

The Obesity Epidemic: Are Our Tastebuds to Blame?



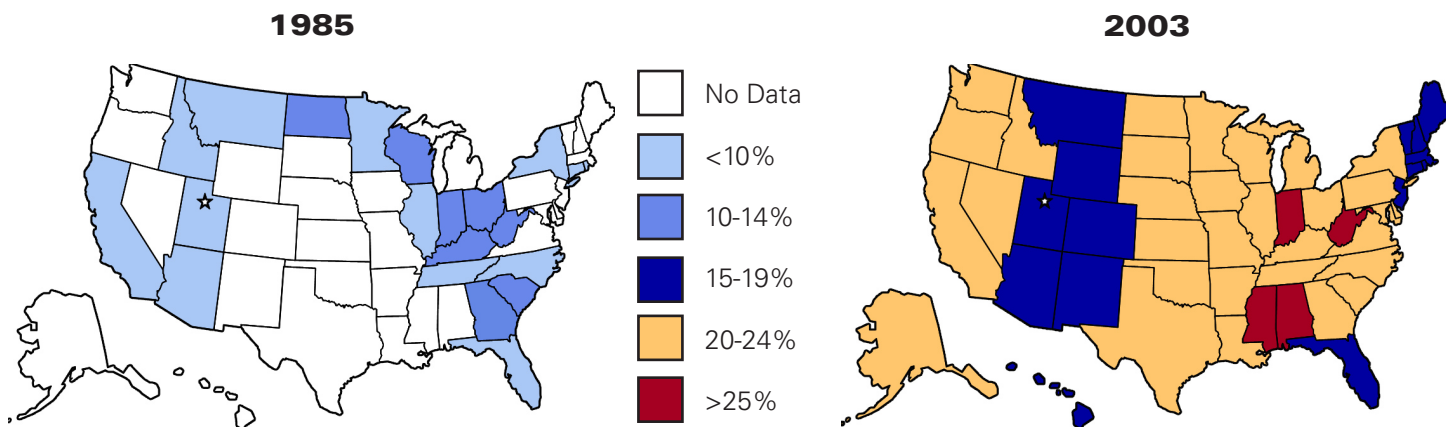
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THE EPIDEMIC >>

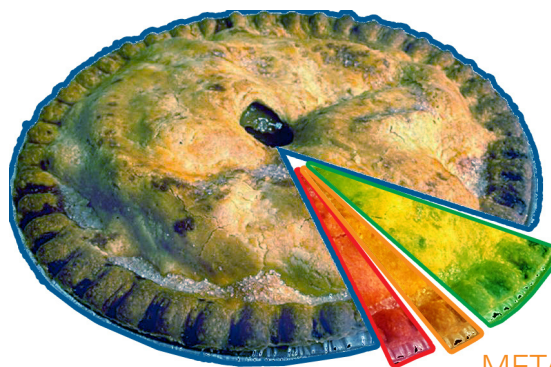
Obesity Trends in the U.S.



Health Effects of Obesity

- Hypertension
- Diabetes
- Heart Disease
- End Stage Renal Disease
- Joint Problems
- Sleep Apnea
- Cancer
- Metabolic Syndrome
- Psychosocial Effects

THE CAUSE >>



GENETIC FACTORS
obesity linked directly to genes

LIFESTYLE CHOICES
eat too much; exercise too little

SOCIOECONOMIC FACTORS
education level; food cost

METABOLIC DISORDERS
differences in energy expenditure

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THE CURE >>



If energy balance is > 1 , you gain weight
 If energy balance is < 1 , you lose weight

To cure obesity, **EAT LESS** and **EXERCISE MORE**.

THE ROADBLOCK >>

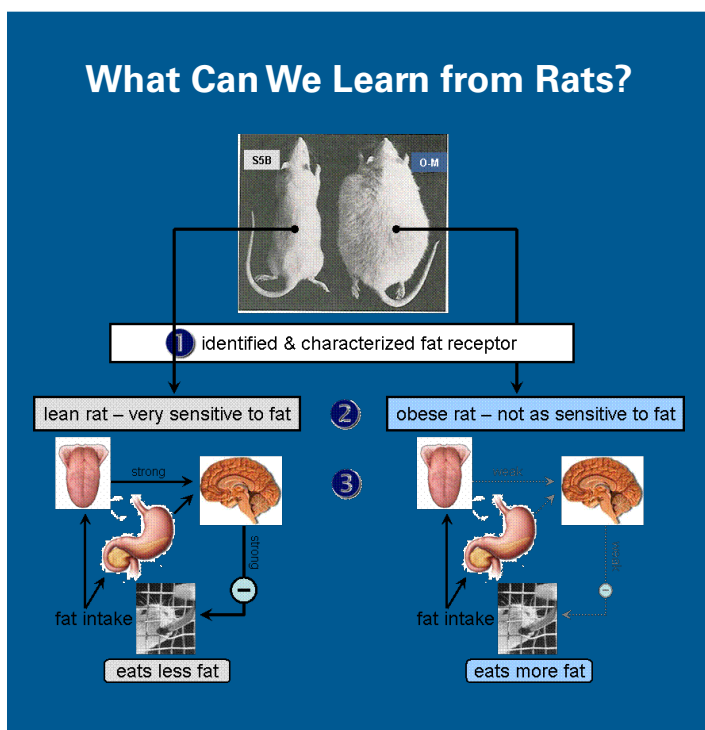
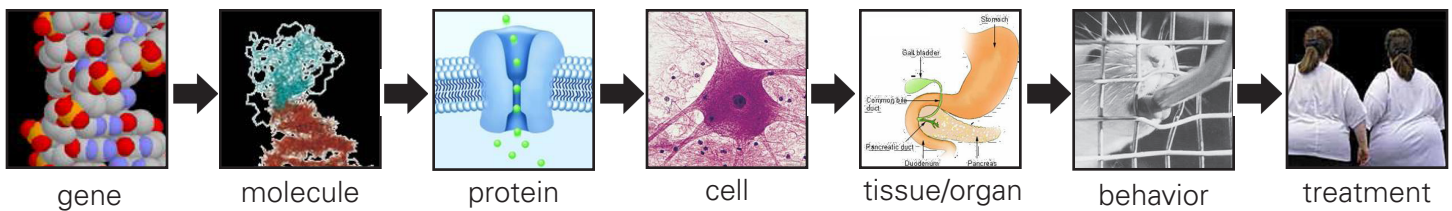
Nutrient Detection and Fat Receptors

Taste	Nutrient/Toxin
Sweet	Carbohydrates
Salty	Minerals
Umami/Amino Acid	Protein
Bitter	Toxins, Alkaloids
Sour	Spoiled/Rancid Food
?	Fat

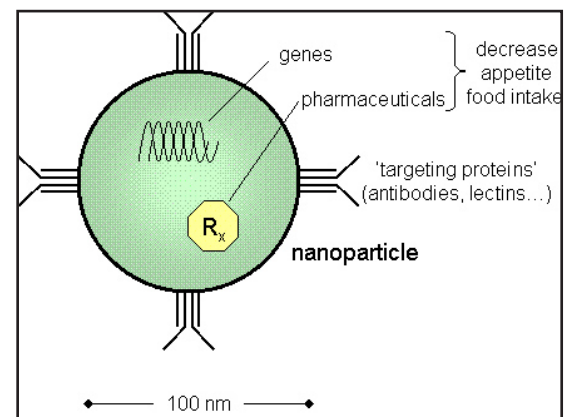
Thrifty Gene Hypothesis: Natural selection favored the survival of those individuals who could store as many calories as possible, then burn them as slowly as possible.

THE RESEARCH >>

Pathway to Success: From the lab bench to treatment



The Promise of Nanoparticles



Nanoparticles are made up of the same lipid molecules that are found in the cells of the body. These nanoparticles are fabricated in a laboratory and once inside the body, can be directed toward specific cells involved in appetite control. Once inside the cell, a person will be satisfied with eating smaller amounts of food during a meal.