



THE REALITY OF THE DAILY DIET

NUTRIENT DENSITY + NUTRIENT DIVERSITY = OPTIMAL NUTRITION + VITALITY

“The greatest health challenge we face today is finding a way to increase levels of nutrients in our diet and broaden the variety of foods we eat each day — without increasing our calorie intake!” says Dr. Fred Hooper of the GNLD Scientific Advisory Board. The ultimate goal of the diet is to provide an abundance and a wide variety of nutrients — that is, *nutrient density* and *nutrient diversity*. Diets without both can compromise vitality now and health later.

NUTRIENT DENSITY

Ideally, our foods would be low in calories but high in nutrients. In reality, however, we get too many calories and too few nutrients. When we eat a food such as French fries, for example, we remove the nutrient-rich potato peel, leaving an almost pure-starch mass which is cut, fried, and salted. Such processed foods are nutrient-poor and calorie-rich, and they rarely provide the nutrient density of their whole-food parents.

NUTRIENT DIVERSITY

The idea of getting a variety of nutrients is not new, but it has grown in importance. While one generation of Americans grew up thinking that diversity was “three square meals,” the next generation was told to eat from the “Four Basic Food Groups.” Later, to encourage dietary diversity, that recommendation was changed to advise choosing foods from the “Food Pyramid.” Likewise, the Japanese government recommends eating 30 *different* foods each day for optimal health.

Unfortunately, many of us engage in a practice called “channel eating,” where we eat the same rather small number of foods over and over (for example, eating the same breakfast

cereal every day). This practice erodes diversity. It may also reduce the availability of certain nutrients, impacting the nutrient density of the diet as well.

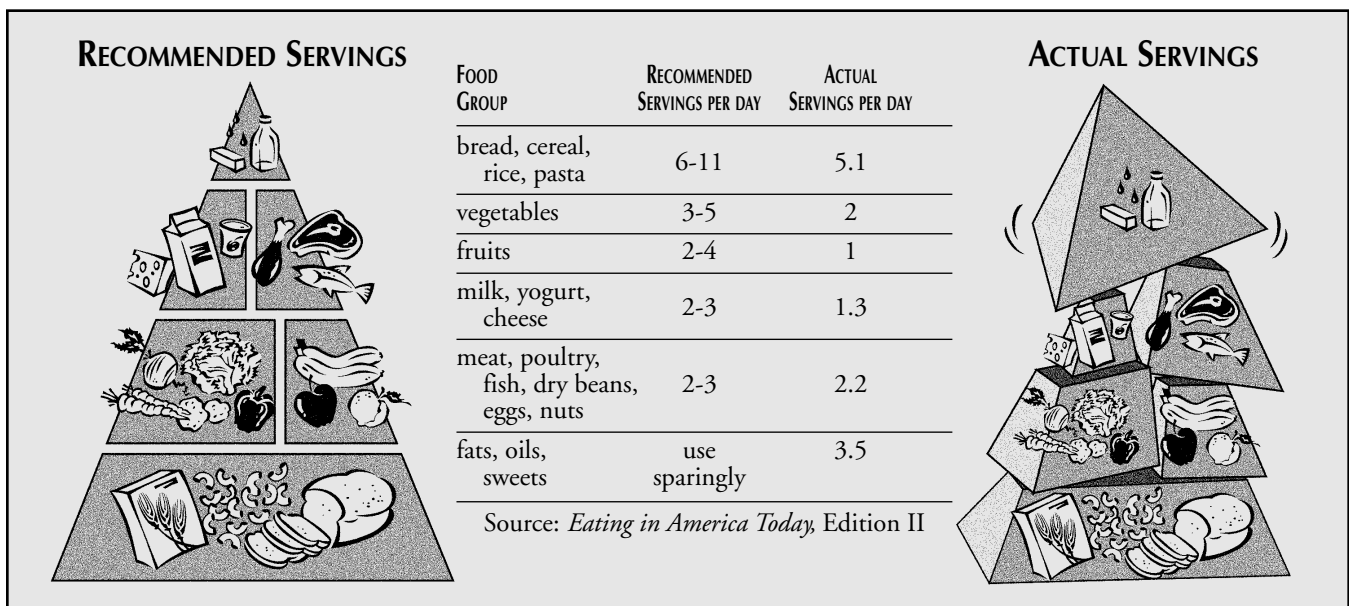
People miss out on many important nutrients because their eating habits are exactly that — habits. For example, big portions of the population never get the antioxidant protection of berries because they never eat berries. The closest some people get to eating a berry is a little jam now and then. But berries are one of the richest sources of healthful plant nutrients called flavonoids, which research has shown may play a role in preventing heart disease, stroke, cancer, and other diseases. The same argument could be made for other beneficial nutrients which people miss out on when they consume only a narrow range of foods.

WE KNOW BETTER, YET WE STILL MAKE POOR DIETARY CHOICES

“Do as I say, not as I do” could be the world’s dietary anthem. People everywhere know they should consume healthy foods. Yet, people everywhere often make poor food choices — despite the fact that they know better.

Polls show that most Americans, for instance, understand the dietary goals set by the U.S. National Academy of Sciences:

- Reduce fat intake to 30% of total calories or less.
- Limit saturated fat to less than 10% of calories.
- Consume less than 300 milligrams of cholesterol each day.
- Eat at least five servings of fruits and vegetables each day.
- Increase consumption of complex carbohydrates by eating six or more servings of breads, cereals, and legumes each day.
- Eat moderate amounts of protein—less than twice the RDA.
- Limit total daily sodium intake to 2,400 milligrams or less.
- Consume the RDA for calcium.





But despite growing nutritional awareness, diets have not improved. A 1991 study that compared eating trends of Americans over three decades revealed that *fewer than 25%* of people surveyed ate a healthful diet. And as more countries join the ranks of developed nations, where processed, fatty, salty, or sugary foods are commonplace, unhealthy dietary choices are likely to prevail.

REALITY CHECK: WHAT WE SHOULD EAT VERSUS WHAT WE ACTUALLY DO EAT

The link between diet and health is so well established that public health organizations of virtually every nation make dietary recommendations. In the U.S., for instance, the Department of Agriculture/Health and Human Services created the Food Guide Pyramid to recommend daily intake for various kinds of foods. See below what Americans *should* eat, according to these guidelines, compared to what they actually *do* eat. Keep in mind that Americans are not unique in their poor eating habits: A similar pattern — too few plant and dairy foods and too many fats and sweets — exists in most other industrialized nations.

For fruits and vegetables, the consumption pattern is particularly alarming. Virtually all of the world's major public health organizations recommend consuming at least five servings of fruits and vegetables each day for optimal health. In the U.S., for instance, the National Cancer Institute, the American Cancer Society, and the National Research Council all recommend **5-9 servings of fruits and vegetables each day**. Fruits and vegetables contain vitamins, minerals, fiber, and other healthful phytonutrients (nutrients only available from

plants — carotenoids, flavonoids, cruciferous compounds, etc.). Numerous studies show that the gap between the dietary ideal and actual consumption is enormous:

- **Only 9%** of Americans eat the **minimum recommended amount of fruits and vegetables**.
- On any given day, almost **half** of the U.S. population consumes **no fruit!**
- On any given day, almost a **quarter** of the U.S. population eats **no vegetables!**
- On any given day, **70%** of the U.S. population consumes **no vitamin C-rich fruit**.
- On any given day, **80%** of the U.S. population consumes **no carotenoid-rich fruits or vegetables**.
- We **should eat one serving of cruciferous vegetables a day**, but we **actually only eat one serving a week!**
- We tend to overestimate the amount of good food we eat and underestimate the bad. Consumers in one study **overestimated the amounts of fruits and vegetables they ate by 33%**.

Food is abundant and available in developed nations, so food scarcity is not the problem! Nonetheless, studies show that virtually none of us eat well enough to get the Recommended Dietary Allowance (RDA) of many critical vitamins and minerals! The RDA is the amount of a vitamin or mineral necessary to prevent the appearance of deficiency symptoms in healthy people. Some people think it's okay not to consume RDA amounts of nutrients every day as long as they get all the nutrients they need over several days. Studies show that not only do the vast majority of us fail to get the RDA every day, but we don't get it over several days, either.

THE EVOLUTION OF THE HUMAN DIET: OUR ANCESTORS ATE BETTER THAN WE DO!

The modern diet is a far cry from the foods that humans have consumed for two million years. Before humans took up agriculture 10,000 years ago, they were primarily hunter-gatherers, with dietary needs met primarily by fruits, vegetables, roots, nuts, seeds, legumes, fish, and wild game. Scientists believe our ancestors ate about three times the amount of fruits and vegetables we do, generally consumed within hours of being gathered, usually raw, with little or no processing. It is likely, therefore, that our ancestors had intakes of vitamins and minerals that exceeded the current RDAs (1.5 to 5 times higher), although they were by no means megadoses.¹ They also ate five times more fiber than we do. In many respects, the ancestral diet resembles the American Heart Association's dietary recommendations, the traditional Mediterranean and East Asian diets, and semi-vegetarian eating practices. Our ancestors did not live long, but it was infection and accidents — not degenerative disease — that killed them.

	PREHISTORIC ANCESTORS (ESTIMATED INTAKE)	RDA (RECOMMENDED INTAKE)	MODERN HUMANS (CURRENT INTAKE)
VITAMINS, MG/DAY			
Riboflavin	5.01	1.3–1.7	1.34–2.08
Folate	0.34	0.18–0.2	0.149–0.205
Thiamin	3.07	1.1–1.5	1.08–1.75
Ascorbic Acid	439	60	77–109
Vitamin A ²	2,240	800–1,000	1,170–1,414
Vitamin E, I.U.	28	8–10	7–10
MINERALS, MG/DAY			
Iron	62.4	10–15	10–11
Zinc	33.4	12–15	10–15
Calcium	1,520	800–1,200	750
Sodium	604	500–2,400	4,000
Potassium	6,970	3,500	2,500
Fiber, g/d	86	20–30	10–20
Energy, kcal/day	2,500	2,200–2,900	1,750–2,500

¹Adapted from: Eaton, S.B., Eaton III, S.B., Konner, M.J. and Shostak, M. *An Evolutionary Perspective Enhances Understanding of Human Nutritional Requirements*. *J. Nutr.* 126:1732–1740, 1996. ² Retinol equivalents.



THE RDA TO SURVIVE — BUT THE ODI TO THRIVE!

The tragedy is that we are not even consuming amounts of nutrients that would prevent deficiency symptoms, let alone amounts that would take us a step closer to optimal health! You can survive with a poor diet, but you certainly won't thrive. While deficiency symptoms can be corrected by supplying the substance which is lacking, many scientists believe that optimal health results from vitamin and mineral consumption in amounts exceeding the RDA. According to Nobel laureate Linus Pauling: *"The RDA for a vitamin is not the allowance that leads to the best health for most people. It is, instead, only the estimated amount that for most people would prevent death or serious illness from overt vitamin deficiency. Values of the daily intake of the various vitamins that lead to the best health for most people may well be several times as great, for the various vitamins, as the values of the RDA."* A concept that is growing in acceptance among the scientific community is that of Optimal Daily Intake, or ODI, an idea GNLD scientists pioneered in the late 1970s.

SUPPLEMENTS: "NUTRITIONAL INSURANCE" WHEN THE DIET IS POOR

Nutrient density and *nutrient diversity* are two sides of the same coin. Research indicates that the reality of the daily diet is that you cannot get all the nutrients you need for optimal health and vitality from foods alone. The next step will likely be government recommendations to consume both healthy foods *and* supplements. Don't wait for new government recommendations to take charge of your health today! Begin making better food choices. And to be certain the inevitable nutrient "gaps" won't threaten you, supplement to assure your best health.