Weight Loss Tips and Tricks

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Dietary Nutrients

MACRO NUTRIENT	CALORIES PER GRAM
FAT ✓ Saturated ✓ Unsaturated	9
CARBOHYDRATE ✓ Fiber [1] ✓ Starch ✓ Sugar	4
PROTEIN ✓ Plant Protein ✓ Animal Protein	4
WATER	0

[1] Fiber is digested by colon bacteria and only provides about 2 calories per gram.

MICRO NUTRIENT	CALORIES PER GRAM
VITAMINS[1] ✓ Vitamin C ✓ Vitamin E ✓ Vitamin K ✓ : : : :	0
PHYTOCHEMICALS[1] ✓ Carotenoids ✓ Resveratrol ✓ Flavonoids ✓ : : : :	0
MINERALS[2] ✓ Sodium ✓ Potasium ✓ Calcium ✓ : : : :	0

[1] Many Are Antioxidents

[2] A Few Are Antioxidents

How Does Human Evolution Effect Our Ability to Maintain a Healthy Weight?

The Biological Imperative

The primary goal of any species is the propagation of the species.

To accomplish this members of the species must get enough to eat and avoid being eaten long enough to reproduce.

The Motivational Triad

Seek Pleasure

✓ From food for energy
✓ From sex to create children

Avoid Pain

✓ From physical injury
✓ From psychological injury

Conserve Energy

✓ To reduce the need to find food

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Getting Pleasure from Foods

Humans evolved a number of mechanisms to stimulate pleasure from foods, especially foods that contain:

Sugar: Detected by sweet taste receptors on the tongue. A sweet taste helps to identify energy rich foods that contain carbohydrates, the preferred energy source for the body, especially the brain.

For example, fruits are more calorie dense than foliage (salad greens).

Salt: Detected by salt taste receptors on the tongue. Salt is used by the kidneys to retain water to help prevent dehydration which can be a problem in the equatorial regions where humans evolved.

Getting Pleasure from Foods

Fat: Detected by flavor, odor and texture sensors. Fats are able to dissolve and concentrate flavor and odor chemicals to give a deeper flavor. These chemicals are released by melting in the mouth or by the heat from cooking. Fats also help distribute salts and other seasonings throughout foods so that they make more contact with the tongue to give a deeper flavor.

For example, chocolate, custard, and peanut butter all melt at body temperature. When chocolate melts in your mouth, it creates a smooth, full, coating sensation that most people agree is pleasant.

You can taste sizzling bacon even before you eat it because some of the flavor molecules are released Into the air and are already in your nose and mouth.

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Avoiding Pain from Foods

Humans also evolved a number of mechanisms to avoid pain from foods:

Bitter: Detected by bitter taste receptors on the tongue. A large number of natural bitter tasting compounds are known to be toxic. The ability to detect bitter-tasting, toxic compounds at low thresholds is considered to provide an important protective function.

Sour: Detected by sour taste receptors on the tongue. A sour taste can signal under-ripe fruit, rotten meat, and other spoiled foods which can be dangerous to the body because of bacteria which can grow in such media.
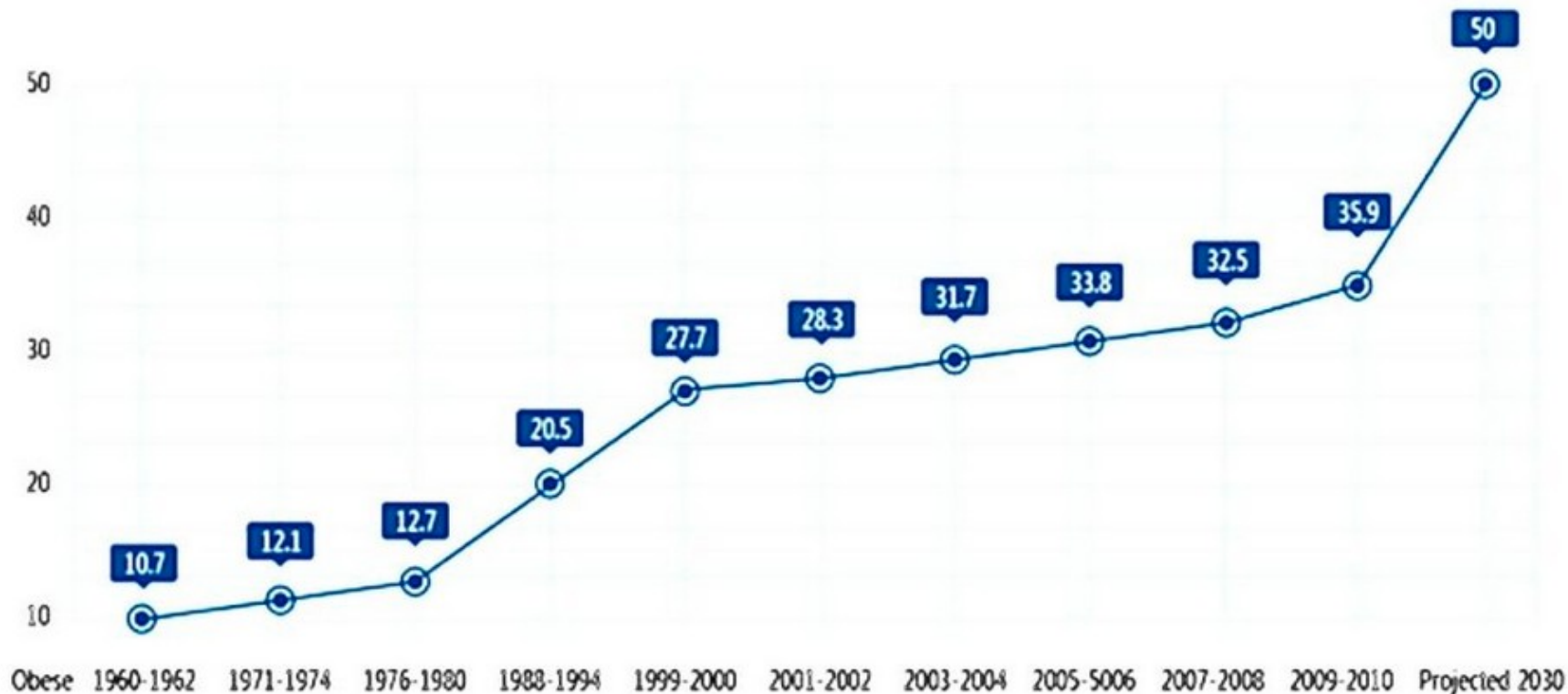
Human Evolution Milestones

YEARS AGO	MILESTONE
2,000,000	Homo Habilis fossils
1,000,000	Homo Erectis fossils
300,000	**Homo Sapien fossils**
100,000	**Homo Sapien brain reaches current size**
40,000	Regular use of flints to start fires
12,000	Regular use of axes, chisels, and gouges
10,000	Agriculture takes root
10,000	Domestication of animals begins
120	Manufactured foods begin to appear
70	Fast food restaurants begin to appear

Prevalence of Obesity Among U.S. Adults Aged 20-74

Derived from NHANES data (http://www.cdc.gov/nchs/data/hestat/obesity_adult_09_10/obesity_adult_09_10.html#table1)

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Human Evolution Milestones

Why Do We Gain Weight?

Why Do We Gain Weight?

The Simple Answer

When we eat more calories than we burn our body stores the extra calories as fat until we reach a weight where we burn all of the calories that we eat.

Why Do We Store Extra Calories as Fat?

- The body stores carbohydrate and fat but it converts excess protein into carbohydrate.

- The brain and many parts of the body prefer to burn glucose (a simple sugar carbohydrate) for immediate and between meal energy needs.

- Carbohydrate has 4 calories per gram but fat has 9 calories per gram. So the most efficient way to store calories for long term use is to store fat.

- In times of famine, fasting, or low carbohydrate and protein intake, the body will burn fat to supply energy for the brain and other essential organs.

Why Is It So Hard to Lose Weight?

Why Is It So Hard to Lose Weight?

- The human body is designed to gain weight during times of plentiful food so it has energy reserves to supply energy to the brain and vital organs during times of scarce food supply.

- When you start to eat fewer calories, the body thinks that a famine is coming and it dials down your metabolism to conserve energy.

Humans evolved for many thousands of years before the invention of well stocked grocery outlets, fast food restaurants, and manufactured foods.

The body does not understand that famine has been eliminated for most of us.

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Why Is It So Hard to Lose Weight?

- Many social gatherings revolve around meals and snacks that are high in calories.

- Everyone around you often eats the **S**tandard **A**merican **D**iet (the SAD diet) that includes high calorie foods.

- The food industry designs foods to stimulate pleasure so they become as addictive as possible to generate increased profits.

- The food industry bombards you with advertising and social media campaigns to entice you to consume their manufactured foods.

Why Is It Harder for Women to Lose Weight?

- In prehistoric times, women who could store more extra calories during times of plenty could support themselves and a fetus or a breast feeding baby during times of food scarcity.

- These women had a greater chance to survive and raise healthy children to pass on the genes that allowed a greater weight gain.

The Dietary Pleasure Trap

Enhanced Pleasure Zone

Normal Pleasure Zone

Subnormal Pleasure Zone

Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Whole natural foods	Introduction of processed foods	Neuro-adaptation to pleasure from "junk" foods	Reintroduction of whole natural foods	Restoration of full pleasure from whole natural foods
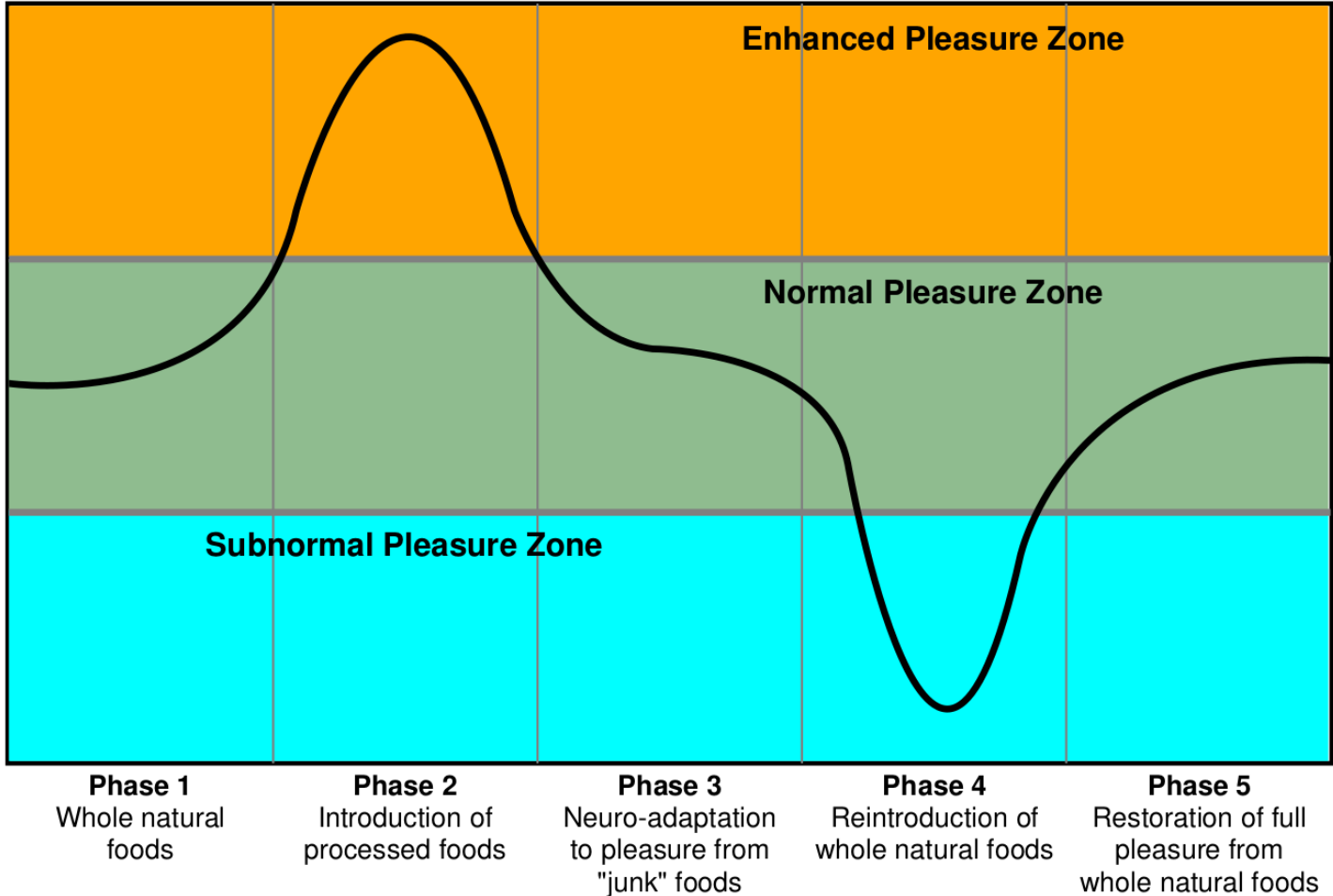
Phases in the Dietary Pleasure Trap

Phase 1: You are eating calorie dilute whole natural plant foods with little or no calorie dense animal foods, the diet humans evolved to eat over millions of years.

You are in the *normal pleasure zone.*

Phase 2: You begin to eat calorie dense processed foods that contain unnatural amounts of salt, sugar, or fat that trigger extra feelings of pleasure in your brain.

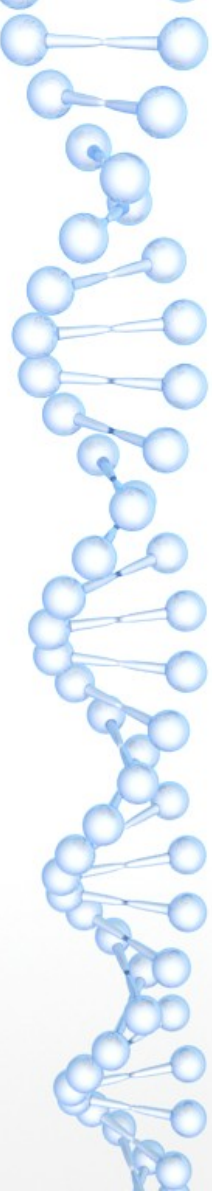You are in *the enhanced pleasure zone.*

Phases in the Dietary Pleasure Trap

Phase 3: After a few weeks your brain gets acclimated to the enhanced pleasure and eating the same amount of these processed foods no longer provides extra pleasure.

You return to the ***normal pleasure zone.***

Phase 4: You begin to to gain weight because of the high calorie density of the processed foods so you decide to go back to eating mostly whole natural plant foods. But initially this switch does not provide the same pleasure that your brain is used to getting from the processed foods.

You are now in the ***subnormal pleasure zone.***

You are Now Caught in the Dietary Pleasure Trap

- You feel good when you eat unhealthy, calorie dense processed foods with unnatural levels of sugar, salt and fat.

- You feel bad when you eat more healthy, calorie dilute whole plant foods with natural levels of sugar, salt and fat.

Phases of the Dietary Pleasure Trap

Phase 5: You continue to eat healthy natural foods and after two to four weeks you begin to feel more pleasure, you start to lose weight and your health begins to improve. After ten to twelve weeks the transformation is complete.

You have returned to the
normal pleasure zone.

Consequences of the Dietary Pleasure Trap

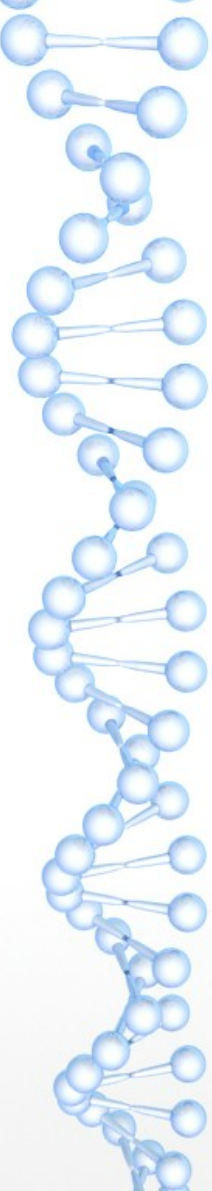Many children and young adults in this country have been eating unhealthy high calorie density processed foods for most of their lives. They have never been in Phase 1 or Phase 2. They have always been in Phase 3.

They are continually caught in the Dietary Pleasure Trap!

As a result, many are overweight and develop chronic diseases like diabetes at an early age.

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What Do We Need to Do to Lose Weight?

What Do We Have to Do to Lose Weight?

Diet

Eat fewer calories than currently consumed.

Exercise or Other Tricks

Burn more calories than currently consumed.

How Can We Consume Fewer Calories?

- Measure the quantity of food we eat and count the calories consumed.
- Pay some weight loss company to send us meals that are designed to have fewer calories.
- Consume pills or other substances that claim they suppress your appetite.

What Is the Secret to Permanent Weight Loss?

If you try to lose weight by

eating less food

and

exercising more

you will eventually fail!

Eat more food!

Eat more low *calorie density,* high *satiety, nutrient dense* foods.

What Is Calorie Density?

What Is Calorie Density?

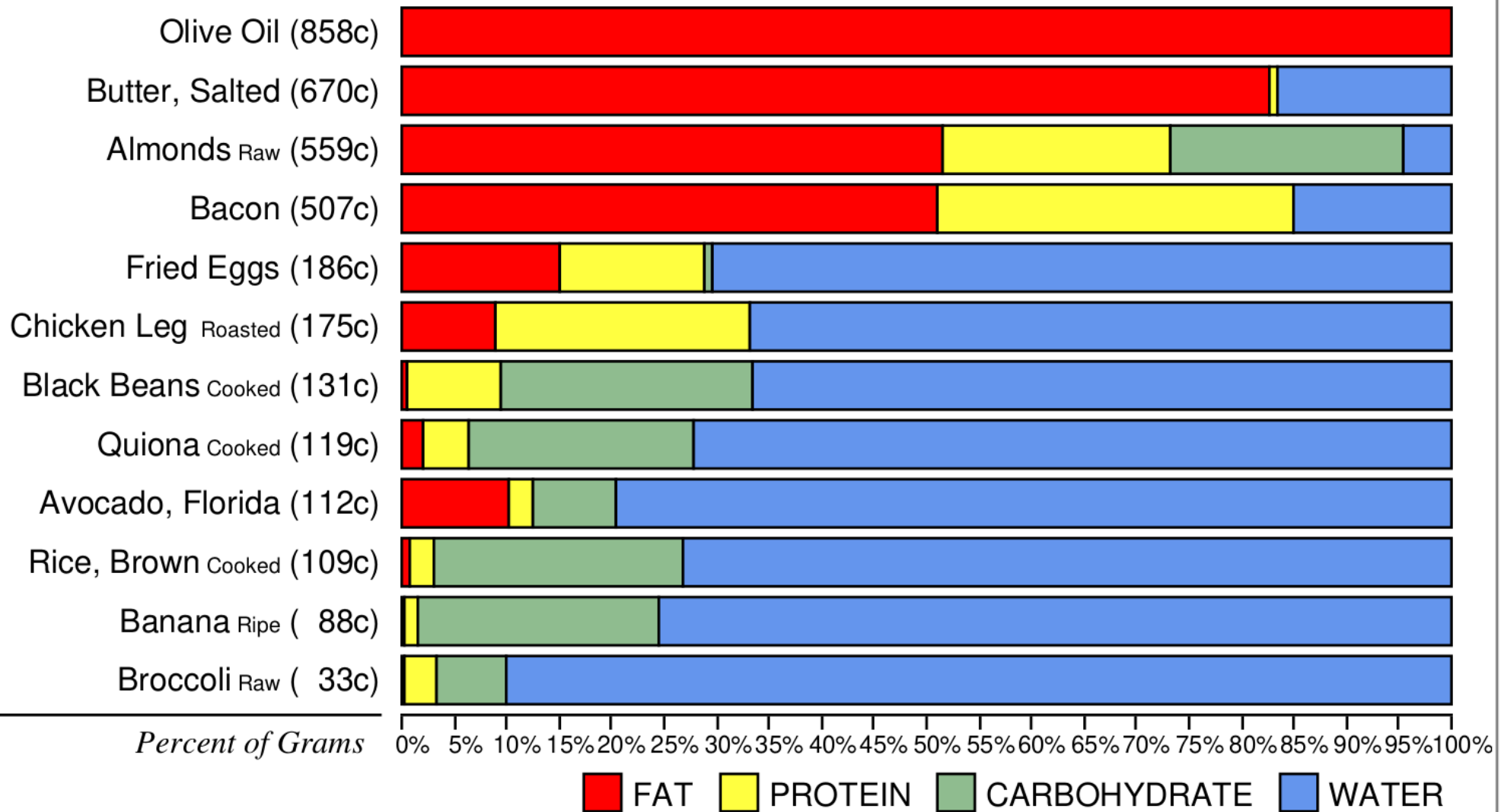Calorie density is a number that describes
the number of calories in a given weight of food.

FOOD	CALORIES PER		FOOD	CALORIES PER	
	GRAM	POUND		GRAM	POUND
Mixed Salad Greens	0.17	77	Whole Egg Raw	1.43	649
Broccoli Raw	0.34	154	Beef Chuck Roast	1.72	780
Apricots Raw	0.48	218	Chicken Leg Roasted	1.84	835
Cow Milk, 2%	0.50	227	Whopper w Cheese	2.68	1216
Blueberries	0.57	259	Cheese, American	3.30	1497
Oatmeal Cooked	0.87	395	Kellog Frost Flakes	3.69	1674
Potato, Sweet Baked	0.90	408	Bacon	5.56	2522
Quiona Cooked	1.20	544	English Walnuts Raw	6.54	2966
Black Beans Cooked	1.32	599	Olive Oil	8.82	4001

100 GRAM (3.5 OZ) SERVING

Food		Composition
Olive Oil (858c)		
Butter, Salted (670c)		
Almonds Raw (559c)		
Bacon (507c)		
Fried Eggs (186c)		
Chicken Leg Roasted (175c)		
Black Beans Cooked (131c)		
Quiona Cooked (119c)		
Avocado, Florida (112c)		
Rice, Brown Cooked (109c)		
Banana Ripe (88c)		
Broccoli Raw (33c)		

Percent of Grams   0% 5% 10% 15% 20% 25% 30% 35% 40% 45% 50% 55% 60% 65% 70% 75% 80% 85% 90% 95% 100%

■ FAT   ■ PROTEIN   ■ CARBOHYDRATE   ■ WATER

100 CALORIE SERVING

Food	FAT	PROTEIN	CARBOHYDRATE
Olive Oil (12g)			
Butter, Salted (15g)			
Almonds Raw (18g)			
Bacon (20g)			
Fried Eggs (54g)			
Chicken Leg Roasted (57g)			
Black Beans Cooked (76g)			
Quiona Cooked (84g)			
Avocado, Florida (89g)			
Rice, Brown Cooked (92g)			
Banana Ripe (114g)			
Broccoli Raw (303g)			

Percent of Calories 0% 5% 10% 15% 20% 25% 30% 35% 40% 45% 50% 55% 60% 65% 70% 75% 80% 85% 90% 95% 100%

■ FAT ■ PROTEIN ■ CARBOHYDRATE

Factors That Effect Calorie Density

Factors That Decrease Calorie Density	Factors That Increase Calorie Density
✓ High Water Content ✓ High Fiber Content ✓ Bulk (Volume)	✓ High Fat Content ✓ High Sugar Content ✓ High Refined Carb Content

Calorie Density Scale

| CALORIES PER POUND	FOODS	
60 - 195	Most vegetables	**EAT MORE**
140 - 420	Most Fruits	
320 - 630	Potatoes, Pasta, Rice, Barley, Corn, Hot Cereals	
310 - 780	Beans, Peas, Cooked Lentils	
920 - 1360	Breads, Bagels, Fat-free Muffins, Dried Fruit	**EAT LESS**
1000 - 1800	Fatty Protein (Meats and Cheeses)	
1200 - 1800	Sugars (Sugar, Honey, Agave, Corn Syrup, etc)	
1480 - 1760	Dry Cereals, Baked Chips, Fat-free Crackers, Pretzels	
2400 - 3200	Nuts and Seeds	
4000	Oils	
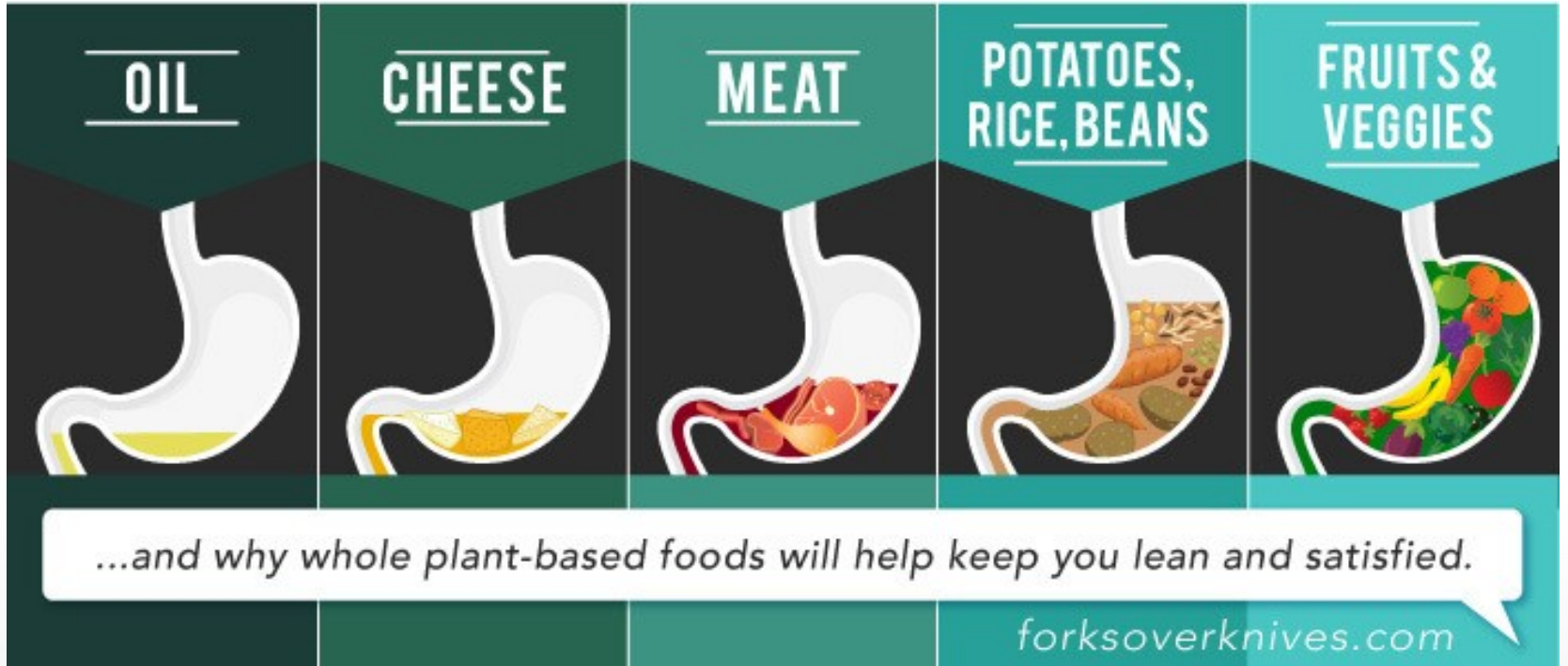
Calorie Density

Calorie Density Example – Vegan Breakfast

TYPICAL BREAKFAST - CEREAL WITH FRUIT
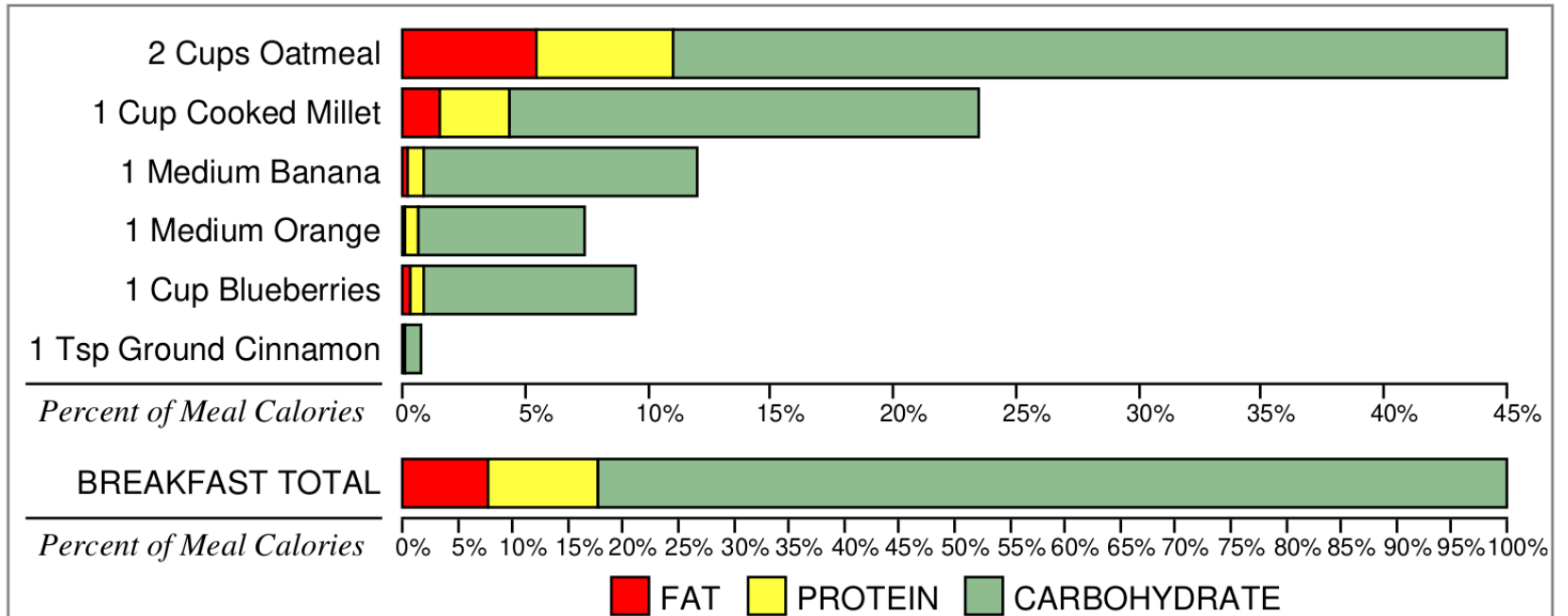
	GRAMS		MILLIGRAMS		CALORIES			
MEAL	WATER	FIBER	CHOL	SODIUM	FAT	PROTEIN	CARBS	TOTAL
1058 (2.3 lb)	830	24	0	414	67 (8%)	87 (10%)	710 (81%)	879

Data Source: USDA Food Central Legacy Database

Calorie Density Example – Carnivore Breakfast

TYPICAL BREAKFAST - EGGS, HOME FRIES, BACON AND TOAST
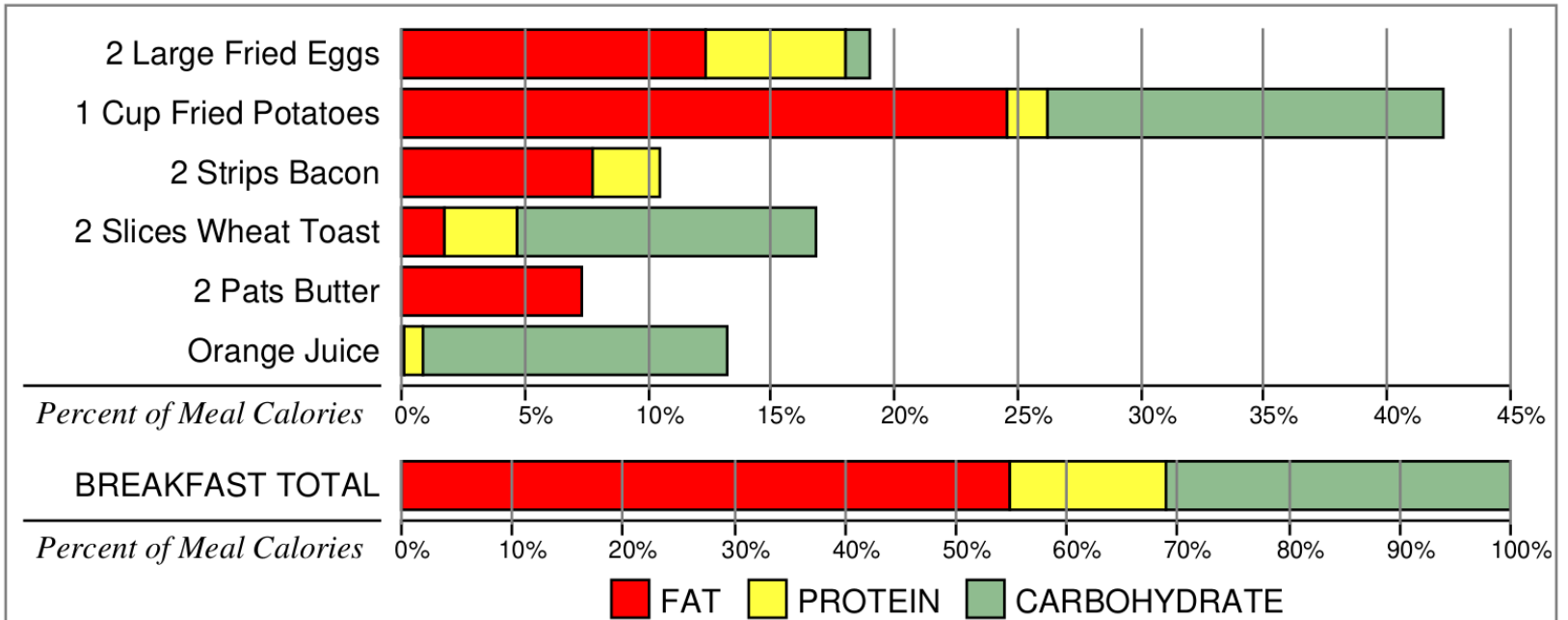
Chart – Percent of Meal Calories by food item:
- 2 Large Fried Eggs
- 1 Cup Fried Potatoes
- 2 Strips Bacon
- 2 Slices Wheat Toast
- 2 Pats Butter
- Orange Juice

Percent of Meal Calories — axis: 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%

BREAKFAST TOTAL

Percent of Meal Calories — axis: 0%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, 100%

Legend: FAT (red), PROTEIN (yellow), CARBOHYDRATE (green)

GRAMS			MILLIGRAMS		CALORIES			
MEAL	WATER	FIBER	CHOL	SODIUM	FAT	PROTEIN	CARBS	TOTAL
619 (1.4 lb)	427	8	328	1554	488 (48%)	126 (12%)	377 (37%)	1021

Data Source: USDA Food Central Legacy Database

Calorie Density Example

TYPICAL BREAKFAST - CEREAL WITH FRUIT

GRAMS			MILLIGRAMS		CALORIES			
MEAL	WATER	FIBER	CHOL	SODIUM	FAT	PROTEIN	CARBS	TOTAL
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TYPICAL BREAKFAST - EGGS, HOME FRIES, BACON AND TOAST

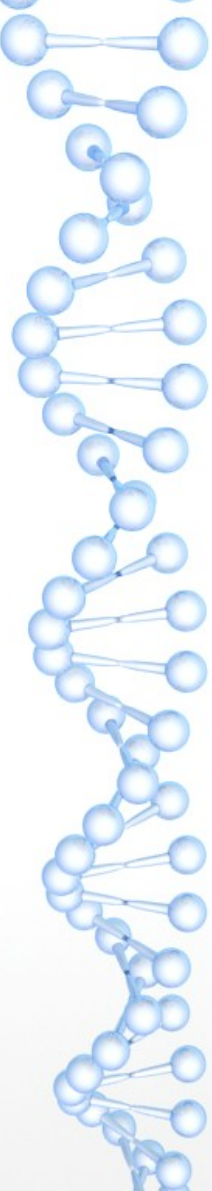| GRAMS			MILLIGRAMS		CALORIES			
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What Is Satiety?

What Is Satiety?

Satiety is a physical feeling of fullness
that allows us to stop eating for a while.

Ideally satiety diminishes as nutrients diminish.
When nutrients diminish, hunger returns.

Characteristics of Filling Foods

- **Contain Protein**: Protein changes the level of several satiety hormones including ghrelin.

- **High in Fiber**: Fiber provides bulk and helps you feel full for longer. It may also slow stomach emptying and increase digestion time.

- **High in Volume**: High volume foods fill and stretch the stomach which provides a physical sense of being full.

- **Low in Calorie Density**: Foods with low calorie density are very filling because they usually contain a lot of water and fiber but are low in fat.

Factors That Effect Calorie Density and Satiety

Factors That Decrease Calorie Density	Factors That Increase Satiety
✓ High Water Content	✓ High Water Content
✓ High Fiber Content	✓ High Fiber Content
✓ Bulk (Volume)	✓ Bulk (Volume)

FOOD	CALORIES PER		SATIETY INDEX	NUTRIENT DENSITY
	GRAM	POUND		
Broccoli Raw	0.34	154		340
Kale Raw	0.35	159		1000
Grapes	0.67	304	162 %	119
Apples	0.53	239	197 %	53
Bananas	0.89	404	118 %	30
Potato, White Baked	0.92	417	330 %	28
Lentils Cooked	1.06	481	133 %	
Beef Ckuck Roast	1.59	721	176 %	
Bread, White	2.70	1225	100 %	27
Walnuts	6.54	2966		30
Olive Oil	8.82	4001		10

Weight Loss Tips

When to Eat

✓ Confine your eating to an eight to ten hour window.

✓ Shift your daily distribution of calories to earlier in the day.

✓ Complete your last meal at least three hours before your normal bedtime.

What to Eat

✓ Eat mostly, but preferably all, lower calorie density whole plant foods.

✓ Add two teaspoons of vinegar to every meal (or one tablespoon at each of two meals).

✓ Add spice to one of your meals:

- *One quarter teaspoon of* **black cumin** *daily.*
- *One quarter teaspoon of garlic powder daily.*
- *One teaspoon of ground ginger daily.*
- *Add chilli peppers or cayenne pepper to a meal.*

✓ Drink black coffee early in the day if you are not caffeine sensitive.

✓ Drink unsweetened green tea between meals.

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What Not to Eat

✓ Avoid all highly processed (manufactured) foods.

✓ Avoid added oils, especially coconut and palm oil.

✓ Eliminate liquid calories.

✓ Eliminate artificially sweetened drinks.

✓ Avoid deserts.

How to Eat

✓ Practice mindful eating.
- *Why are you eating?*
- *What are your eating?*

✓ Preload with a glass of water or a low calorie density salad or soup.

✓ Chew your food thoroughly.

✓ Take at least 20 minutes to complete the meal.

✓ Avoid distractions from smart phones, computers, and televisions.

Burn More Calories

✓ Do more walking:
- *Take a short walk during television commercials.*
- *Park farther away from your building entrance.*
- *Park farther away when you shop for groceries.*

✓ Buy a pair of three or five pound hand weights:
- *Carry the weights when walking.*
- *Lift the weights.*

✓ Take the stairs instead of the elevator.

✓ Take advantage of some of the many opportunities for exercise provided by Willow Valley.
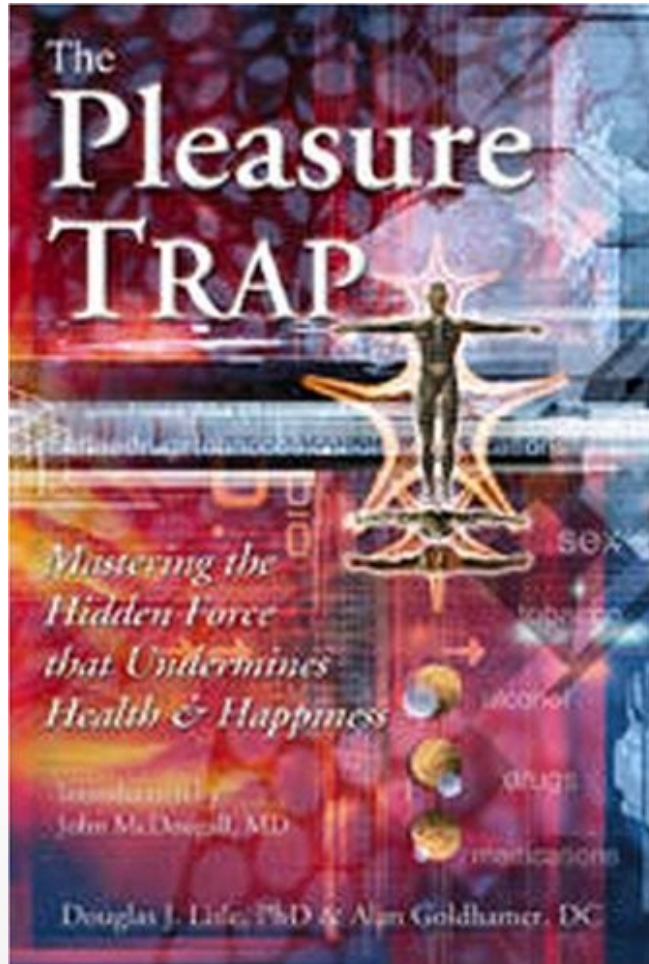
✓ If you are sitting watching television, find ways to move.

Other Tips

✓ Keep a food journal and begin to substitute lower calorie density foods in place of higher calorie density foods.

- *"If you bite it, then you write it."*

✓ Do not buy any highly processed junk foods.

- *"If its in your house, its in your mouth."*

✓ Choose smaller plates, bowls and cups.

✓ Get enough sleep:

- *Lack of sleep increases your hunger hormone and decreases your satiety hormone.*

Final Notes

Recommended Books

The Pleasure Trap: Mastering the Hidden Force that Undermines Health & Happiness — Douglas J. Lisle, PhD & Alan Goldhamer, DC

The CHEESE TRAP: How Breaking a Surprising Addiction Will Help You Lose Weight, Gain Energy, and Get Healthy — Neal D. Barnard, MD, FACC — NEW YORK TIMES BESTSELLING AUTHOR — Recipes by Dreena Burton

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Recommended Books

Recommended Youtube Videos

✓ The Pleasure Trap
- *A presentation by Dr. Douglas Lisle.*

✓ Escaping The Pleasure Trap
- *A presentation by Dr. Alan Goldhamer.*

✓ The Cheese Trap: Addiction, Health & Weight Problems
- *A presentation by Dr. Neal Barnard.*

✓ Are You Hooked On Food?
- *An interview with Michael Moss by Chef AJ.*

✓ **Evidence-Based Weight Loss**
- *A presentation by Dr. Michael Greger.*

Nutrition Website

The slides for this presentation and
links to the recommended Youtube videos
are available at

web4dmarch.com/nutrition/talkWeight.htm

Email comments, questions and suggestions to

nutrition@web4dmarch.com