Nutrition and Lifestyle: A Historical Perspective

Arthur Agatston

11/5/15
"In the three short decades between now and the twenty-first century, millions of ordinary, psychologically normal people will face an abrupt collision with the future..."  January 1, 1970
Pre-Human
Millions of Yrs

Hunter Gatherers
400,000 Yrs

Agriculturists
10,000 Yrs

Industrial Revolution
100 Yrs
Digital Age
Last 25 Years
## Nutritional Analyses Compared

### Hunter-Gatherer Diet
- **Carbohydrates:**
  - >100 species veggies & fruit
  - >100 grams of fiber daily
  - >Roots, legumes, berries

- **Protein and Fat:**
  - Game meats – deer, bison
  - High Protein/high cholesterol
  - More omega-3 fatty acids

- **Vitamins and Minerals**
  - Much less sodium
  - Much more potassium
  - 1.5-5 x levels of vitamins

### Contemporary Diet
- **Carbohydrates:**
  - < 10 species vegies & fruit
  - < 20 grams of fiber daily
  - Sugars, sweetners, grains

- **Protein and Fat:**
  - Feedlot cattle & poultry
  - Half the % of protein/high chol
  - More omega-6 fatty acids

- **Vitamins and Minerals**
  - Much more sodium
  - Much less potassium
  - Lost in processing & storage

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2002 Fred Peshkow MD, FACC
Small Belly From Efficient Digestion and Functional Exercise

He's obviously not smart.

I wonder how he will taste.
Hunter Gatherer
Hundreds of Thousands of Years
Wheat Grows Wild in Mesopotamia
The First Ground Wheat

Ground Seeds + Water + Microbes in Air = Fermentation = Edible Grains
Fields of Grain = More Energy/Acre
Birth of Towns & Villages
Birth of Cities
World Population
From Hunter Gatherer to Agriculturist

More Food, Less Starvation
Concentrated Populations + Domesticated and non-domesticated animals + poor sanitation = The Birth of Infectious Disease

The Black Plague
Cavities, Osteoporosis, Vitamin Deficiencies

From Hunter Gatherer to Agriculturist

Pre-Agricultural: 5'9"

Agriculturalist: 5'3"
Not All Were Small: Genghis Khan, Maasai

High Meat And Dairy
American Colonial Diet
The Milkmaid
Milk, Butter, Cheese, Yogurt
Colonial Recipe

Melt one pound of lard with a stick of butter and flavor this abundant compilation of animal fats by frying in it a few healthy slabs of "country ham" for approximately 45 minutes, until the country ham is brown and leathery, having rendered all of its own fat, salt and flavor into the lard mixture.
Was This a Recipe for Heart Disease?
Industrial Revolution

Manufacturing, Innovation
1873 Vienna World’s Fair
The Steel Roller Mill ➔ White Flour
Transportation and Refrigeration: From Fresh to Food Storage
1870: Standard Oil; Cheap Kerosene Lights up the Night
1893 Chicago World’s Fair: And Then There Was Electric Light
Not the Best Way to Fall Asleep

Tablets and Screens Suppress Melatonin

Fig. 2. Mean ± SEM suppression values for the tablet-only and for the tablet with blue LEDs at 00:00 and at 01:00. Suppression after 1-h exposure to the tablet-only condition was not significantly different than zero; all other suppression values (marked with asterisks) were significantly greater than zero (p < 0.05). The orange-tinted glasses condition served as the “dark” control condition.

1909: Trans-Fats Vegetable Oil Introduced
1912: Dr. James Herrick Reports First Case of Coronary Thrombosis “Heart Attack”
In the 1943 Cardiology Text Book, he said: "...when I graduated from medical school in 1911, I had never heard of coronary thrombosis, which is one of the chief threats to life in the United States and Canada today.... There can be no doubt but that coronary heart disease has reached epidemic proportions in the United States, where it is now responsible for more than 50 per cent of all deaths...."
Heart disease mortality rates for the US population - 1900-2004

Butter vs. Margarine

U.S. Butter and Margarine Consumption 1909-2004

Trans-fats
Was the Heart Attack Epidemic Due to Over-nutrition and Obesity?

Undernourished WWII recruits

2000s

Army recruiters plagued by fat kids
Posted by Nadia Pflaum on Wed, Feb 11, 2009 at 8:36 AM
Last 25 Years-The Digital Age
1980s: It All Started with the Food Pyramid
The Sitting Disease

Is this what Bill Gates had in Mind?
iPosture
Do you suffer from iPosture? Tablets and smartphones are causing an epidemic of back pain as people hunch over devices

- 84 per cent of 18-24 year olds have admitted to suffering back pain in the last 12 months, according to a survey by Simplyhealth.
- The results also showed almost all age groups spend as much time in front of a PC, laptop or tablet screen in total as they do asleep in bed.
- Brian Hammond, CEO of BackCare, warned hunching over handheld devices is a contributory factor in back pain reported by different generations.

By DAILY MAIL REPORTER

PUBLISHED: 11:39 EST, 30 September 2013 | UPDATED: 19:55 EST, 30 September 2013
The Chair=The Core Buster
Stand Straight, Don’t Sit & Schlump

Lumo Lift
(The Schlumpometer)
Obesity Trends* Among U.S. Adults
BRFSS, 1990
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1991

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1992

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1993

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1994

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1995

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1996
(*BMI ≥30, or ~30 lbs. overweight for 5’4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1997

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1998

(*BMI ≥30, or ~30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1999

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 2000
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 2001
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 2002

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults BRFSS, 2003

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 2004

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 2005

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 2006

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 2007
(*BMI ≥30, or ~30 lbs. overweight for 5’4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 2008

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 2009

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1990
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Why?
SnackWell's

Devil’s Food...devilishly decadent! Moist, rich chocolatey cake wrapped in luscious marshmallow and covered with irresistible chocolate icing.

So delicious, you won’t believe they’re fat free and 50 calories per serving.

SnackWell’s offers over 25 varieties of delicious fat free & reduced fat products.

Try Creme Sandwich Cookies!

Nutrition Facts

Serving Size 1 Cookie (16g)
Serving Per Container 12

<table>
<thead>
<tr>
<th>Amount Per Serving</th>
<th>% Daily Value*</th>
</tr>
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<tbody>
<tr>
<td>Calories 50</td>
<td>Calories from Fat 0%</td>
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<tr>
<td>Total Fat 0g</td>
<td>0%</td>
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<tr>
<td>Saturated Fat 0g</td>
<td>0%</td>
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<tr>
<td>Cholesterol 0mg</td>
<td>0%</td>
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<tr>
<td>Sodium 30mg</td>
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<tr>
<td>Total Carbohydrate 12g</td>
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<tr>
<td>Dietary Fiber 0g</td>
<td>0%</td>
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<tr>
<td>Sugars 9g</td>
<td></td>
</tr>
<tr>
<td>Protein 1g</td>
<td></td>
</tr>
</tbody>
</table>

INGREDIENTS: SUGAR, ENRICHED WHEAT FLOUR (CONTAINS NIACIN, REDUCED IRON, THIAMINE MONONITRATE [VITAMIN B1], RIBOFLAVIN [VITAMIN B2], FOLIC ACID), HIGH FRUCTOSE CORN SYRUP, CORN SYRUP, WATER, COCOA* (PROCESSED WITH ALKALI), SKIM MILK, GELATIN, BAKING SODA, CORN STARCH, MODIFIED FOOD STARCH, CHOCOLATE*, SOY LECITHIN* (EMULSIFIER), SALT, POTASSIUM SORBATE (TO PRESERVE FRESHNESS), ARTIFICIAL FLAVOR.

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BRAND SEAL
SNACKWELL'S
DEVIL'S FOOD COOKIE CAKES

BAR CODE:
4400004754 2
1980s: It All Started with the Food Pyramid

- **Fats, Oils & Sweets**
  - Use sparingly

- **Milk, Yogurt & Cheese Group**
  - 2-3 servings

- **Vegetable Group**
  - 3-5 servings

- **Fruit Group**
  - 2-4 servings

- **Meat, Poultry, Fish, Dry Beans, Eggs & Nuts Group**
  - 2-3 servings

- **Bread, Cereal, Rice & Pasta Group**
  - 6-11 servings

**KEY**
- Fat (naturally occurring and added)
- Sugars (added)

These symbols show fats and added sugars in foods.
Increased consumption of refined carbohydrates and the epidemic of type 2 diabetes in the United States: an ecologic assessment


FIGURE 2. Change in total carbohydrate consumption in the United States between 1909 and 1997, reflected by the replacement of whole grains (smaller circles) with corn syrup (larger circles) (17).
Glycemic Response

Blood Sugar

Reactive Hypoglycemia

Shepherd  PR. NEJM 1999;341:246-257
Shepherd PR. NEJM 1999;341:246-257

Fuel Reserve

Glycemic Response

Blood Sugar
Who has the thrifty gene?
Pima Indians
Fats and Carbs
Saturated Fats Compared With Unsaturated Fats and Sources of Carbohydrates for Risk of Coronary Heart Disease

Substitutions for Sat Fat From:

- Trans fat (2%)
- MUFAs (5%)
- PUFAs (5%)
- Carbohydrates from refined starches/added sugars (5%)
- Carbohydrates from whole grains (5%)

Isocaloric substitution of SFAs by equivalent energy from

Substitution Fats, Whole Grains For Refined Carbs:

- Trans fat (2%)
- SFAs (5%)
- MUFAs (5%)
- PUFAs (5%)
- Carbohydrates from whole grains (5%)

Changes in Risk (%)
Antibiotics and Obesity
Antibiotic use and childhood body mass index trajectory

Schwartz BS. International Journal of Obesity accepted article preview 21 October 2015;
Optimal Stress

Degree of Physical or Mental Stress

Degree of Optimal Health

Connectedness

Peak, Optimal Health

Too Little Stress

Too Much Stress

Did Indian American analyst at Goldman Sachs Sarvshreshth Gupta commit suicide?

Goldman Sachs New World Headquarters

Gupta studied in New Delhi and at the Wharton Business School.

AB Wire

NEW YORK: Details of the death of Sarvshreshth Gupta, 22, who worked as a tech/media/telecom analyst in Goldman Sachs' San Francisco office, have yet to be revealed, but it's now confirmed that the young graduate of Wharton Business School, who had attended the Delhi Public School in New Delhi, and got dual degrees from the University of Pennsylvania, was under tremendous work pressure, with little rest.
Summary-diet

- Do not consume trans-fats
- Avoid processed carbohydrates
- Choose good fats-omega-3, fish oil, olive oil
- Choose grain fed meat and poultry
- Full fat dairy OK
- Choose good carbs-variety of vegetables and non-tropical fruits-not fruit juices
Summary-lifestyle

• Avoid sitting for long periods in front of screens -> Stand
• Be conscious of posture
• Get a good nights sleep-no late night screens
• Moderate exercise-functional, core, interval
• Relax-Learn mindfulness-how to meditate
Thank You