

MyPyramid Food Guidance System

Background and Update



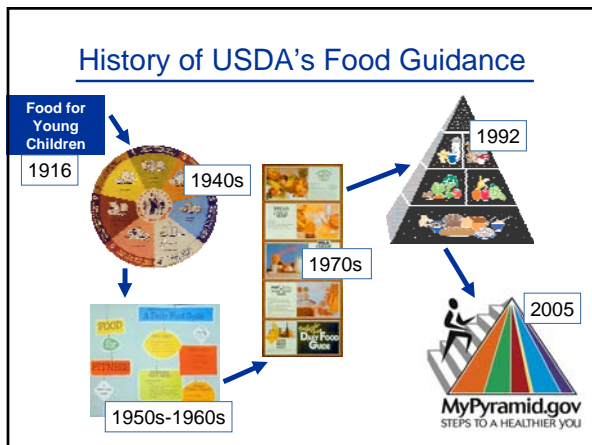
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United States Department of Agriculture
Center for Nutrition Policy & Promotion

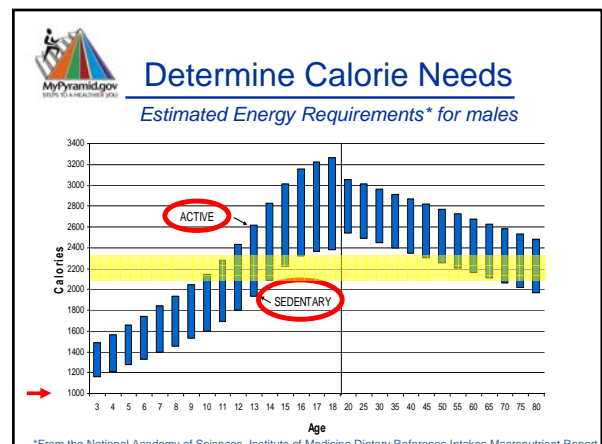
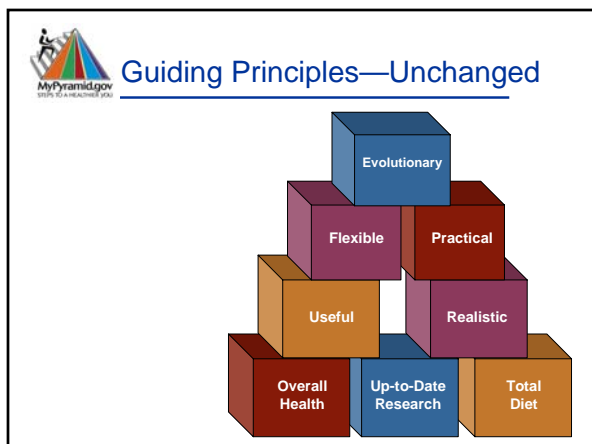
Food Intake Patterns


- Basis for all of MyPyramid's advice
- Identify what and how much to eat
- Designed to meet DRI and DGA recommendations
 - 12 patterns for varying population groups and energy needs
 - Amounts to be met on average over time, not each day



Developing MyPyramid's Food Intake Patterns


1. Determine nutrient goals and calorie needs for population groups





Developing MyPyramid's Food Intake Patterns


1. Determine calorie needs and nutrient goals for population groups
2. Establish food groups
3. Calculate nutrient profiles for each food group



Nutrient Profiles

$$\text{Nutrient profile of food group} = \text{Sum} \left[\begin{array}{l} \text{Nutrient contribution of each food} \\ \times \\ \text{Likelihood of each food being eaten} \end{array} \right]_n$$


- Profiles calculated for all nutrients in each food group and subgroup.
- Calculations are based on "nutrient-dense forms" of each food—lean or lowfat, with no added sugar.




Nutrient Profiles

Answers the question: What nutrients can be expected from consuming a given amount of each food group?


For example: What is the vitamin A content of a typical dark green vegetable?



Cooked Spinach
943 µg per cup




Cooked Broccoli
153 µg per cup



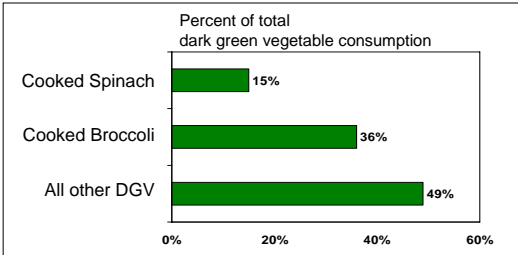
Developing MyPyramid's Food Intake Patterns

1. Determine calorie needs and nutrient goals for population groups
2. Establish food groups
3. Calculate nutrient profiles for each food group
4. Determine recommended amounts from each food group




Nutrient Profiles

Calculate consumption of each dark green vegetable:



Food Group	Percent of total dark green vegetable consumption
Cooked Spinach	15%
Cooked Broccoli	36%
All other DGV	49%



Constructing Intake Patterns

- Establish initial amount from each food group
- Compare resulting nutrient content to nutritional goals
- Change amounts from food groups stepwise
 - Identify groups or subgroups that are the most feasible nutrient sources
 - Check amounts recommended against typical consumption
- Remaining calories after nutrient needs met identified as "discretionary calories"



Intake pattern - 2000 calories

Grains	6 ounce equivalents (≥ 3 oz whole)
Fruits	2 cups
Vegetables	2 ½ cups
–Dark green	3 cups per week
–Orange	2 cups per week
–Dry beans & peas	3 cups per week
–Starchy	3 cups per week
–Other	6 ½ cups per week
Meat & Beans	5 ½ ounce equivalents
Milk	3 cups
Oils Allowance	27 grams (6 tsp)
Disc Cal Allowance	267 calories



Milk Group Nutrient Profile

Development process
- Identify “item clusters”



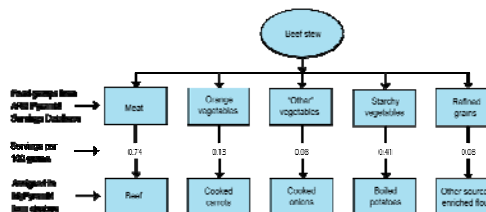
Current work—Updating MyPyramid Intake Patterns

- In process—preliminary results only at this time
- Update will be complete in time for your consideration and potential use



What is an “item cluster”?

First, foods are disaggregated into ingredients:



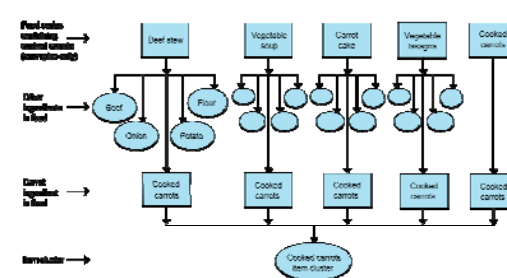
Current work—Updating MyPyramid Intake Patterns

- Milk Group—Develop nutrient profile
- Vegetable Group—Refine and update nutrient profiles and reassess subgroups
- Update all nutrient profiles with current nutrient and consumption data
- Develop tiers within each food group, based on SoFAAS content



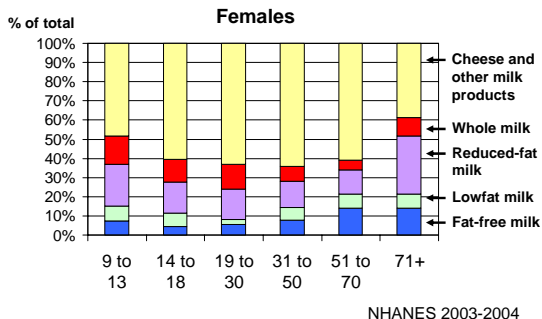
What is an “item cluster”?

Then, ingredients are aggregated into clusters:





Milk Group Consumption



Milk Group Consumption

Reduced fat milk	17.7%
Whole milk	12.2%
Fat-free milk	6.9%
Lowfat milk	4.3%
Reduced- fat flavored milk	1.7%
Whole flavored milk	1.6%
Milk in casseroles and mixed dishes	1.4%
Milk shakes and smoothies	1.0%
Lattes and coffee drinks	1.0%



Milk Group Nutrient Profile

Developed 65 item clusters:

- Unflavored and flavored milks
- Milk in soups, sauces, etc
- Yogurts
- Natural and processed cheeses
- Cheese in pizza, Mexican dishes, casseroles, etc.
- Ice creams
- Soymilk



Milk Group Consumption

Reduced-fat cheese on pizza	8.5%
Natural cheeses	7.1%
Cheese (not specified)	3.7%
Cheese in Mexican dishes	3.6%
Processed cheese	3.3%
Regular cheese on pizza	2.2%
Cheese in pasta and Italian dishes	2.0%
Cheese on sandwiches	1.8%
Ice cream-regular and rich	1.6%
Cheese spreads, dips, sauces, soups	1.5%
Cheese in egg/meat dishes and frozen meals	1.0%



Milk Group Nutrient Profile

Development process

- Identify item clusters
- Calculate consumption of each
- Choose representative food for each
- Calculate nutrient profile



Milk Group Nutrient Profile

Current work:

- Select a fat-free or lowfat, no-added sugars version of milk, yogurt, or cheese to represent each item cluster
- Calculate a consumption-weighted nutrient profile for the milk group



Vegetable Group Nutrient Profiles

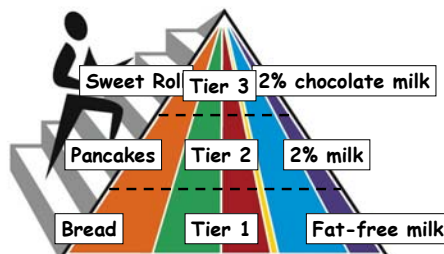
Development process

- Identify expanded item clusters
- Calculate consumption of each
- Choose representative food for each
- Calculate nutrient profile
- Reassess subgroup assignments



Tiers in Each Food Group

A systematic approach to assigning foods to a specific area within a MyPyramid food group



Vegetable Group Nutrient Profiles

Original Item clusters
(N=45)

Peppers

Green beans

Boiled potatoes

Expanded Item clusters
(N=99)

Sweet red, sweet green, hot red, hot green

Green beans, snow peas, asparagus, okra, artichokes

Boiled potatoes, French fries, potato chips, home fries



Tiers in Each Food Group

Why?

- Operationalize discretionary calories
- Identify foods with high SoFAAS and high consumption
- Provide guidance for within food group choices



Vegetable Group Nutrient Profiles

Current work:

- Calculate a consumption-weighted nutrient profile for each vegetable subgroup
- Identify potential changes in subgroups and/or subgroup assignments
 - To facilitate meeting nutrient goals
 - To better define foods in each subgroup



We Can! GO, SLOW, and WHOA Foods

Use this chart as a guide to help you and your family make smart food choices. Post it on your refrigerator at home or take it with you to the store when you shop. Refer to the Estimated Calorie Requirements to determine how much of these foods to eat to maintain energy balance.

- **GO Foods**—Eat almost anytime.
- **SLOW Foods**—Eat sometimes, or less often.
- **WHOA Foods**—Eat only once in a while or on special occasions.

Food Group	GO (Almost Anytime Foods)	SLOW (Sometimes Foods)	WHOA (Once in a While Foods)
Vegetables	Almost all fresh, frozen, and canned vegetables without added fat and calories	All vegetables with added fat and calories, cream-based French fries, casseroles	Fried potatoes, the French fries or french fries, other deep-fried vegetables
Fruits	All fresh, frozen, canned in juice or light syrup, dried fruits	100 percent fruit juices, fruits canned in light syrup, dried fruits	Fruits canned in heavy syrup
Breads and Cereals	Whole grain breads, including graham, bran, and whole grain cereals, brown rice, hot and cold cereal (noted when grain is branless)	White refined flour bread, wafers, pasta, French toast, blue waffles, cornflakes, toaster, granola, waffles, oat cereals	Cornstarch, muffins, doughnuts, cream rolls, crackers made with white flour, commercial breakfast cereals
Milk and Milk Products	1 cup of 1 percent low-fat milk, 8-ounce or low-fat yogurt, pasteurized, reduced fat, and fat-free cheese (1 oz or fat-free cottage cheese)	2 percent low-fat milk, processed cheese spread	Whole milk, full fat American, cheddar, Colby, Swiss, cream cheese, whole-milk yogurt
Meats, Poultry, Fish, Eggs, Beans, and Nuts	Trimmed beef and pork, extra lean ground beef, chicken and turkey with no skin, bone removed in water, baked, broiled, steamed, grilled fish and shellfish, beans, split peas, lentils, tofu, egg whites and egg substitutes	Lean ground beef, broiled hamburger, ribs, ham, Canadian bacon, chicken and turkey with skin, fried fish, eggs, fudge served in oil, peanut butter, nuts, soft or egg cooked without added fat	Untrimmed beef and pork, regular ground beef, hot hamburger, ribs, baked fish, chicken, chicken nuggets, hot dogs, french fries, popcorn, sausage, fried fish and whole fat
Seeds and Nuts*	Raw nuts, seeds, nut butter (peanut butter, almond butter, sunflower seed butter)	Raw nuts, seeds, nut butter (peanut butter, almond butter, sunflower seed butter)	Cakes and cream pies, cream puffs, ice cream, chocolate candy, chips, buttered microwave popcorn

Build on a Healthy Base

- Highly processed
- Highest in fat, sugar, salt
- Lowest in fiber

- Refined, processed
- Some added fat, sugar, salt
- Limited fiber

- Least processed
- Fresh, whole
- Highest fiber, vitamins & minerals

MyPyramid.gov
STEPS TO A HEALTHIER YOU

Fat, sugar = Extra calories

GRAINS VEGETABLES FRUITS MILK MEAT & BEANS

Developed by: Barbara Resnicow, MS, CN, Washington State University Extension Food Service. Funded in part by USDA Food Safety Program.

Tiers in Each Food Group

Potential applications:

- Target specific food groups and food choices for educational messaging
- Provide feedback to consumers on their diet quality and specific advice for improvement
- Determine how food choices by tier influence overall diet quality
- Monitor changes over time by food group

Tiers in Each Food Group

Development process:

- Select foods primarily in a single food group
- Calculate calories from SoFAAS
- Identify and test potential cutoffs for each tier
- Select final cutoffs and recommended consumption limits for upper tiers

Current work—Updating MyPyramid Intake Patterns

- Milk Group nutrient profile
- Vegetable Group nutrient profiles and subgroups
- Update nutrient profiles for all groups
- Develop tiers within each food group

Tiers in Each Food Group

Preliminary Results—Consumption from each Tier

Group	Tier 1	Tier 2	Tier 3
Milk	18%	47%	32%
Fruit	94%	2%	4%
Vegetables	62%	21%	16%
Meat & Beans	29%	41%	28%
Grains	45% Whole 67% Non-whole	48%	11%

Questions?