- Oranges, tomatoes, grapefruit
- Potatoes and other vegetables & fruits
- Milk and milk products
- Meat, poultry, fish, eggs, beans
- Bread, flour, cereals
- Butter and fortified margarine

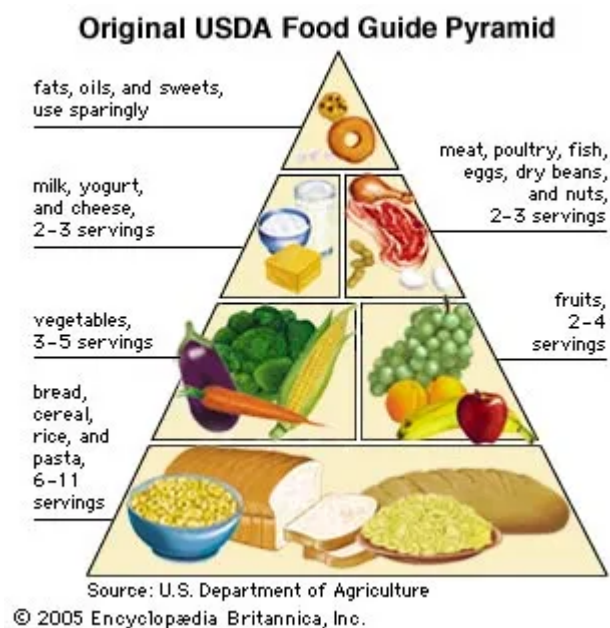
This seven-group emphasized “eat something from each group daily”, no specific serving sizes, and a strong focus on micronutrient sufficiency (vitamins & minerals).

The basic four groups

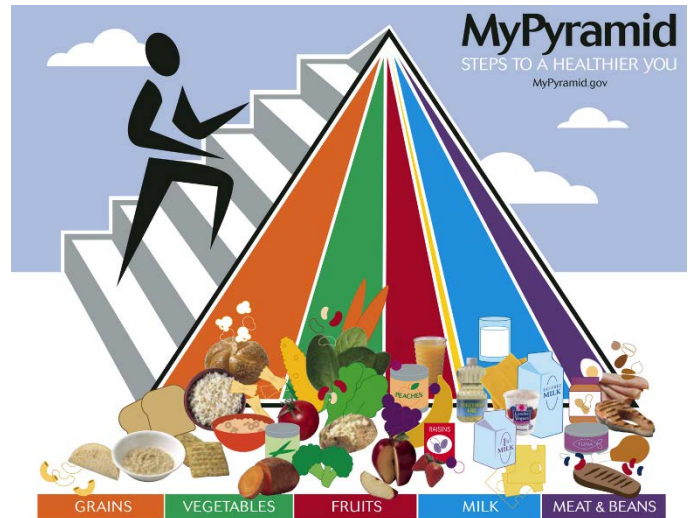
1. Milk group
2. Meat group (including alternatives like beans and eggs)
3. Fruit and vegetable group
4. Bread and cereal group

These four groups provided recommended daily servings, focused on nutritional adequacy and simplicity, and were widely used in education (schools, public health programs).

- **Food Guide Pyramid (1992):** Used a horizontal arrangement to convey variety, proportionality, and moderation. Grains formed the base, while fats and sweets were at the apex to indicate they should be used sparingly.



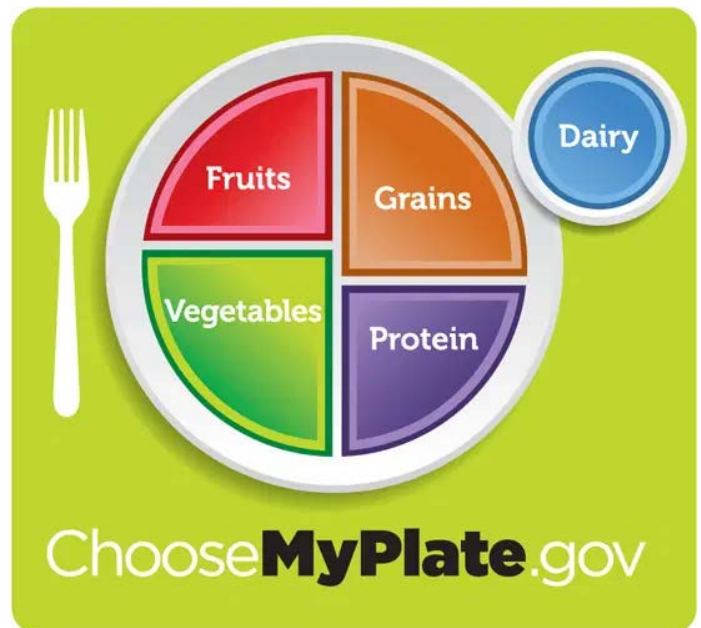
- **MyPyramid (2005):** Shifted toward an **individualized approach**, using an interactive online system to tailor recommendations to age, sex, and activity level.



VI. MyPlate and Modern Assessment Technology

Released in June 2011, **MyPlate** replaced the pyramid with a familiar mealtime symbol.

- **Design Intent:** It provides a simple visual cue to grab attention and remind consumers to eat healthfully, with a specific emphasis on making **half the plate fruits and vegetables**.
- **SuperTracker:** This comprehensive online tool allows consumers to track food and physical activity, compare intake to targets, and access personalized meal plans based on their **Estimated Energy Requirement (EER)**.
- **The New American Plate:** An alternative guide from the AICR that emphasizes plant foods (vegetables, fruits, whole grains, beans) covering **two-thirds or more** of the plate to reduce cancer risk.



VII. Integrating Guidelines in the Nutrition Care Process

The **Nutrition Care Process (NCP)** requires dietitians to use these standards during the assessment phase.

- Reference Standards: Guidelines like the DGA and MyPlate serve as the benchmarks against which a patient’s nutrition care indicators are compared.
- Technology in Assessment: Tools like NutritionCalc Plus or the USDA SuperTracker enable practitioners to quickly analyze a 24-hour recall and determine if a patient's intake aligns with the federal guidelines.

Summary:

Period / Guideline	Core Focus	Key Messages	Scientific Orientation	Public Health Emphasis	Limitations
1968 Nordic Guidelines	Food-based, traditional diet	Promote fish, whole grains, local foods	Early nutrition science + cultural habits	Nutritional adequacy + sustainability (early form)	Limited quantitative guidance
1977 U.S. Dietary Goals	Nutrient-based (macronutrients)	Reduce fat, sugar, cholesterol; increase carbs	Emerging evidence linking diet to CVD	Chronic disease prevention begins	Controversial; oversimplified fat reduction
1988 Surgeon General’s Report	Diet–disease relationship	Diet linked to CVD, cancer, stroke	Strong epidemiological evidence	Lifestyle modification for disease prevention	Less practical dietary structure
Dietary Guidelines for Americans (DGA)	Food + nutrient balance	Variety, moderation, balance	Evidence-based, updated every 5 years	National policy, population-wide guidance	Generalized for population (not individualized)
2010 Major Themes	Energy balance + diet quality	“Calories in vs. out”, nutrient-dense foods	Integration of obesity science	Obesity prevention + chronic disease	Still calorie-centric
2025–2030 DGAs (latest)	Holistic dietary patterns	Lifespan approach, sustainability, equity	Advanced, multidisciplinary evidence	Precision public health, health equity	Implementation challenges

End of Module 4