

# NUTRITION

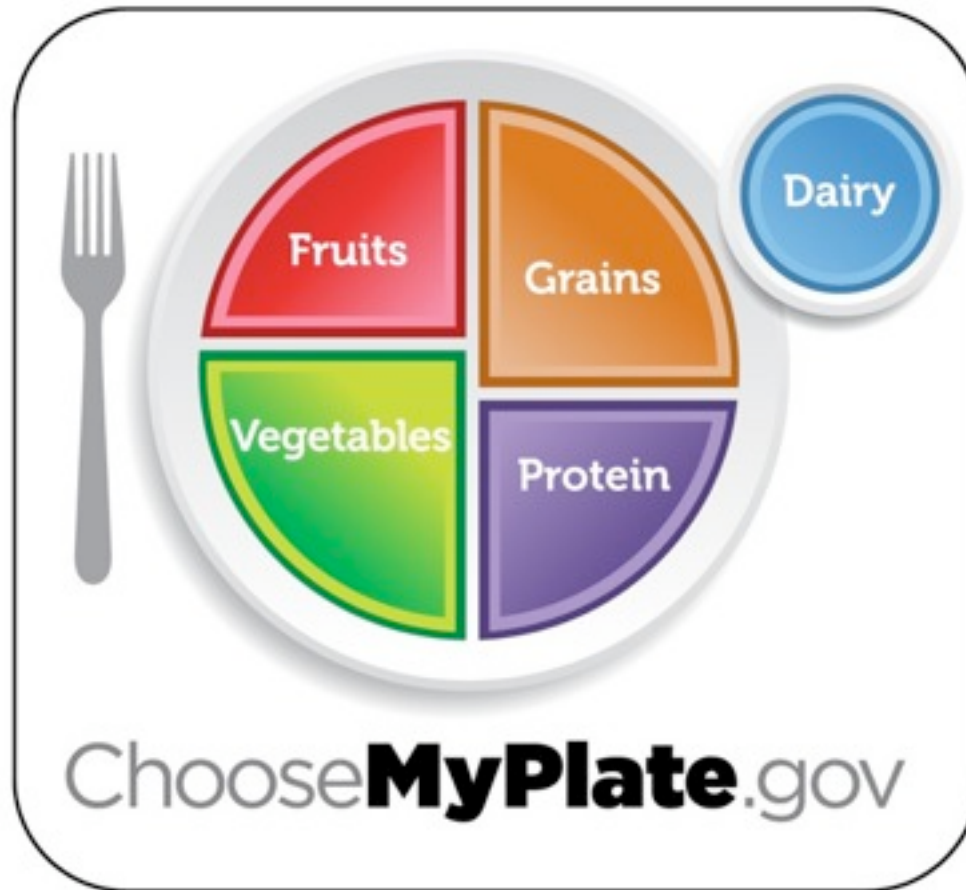
## Teach you how to eat....

Today's Discussion -

- Healthy eating
- Portion control
- Hunger versus appetite
- Healthy choices when dining out

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**BMS wants you to know about the MyPlate, but lets take a trip down memory lane to find what brought us to it.**



# What brought us here?

More than one-third of U.S. adults (**35.7%**) are obese.

Approximately 17% (or 12.5 million) of children and adolescents aged 2—19 years are obese.

## Total prevalence of diabetes

**Total:** **25.8** million children and adults in the United States—**8.3%** of the population—have diabetes.

**Diagnosed:** 18.8 million people

**Undiagnosed:** 7.0 million people

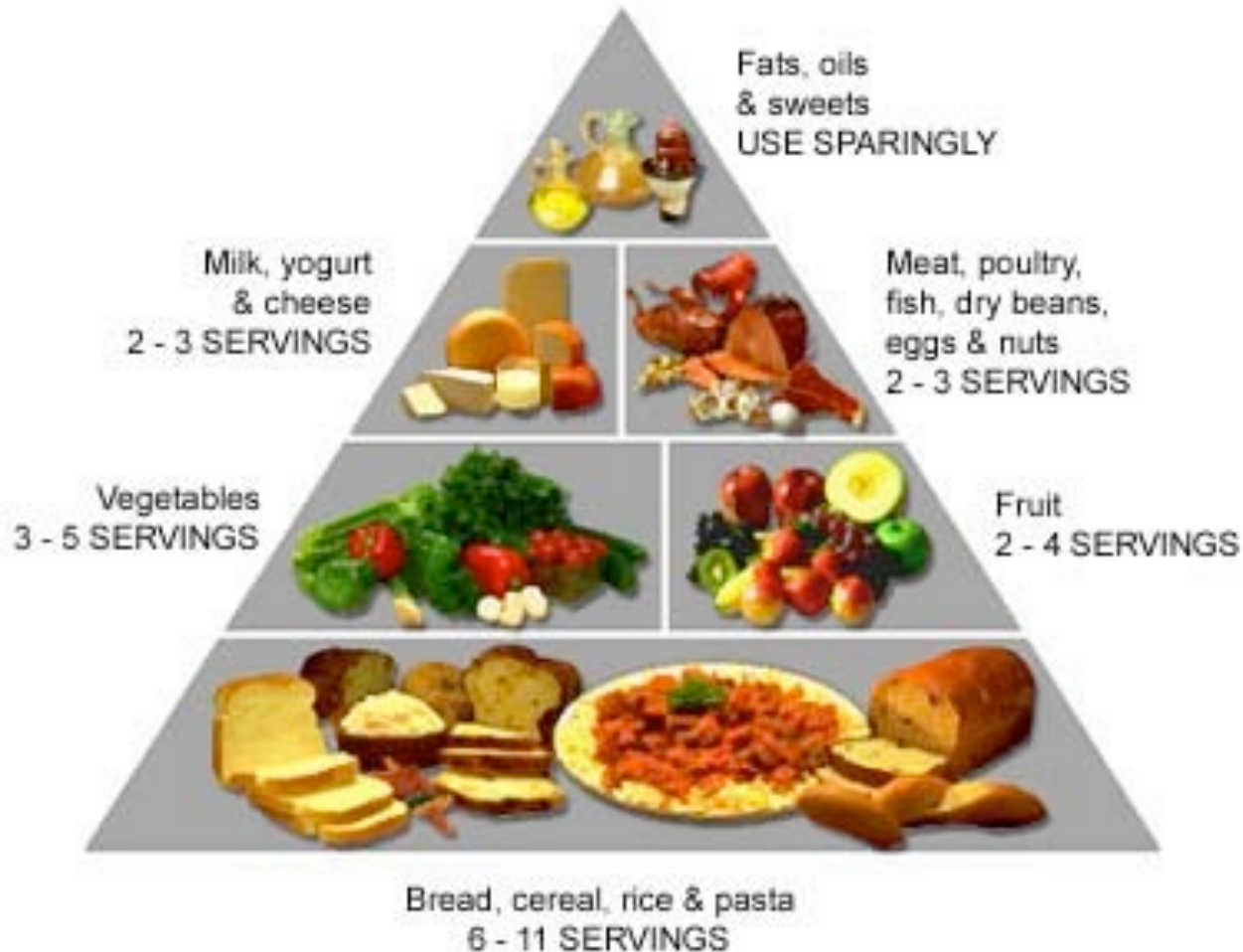
**Prediabetes:** 79 million people\*

**There was no state in 1990 that had an obesity rate above 20 %.**

**Cases of diabetes doubled from 1990 to 2005.**

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**Possibly one of the reasons we have such a high number of people with diabetes and obesity today was the Food Pyramid of the 1990s (the Nonfat/Low-fat Craze).**



# **United States Department of Agriculture in 1992 developed the Food Pyramid.**

**What people don't realize is that food and agricultural associations exert undue political power on the USDA.**

National Dairy Council, the Soft Drink Association, the American Meat Institute, the National Cattlemen's Beef Association, the Salt Institute, the United Fresh Fruit and Vegetable Association, and the Wheat Foods Council.

**USDA food pyramid serves the interests of its main client, the U.S. agricultural industry not from agencies established to monitor and protect our health, like the Department of Health and Human Services, or the National Institutes of Health, or the Institute of Medicine.**

The pyramid advised daily consumption of six to 11 servings of bread, cereal, rice, and pasta; two to three servings of meat, poultry, fish, dry beans, eggs, and nuts; and sparing consumption of fats, oils, and sweets.

**Heavy on carbs**

**Moderate protein - too much emphasis on red meat**

**No fat -Fat was villainized**

1. All fats are bad. **NOT TRUE!**
2. All complex carbohydrates are good. **NOT TRUE!**
3. Protein is protein. **NOT TRUE!**

**In the 1990s people were gorging on Carbs and people thought Fat was evil. People thought they could eat as much carbs as they wanted.**

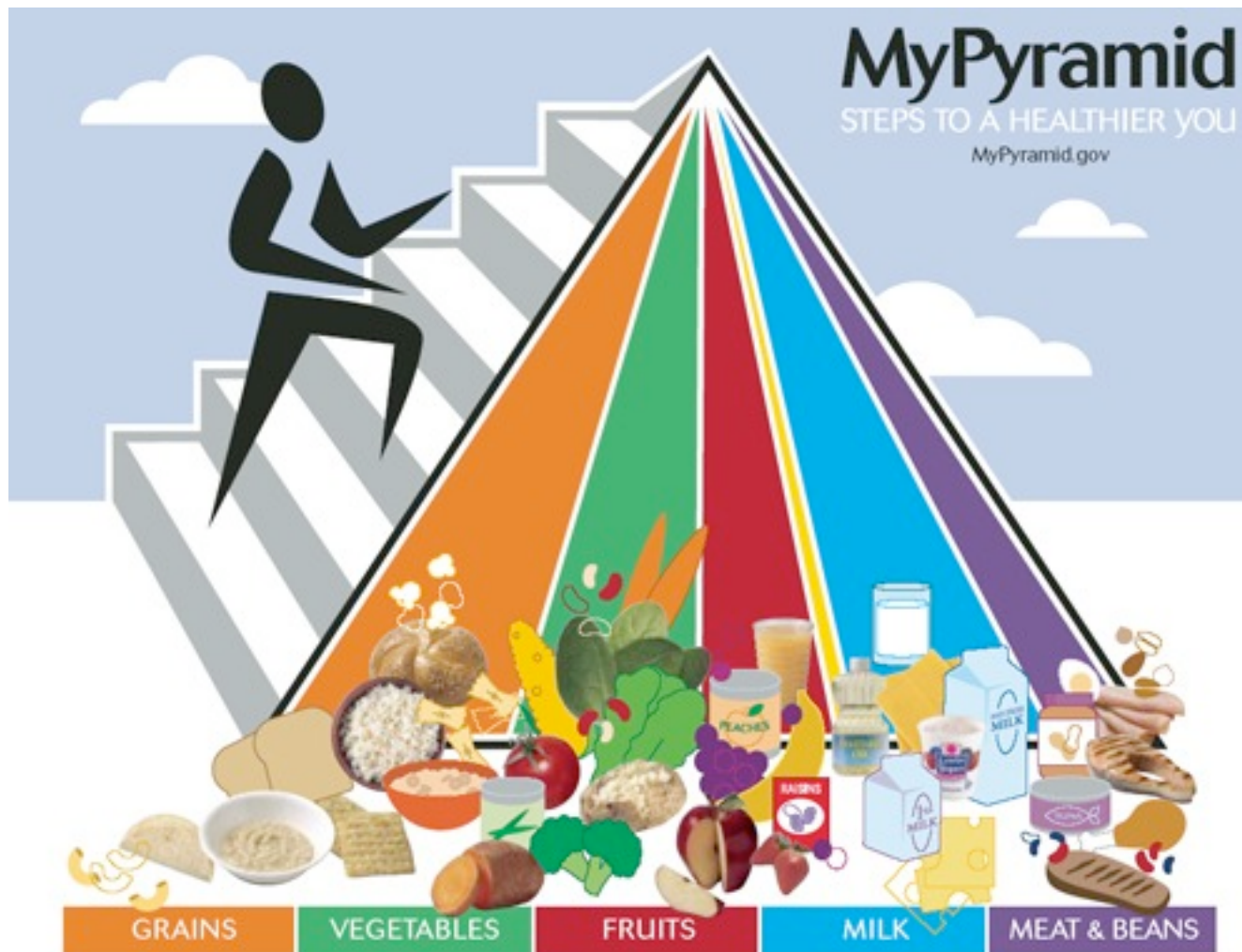
# Suggestions were Flawed-possibly leading to the problems we have today.

**Linked to heart disease**-Pointed Americans to the type of low-fat diet that can worsen blood cholesterol profiles and make it harder to keep weight in check.

**Lacked clarity**-especially when it came to servings-protein was maximum while veggie and fruit were minimum.

**No fat or less fat**-very problematic because fat is essential in a person's general health. We need fat for many vital functions as well as vitamin absorption. Unsaturated fats from a natural source can actually aid in weight loss, reduce heart disease risk, lower blood sugar, and even lower cholesterol. These fats can be found in olive oil, nuts, seafood (including fish, shrimp, squid, and krill among many more) and avocados.

Pyramid contributed to the **High carb and low-fat diets of the 1990s.**



**Food Guide Pyramid, released in 1992, conveyed the wrong dietary advice and the MyPyramid, its 2005 replacement, was vague and confusing.**

**The guidelines say that it's okay to eat up to half of our bread, cereal, rice, pasta, and other grain foods in their fiber and nutrient depleted, refined forms.**



# Some researchers like those at Harvard suggest refined grains act like simple sugars.

## **Refined Grains**

Refined grains like white bread and white rice act just like sugar. Over time, eating too much of these refined grain foods can make it harder to control weight, and can raise the risk of heart disease and diabetes.

## **Simple sugars**

Calories from fructose (which is found only in added sugars and fruit) may be more likely than other calories to aim for your waist. The fructose in most added sugars appears to boost liver, muscle, and visceral fat. Excess fat anywhere in the body increases the risk of insulin resistance and diabetes. But a fatty liver and visceral fat may increase your risk the most.

Fructose found gets metabolized by the liver very quickly. When there is more sugar than the liver can process it converts the sugar to fat. Some of the fat goes into the bloodstream, and that's why we get elevated triglycerides and at the same time burn less fat (and more carbohydrate). **The body doesn't make fat and burn fat at the same time.**

Remember it is all  
sugar

cane sugar

honey

brown rice syrup

agave nectar

barley malt syrup

juice concentrate

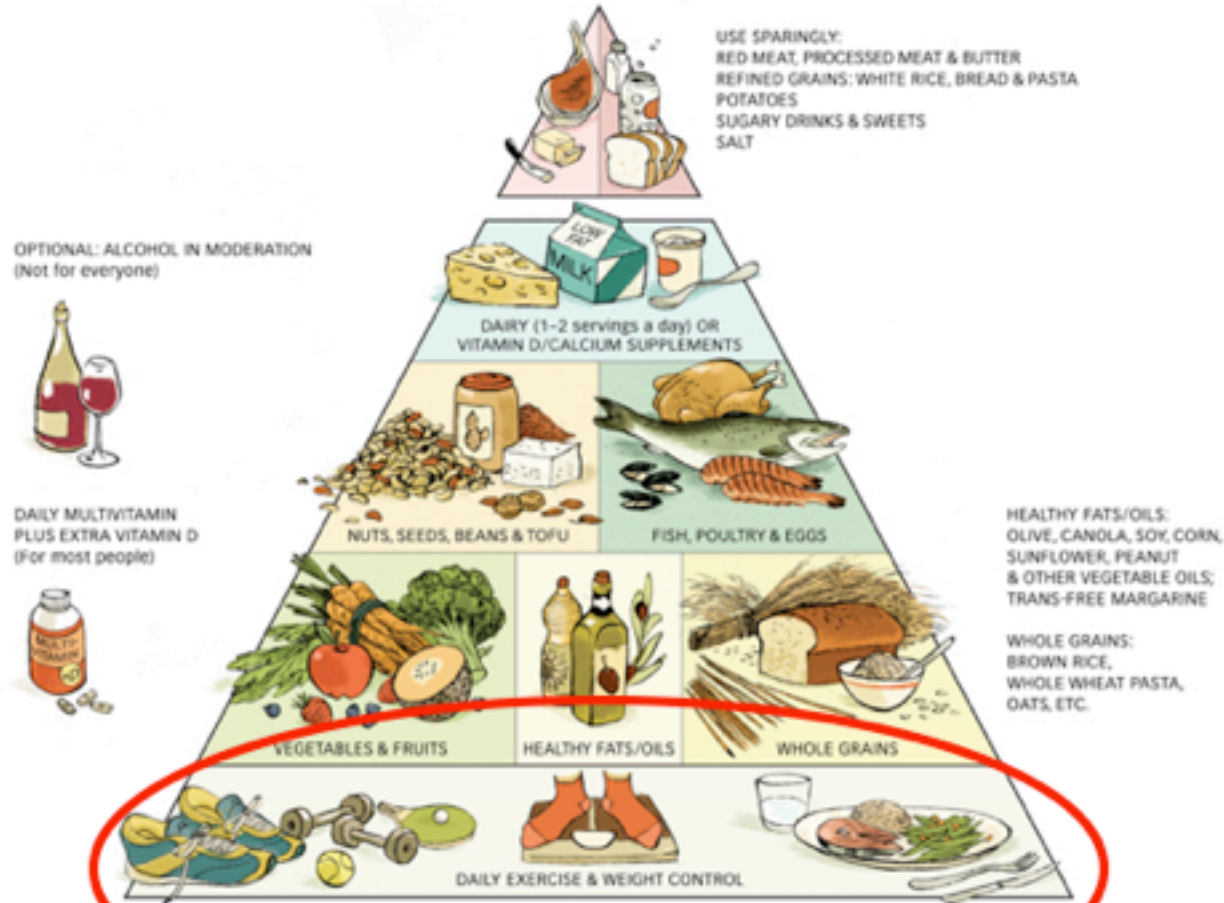
Also, remember  
too much fruit can  
be change lipid  
profiles.

**Calories from fructose  
(which is found only in  
added sugars and fruit)  
may be more likely than  
other calories to aim for  
your waist.**



# THE HEALTHY EATING PYRAMID

Department of Nutrition, Harvard School of Public Health

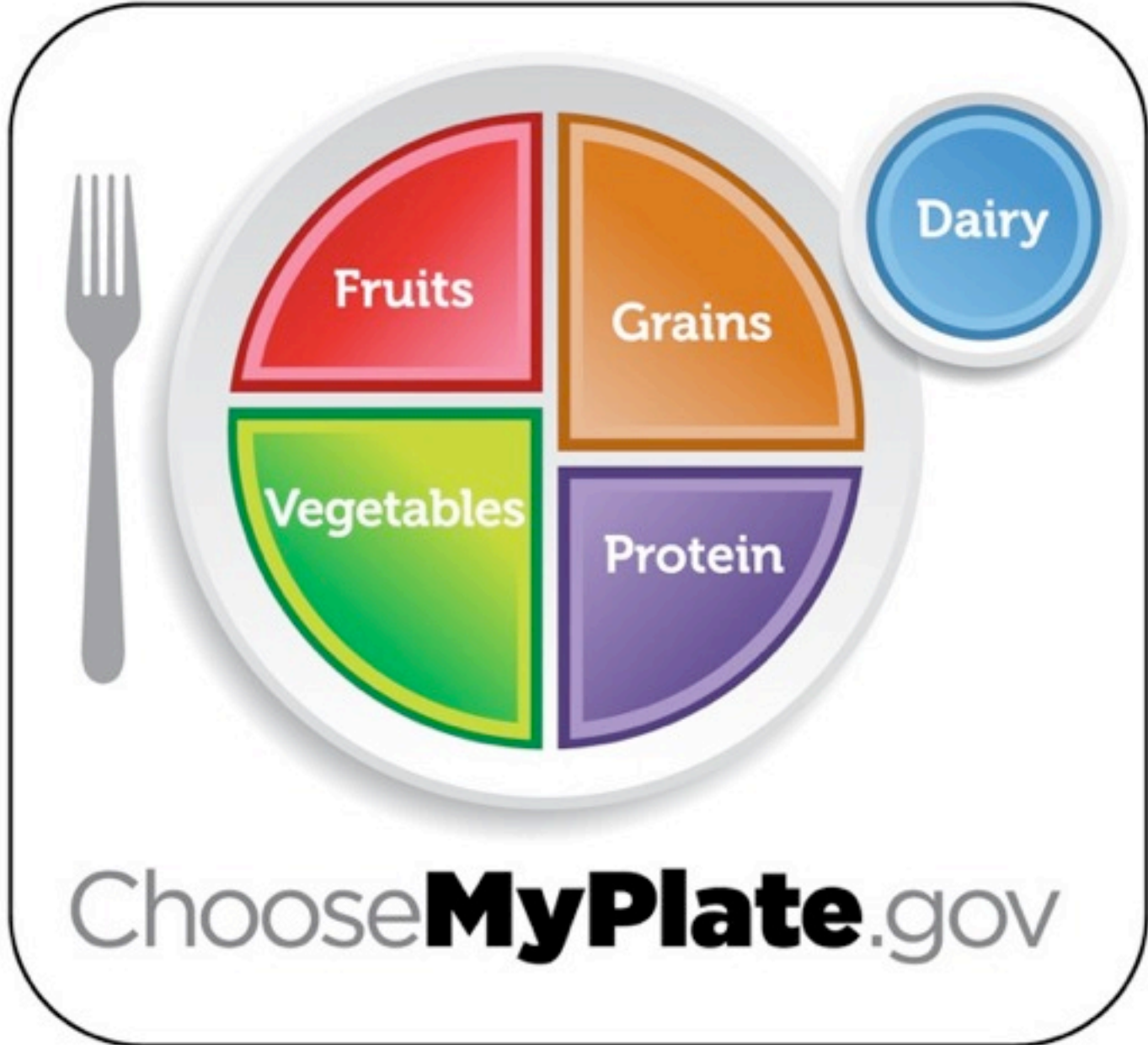


For more information about the Healthy Eating Pyramid:  
[WWW.THE NUTRITION SOURCE .ORG](http://WWW.THE NUTRITION SOURCE .ORG)

Eat, Drink, and Be Healthy

Free Press/Simon & Schuster Inc.

## Healthy Eating Pyramid - Harvard's Answer to the MyPyramid



**Introduced in 2011**

## The MYPLATE 2011- A move in the right direction.....

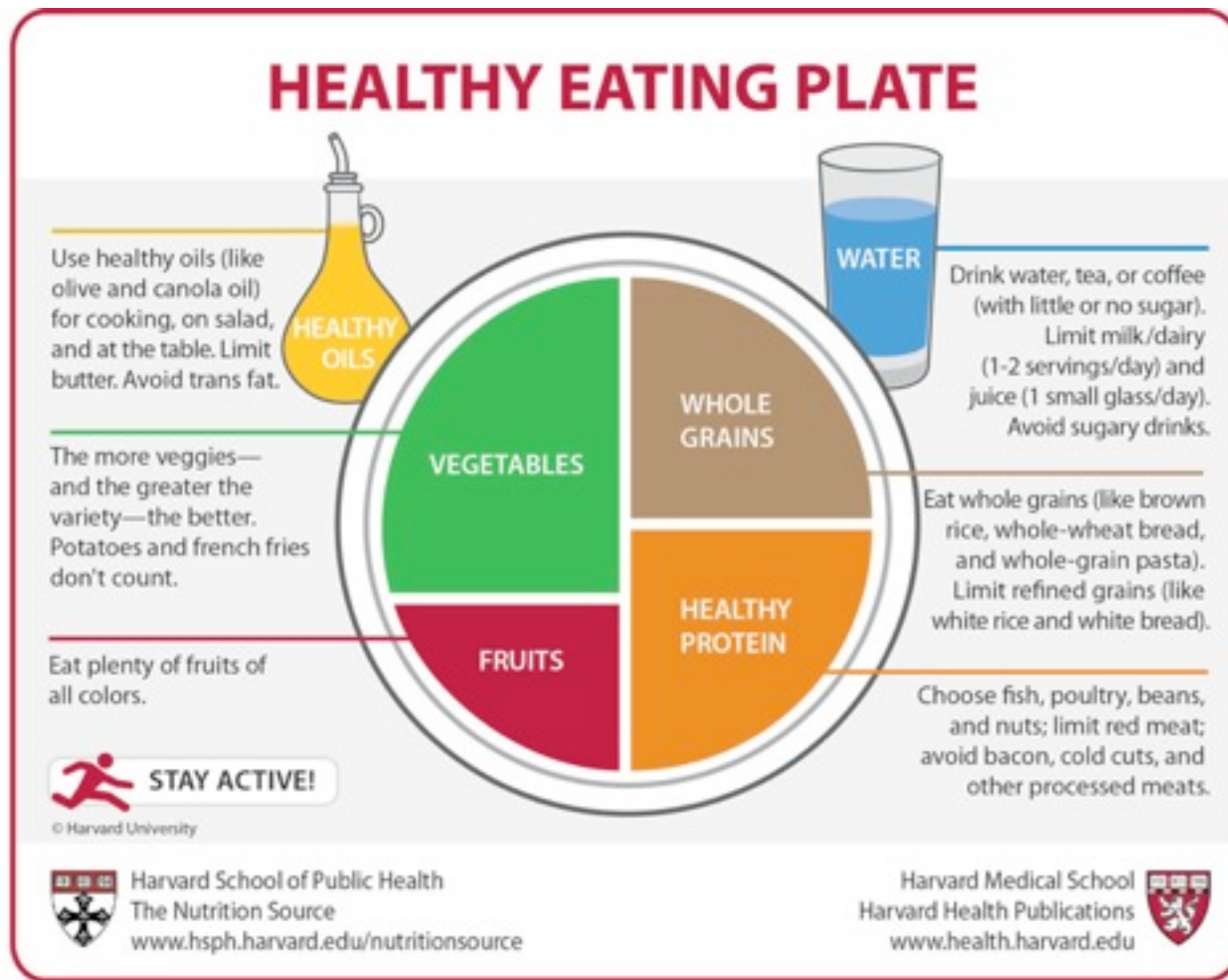
Several of the recommendations in the MyPlate represent important steps in the right direction:

- **Move to a plant-based diet.**
- **Choose fish twice a week.**
- **Not all proteins are equally healthy.**

**But**

- **Too lax on refined grains.**
- **Too lenient on red meat and processed meat.**
- **Too much dairy.**
- The MyPlate icon nudges Americans to put more produce on their plates, but it still falls short on giving people all the nutrition advice they need to choose the healthiest diets.

# Harvard Plate Even Better 2011



Good oils - YES  
Trans/Sats fats - NO

All whole grains

Water instead of milk, but 1-2 servings a day low fat dairy.

Severely limit red and processed meat

Move your body

## Recent Research

A diet high in **red meat** can shorten life expectancy, according to researchers at Harvard Medical School.

The study of more than 120,000 people suggested that red meat increased the risk of death from cancer and heart problems more than previously thought.

Researchers analyzed data from 37,698 men between 1986 and 2008 and 83,644 women between 1980 and 2008.

**The scope of the study showed that health concerns linked to eating red meats were "very clear".**

The study also suggested that people should avoid eating processed meats, such as ham and bacon, altogether.

## **Both Plates are Good.**

Combining foods does a few important things:

- Lowers glycemic index
- Better vitamin absorption
- Feel fuller
- Stay satisfied longer



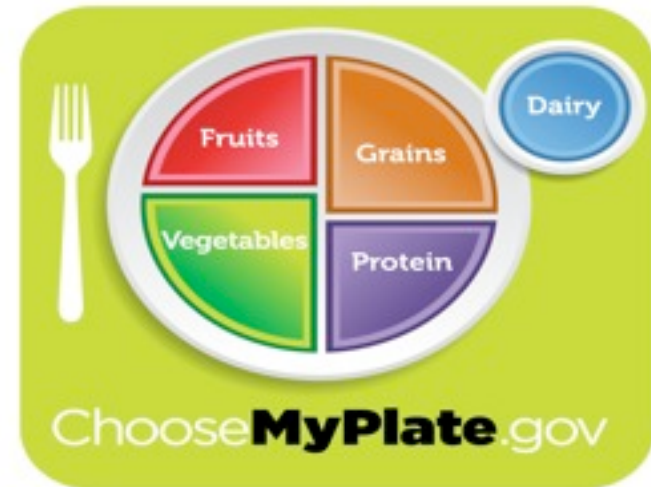
# Why the plates?



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# HEALTHY MEAL PLATE

- Healthy meal plate
  - Fruits and vegetables
    - 50% of the plate
  - Lean protein
    - 25% of the plate
  - Whole grains
    - 25% of the plate
  - Dairy
    - 8 oz low fat dairy



## *Fruits and vegetables-50% of the plate*

### *Why fruits and vegetables?*

- There are thousands upon thousands of compounds and chemicals that are found in fruits and vegetables. Just learning about their health benefits.
- Added vitamins to some products can't match the power of those found naturally.
- Fruits and vegetable are a great source of fiber.\*
- Digestion is slowed down and you stay satisfied longer when combined with other foods like protein and fat.

*\* American's daily intake of dietary fiber is only 10–15 grams.*

## **Bigger Nutritional Principles** **Eat more dietary fiber**

Men < 50 years **38** grams, > 50 years 30 grams

Women < 50 years **25** grams, > 50 years 21 grams

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A high-fiber diet has many benefits, which include:

- **Normalizes bowel movements.**
- **Helps maintain bowel integrity and health.** Lower your risk of developing hemorrhoids, and small pouches in your colon (diverticular disease).
- **Lowers blood cholesterol levels.** Soluble fiber found in beans, oats, flaxseed and oat bran may help lower total blood cholesterol levels by lowering low-density lipoprotein, or "bad," cholesterol levels.
- **Epidemiological studies have shown that increased fiber in the diet can reduce blood pressure and inflammation,** which is also protective to heart health.
- **Helps control blood sugar levels.**
- **Aids in weight loss.**
- **Uncertain effect on colorectal cancer**

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## Fiber 101-Kinds

- **Insoluble fiber.** This type of fiber promotes the movement of material through your digestive system and increases stool bulk, so it can be of benefit to those who struggle with constipation or irregular stools. Whole-wheat flour, wheat bran, nuts and many vegetables are good sources of insoluble fiber.
- **Soluble fiber.** This type of fiber dissolves in water to form a gel-like material. It can help lower blood cholesterol and glucose levels. Soluble fiber is found in oats, peas, beans, apples, citrus fruits, carrots, barley and psyllium.

## *Protein-25% of the plate* Why Protein?

Protein provides the amino acids that makes up our cells. We require the 9 essential amino acids every few hours, therefore have protein at every meal.

All animal proteins have all the essential amino acids while vegetables and fruit do not.

Protein also slows down the digestion of food and can make us feel more satisfied at a meal.

Eat the RDA should be enough (.36 grams per lb. of body weight).

Most Americans get more than enough.

### **Bigger Nutritional Principle**

Key is to have some quality protein source at each meal (3 x a day).

Quality (complete protein)= low-fat milk, chicken, turkey, fish, leans meats or combining vegetable proteins like soy with rice, corn, and beans, but have to know what you are doing.

Amino Acid Leucine is the key, which found much more in animal proteins than vegetables.

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**Protein Powders and extra protein can be helpful for some, but the only way to build muscle or to prevent muscle mass loss as we age is strength training.**

**For young people extra protein not helpful at building muscle mass.**

**New Research-**To maintain or gain muscle mass as we age you may need 25 to 50% more of the RDV. That is about .50 grams per pound of body weight or 1/2 your body weight.



## *Milk-1 serving* **Why Milk?** Dairy-8 oz low fat dairy

1. It's a good source of high-quality protein. Inexpensive source of animal protein.
2. Dairy products are rich in calcium. Although you can get calcium from other foods, like broccoli and leafy greens, it's often not as **bio-available** as the calcium you get in milk. (Plus, most of us don't eat nearly enough vegetables to meet our calcium requirements!)
3. Dairy products are also a major source of **vitamin D** in the American diet. In addition to delivering calcium, **fortified milk is among the best ways to get vitamin D, which your body needs in tandem with calcium to build bone strength to prevent osteoporosis.**

## Cons

1. Dairy foods can be high in fat and, therefore, calories. **Go Low-fat.**
2. In higher fat dairy products, most of the fat is saturated fat. **Go Low-fat.**
3. Dairy products may contain **hormones** from the cows.-Possible linked to Cancer. **Go Hormone Free.**
4. Dairy products contain lactose, many are intolerant to it. **Go Lactose Free.**

## *Whole grains-25% of the plate*

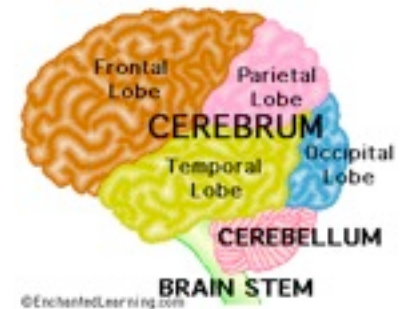
**Why whole grains? Complex carbohydrates**

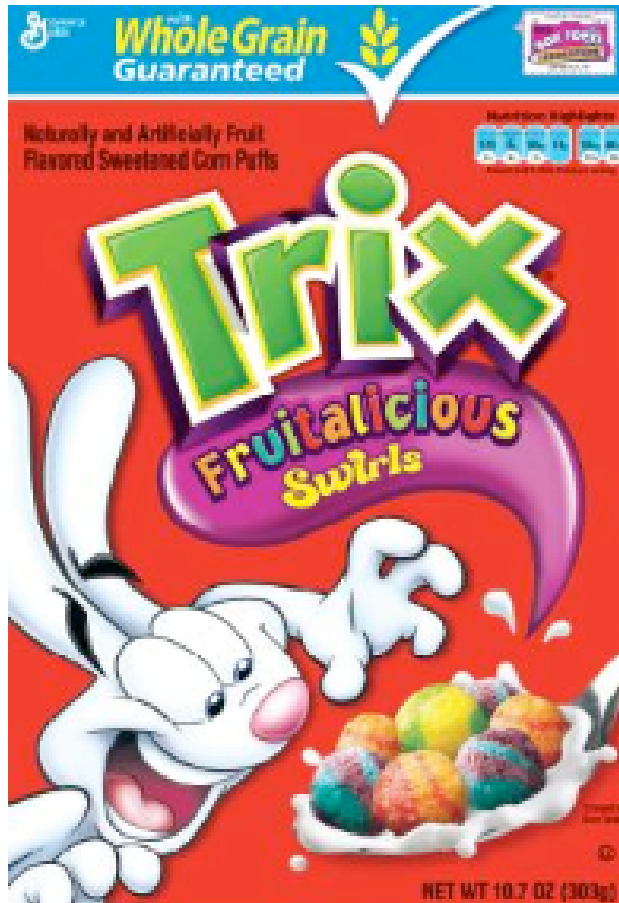
**Energy**-Our body runs off of protein, fats, and carbs, but it is the carbs that gives us the energy to do exercise and heavy physical work. Carbs are also the number one fuel of your brain and the rest of your nervous system.

**Whole grains contain fiber. Absorbed slower.**

**Whole grains have more minerals than their processed counterparts. Brown rice has almost **10 times as much phosphorus and potassium** as white rice.**

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**Nutrition Facts**

Serving Size 1 cup (32g)  
Servings Per Container About 9

Amount Per Serving	Total	% Daily Value*
<b>Calories</b>	120	100
Calories from Fat	15	15

	Total	% Daily Value**
<b>Total Fat</b> 1.5g*	2%	2%
Saturated Fat 0g	0%	0%
Trans Fat 0g		
Polyunsaturated Fat 0.5g		
Monounsaturated Fat 0.5g		
<b>Cholesterol</b> 0mg	0%	1%
<b>Sodium</b> 180mg	7%	10%
<b>Potassium</b> 50mg	1%	7%
<b>Total Carbohydrate</b> 27g	9%	11%
Dietary Fiber 1g	5%	5%
Sugars 10g		
Other Carbohydrate 16g		
<b>Protein</b> 1g		

Vitamin A	10%	15%
Vitamin C	10%	10%
Calcium	10%	25%
Iron	25%	25%
Vitamin D	10%	25%
Thiamin	25%	30%
Riboflavin	25%	35%
Niacin	25%	25%
Vitamin B <sub>6</sub>	25%	25%
Folic Acid	25%	25%
Vitamin B <sub>12</sub>	25%	35%

Ingredients: Whole Grain Corn, Sugar, Corn Meal, Corn Syrup, Canola and/or Rice Bran Oil, Salt, Trisodium Phosphate, Red 40, Yellow 6, Blue 1 and Other Color Added, Natural and Artificial Flavor, Citric Acid, Malic Acid. BHT Added to Preserve Freshness.

Vitamins and Minerals: Calcium Carbonate, Tricalcium Phosphate, Zinc and Iron (mineral nutrients), Vitamin C (sodium ascorbate), A B Vitamin (niacinamide), Vitamin B<sub>6</sub> (pyridoxine hydrochloride), Vitamin B<sub>2</sub> (riboflavin), Vitamin B<sub>1</sub> (thiamin mononitrate), Vitamin A (palmitate), A B Vitamin (folic acid), Vitamin B<sub>12</sub>, Vitamin D<sub>3</sub>.

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Exchange: 1 1/2 Starch

Exchange calculations based on Choose Your Foods:

Exchange Lists for Diabetes ©2008 the American Dietetic Association, the American Diabetes Association.

**10 grams from sugar  
only 1 gram of fiber, SHOULD HAVE MORE THAN 3  
GRAMS PER SERVING**

Phosphorus	10%	15%
Zinc	25%	30%
Total Fat	Less than 10g	15g
Sat. Fat	Less than 25g	35g

Every Meal  
doesn't need to  
be a Party.

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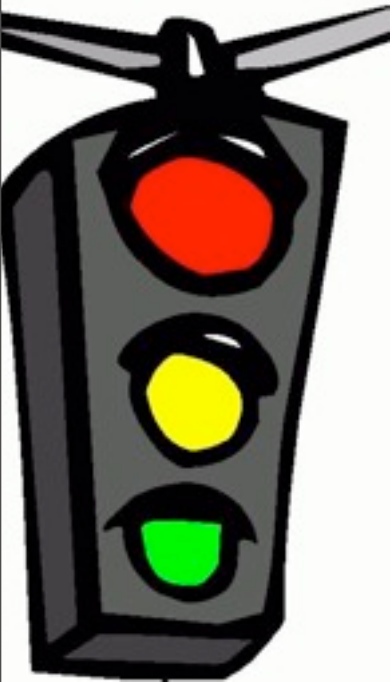
**Eat to Live.**

**Don't Live to Eat.**

**Another possible reason we have such a high number of people with diabetes and obesity today beside the Food Pyramid of the 1990s (the Nonfat/Low-fat Craze) is the increase in portion sizes since the 1990s.**

**As a country we eat fewer fruits and vegetables and whole grains, and more sugar and fat, while the average American eats 140 pounds more food per year than a decade ago.**

# NUTRITION



**Red light food - stop and think before you eat**

- **Cake, ice cream, candy, soda**

**Yellow light foods - go slow or weight can grow**

- **Pasta and breads**

**Green light food - eat more of these everyday**

- **Fruits and vegetables**



# PORTION DISTORTION

NOW

20 years ago

3 inch diameter bagel

6 inch diameter bagel

350 calories



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	<i>20 Years Ago</i>		<i>Today</i>	
	<b>Portion</b>	<b>Calories</b>	<b>Portion</b>	<b>Calories</b>
<b>Bagel</b>	3" diameter	140	6" diameter	<b>350</b>
<b>Cheeseburger</b>	1	333	1	<b>590</b>
<b>Spaghetti w/meatballs</b>	1 cup sauce 3 small meatballs	500	2 cups sauce 3 large meatballs	<b>1,020</b>
<b>Soda</b>	6.5 ounces	82	20 ounces	<b>250</b>
<b>Blueberry muffin</b>	1.5 ounces	210	5 ounces	<b>500</b>

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# PORTION CONTROL



- Light bulb=one serving of fruits and vegetables



- Deck of cards=one serving of protein



Ice cream scoop=one serving of rice, cereal, potato, pasta

# HUNGER VERSUS APPETITE

- **Hunger**
  - Physical response to lack of food
    - Stomach growling, headache
    - Sluggishness, irritable
- **Appetite**
  - Psychological and emotional drive to eat
    - Boredom and stress eating
    - Social eating

# NUTRITION

## Healthy choices when dining out

- Remember the healthy plate
- Avoid fried foods
- Buffet eating
  - Smaller plate
  - Vegetables first, then protein and grains

# NUTRITION

- Avoid sugary drinks
- Eat less processed foods to avoid high sodium
- Use a smaller plate
- Savor your food, eat slowly
  - 4 bites of a food is satisfying
- Water 8 glasses/day

# NUTRITION KEYS

- EAT LESS TRANS FATS
- EAT LESS SALT
- EAT LESS SUGAR
- EAT LESS CALORIES

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# Eat Less Trans fats.

## Eat Less Saturated and Trans Fats

Consume less than **10 percent of calories from saturated fatty acids and less than 300 mg/day of cholesterol**, and keep trans fatty acid consumption as low as possible.

**Saturated fats**, like those in meat, full-fat dairy products and some oils, raise your total cholesterol.

**Trans fats (hydrogenated fats)**, which are sometimes found in margarines and store bought cookies, crackers and cakes, are particularly bad for your cholesterol levels. Trans fats raise low-density lipoprotein (LDL), the "bad" cholesterol, and lower high-density lipoprotein (HDL), the "good" cholesterol.



# Eat Less Sodium.

## Why limit salt???

- High Blood Pressure in 2005 caused one out of Six deaths.
- **High Blood pressure boosts your risk of dying of a heart attack or stroke more than smoking, high cholesterol, obesity or any other risk factor.**
- Excess salt is a major risk factor for high blood pressure.
- Salt may damage your heart, kidneys, and other organs above the effect of blood pressure.
- **Cutting salt is the number one key to reducing blood pressure.**
- Nearly everyone gets high blood pressure at some point **(90 % of people do).**

# Eat Less Sugar.

The American diet now has **19 percent more** sugar than in 1970.

## **The American Heart Association recommends**

men limit added sugar to 36 g, or 9 tsp. or **150** calories, per day

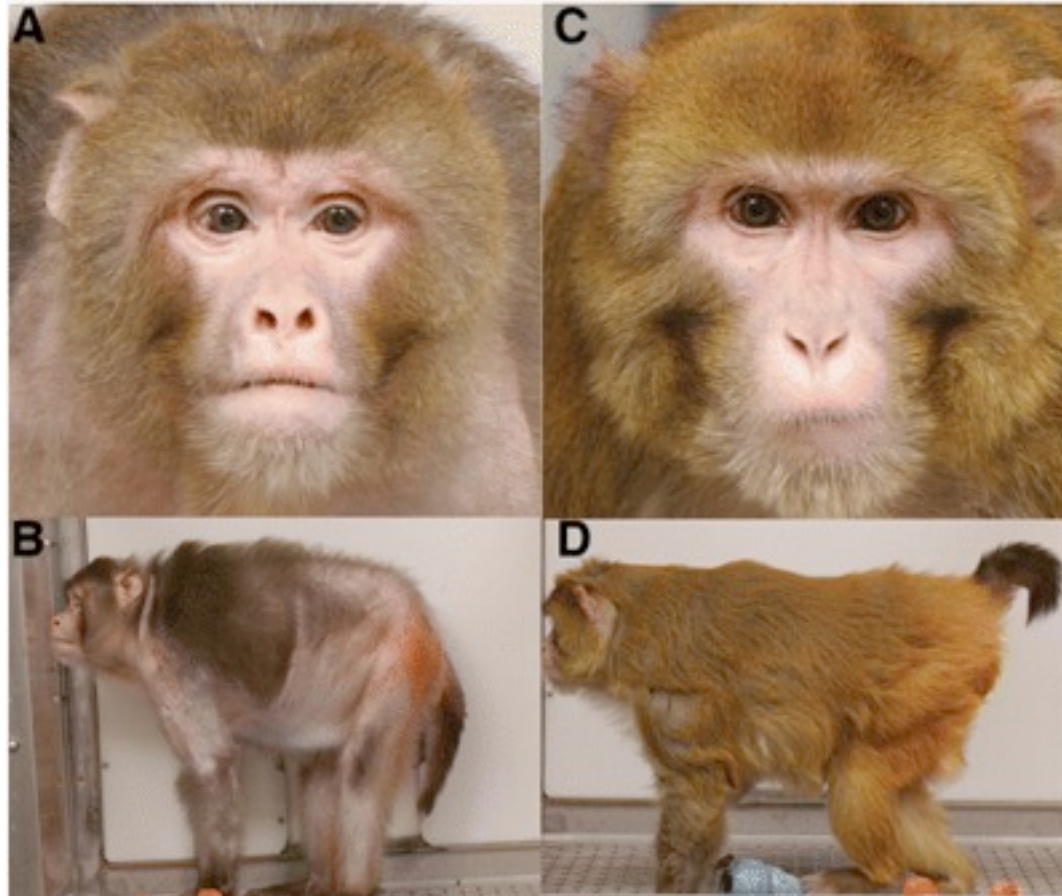
women limit added sugar to 24 g, or 6 tsp. or **100** calories, per day.

**The average American consumes 21 tsp., or 84 g, or 360 calories, of sugar daily, far more than recommended.**

Three main problems

- 1) it adds calories to your diet
- 2) displaces other nutritious foods
- 3) association between added sugar intake and what we call dyslipidemia -- higher triglycerides and lower HDL ("good") cholesterol.

# Eat Less Calories.



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# SUMMARY

- Maintain a food diary for 2 weeks
- Be a role model for your children
- Purchase fresh produce
- Purchase less fast foods