



دکتر محمد حسن انتظاری
متخصص تغذیه و رژیم های درمانی

مدیر گروه تغذیه بالینی
دانشکده تغذیه

دانشگاه علوم پزشکی اصفهان

The background of the slide is a light gray gradient, decorated with several realistic water droplets of various sizes scattered across the top and bottom edges. The text is centered and consists of two lines in a bold, brown, sans-serif font.

WEIGHT PLATEAU

غذا و
سازش های
غذایی ما

سازگارترین غذاها
میوه ها هستند ولی به
تنهایی کافی نیستند.

چرب و شیرین!!!!!!؟؟؟؟؟؟

مَهْمَا قَدَّرْتَ أَنْ

تُعَالِجَ بِالْأَغْذِيَةِ

فَلَا تُعَالِجَ بِالْأَدْوِيَةِ



Dietary
Guidelines
for Americans

2020 - 2025

در انسان بالغ سالم **باید**
دریافت انرژی با
پرداخت آن مساوی
بشد وگرنه!!!



Obesity



**Normal Weight
BMI**
18,5 to 24,9



**Overweight
BMI**
25 to 29,9



**Obesity
BMI**
30 to 34,9

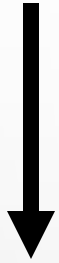


**Severe Obesity
BMI**
35 to 39,9



**Morbid Obesity
BMI**
40 or more

ENERGY INPUT=ENERGY OUTPUT



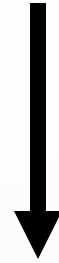
Food



پروتئین؟

چربی؟

قند؟



BM + PA +
PPT + Growth

Total calorie is important, but source also have some effects, and Calories are not the whole story



Body weight is the sum of bone, muscle, organs, body fluids, and adipose tissue. Some or all of these components are subject to normal change as a reflection of growth, reproductive status, variation in physical activity, and the effects of aging. Consistent body weight is orchestrated by neural, hormonal, and chemical mechanisms as well as individual genetic polymorphisms that balance energy intake and expenditure within fairly precise limits. Abnormalities of these complex mechanisms can result in weight fluctuations.

دو طرف این معادله توسط عوامل

هورمونی ، عصبی و شیمیایی

و محیطی کنترل می شود.

البته تمامی این موارد تا **حدی**

تابع ژنتیک فرد می باشد.

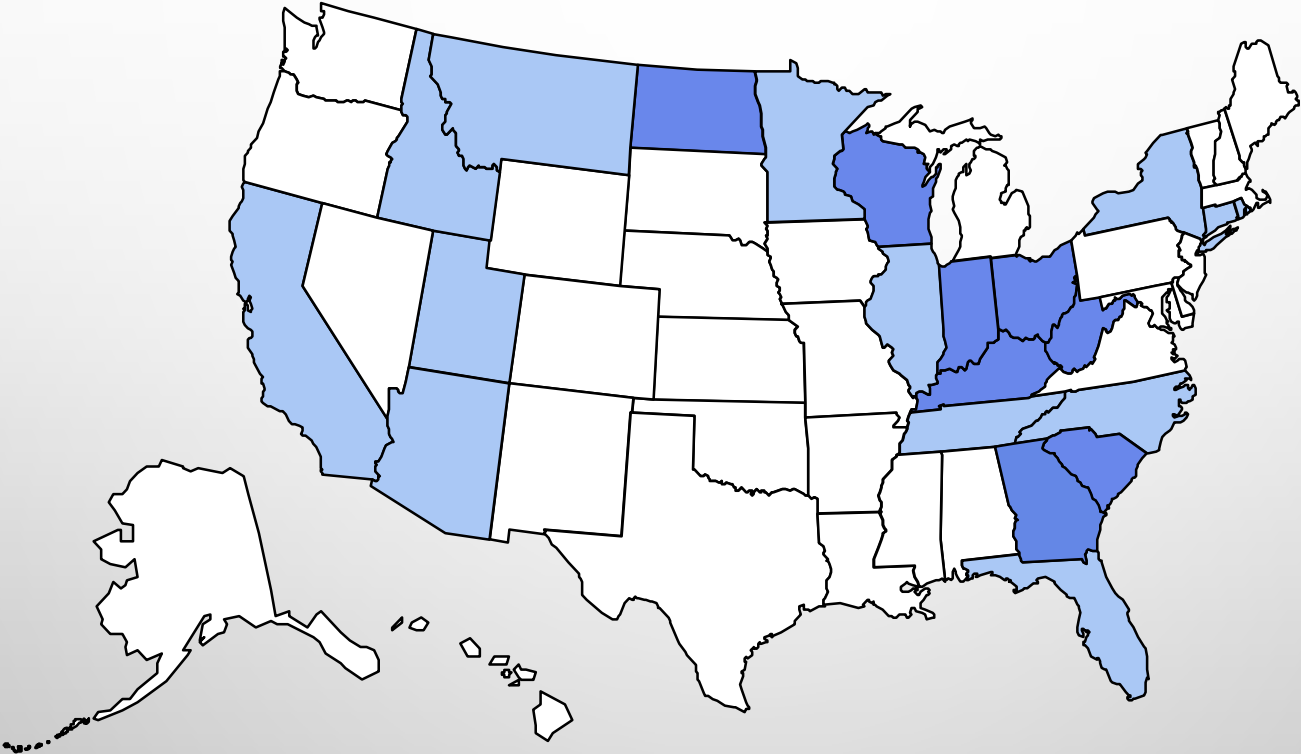
ولی ژنتیک مقصر اصلی
نیست

ژنتیک یک ماشین 12
سیلندر است

OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 1985

(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)

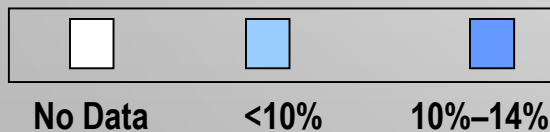
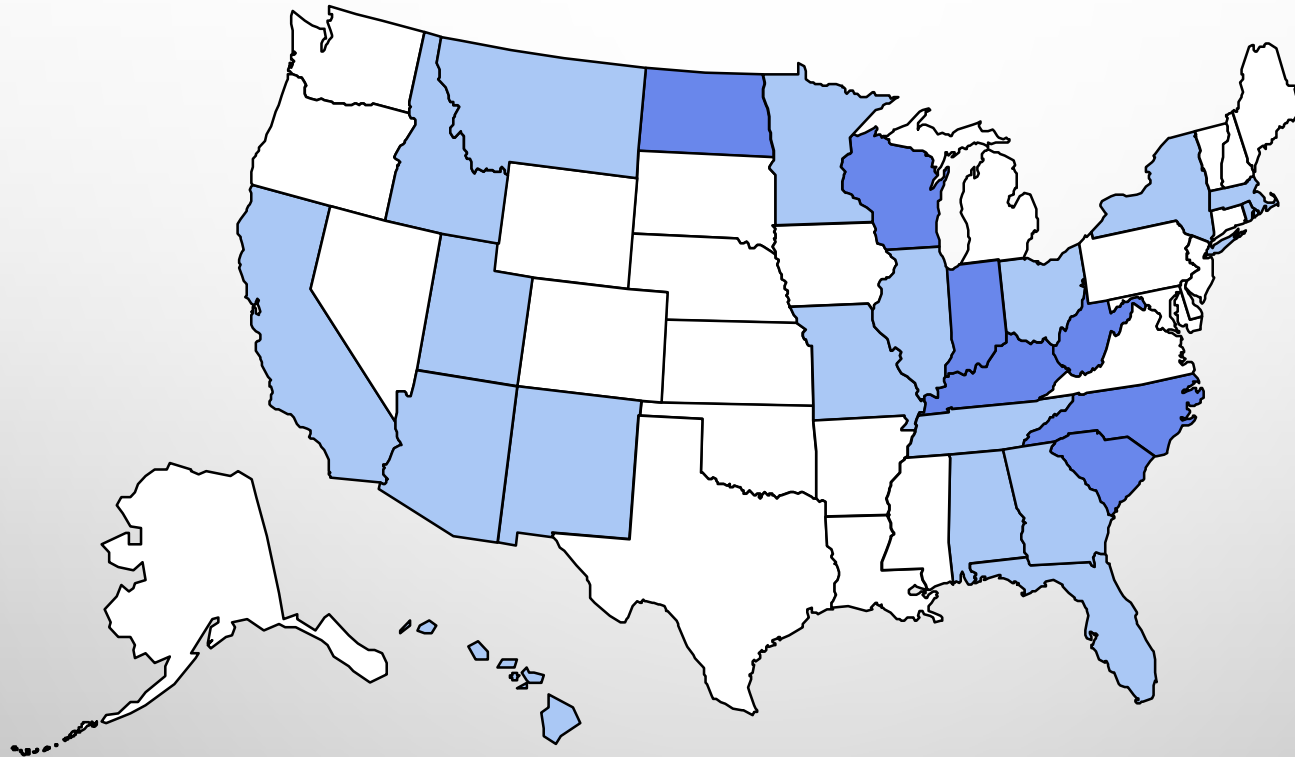


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OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 1986

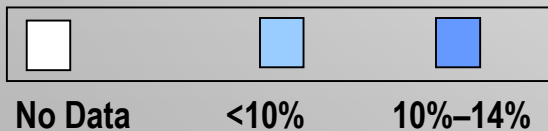
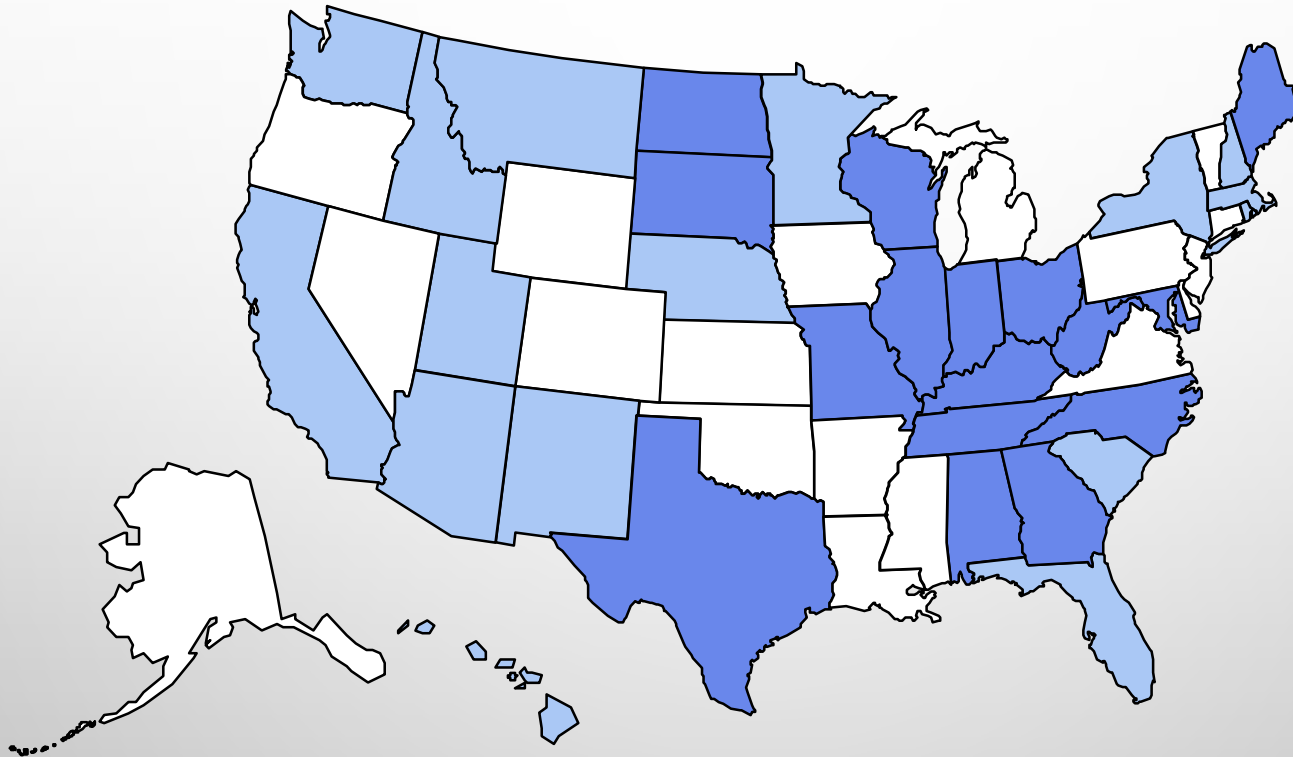
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 1987

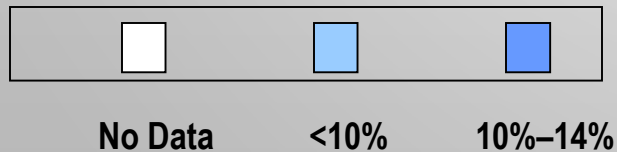
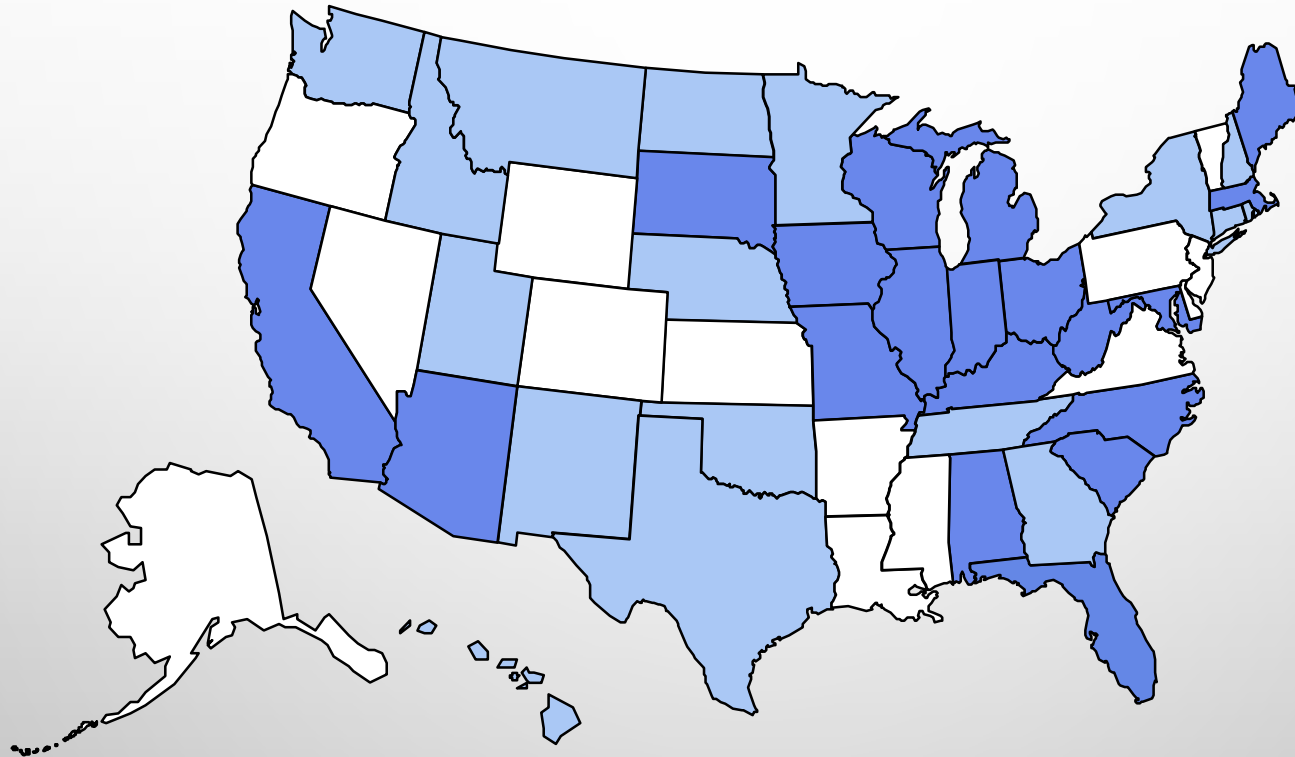
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OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 1988

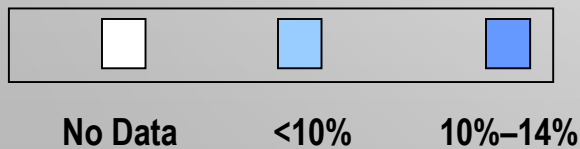
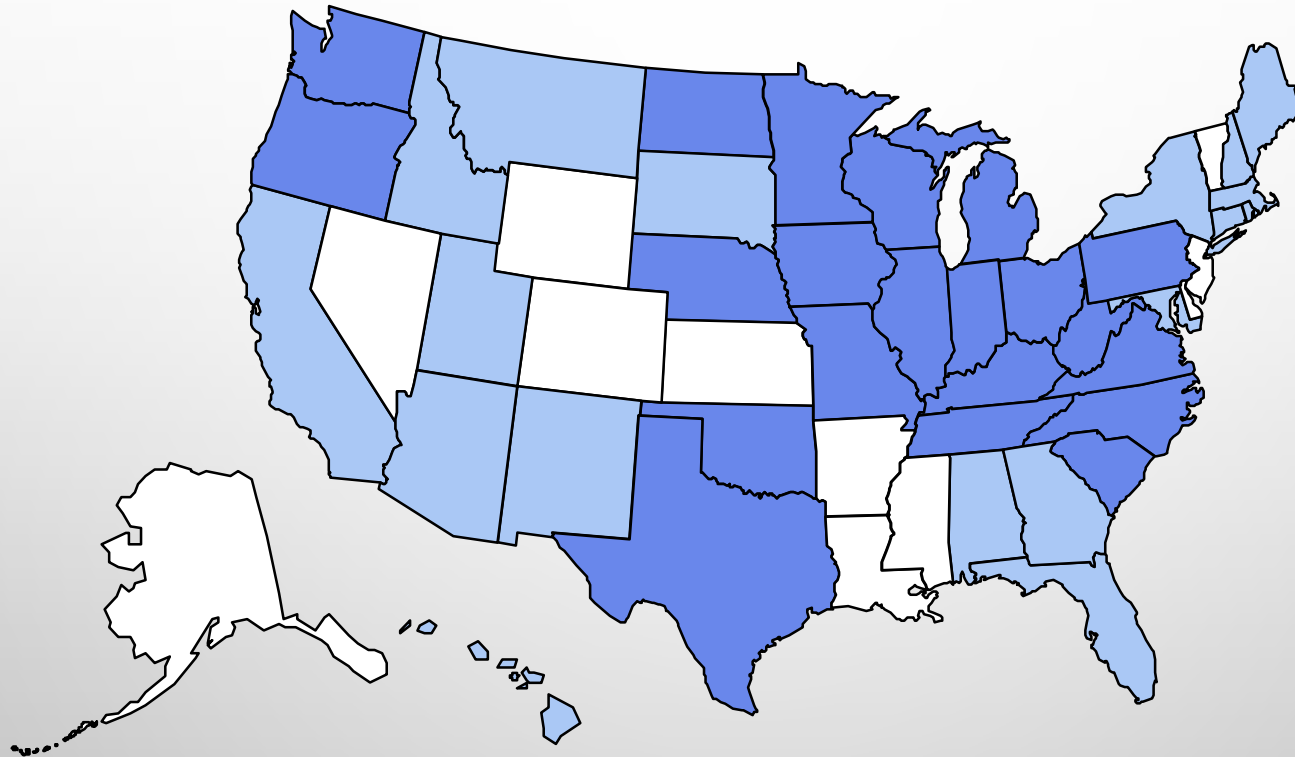
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 1989

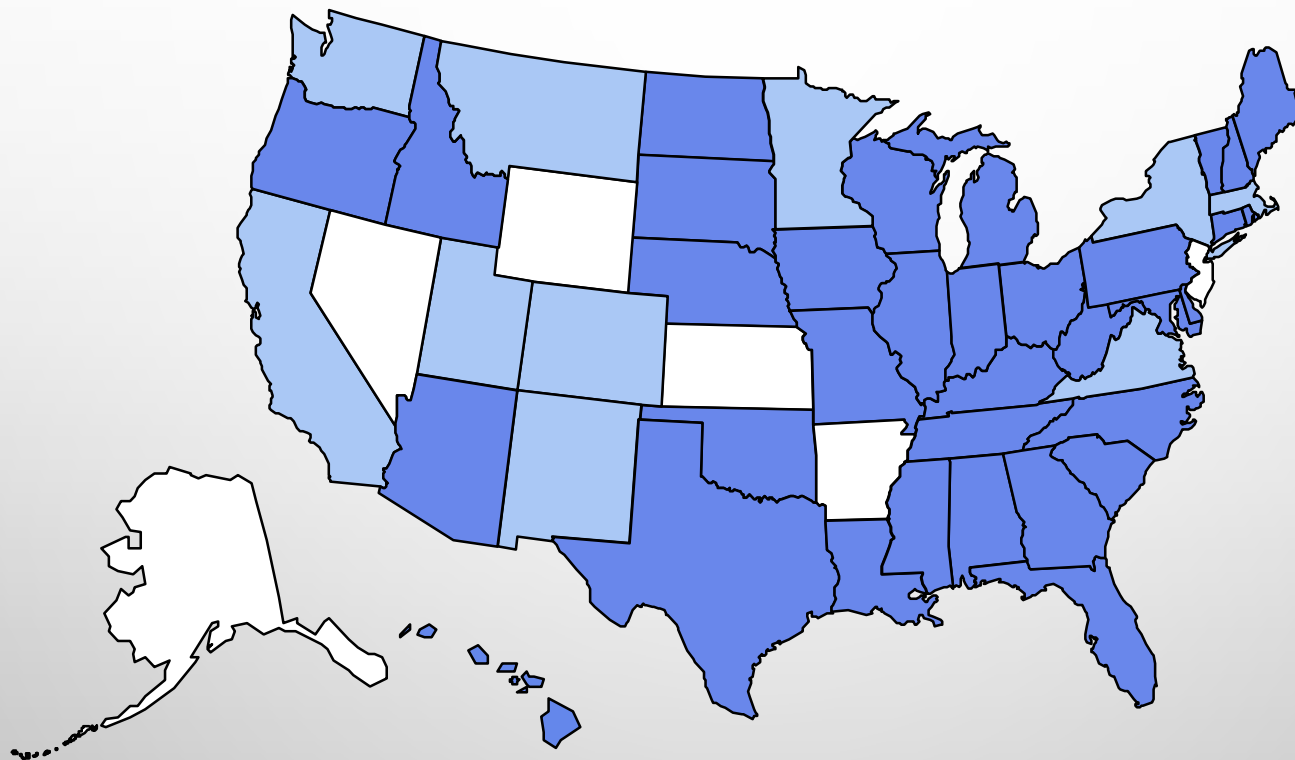
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 1990

(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



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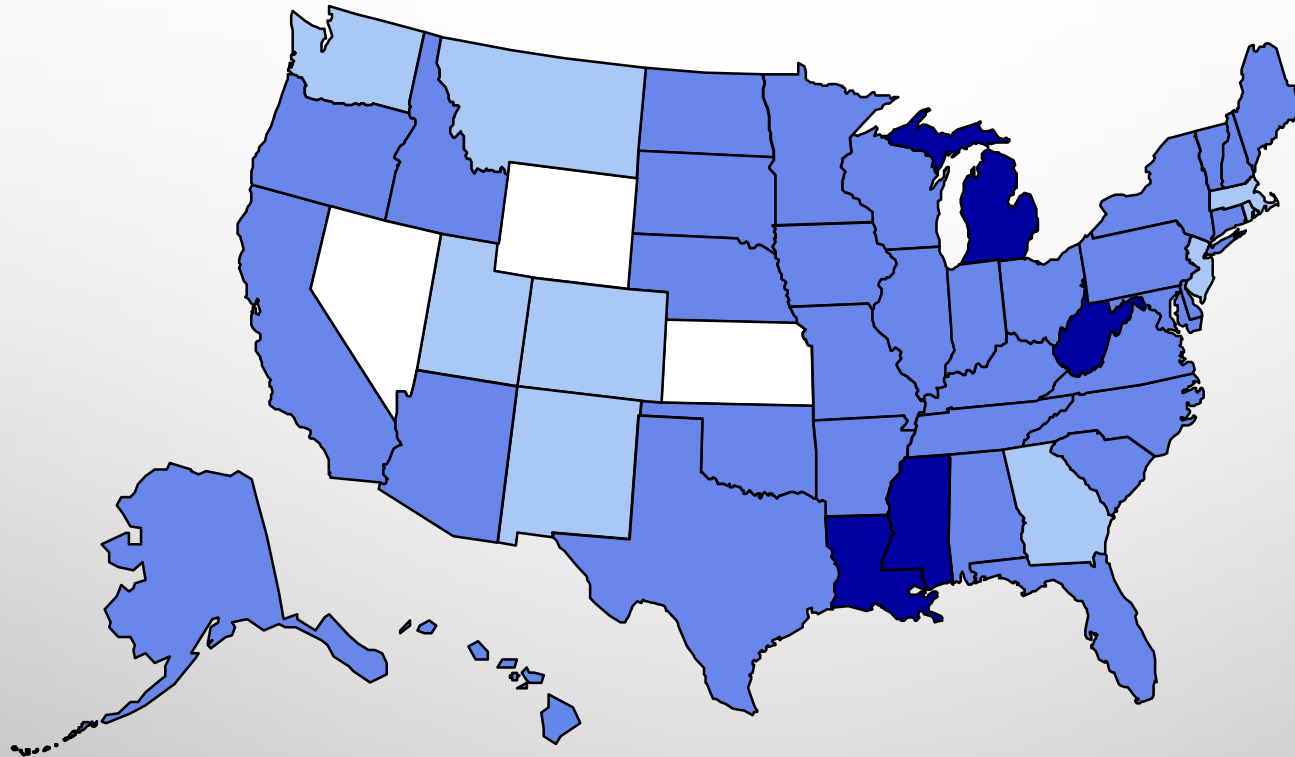
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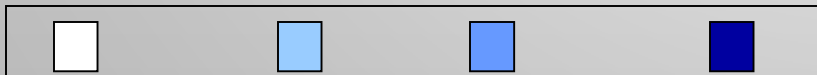
OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 1991

(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



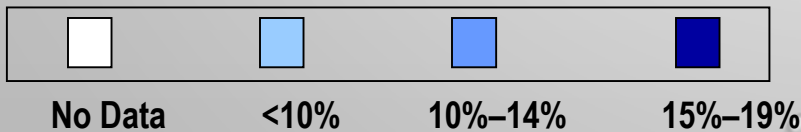
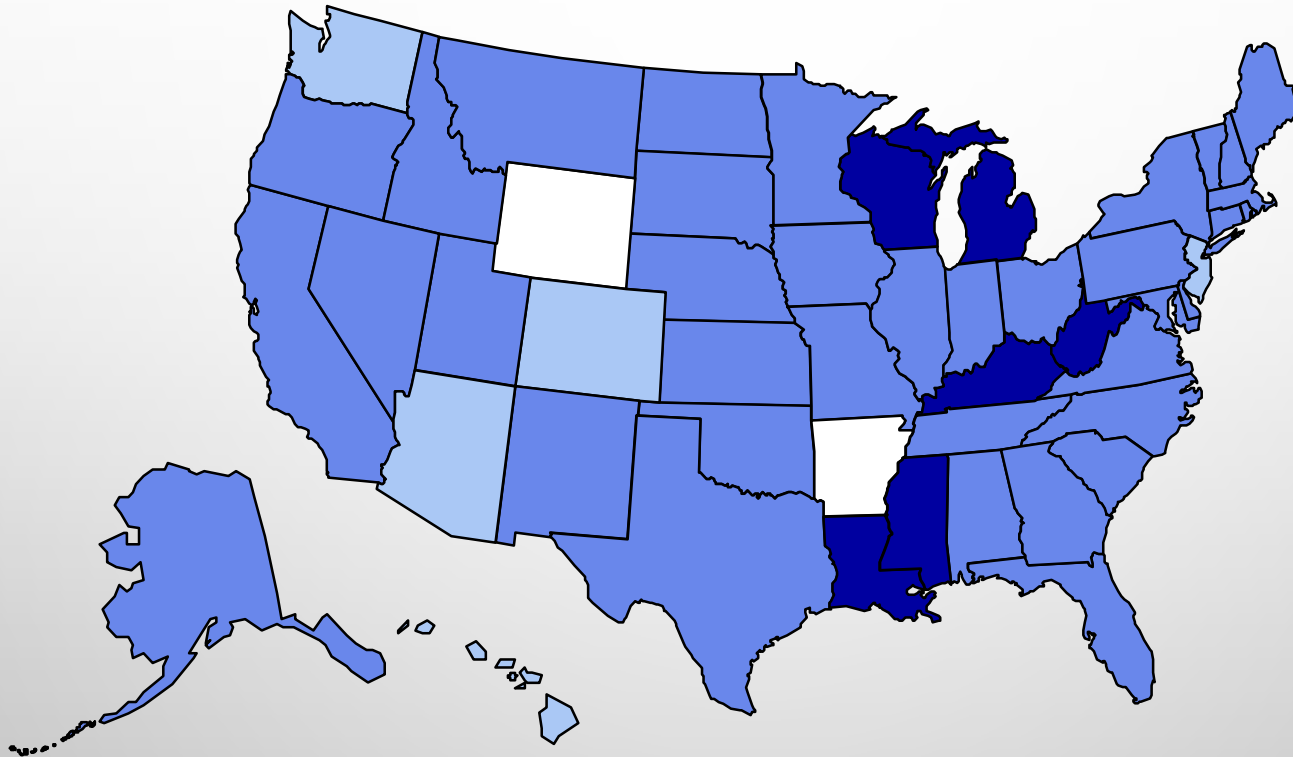
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OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 1992

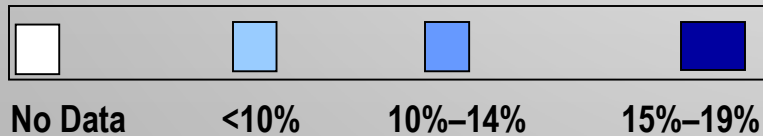
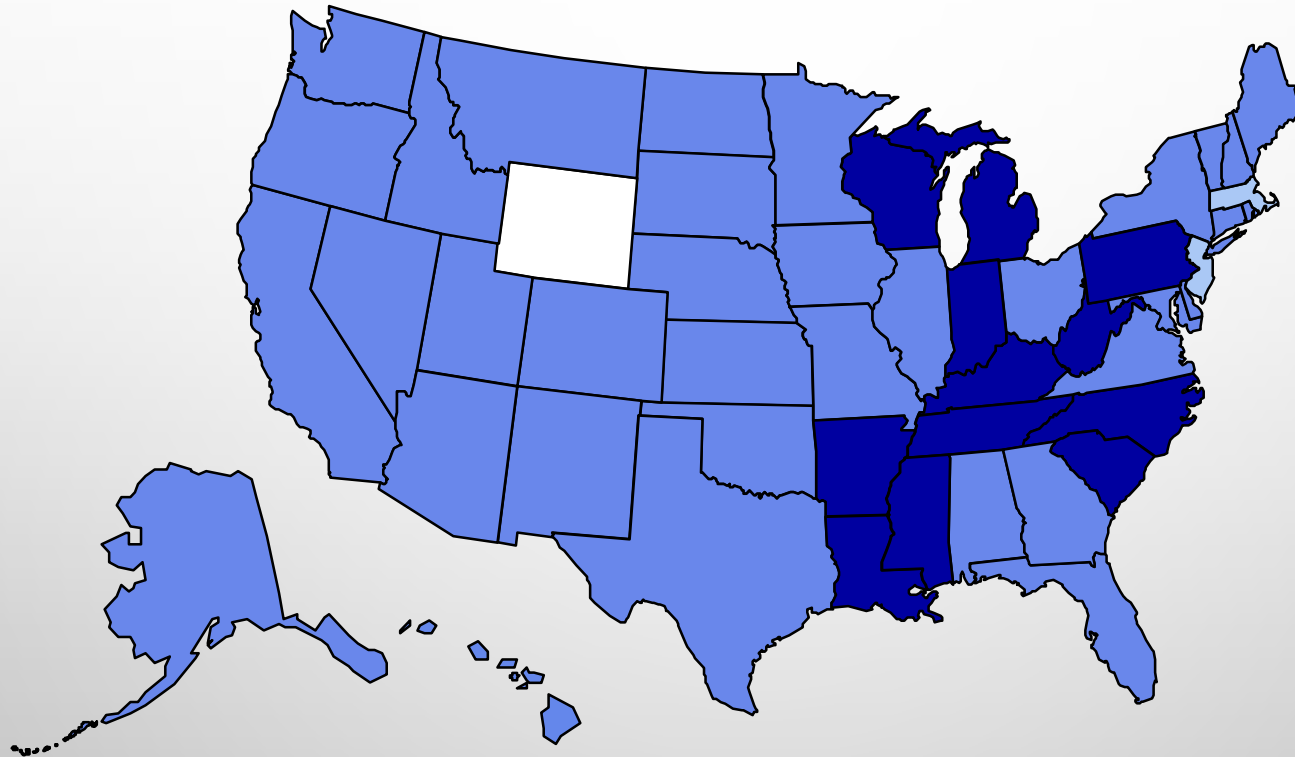
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 1993

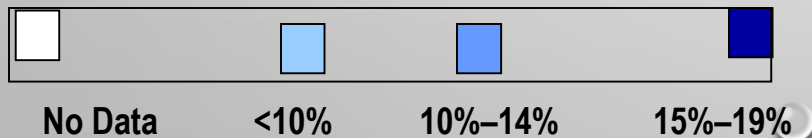
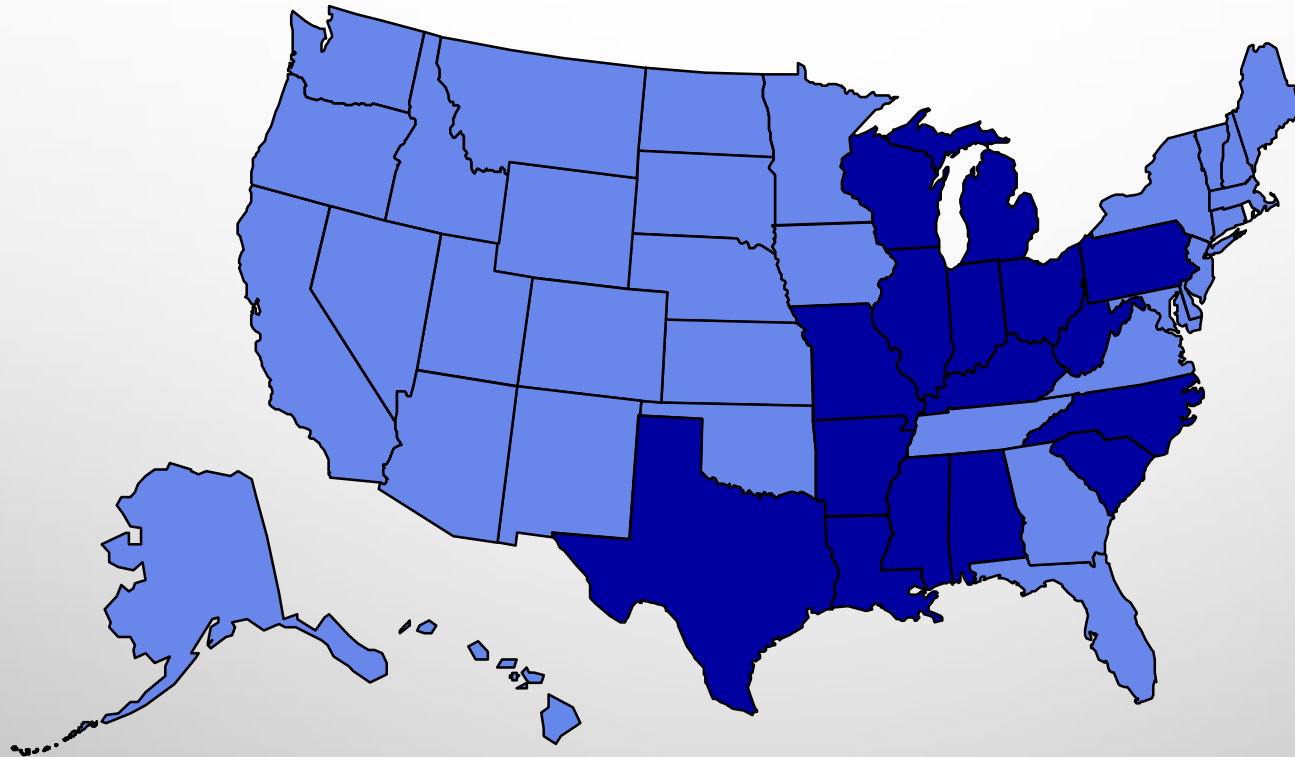
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 1994

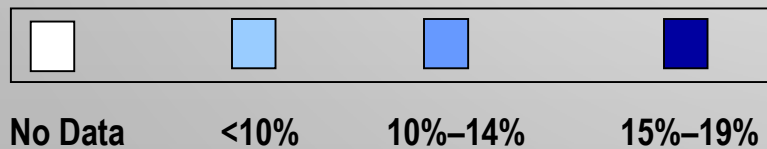
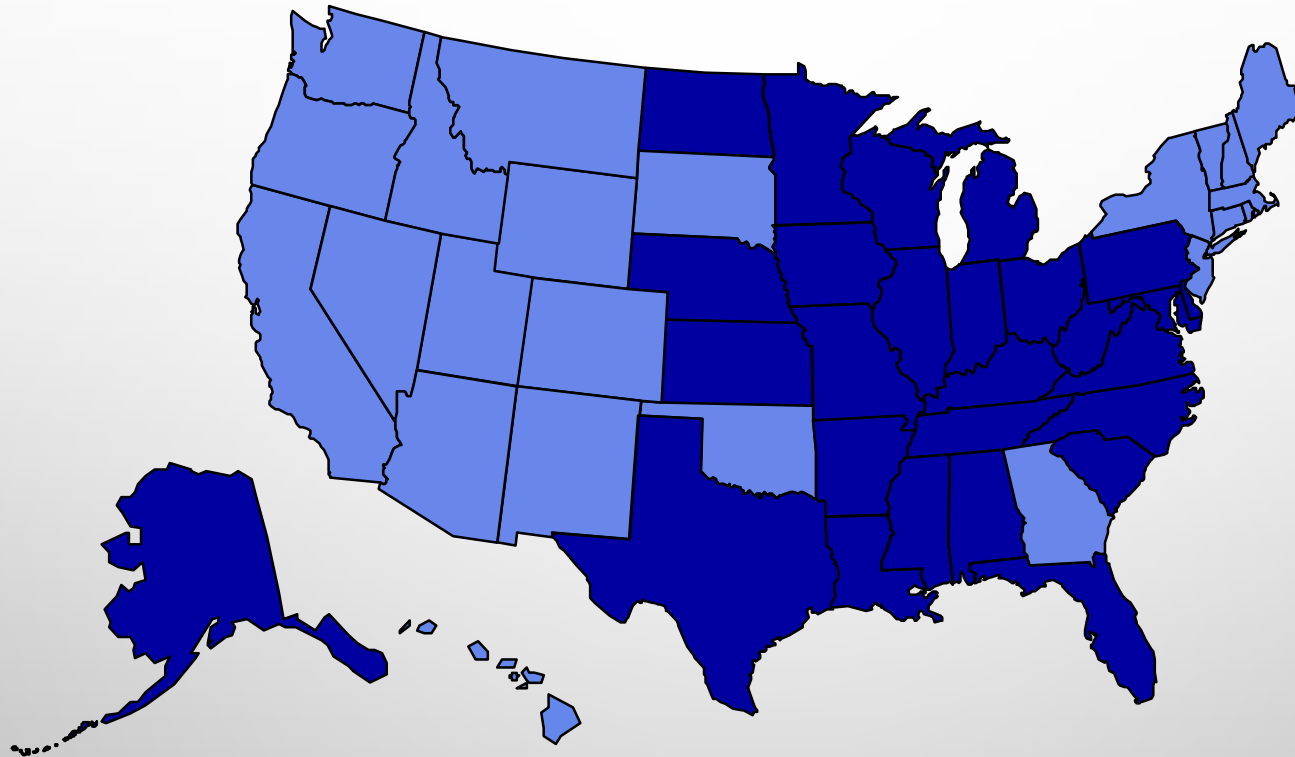
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 1995

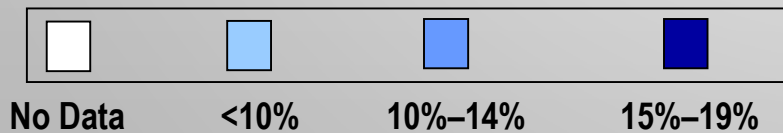
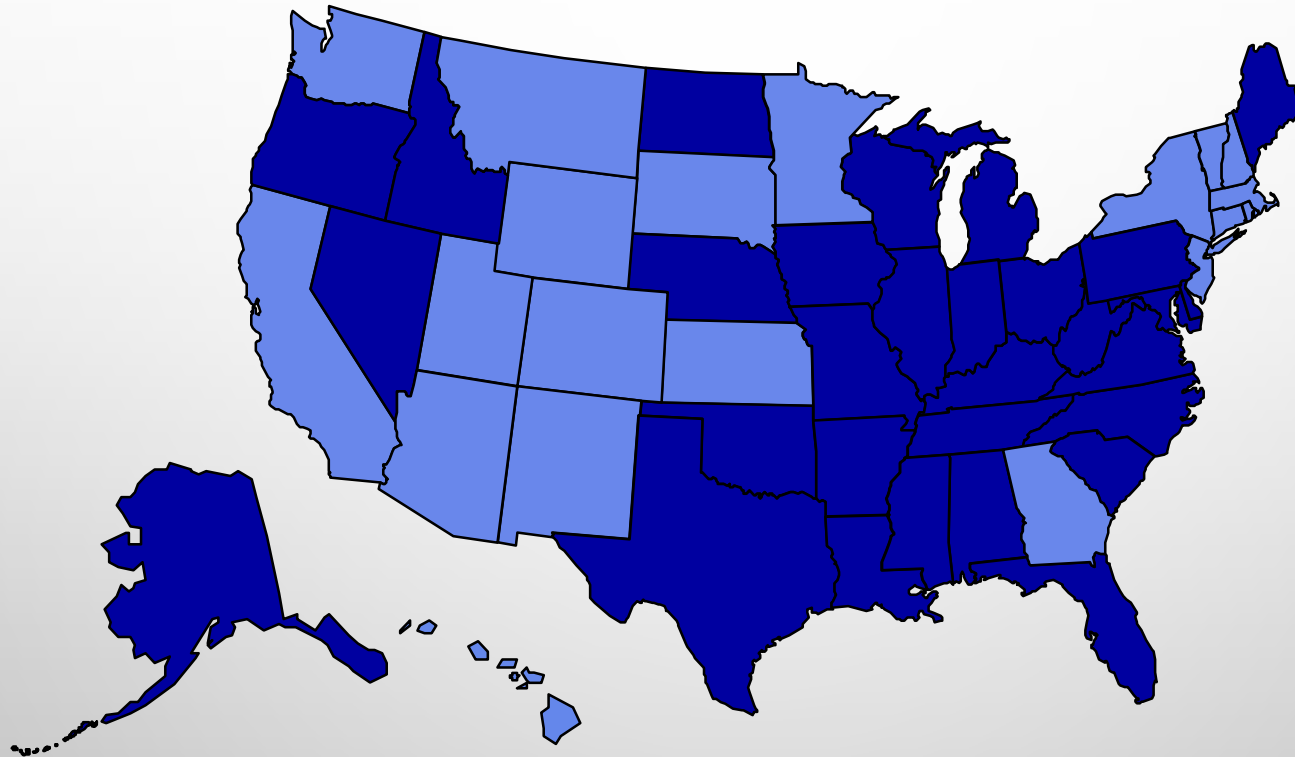
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 1996

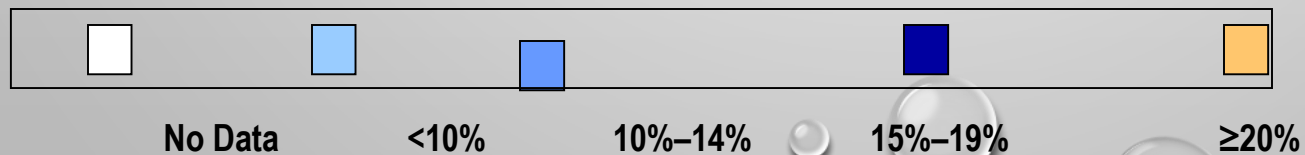
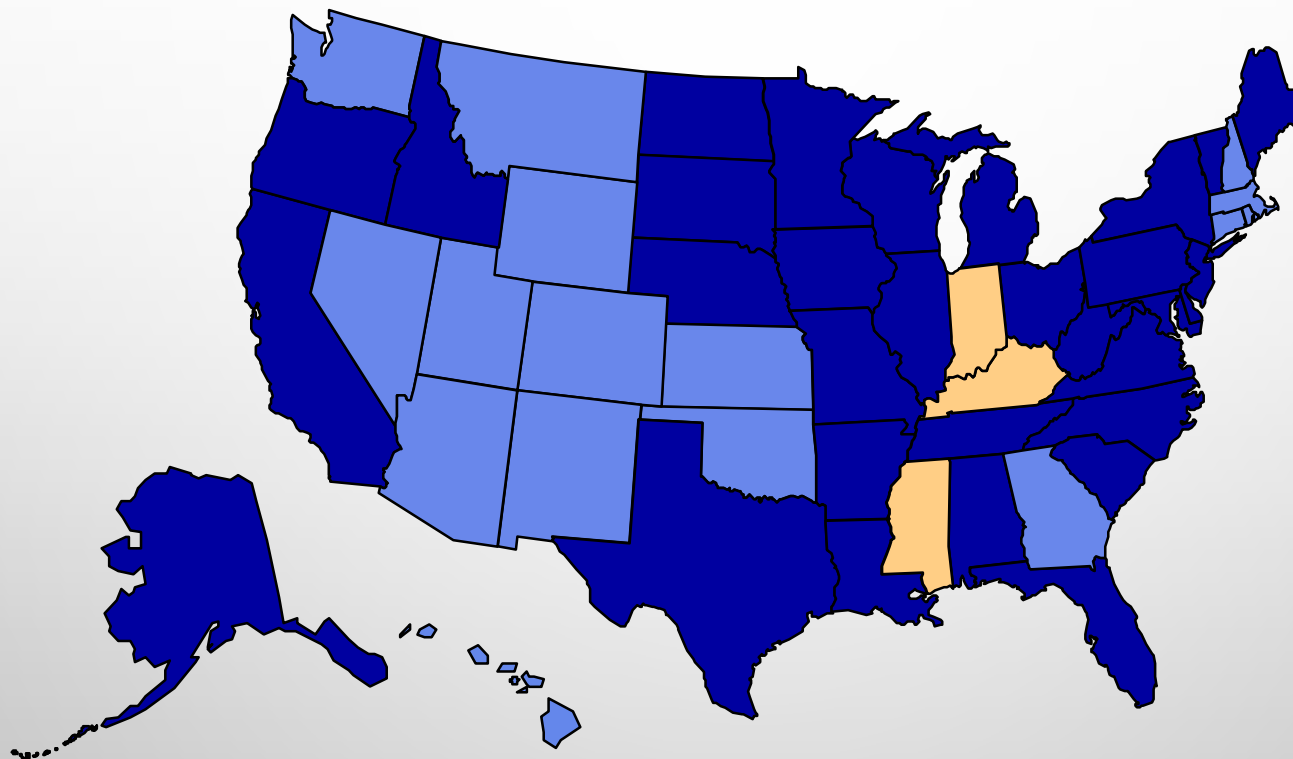
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 1997

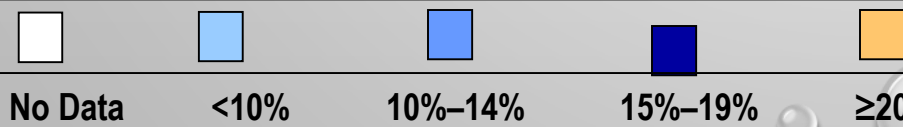
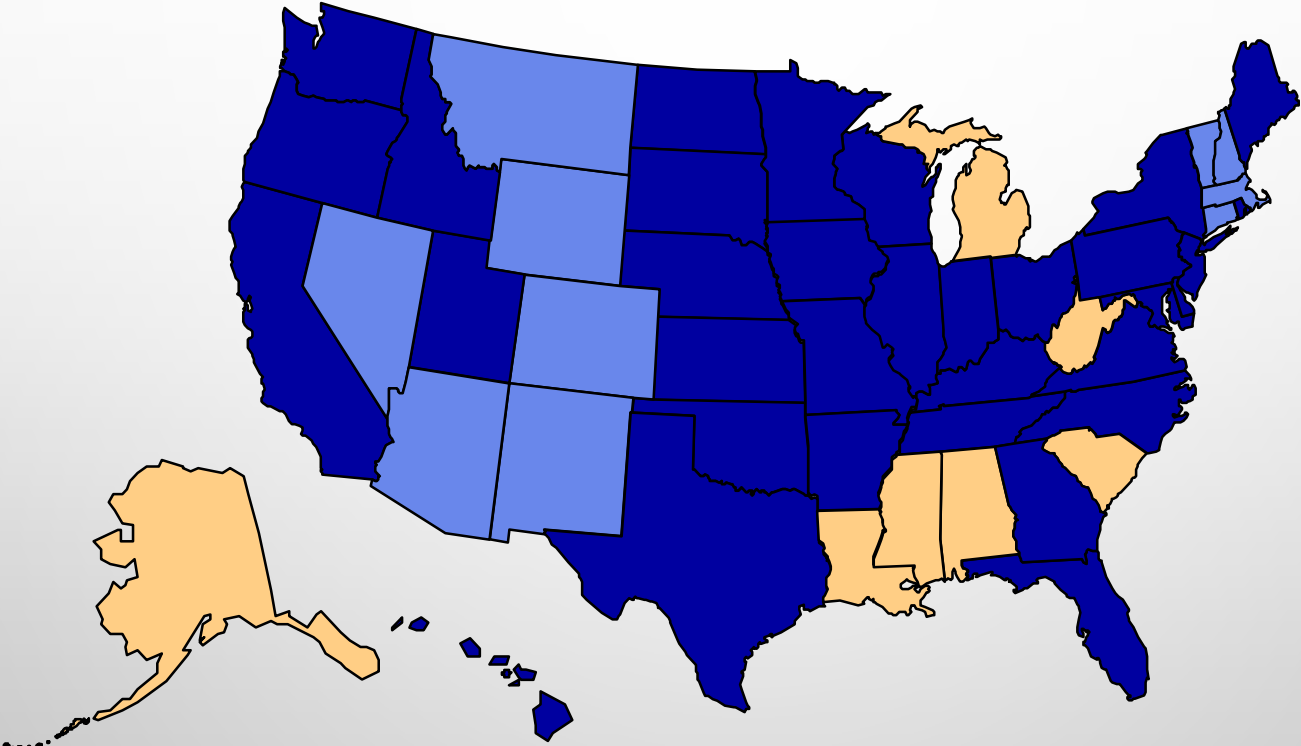
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 1998

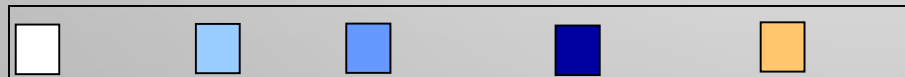
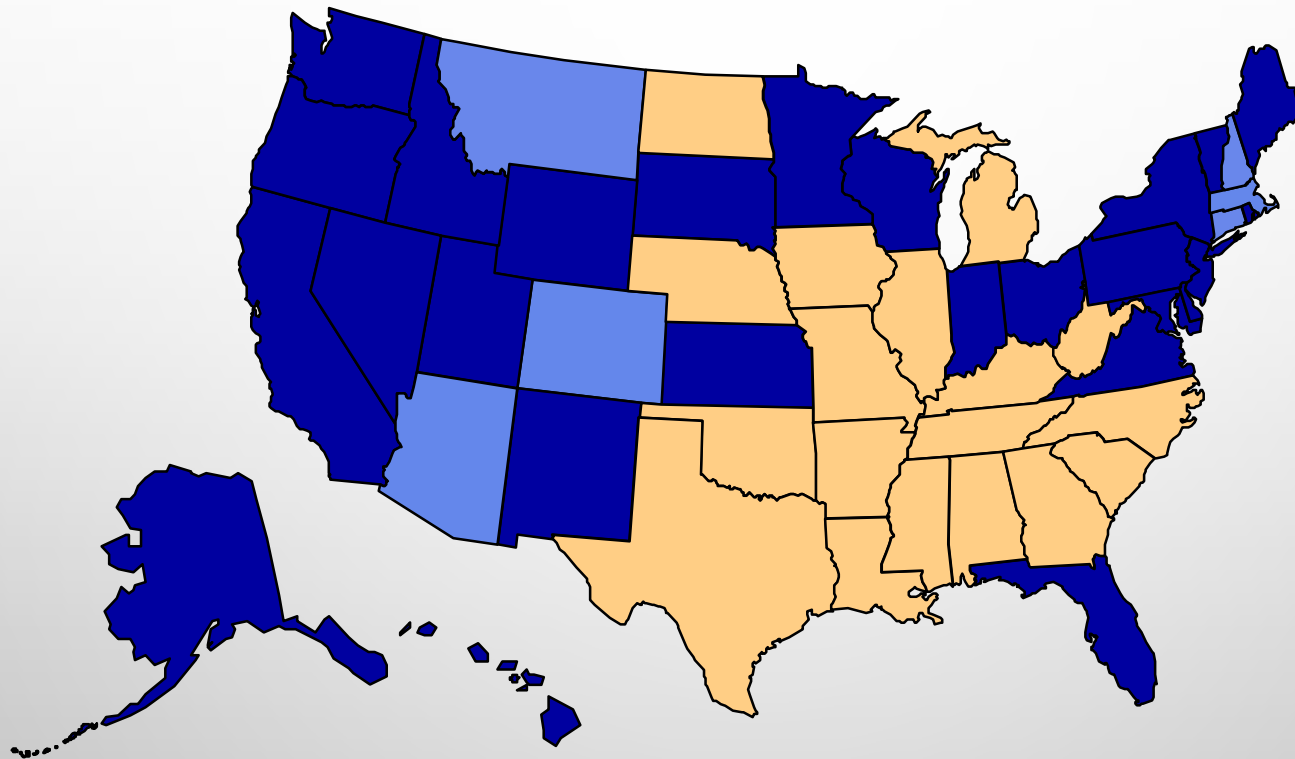
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 1999

(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



No Data

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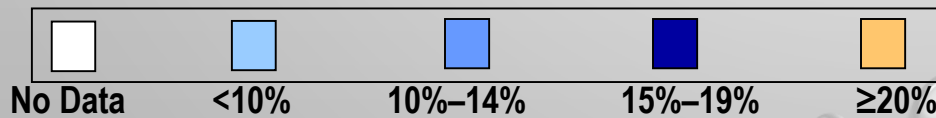
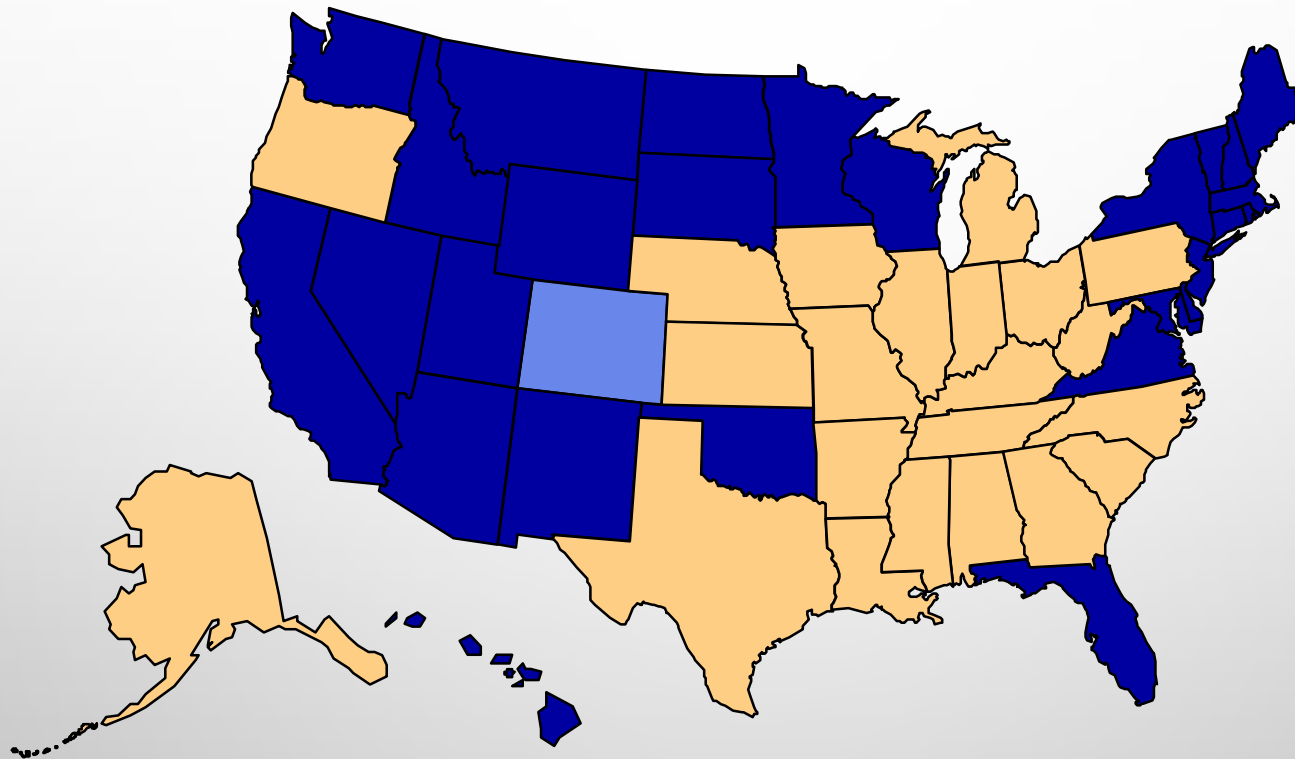
15%–19%

$\geq 20\%$

OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 2000

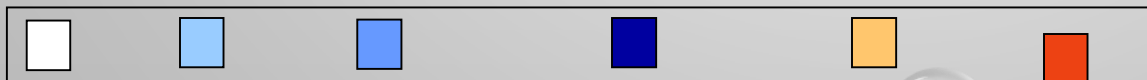
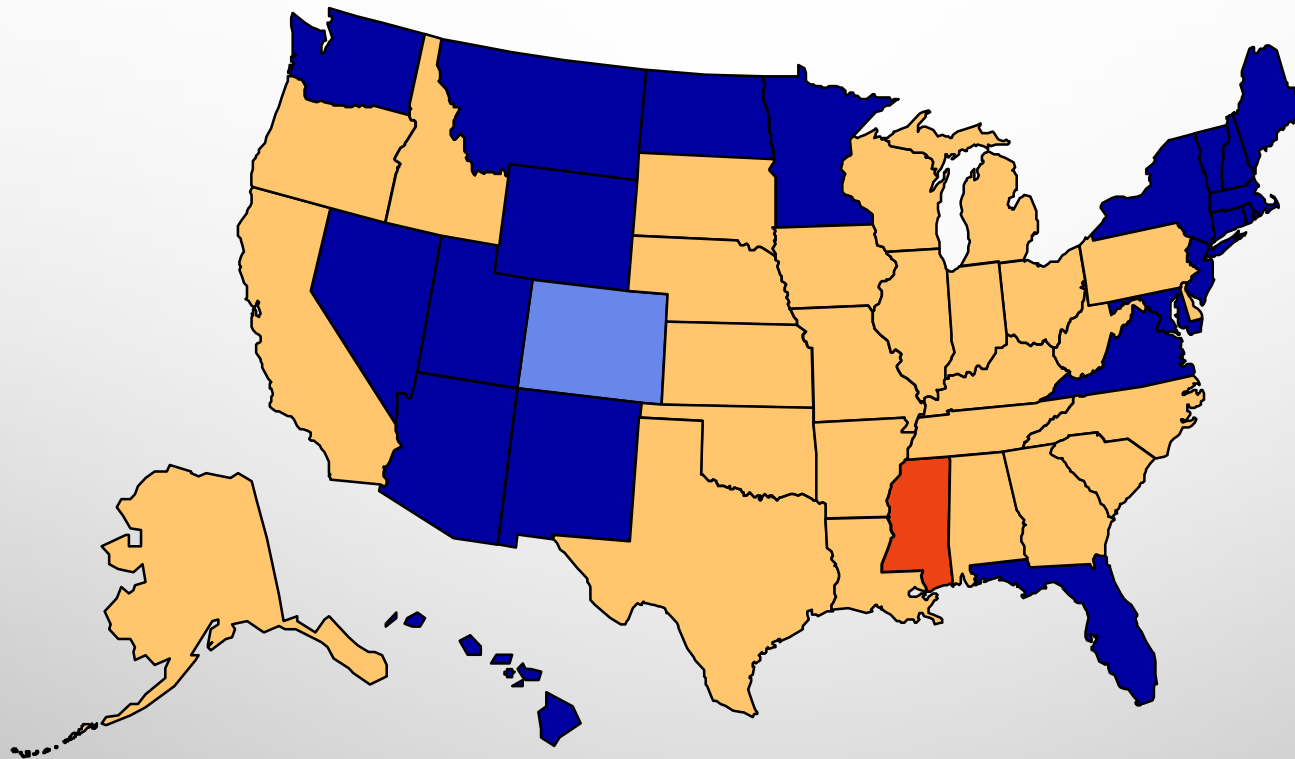
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 2001

(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



No Data

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10%–14%

15%–19%

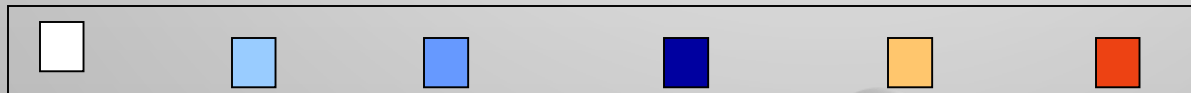
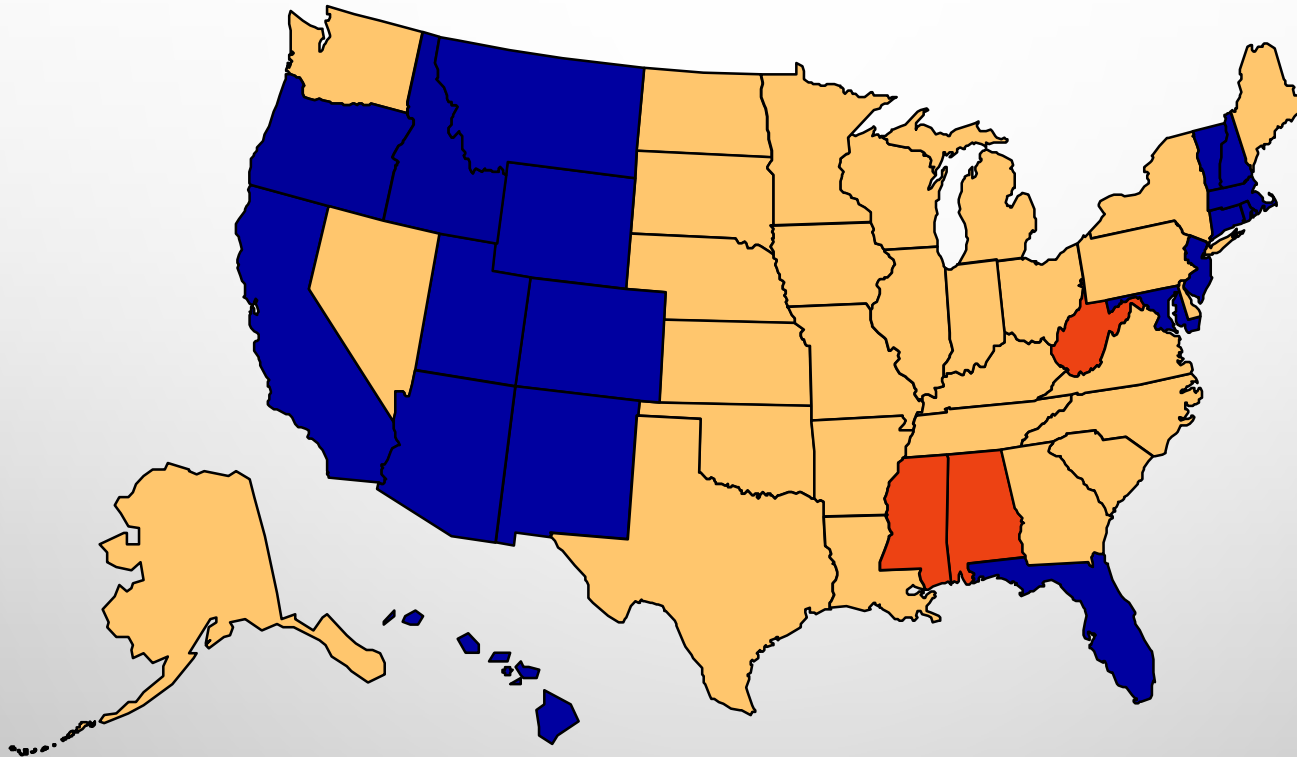
20%–24%

$\geq 25\%$

Obesity Trends* Among U.S. Adults

BRFSS, 2002

(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



No Data

<10%

10%–14%

15%–19%

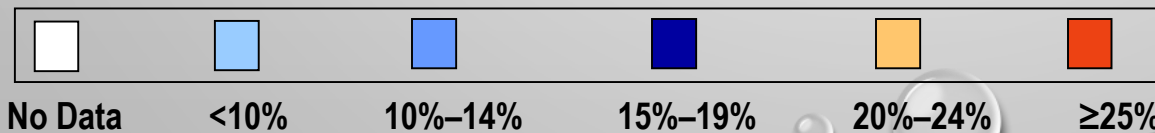
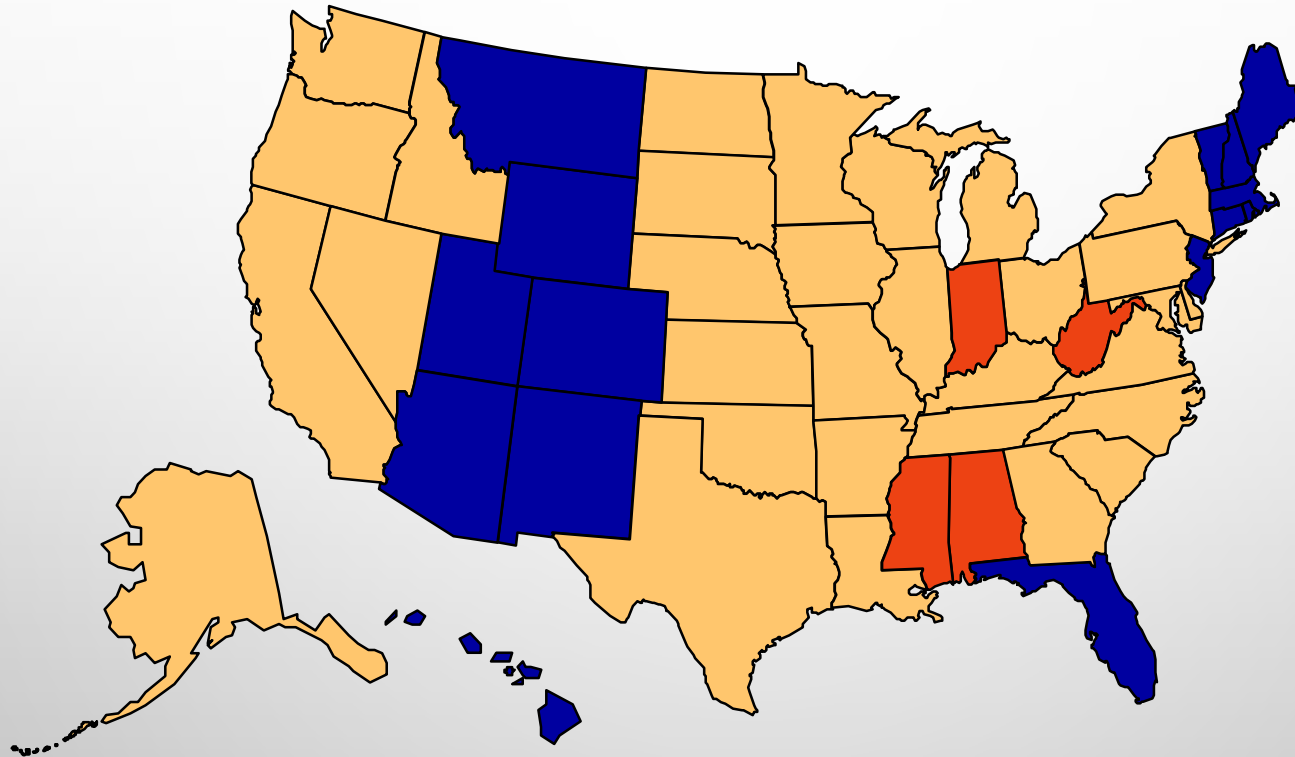
20%–24%

$\geq 25\%$

OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 2003

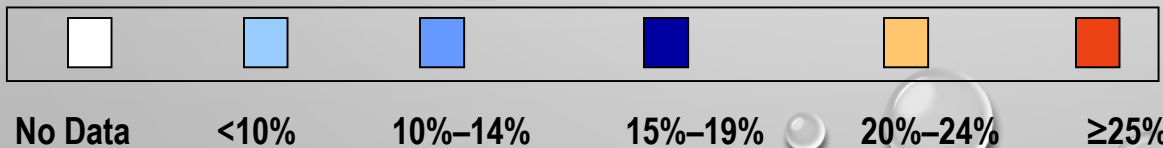
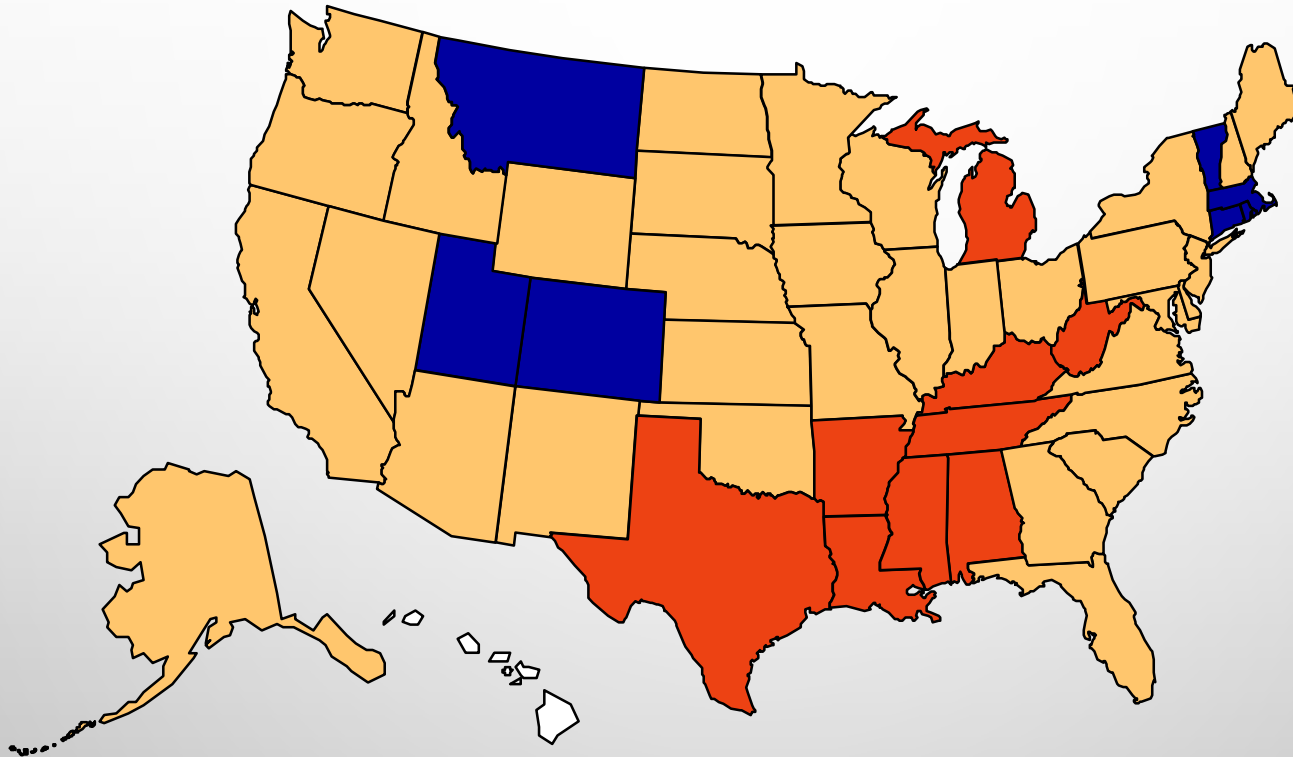
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 2004

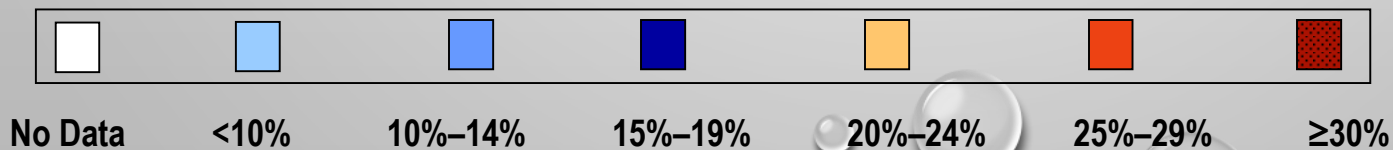
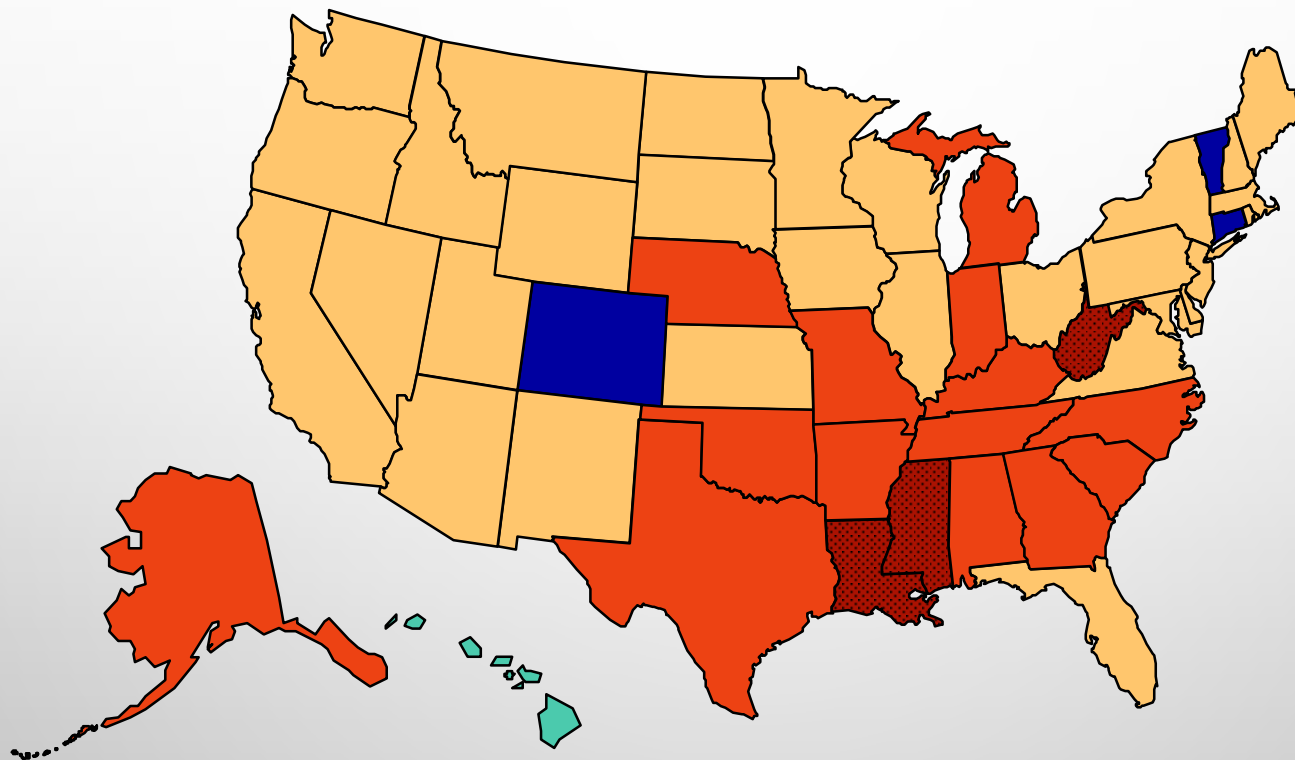
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 2005

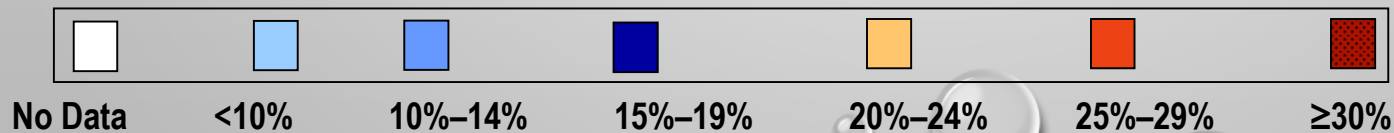
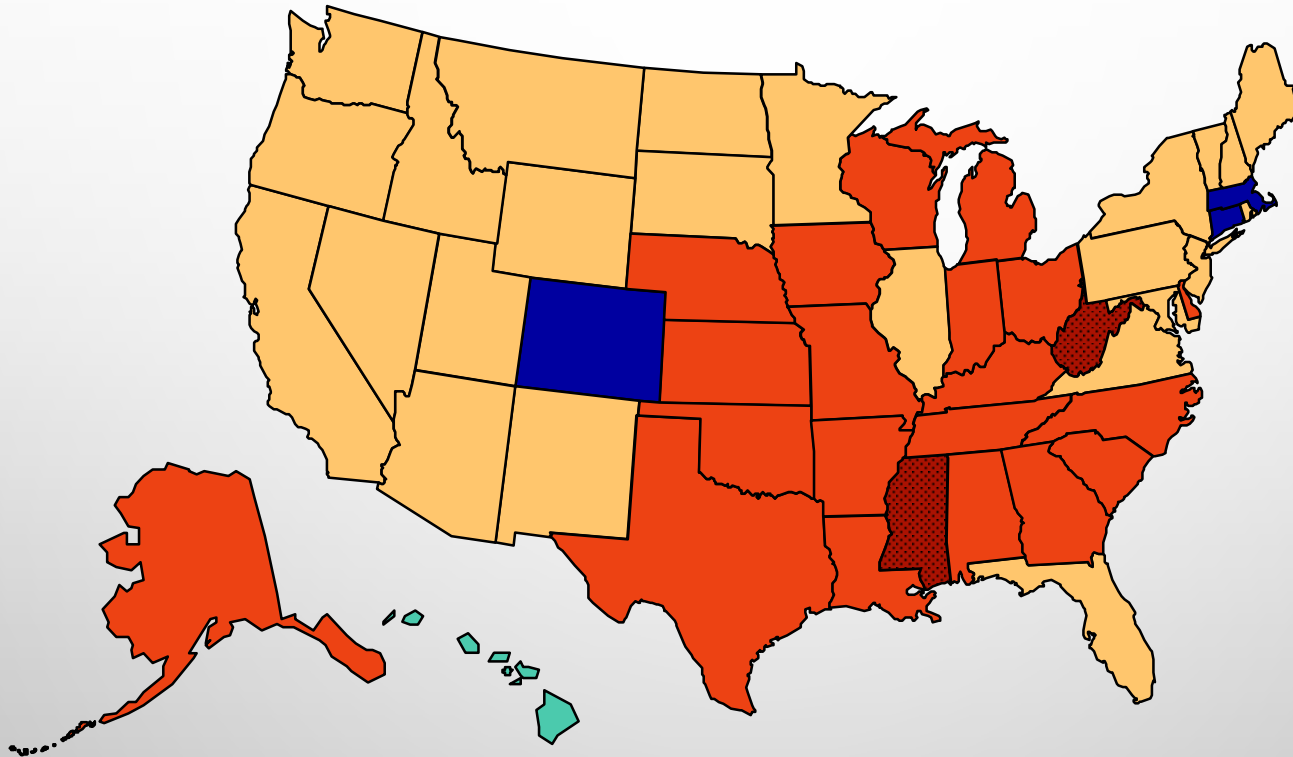
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 2006

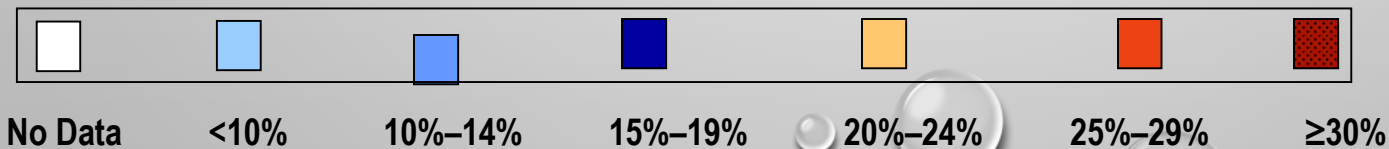
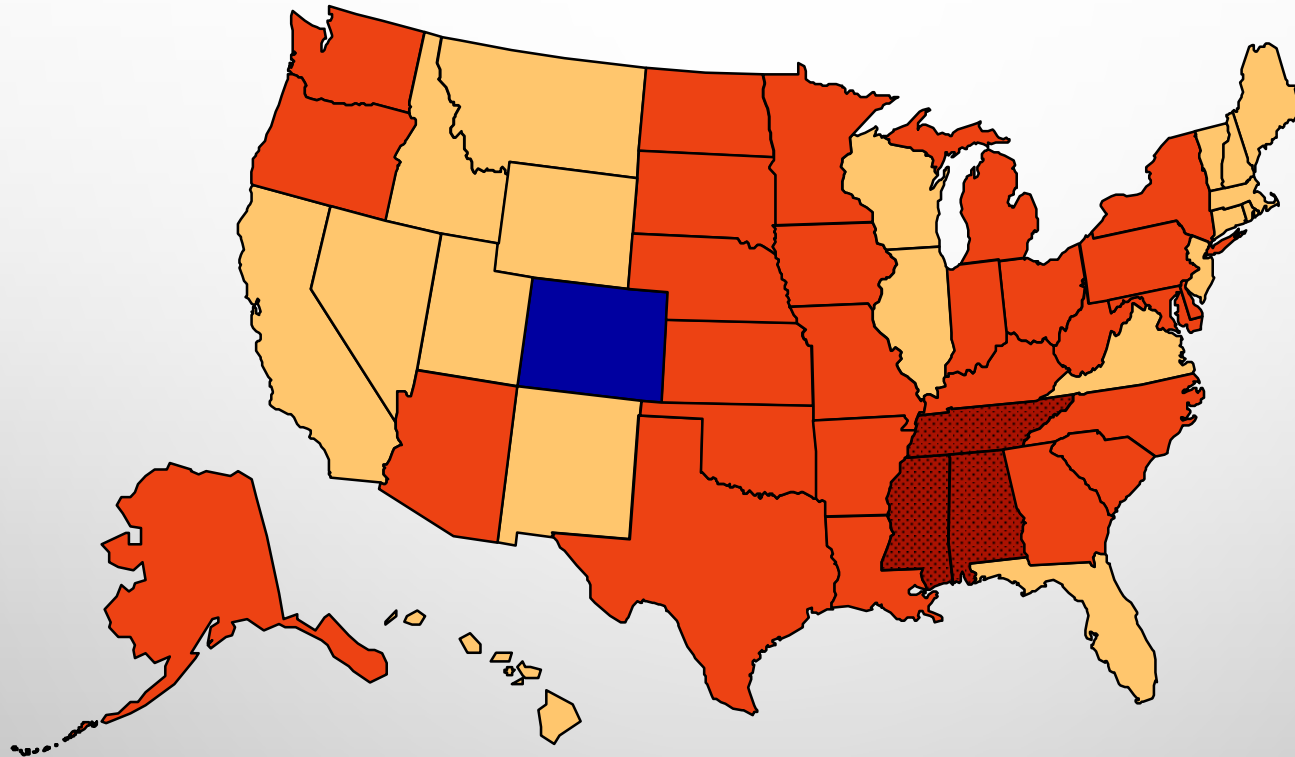
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 2007

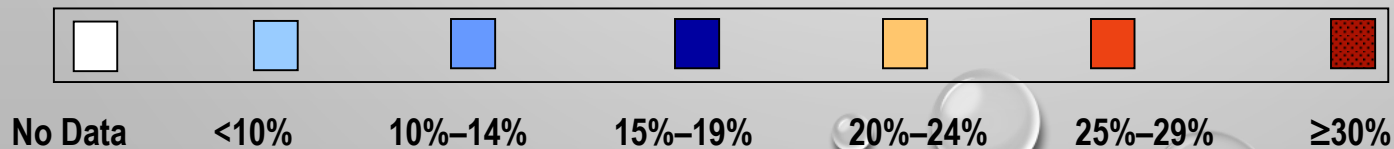
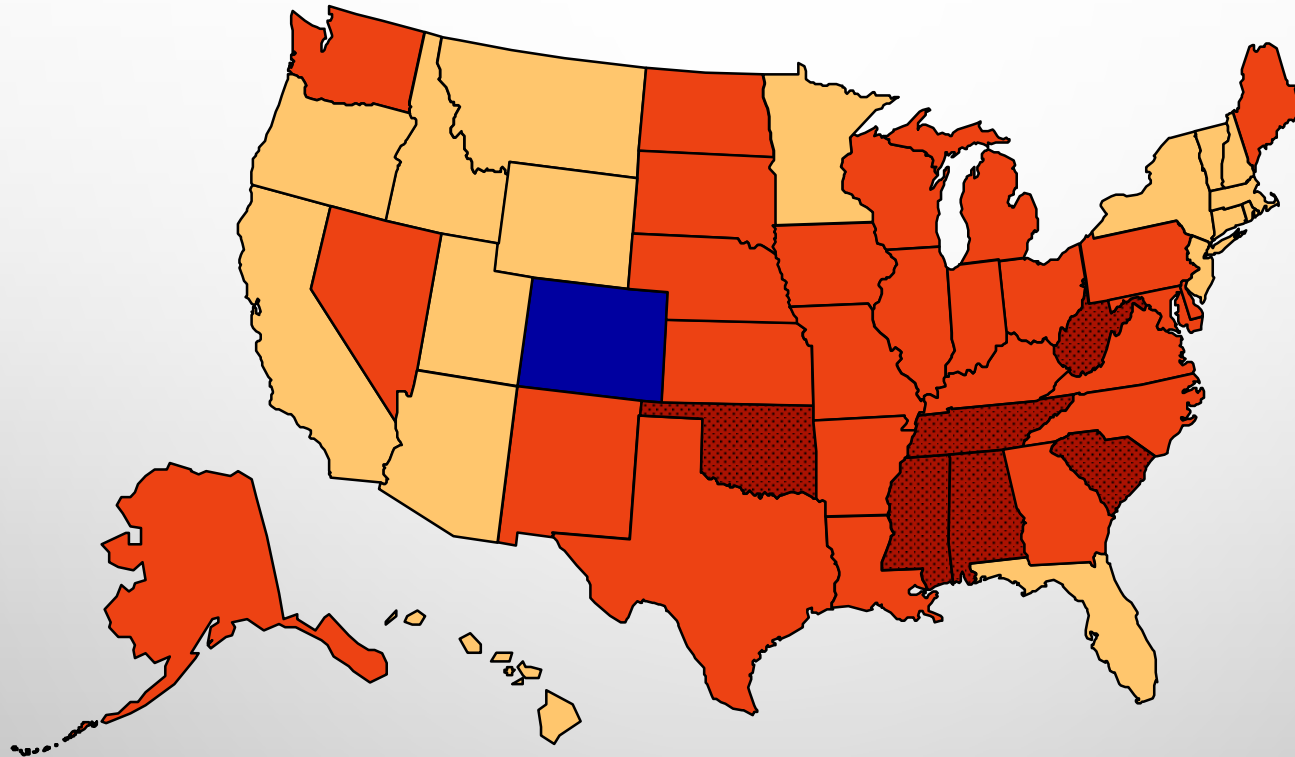
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 2008

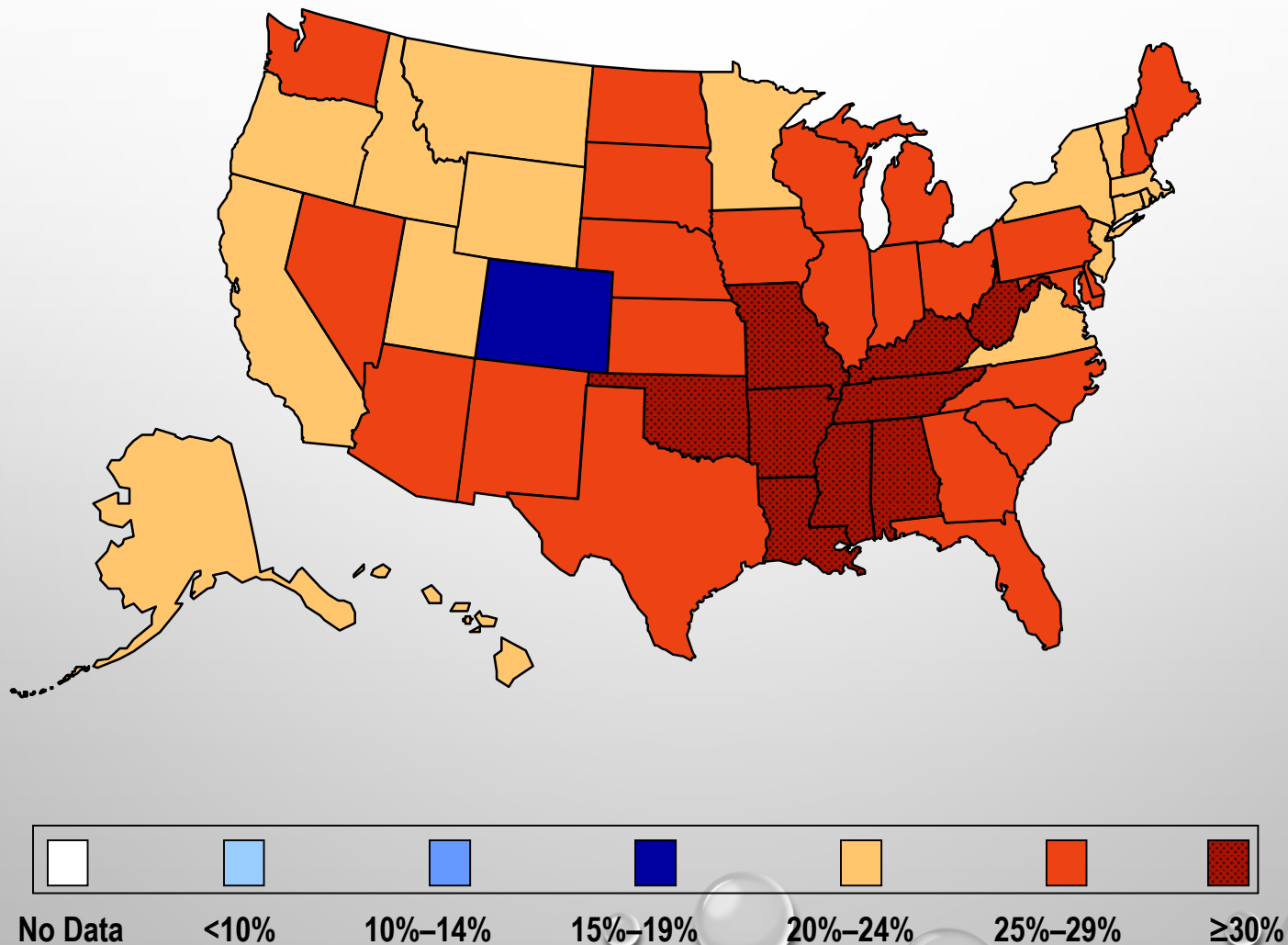
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



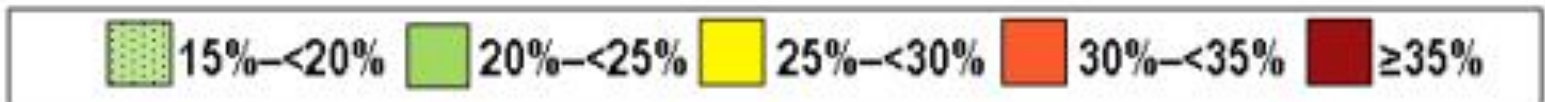
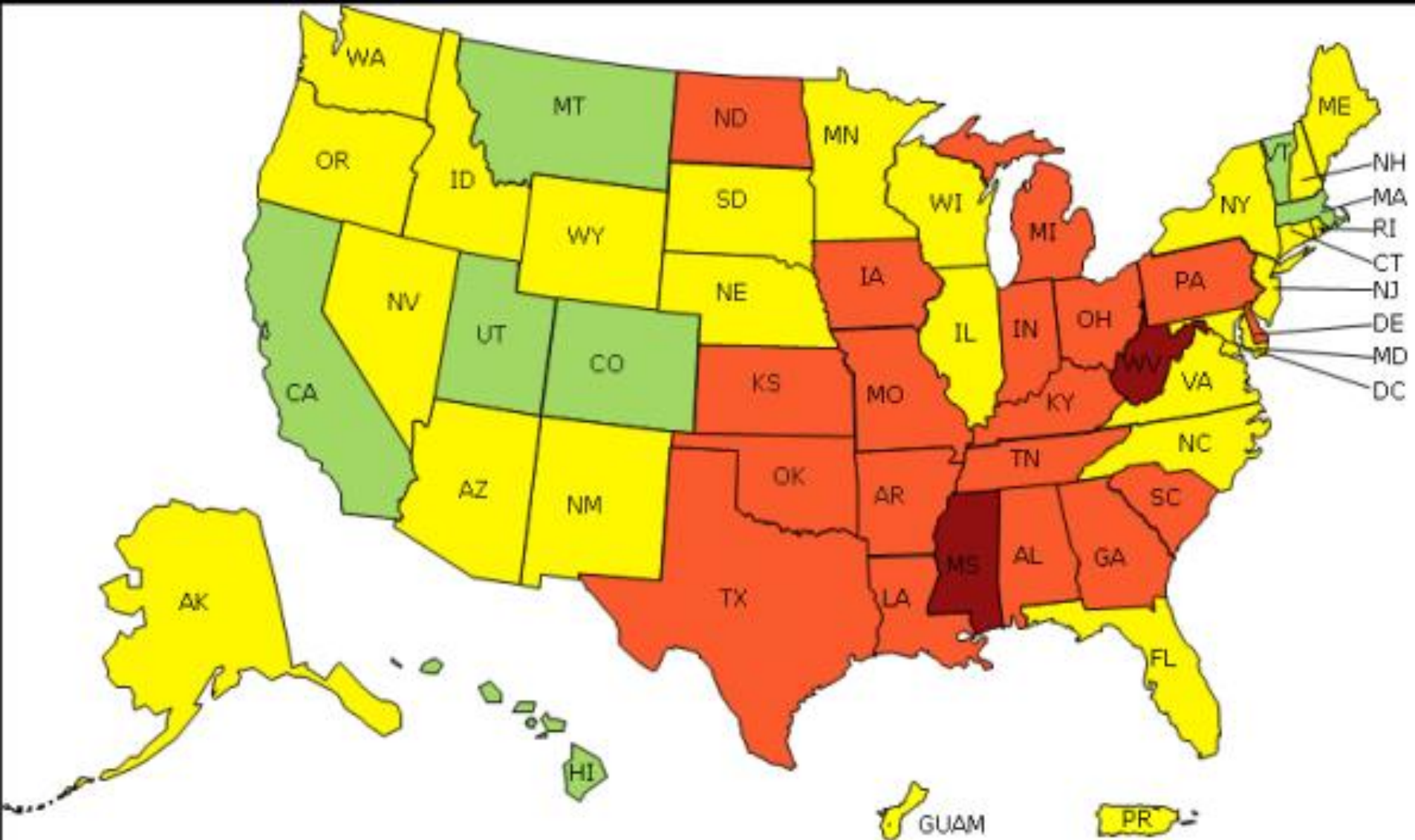
OBESITY TRENDS* AMONG U.S. ADULTS

BRFSS, 2009

(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



2013



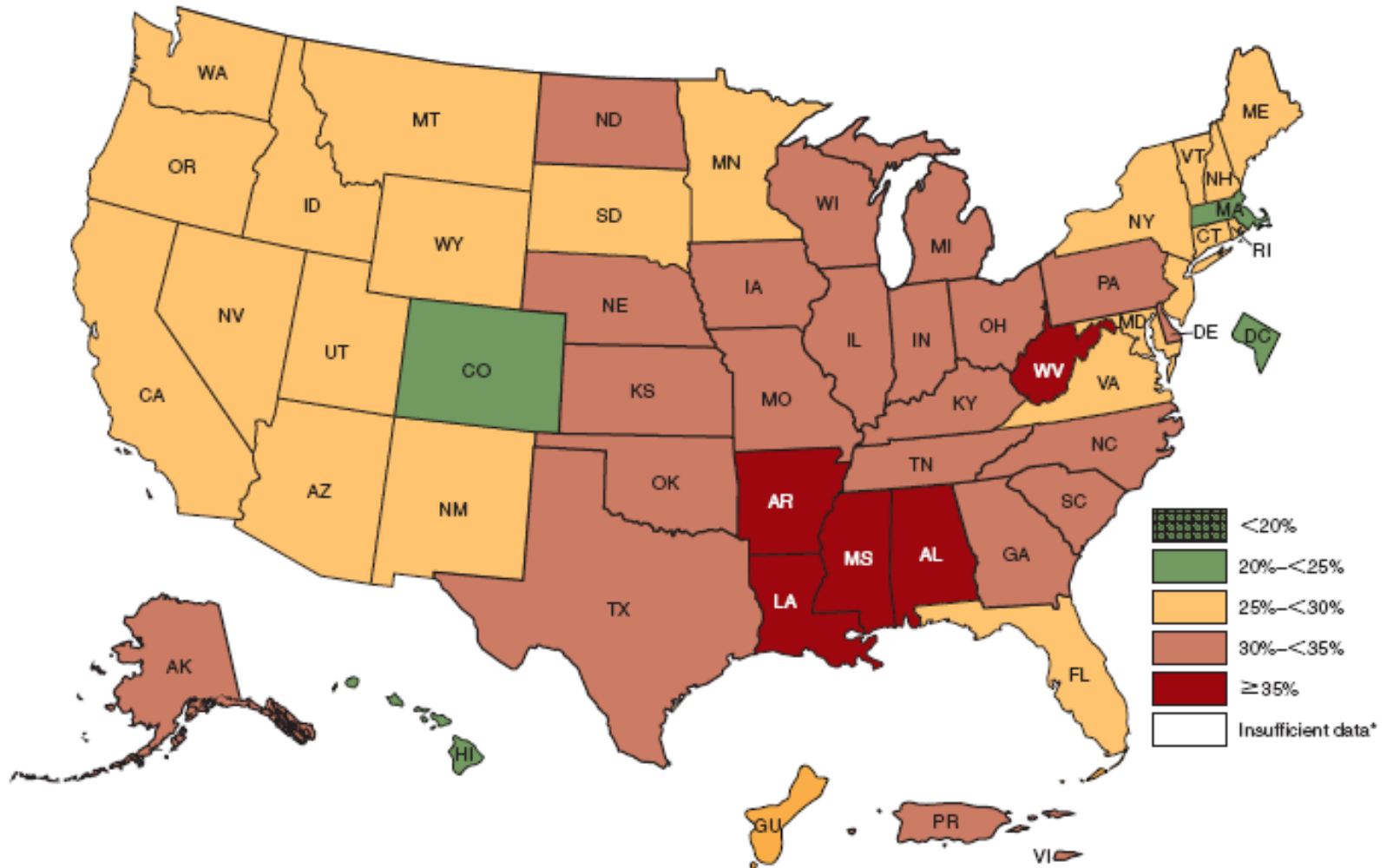


Fig. 20.4 CDC Obesity Prevalence Map Prevalence of obesity among U.S. adults in 2017. (Centers for Disease Control and Prevention [CDC] Behavioral Risk Factor Surveillance System Survey, 2017.)

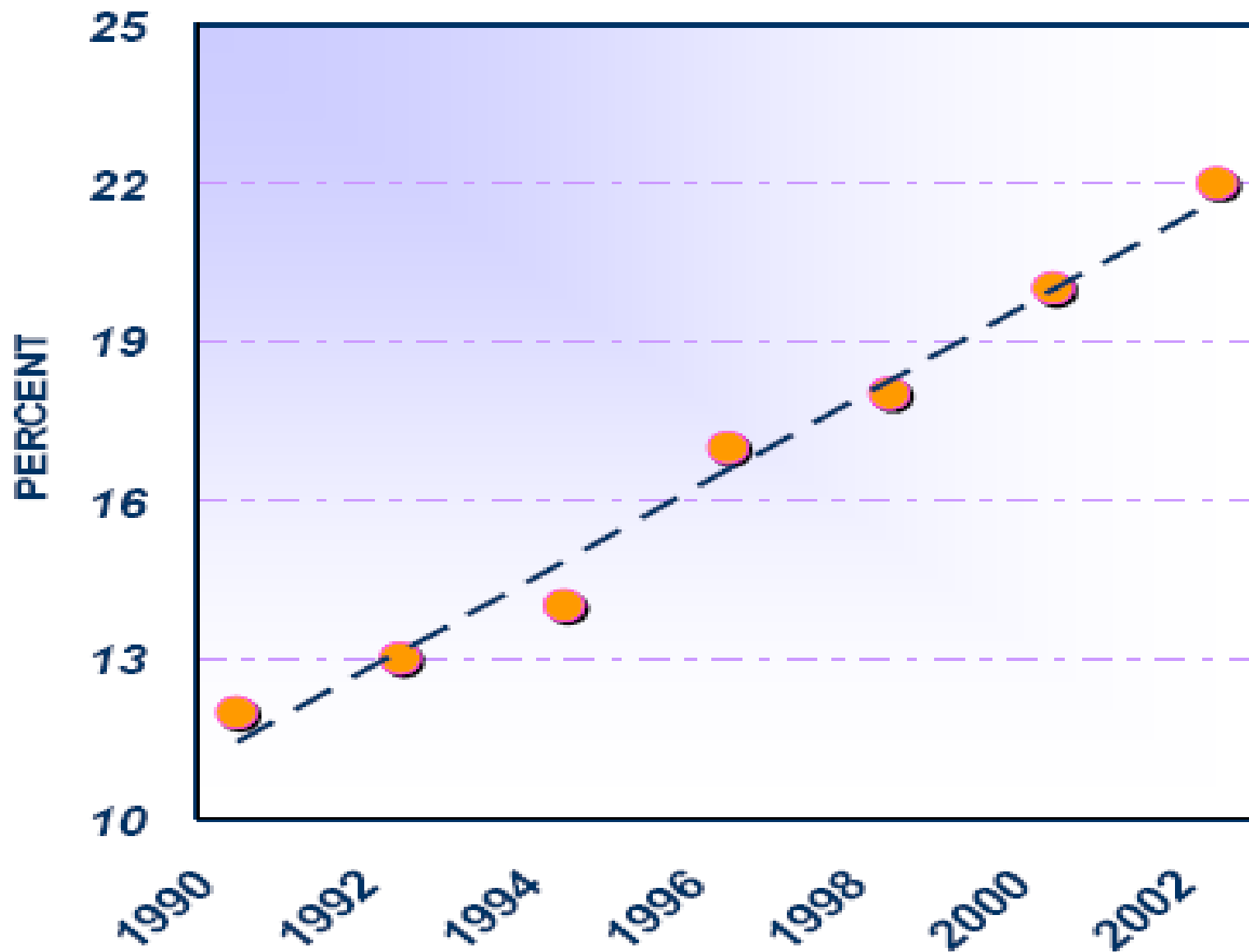
شیوع چاقی و اضافه وزن در ایران

بیش از 50 درصد بالغین اضافه

وزن و چاقی دارند

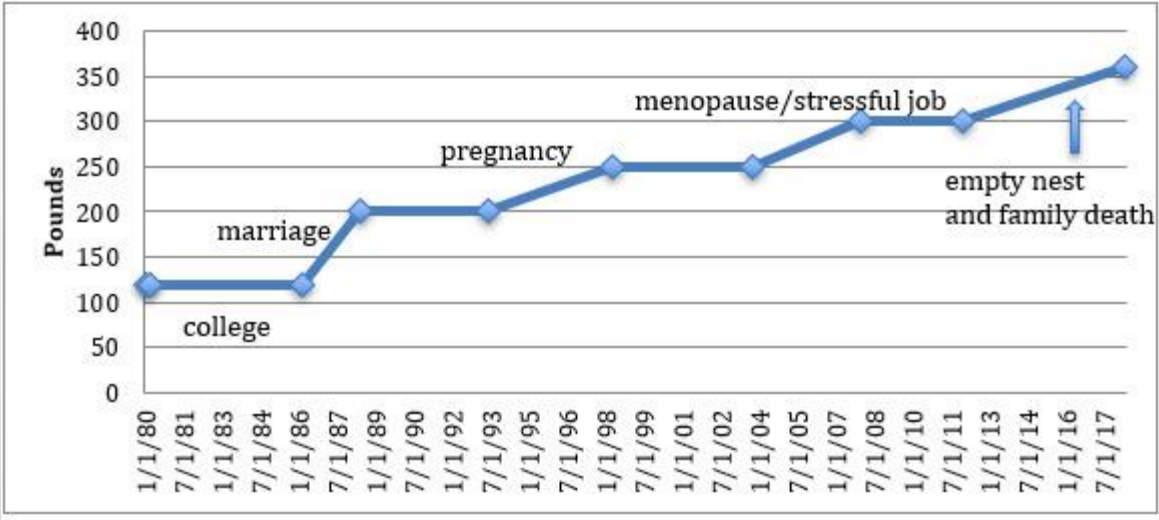
چاقی و خواستگاری

Trend in Adult Obesity 1990 - 2002*



* Behavioral Risk Factor Surveillance System, CDC:
Percent of adult respondents who reported Body Mass Index to be 30 or







Total body fat (essential fat plus storage fat) as a percentage of body weight that is associated with optimal health is **18%** to **24%** in **men** and **25%** to **31%** in **women,**

اضافه وزن اگر همراه
با افزایش درصد چربی
نیباشد ، چاقی نیست

food intake regulation

hunger

the primarily physiological drive to find and eat food; mostly driven by internal forces

When do I eat?

appetite

the signal that guides dietary selection; mostly based on psychological state and external factors

What do I eat?

satiety

a state in which there is no longer a drive to eat

گر سینه کسی است که

دنبال خورشش نگردد.

خسته کسی است که

دنبال بالشش نگردد.

Physical triggers for hunger are much stronger than those for satiety, and it is easier to override the signals for satiety (Blundell et al, 1993).



LONG TERM REGULATION

1. SET POINT THEORY

2. THERMOGENESIS (TEF, BMR)



Delving further into the microscopic level, several hormones play prominent roles concerning energy expenditure. Two hormones directly linked to hunger are leptin and ghrelin. High levels of leptin are associated with satiety and energy expenditure. Ghrelin elevations are related to hunger and stimulating appetite. Triiodothyronine (T3) elevations are related to metabolic rate. Insulin regulates macronutrient metabolism and inhibits muscle protein breakdown. [\[8\]](#)

obesity - historical perspective

prehistoric times

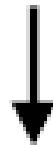
ability to store excess calories as fat in adipose tissue was a useful protection against food shortage

prior to 20th century

moderate overweight was considered a sign of good health and fertility; obesity was uncommon until 18-19th century

present day

ability to store excess calories as fat is a disadvantage



obesity

The background of the slide is a light gray gradient with several realistic water droplets of various sizes scattered across it, primarily concentrated at the top and bottom edges. The text is centered and rendered in a bold, dark red, sans-serif font.

ASSESSMENT OF OBESITY


شاخص های تشخیص چاقی

- .1 BMI
- .2 چربی زیر پوست (19 و 25)
- .3 دور کمر (88 و 102)
- .4 WHR (.90 AND .80)
- .5 دانسیته بدن (وزن زیر آب)
- .6 BIOELECTRICAL IMPEDANCE ANALYSIS (BIA)
- .7 NEAR INFRARED REACTANCE
- .8 BOD POD
- .9 CT
- .10 TOTAL BODY ELECTRICAL CONDUCTIVITY (TOBEC)
- .11 MRI
- .12 DEXA
- .13 METROPOLITAN LIFE INSURANCE TABLES
- .14 WHOLE BODY GAMMA COUNTER (WBD)

The background of the slide is a light gray gradient. It is decorated with several realistic water droplets of various sizes, scattered across the top and bottom edges. The droplets have highlights and shadows, giving them a three-dimensional appearance.


ETHIOLOGY OF WEIGHT PLATEAU

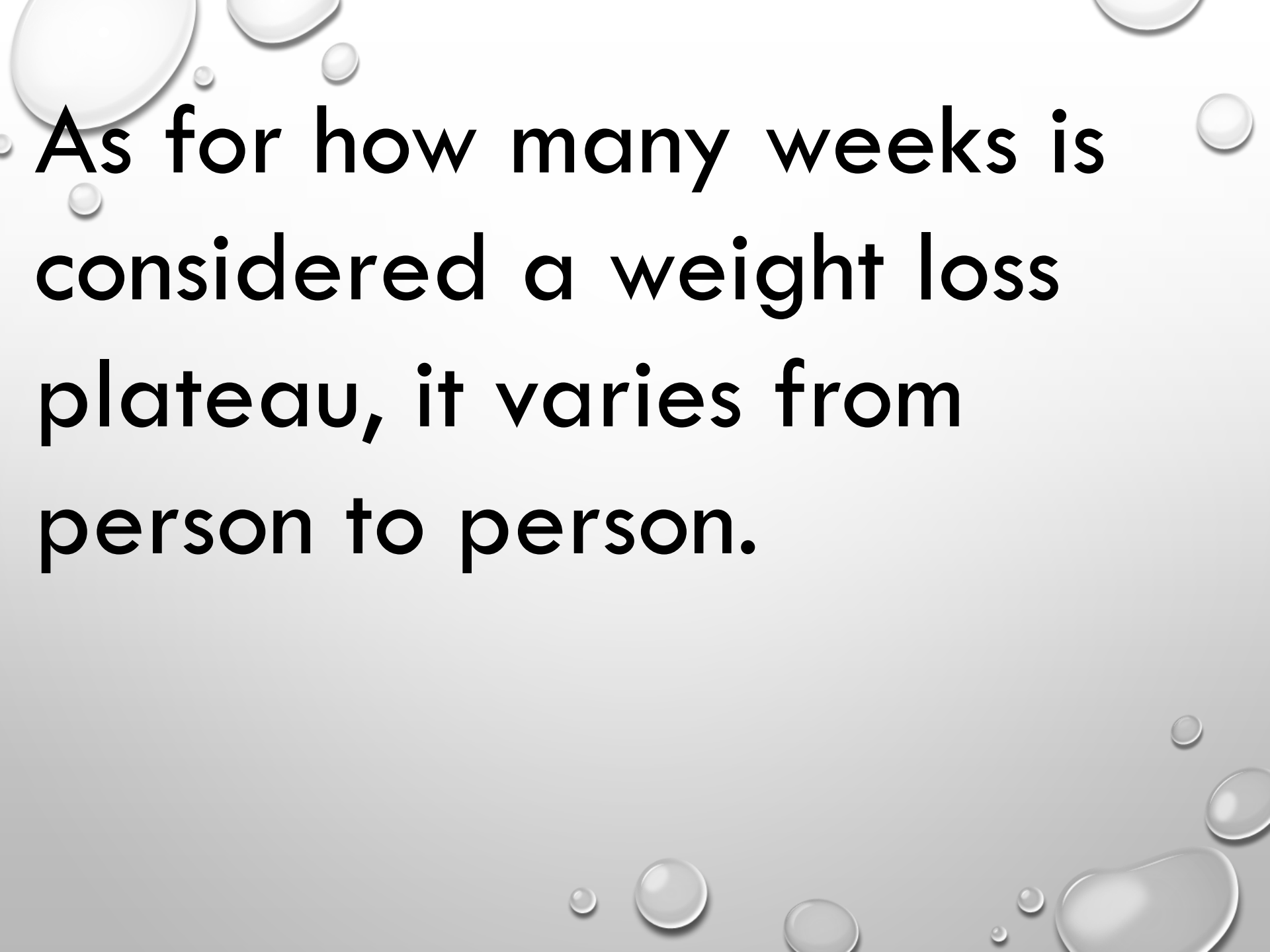
The reasons for a weight-loss plateau are as yet unclearly delineated but as people lose weight, they lose muscle mass in addition to fat and water, which results in a lower metabolic rate. ورزش



A weight-loss plateau is basically when you stop losing weight when you are dieting, even though the diet had previously been supporting consistent weight loss.

As for how many weeks is considered a weight loss plateau, it varies from person to person.



The background of the slide is a light gray gradient, decorated with several realistic water droplets of various sizes. The droplets are most prominent in the top-left and bottom-right corners, with some smaller ones scattered throughout. The text is centered and reads:

As for how many weeks is considered a weight loss plateau, it varies from person to person.

Food and its taste elements evoke pleasure responses. The endless variety and reasonable cost of food (especially highly processed food) in the United States contributes to higher calorie intake; people eat more when offered a variety of choices than when a single food is available. Normally, as foods are consumed, they become less desirable; this phenomenon is known as sensory-specific satiety. The opposite situation is the “**all-you-can-eat buffet**,” in which the diner reaches satiety for one food but has many choices remaining for the next course. From an evolutionary perspective sensory-specific satiety promoted the intake of a varied and nutritionally balanced diet; the modern food environment however provides too many (energy dense, low-nutrient) choices.

Body weight reduction induces hormonal changes, which drives increased hunger, decreased satiety, and reduction in resting energy expenditure. The reductions in leptin levels were disproportionate to the amount of weight loss. At 14% loss, there was a 65% reduction in leptin

It is not necessary for patients to achieve an ideal body weight or even a body mass index (BMI) 30 kg/m^2 to achieve health benefits.

Changes in Regulatory Signals Relative to Baseline

	Week 10 Weight -14%	Week 62. Weight -8%
Leptin	↓ 65%	↓ 35%
PYY, CCK, Insulin, amylin	↓	↓
Ghrelin	↑	↑
Visual Analog Scales of hunger and desire to eat	↑	↑

Plateau Effect A common experience for the person in a weight reduction program is arrival at a weight plateau, as weight loss slows and eventually seems to stop. Recent research explains that the plateau effect is mainly due to a lack of ongoing energy deficit. Subjects tend to maintain an energy deficit for only about 6 weeks, then gradually return to their baseline energy intake. This means a state of equilibrium has been reached at which the energy intake is equal to energy expenditure. To move out of this phase, reestablishing an energy deficit is required. There are several factors that reduce RMR and total energy expenditure (TEE) during energy restriction and weight loss, including: energy restriction—RMR can decrease at the onset of energy restriction by as much as 15% within 2 weeks, which varies with the magnitude of energy restriction; loss of metabolically active body tissue—weight loss consists of both LBM and fat, and loss of either (but especially LBM) reduces RMR; the cost of physical activity is also less because a body that weighs less requires less energy expenditure to move around; and the thermic effect of food is generally about 10% of energy intake, which is automatically less with energy restriction. These are not the major factors stalling weight loss however; it is necessary to reestablish an energy deficit

A misconception to beginners attempting to lose weight is that the process is linear. Therefore, one can expect that weight loss will occur more rapidly in the early stages. Still, then in the coming weeks, the weight may stay steady or even slightly increased despite maintaining the established calorie deficit.

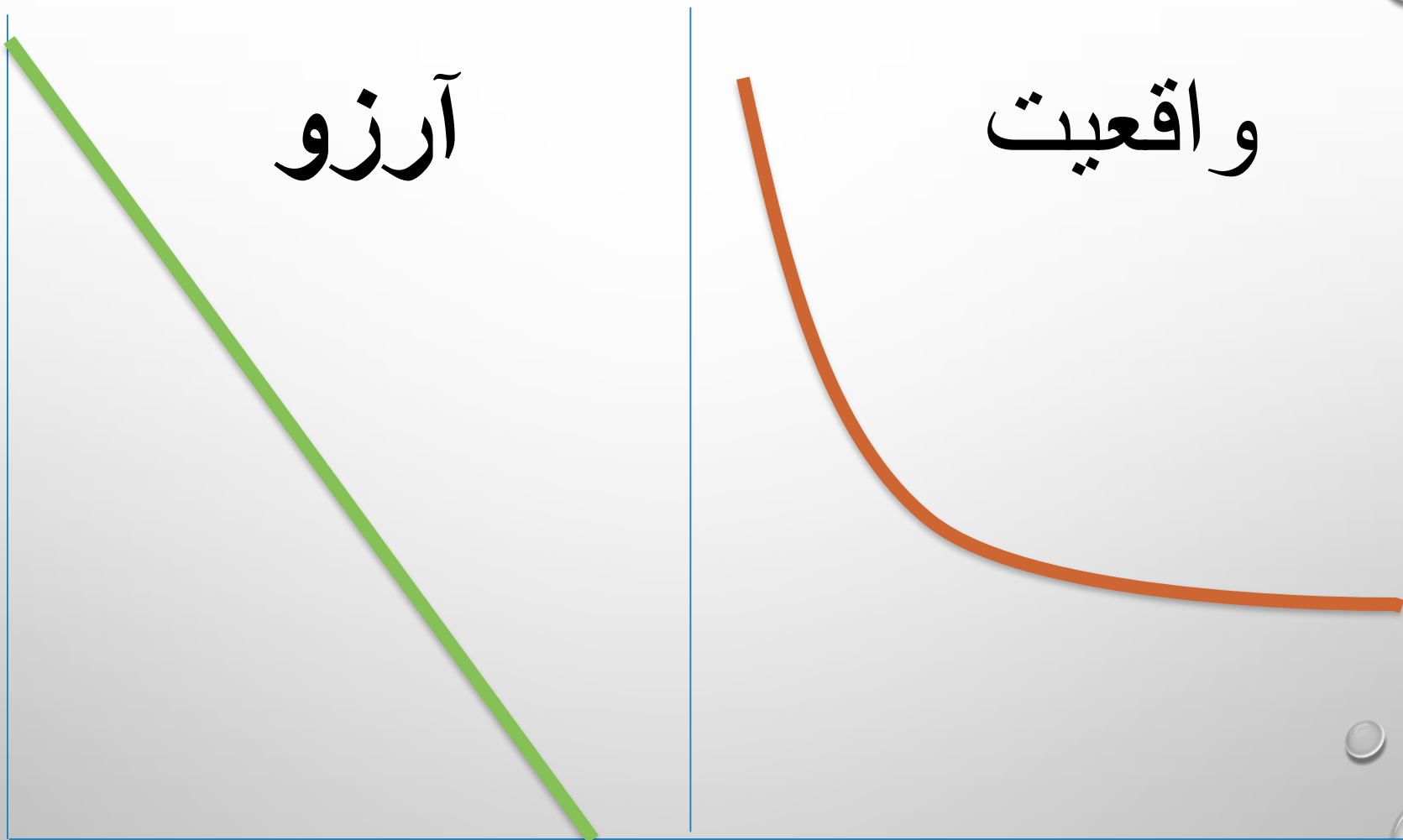
کاهش وزن

آرزو

واقعیت

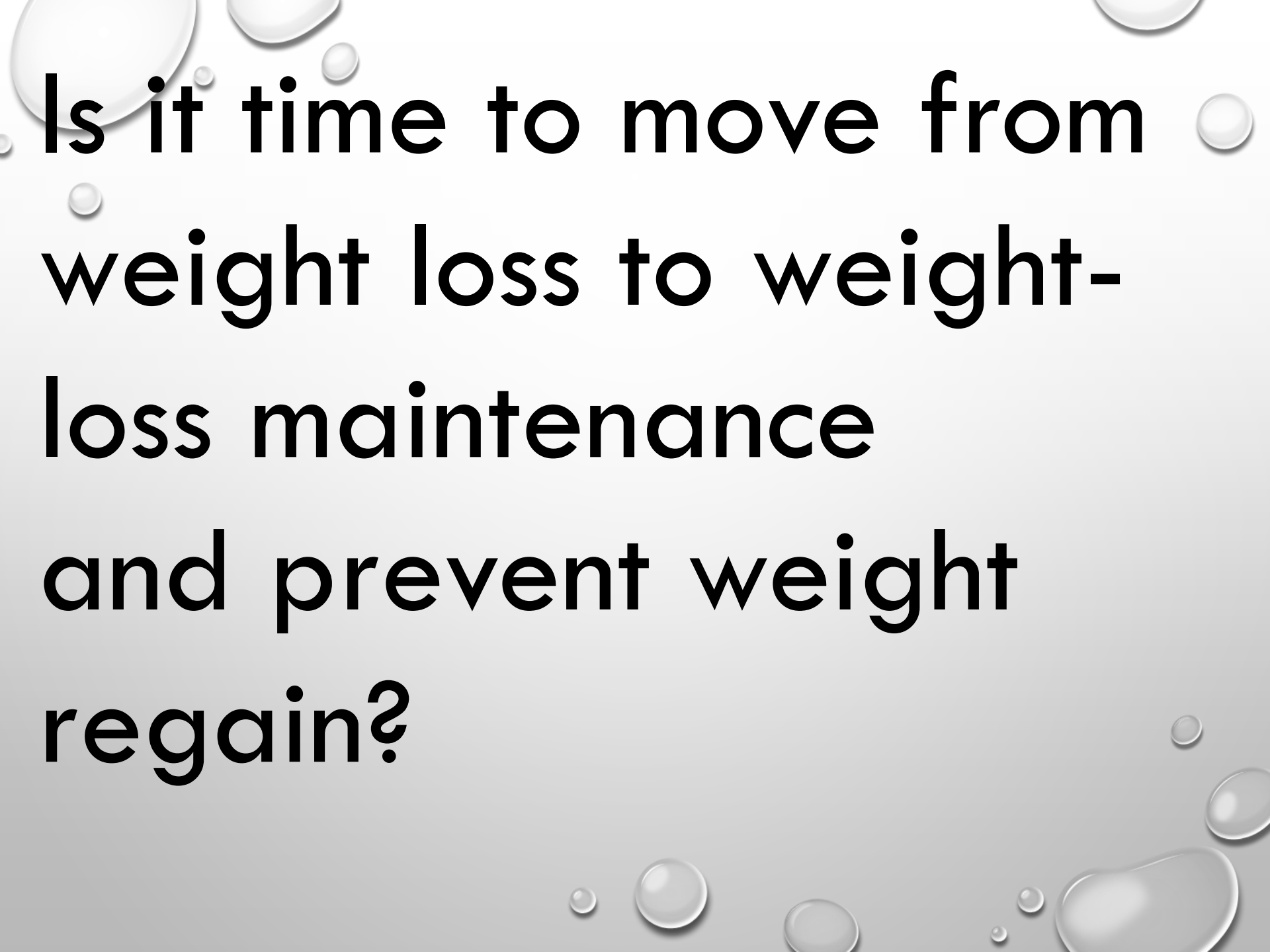
وزن

زمان



Animal studies examining repeated weight-loss cycles have found that in later cycles there is a decreased rate of weight loss (21) and increased rates of weight regain (21, 31), feed efficiency (2, 6, 32, 40), and adiposity (32).

When animals lose weight from caloric restriction, leptin, insulin, and ghrelin levels change adaptively to help restore baseline weight. Leptin is an adipocyte-derived hormone that regulates body adiposity through effects on appetite and thermogenesis . Leptin decreases disproportionately to adiposity in diet-induced weight loss , decreasing satiety when the body is weight reduced. Insulin, also an important central-acting mediator of energy homeostasis, falls similarly with weight loss . Acting in the opposite manner, ghrelin is the only known circulating orexigenic (appetite-stimulating) hormone and has repeatedly been shown to increase in conditions of weight loss and negative energy balance , increasing hunger when the body is weight reduced. It is not known whether multiple cycles of weight loss and regain might alter the magnitude of these adaptive hormonal responses, perhaps either progressively augmenting or blunting them.

The background of the slide is a light gray gradient, decorated with several realistic water droplets of various sizes. Some droplets are at the top, some at the bottom, and some on the sides, creating a clean, fresh aesthetic.

**Is it time to move from
weight loss to weight-
loss maintenance
and prevent weight
regain?**

- کاهش وزن باید تریجی باشد و نباید حتماً رسیدن به یک عدد خاص مد نظر باشد.

- کاهش وزن هر چند کم باعث بهبود سلامت می شود.

- کاهش وزن نیم تا یک پوند برای BMI 27 تا 35
و یک تا دو پوند برای BMI بزرگتر از 35.

- بهتر است این کاهش وزن برای ششماه ادامه

یابد (10% کاهش وزن) و سپس برای شش ماه رژیم
ثبات وزن و تکرار این سیکل تا رسیدن به وزن مطلوب

(نه ایده آل) (نه BMI=25)

1 - HEREDITY

- اکثر عوامل عصبی، هورمونی و.. که در کوتاه و دراز مدت دریافت غذا را کنترل می کنند ، توسط ژن ها مشخص می شوند. شامل تعداد سل های چربی، متابولیسم پایه، توزیع بافت چربی، سطح هورمون ها و....
- مطالعات روی دوقلوهای یکسان نشان داده است که نقش ژن ها در بروز چاقی بین 50 تا 70% است. ولی این کنترل چند ژنی بوده و تعیین اثر آن ساده نمی باشد.
- ولی باید به خاطر داشت که ژن ها زمینه را مساعد می کنند ولی قطعاً عوامل محیطی هم باید فراهم باشد.

**Despite hundreds of
“obesity genes” having
been identified, however,
we are only at the point of
being able to apply
genetic information to a
few individual treatments.**

Genetic factors alone, rare diseases such as Prader-Willi syndrome, and endocrine disorders can only explain a minority of the present obesity prevalence seen among children, though common genetic allelic variants may set the stage for obesity within an **obesogenic environment.**

2- ENERGY DENSE FOODS

• اکثر غذاها این روزها پر انرژی است و در حالیکه انسان حجم متناسب مصرف می کند ، کالری مازاد دریافت می کند ، مخصوصاً در رستوران ها.

چرب و شیرین

غذای گیاهخواران دانسیته کالری کمتری دارد

3- FOOD VARIETY IN ONE MEAL

influence of variety on food intake (Rolls et al. 1984)

	meal 1	meal 2
course 1	sausages	sausages
course 2	bread and butter	sausages
course 3	chocolate desert	sausages
course 4	banana	sausages

- ◇ **volunteers fed ad libitum; weight of food consumed and energy value recorded**
- ◇ **the total weight of food consumed in meal 1 was 44% greater and energy consumption 60% greater**
- ◇ **principle of gastronomy: an appetizing meal should provide contrast in taste, color and texture**

R.F. Hurrell

obesity I - 43

شما ممکن است از یک غذا سیر شده باشید ولی به غذای دیگر هنوز میل داشته باشید

4- INACTIVITY AND

Many people who do not lose weight when following a prescribed energy restriction may be consuming more energy than they report and may also overestimate their physical activity levels. Underreporting of energy intake is the norm and is shown to increase with BMI. Underreporting of estimated intake has been extensively studied

Resistance training has the potential to enhance weight loss maintenance by maintaining or potentially enhancing FFM and thereby averting the decline in RMR that typically occurs following weight loss interventions.

Many people who do not lose weight when following a prescribed energy restriction may be consuming more energy than they report and may also overestimate their physical activity levels. Underreporting of energy intake is the norm and is shown to increase with BMI. Underreporting of estimated intake has been extensively studied

Aerobic exercise and resistance training should be recommended. Resistance training increases LBM, raising the RMR and one's ability to use more of the energy intake, and increases bone mineral density, especially for women (see Chapter 23). Aerobic exercise is important for cardiovascular health through elevated RMR, calorie expenditure, energy deficit, and loss of fat. In addition to the physiologic benefits of exercise, other benefits include relief of boredom, increased sense of control, and improved sense of well-being. The whole family can get involved in pleasurable exercise activities

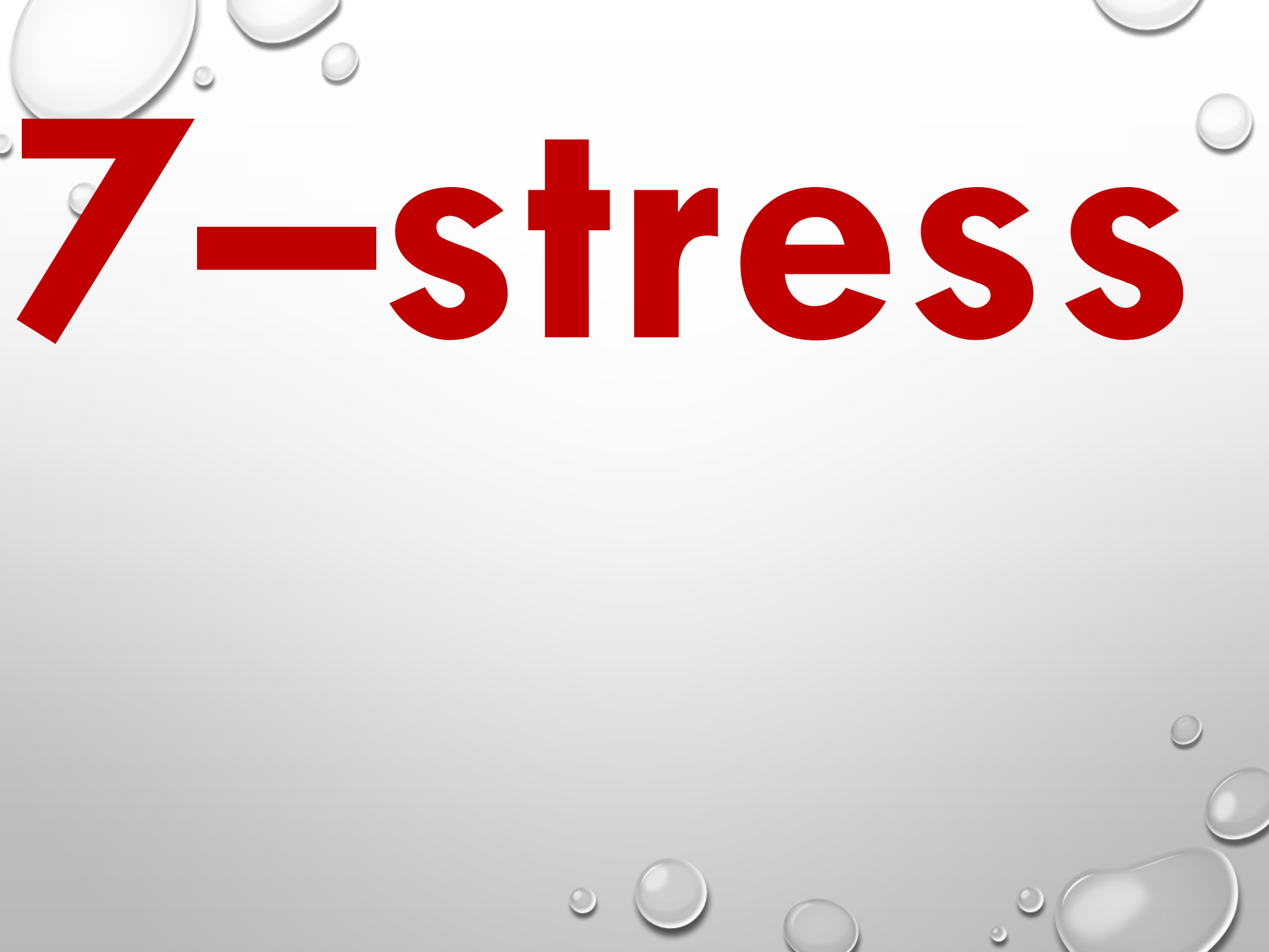
5 – light

The image features a light gray background with a subtle gradient. Scattered throughout are several realistic water droplets of various sizes, some with highlights and shadows, giving them a three-dimensional appearance. The text '6-sleep' is prominently displayed in the upper half of the image.

6-sleep

Sleep

Self-reported mean sleep time has decreased 10e15 min from 1985 to 2010, with adults self-reporting less than 6 h of sleep per night increasing from 22.3% to 29.2%.¹¹⁷ This is of concern as short sleep time can increase risk for obesity.¹¹⁸ In a 16 year longitudinal study of 68,183 women, a clear relationship between self reported sleep duration and weight gain was observed.



7-stress

The image features a light gray background with a gradient. Several realistic water droplets of various sizes are scattered across the frame, primarily concentrated in the top-left and bottom-right corners. The droplets have highlights and shadows, giving them a three-dimensional appearance.

8-portion size

9 - Obesogens (bisphenol, phthalates)

Examples of suspected obesogens are bisphenol-A (BPA) and phthalates (in food containers and packaging), organochlorine and organophosphate (banned pesticides), and perfluoroalkyl substances (industrial marine applications) (Nappi, 2016). (See Clinical Insight: What's in that Fat When You Lose It?)

1.0-Hypothyroidism

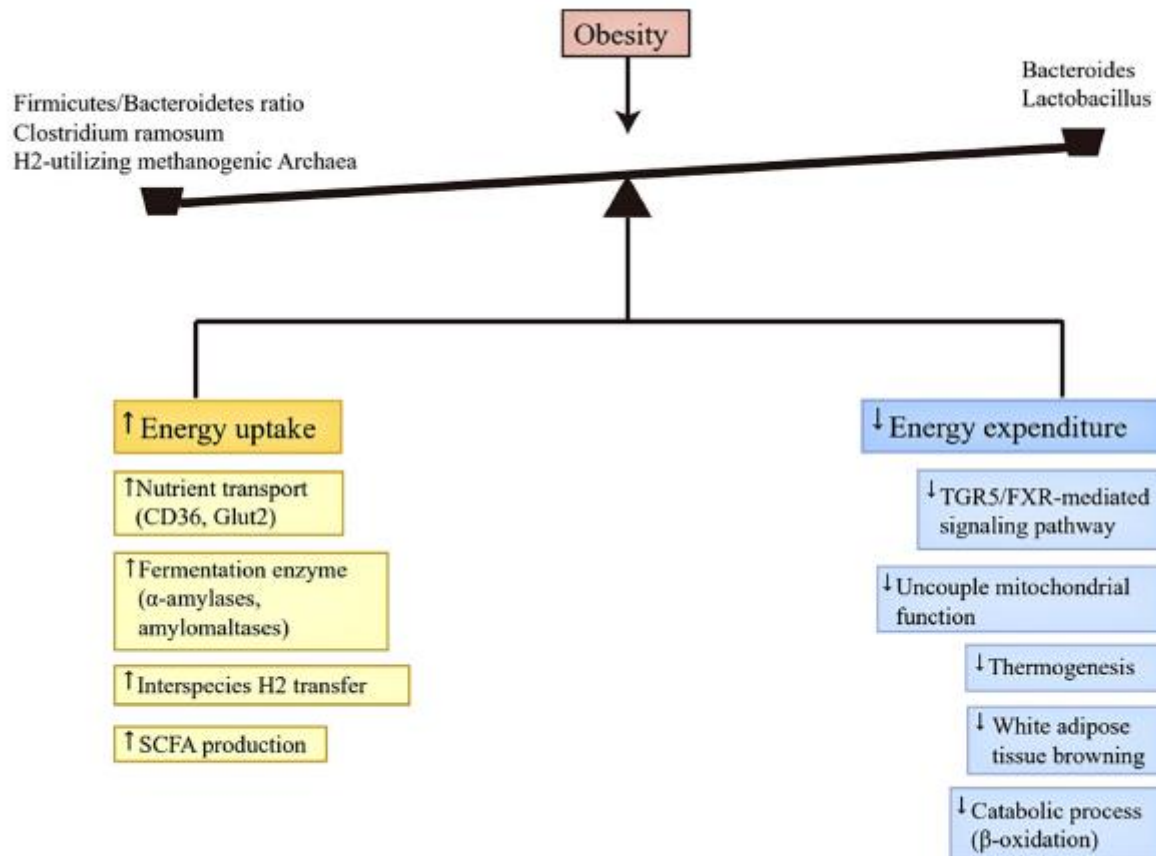
The background of the slide is a light gray gradient. It is decorated with several realistic water droplets of various sizes, scattered across the top and bottom edges. The droplets have highlights and shadows, giving them a three-dimensional appearance.

11 – Bacteria and antibiotics

The slide features a light gray background with a gradient. It is decorated with several realistic water droplets of various sizes, some with highlights and shadows, scattered across the top and bottom edges.

The image features a light gray background with a subtle gradient. Scattered around the edges are several realistic water droplets of various sizes, some with highlights and shadows, giving them a three-dimensional appearance. The word "Microbiome" is centered in a large, bold, black sans-serif font.

Microbiome



12 – artificial sweeteners

"ANIMALS LEARN TO USE TASTE TO PREDICT CALORIC CONSEQUENCES, AND IN NATURE, SWEETNESS IS ALMOST ALWAYS AN INDICATOR OF CALORIES." WHEN WE EXPERIENCE A SWEET TASTE WITH NO ACCOMPANYING CALORIC INTAKE, IT CONFUSES THAT CALIBRATION TOOL. REPEATING THAT EXPERIENCE, AS IN DRINKING A DIET SODA EVERY AFTERNOON, MIGHT ACTUALLY DEPROGRAM YOUR CALORIE-COUNTING MECHANISM FOR GOOD. (IN THE RATS, EFFECTS WERE SEEN IN AS FEW AS 10 DAYS.)

There is no evidence that using nonnutritive sweeteners reduces food intake or enhances an individual's weight loss. observational data suggest that routine intake of nonnutritive sweeteners may be associated with increased BMI and cardiometabolic risk. Further research is needed to fully characterize the long term risks and benefits of nonnutritive sweeteners (Azad et al, 2017)

The background of the slide is a light gray gradient. It is decorated with several realistic water droplets of various sizes, scattered across the top and bottom edges. The droplets have highlights and shadows, giving them a three-dimensional appearance.

13-AIR CONDITIONERS

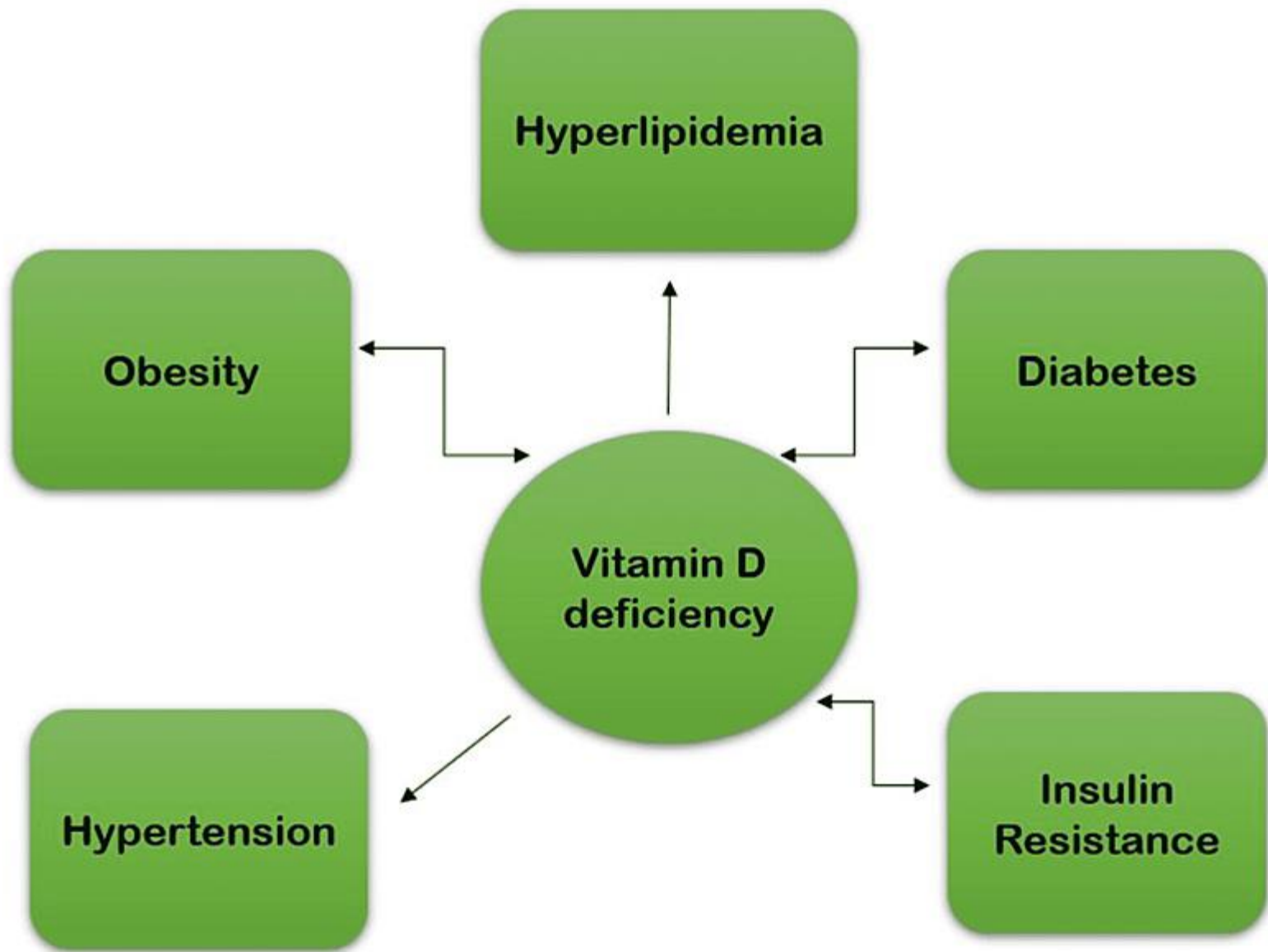


Ambient Temperature

Brown Adipose Tissue

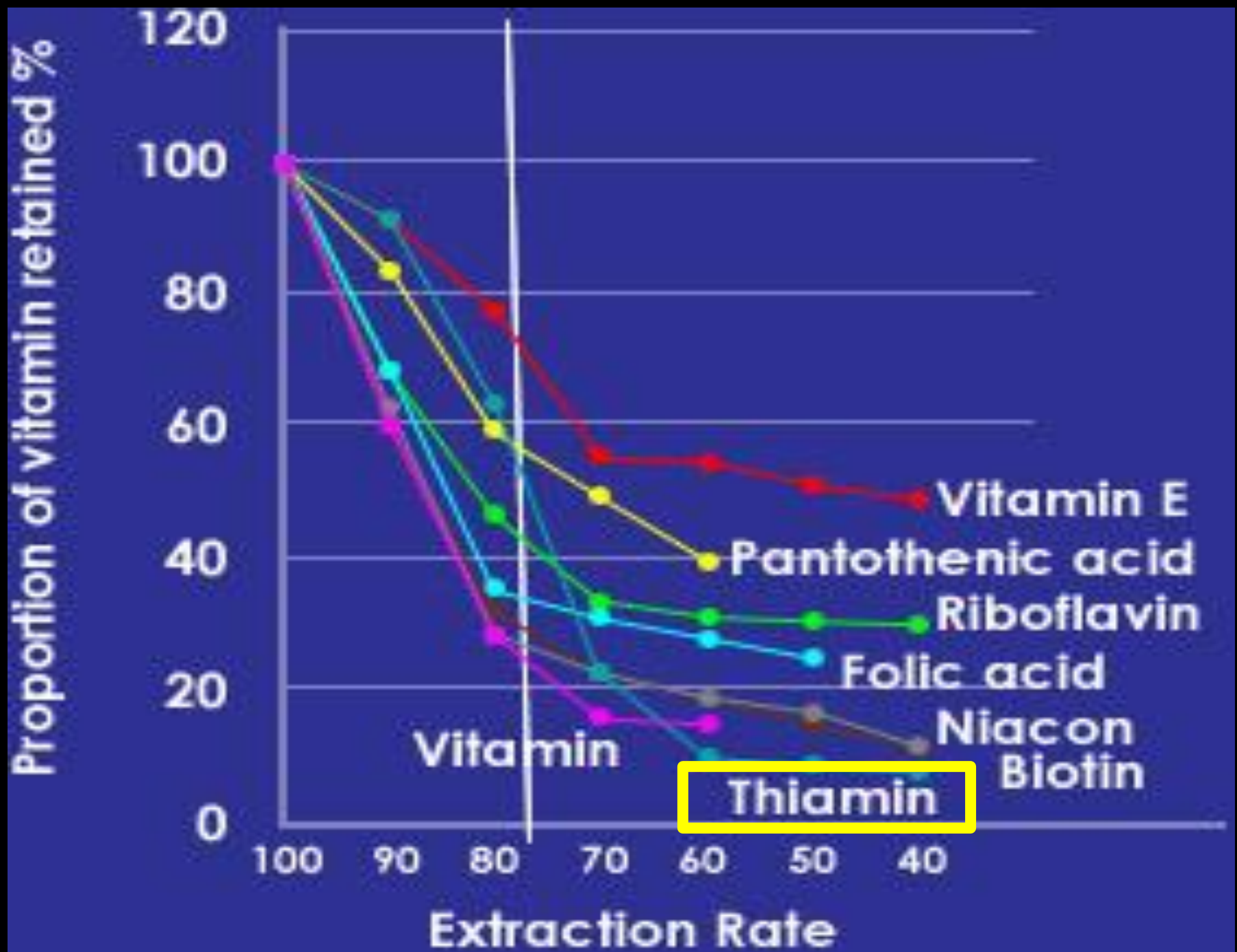


14-DEFICIENCIES FOR EXAMPLE VITAMIN D ,CALCIUM AND...



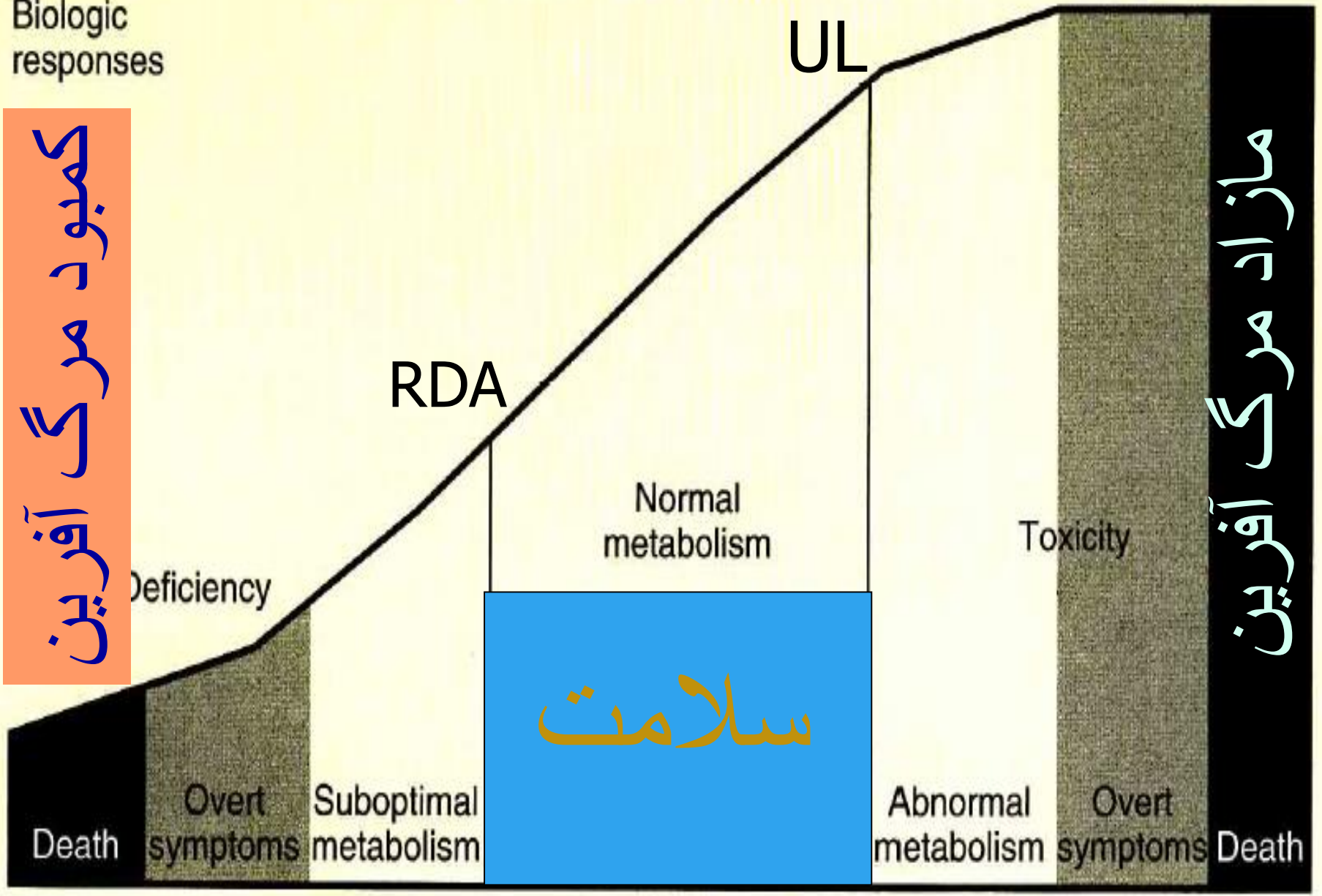
Key points

- An association of vitamin D deficiency and obesity in adults exists, although an exact mechanism linking them is yet to be determined.
- Vitamin D deficiency is correlated with increased body mass index.
- Modulation of the CYP2R1 and vitamin D receptor genes by obesity appear likely to have key roles in the understanding of how obesity affects vitamin D status.



Biologic responses

کمبود مرگ آفرین



Nutrient intake or cellular concentration



مازاد مرگ آفرین

چربي، روغن و شيريني
خيلى كم مصرف شود

KEY

■ Fat (naturally occurring and added)

▼ Sugars (added)

These symbols show fats and added sugars in foods.

شير، ماست و پنير روزى
2 الى 3 سروينگ

گوشت، تخم مرغ، حبوبات و
مغزها روزى 2 الى 3 سروينگ

سبزی روزى 3
الى 5 سروينگ

میوه روزى 2 الى 4
سروينگ

غلات روزى 6 الى
11 سروينگ

آب، 8 لیوان



TABLE 20.5 Acceptable Macronutrient Distribution Ranges (AMDR)% of Total Calorie Intake

	2005	Previous Guidelines
Protein	10% to 35%	10% to 35%
Carbohydrate	45% to 65%	50% or more
Fat	20% to 35%	30% or less

NAS IOM: Dietary Reference Intakes for Energy, Carbohydrate, Fiber, Fat, Fatty acids, Cholesterol, Protein, and Amino Acids (Macronutrients), *The National Academies Press*. 2005.

پروتئین ها

- ضروری ترین مواد غذایی هستند.
- اصلا ذخیره نمی شوند و باید روزانه در تمامی گروه های سنی مخصوصا کودکان مصرف شوند.
- پروتئین ها بسختی تبدیل به چربی می شوند.



1.5 – odors, colours,

16-Ultraprocessed Foods

The background of the slide is a light gray gradient. It is decorated with several realistic water droplets of various sizes, scattered across the top and bottom edges. The droplets have highlights and shadows, giving them a three-dimensional appearance.

UPF

The mechanisms to be addressed were grouped into 3 categories; those related to food choice (i.e., low cost, shelf-life, food packaging, hyperpalatability, and stimulation hunger/suppression of fullness);

UPF has also been defined as “... industrial formulations typically with 5 or more and usually many ingredients.

These ingredients include items often used in processed foods, such as sugar, oils, fats, salt, antioxidants, stabilizers and preservatives.”

SAMSUNG

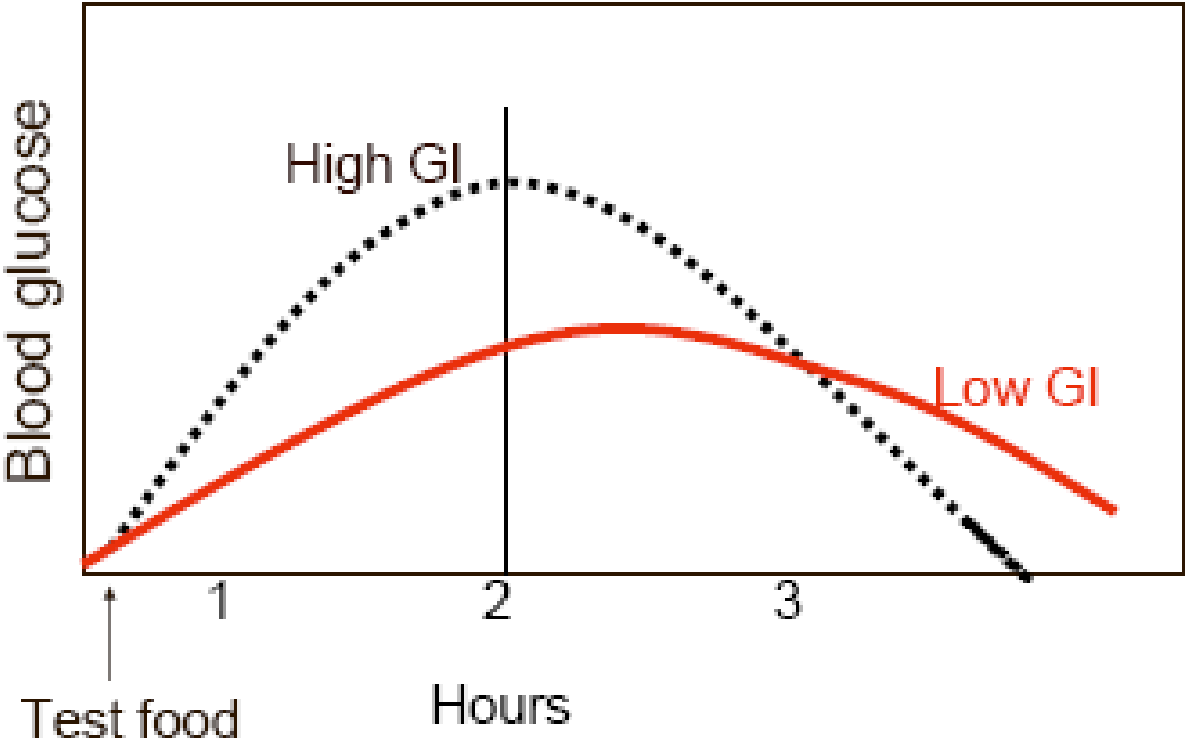
سامسونگ

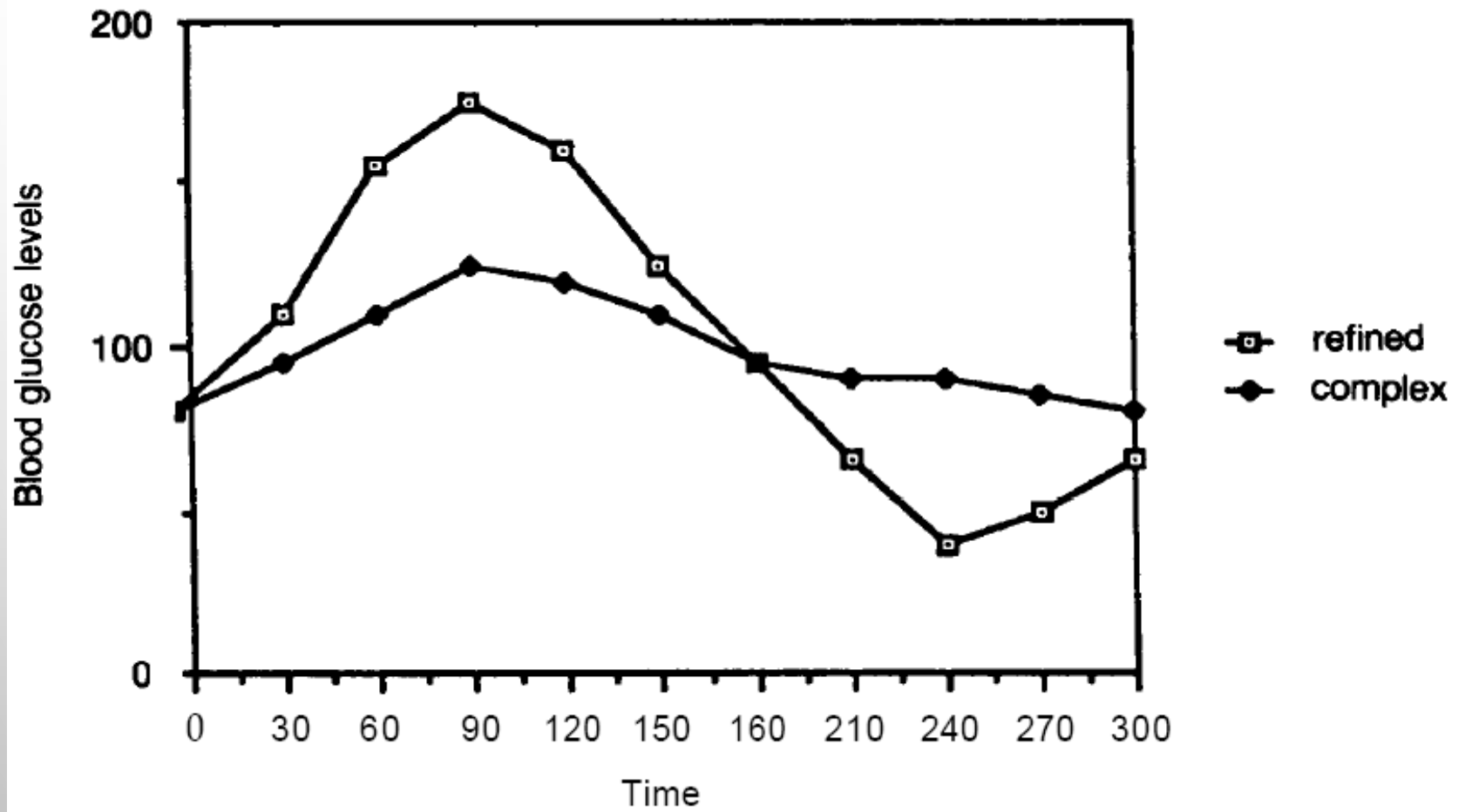
غذاهای سریع‌الجنب - 17

آب برف و باران

كل قطن خون

Glycemic Index (GI)

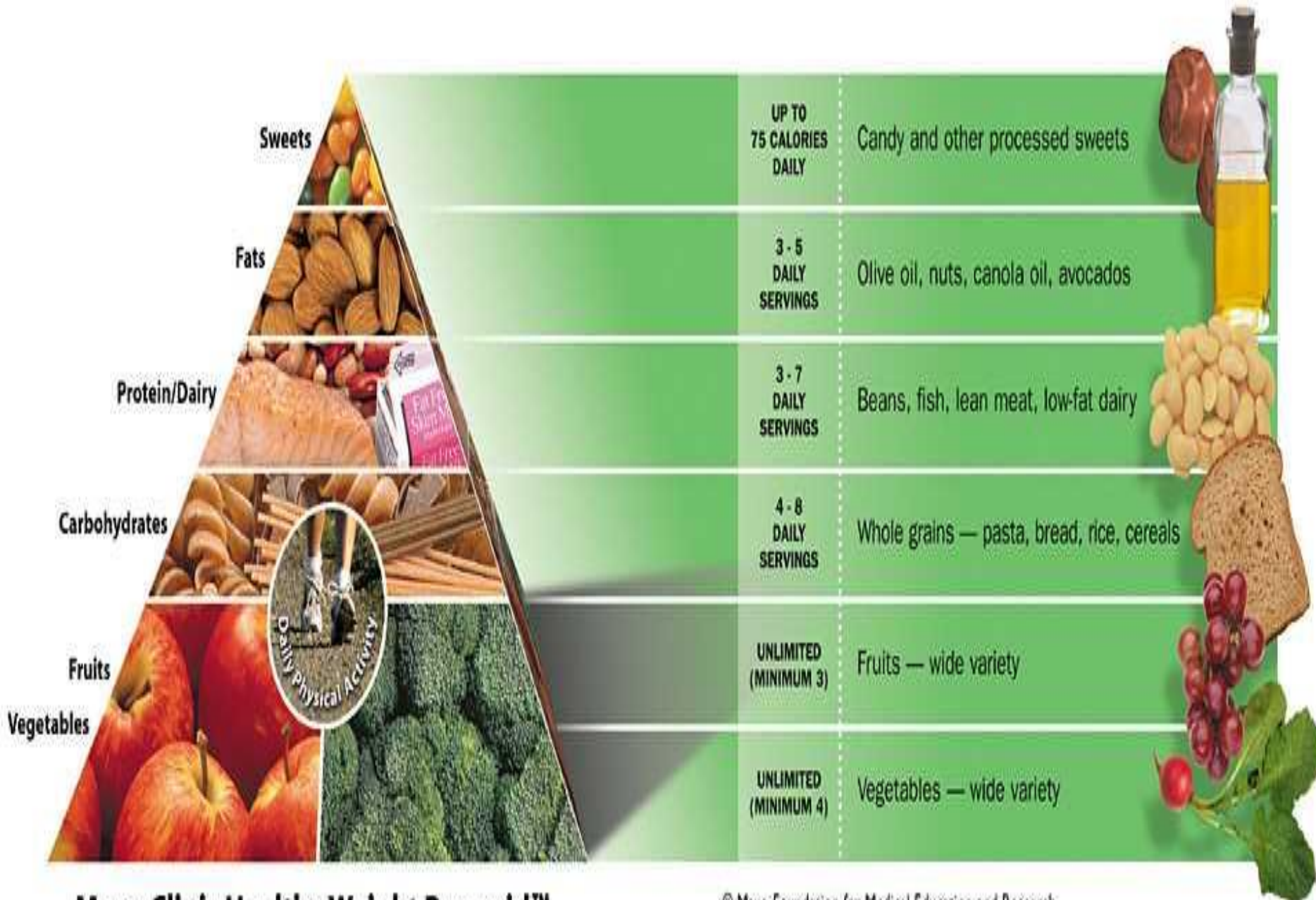




نمایه گلاپسمی:

تغییرات قند پس از مصرف 50 گرم قند قابل جذب

نمایه گلاپسمی	گروه غذایی
100	نان ها
80	برنج ها
70	ماکارونی
110	سیب زمینی
40	حبوبات
50	میوه ها
40	شیر
120	غلات پف کرده



Mayo Clinic Healthy Weight Pyramid™

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See your doctor before you begin any healthy weight plan.



18-Advertisements

kidchap

19 - رژیم های غیر علمی و غیر عملی
مثل رژیم کتوژنیک و....

A recent systematic review of high quality randomized controlled trials (RCTs) comparing low-carbohydrate with isoenergetic (having the same total calories) balanced diets found essentially no difference in weight loss,

20 - امید به داروها

As of April, 2018, five long-term weight loss drugs were listed as approved by the FDA: orlistat (Xenical), liraglutide (Saxenda, Victoza), lorcaserin (Belviq), naltrexone-bupropion (Contrave), and phenterminetopiramate (Qsymia) (Table 20.8 for mechanisms of action and common side effects of prescription weight loss drugs).

Two such drugs, fenfluramine (commonly used in combination with phentermine, known as “fen-phen”) and dexfenfluramine, were removed from the market in 1997 after concerns were raised regarding the possible side effects of cardiac valvulopathy, regurgitation, and primary pulmonary hypertension. Common side effects of many CNS-acting agents are dry mouth, headache, insomnia, and constipation

At present, there are five major FDA approved antiobesity medications: phentermine, orlistat, phentermine/topiramate extended release, naltrexone sustained release (SR)/bupropion SR, and liraglutide (the only injectable formulation).

21- نداشتن لیست جایگزین

Dietary Exchanges, based on the American Dietetic Association (ADA) Exchange System, are another tools that have been used to help participants adhere to their calorie targets with the corresponding number of ADA exchanges/day adjusted for the specific diet. The exchange system affords the participant the most flexibility in diet planning once the concept is learned.

لیست جایگزین

هر یک از اجزای هر لیست می توانند جایگزین هم در غذای ذکر شده در رژیم اصلی شوند.

1. جایگزین های هر یک واحد نان (80 کیلو کالری)

یک کف دست نان = 30 گرم نان = یک قطعه نان 10 سانتیمتر در 10 سانتیمتر = یک قطعه نان در ابعاد یک نان اسنک (ولی نه نان اسنک) = 70 گرم برنج پخته = 4 قاشق غذاخوری برنج پخته = 100 گرم ماکارونی پخته = 5 قاشق غذاخوری ماکارونی پخته = 70 گرم حبوبات پخته = 4 قاشق غذاخوری حبوبات پخته = یک کاسه ماست خوری آش رشته یا سایر آش ها و سوپ ها = نیم کاسه ماست خوری شیر برنج یا حریره = یک عدد کیک یزدی کوچک = سه قاشق غذاخوری نرت پخته = یک عدد بلال متوسط = نیم کاسه ماست خوری شله زرد = سه قاشق غذاخوری حلیم یا حلیم بادمجان

1. جایگزین های هر یک واحد گوشت : (75 کیلو کالری)

30 گرم گوشت (مرغ، بوقلمون، ماهی، گوسفند، گوساله و...) = دو قطعه خورشتی گوشت = یک قوطی کبریت گوشت = دو قاشق غذاخوری گوشت چرخ کرده = 30 گرم جگر = دو قطعه جگر = یک قوطی کبریت دل یا قلوه = 30 گرم میگو = یک عدد تخم مرغ آب پز = دو عدد سپیده تخم مرغ آب پز = 30 گرم پنیر = یک قوطی کبریت پنیر = 4/1 سیخ کباب برگ = 3/1 کباب کوبیده = یک قطعه از سیخ جوجه کباب = نصف ران کوچک مرغ = 6/1 سینه مرغ = 6/1 تن ماهی = نصف لیوان حبوبات پخته

1. جایگزین های هر یک واحد میوه: (60 کیلو کالری)

یک سیب متوسط = یک پرتقال متوسط = دو عدد نارنگی متوسط = یک عدد لیمو شیرین = یک هلو متوسط = یک شلیل متوسط = یک گلابی کوچک = 90 گرم انگور قرمز (12 حبه) = یک کیوی بزرگ = 2 عدد انجیر = یک نارنگی بزرگ = یک خرمالوی بزرگ = 2 عدد خرما متوسط = دو عدد آلو = 4 عدد زرد آلو = یک عدد انار کوچک = 300 گرم میوه پر آب یا یک قاچ بزرگ (هندوانه، خربزه، طالبی و...) = سه چهارم لیوان آلبالو = 10 عدد گیلاس = 100 گرم از دیگر میوه ها.

1. جایگزین های هر یک واحد شیر: (120 کیلو کالری)

یک لیوان شیر = یک لیوان ماست = دو لیوان دوغ = 2 قاشق غذاخوری سر پر ماست چکیده (کیسه ای) = نصف لیوان بستنی سنتی = یک لیوان بستنی پاستوریزه = یک چهارم لیوان کشک مایع = دو عدد کشک جامد = 45 گرم پنیر = چهار قاشق چایخوری شیر خشک

1. جایگزین های هر یک واحد روغن: (45 کیلو کالری)

5 گرم چربی = یک قاشق مربا خوری کره ، مایونزو انواع روغن = 6 عدد بادام یا پسته = 10 عدد بادام زمینی = 2 عدد بادام هندی = 2 عدد گردو = یک قاشق غذاخوری خامه = یک قاشق غذاخوری سر شیر = 10 عدد زیتون = 2 قاشق مرباخوری کره بادام زمینی = یک قاشق غذاخوری انواع تخمه ها یا کنجد

22- کلمہ آبجی

23 - حذف

و عده های

غذایی

The image features a light gray background with a subtle gradient. In the top-left and bottom-right corners, there are several realistic-looking water droplets of various sizes, rendered with soft shadows and highlights to give them a three-dimensional appearance. The word "recommendations" is centered in the upper half of the image in a bold, black, sans-serif font.

recommendations

توصیه های لازم برای کاهش وزن:

1. سهم غذای تعیین شده را از همان ابتدا جدا نمایید.
2. حتی الامکان از نان های سبوس دار، سبزی دار، سنگگ، بربری، تافتون و... استفاده کنید
3. هیچ وعده غذایی مخصوصاً صبحانه و شام حذف نشود. (البته بیش از مقدار تعیین شده هم مصرف نشود).
4. از سرخ کردن غذاها حتی الامکان پرهیز شود و بجای آن از روش آب پز، بخارپز، فر پز، کباب پز، تنوری و مایکروویو استفاده نمایید.
5. خیلی آرام غذا بخورید، طوری که غذا خوردن شما حدود 20 دقیقه طول بکشد.
6. بجای قند، شکر، پولکی و نبات از عسل، خرما و مویز و توت همراه چای استفاده کنید.
7. اگر با ادویه جات تند (لفل قرمز، فلفل سیاه و فلفل سبز تند و...) مشکلی ندارید، بوفور از آن ها استفاده کنید (البته به تدریج اضافه شود).
8. به جای نوشابه، به جای شربت و به جای آب میوه از خود میوه های تازه و رنگی فصل (نه میوه خشک) استفاده کنید.
9. سعی کنید در طول روز (مخصوصاً تا یک ساعت بعد از غذا) نخوابید
10. حد اقل روزی نیم ساعت بیش از آنچه تا به حال پیاده روی می کرده اید، پیاده روی یا نرمش یا ورزش کنید. (ترجیحاً یک الی سه ساعت بعد از غذا). و ترجیحاً در هوای آزاد و در خارج از منزل.
11. هر زمان احساس گرسنگی کردید از لیست غذاهای آزاد مصرف کنید،
12. از مصرف نان های کاملاً سفید (لواش)، خشک، باگت، سوخاری، چرب، شیرین، گردویی و مغز دار خود داری کنید.
13. نمک مصرفی خود را کاهش دهید و بجای آن از لیمو، آبلیمو، غوره، آبغوره، نارنج و انواع سرکه استفاده کنید.
14. ماست کم چربی خود را با مرزه، نعنا، پونه، شنبلیله، آویشن، کرفس، کلم، خیار، اسفناج، جوانه ها، شوید، مرزه، فلفل و... مصرف کنید.
15. در کف دیگ (بدون روغن) به جای سیب زمینی یا نان، از کدو، کاهو، لُب، گوجه، به، هویج، سیب درختی و... استفاده کنید.
16. شب زود بخوابید و صبح زود بیدار شوید.
17. صبحانه را هر چه زودتر و حتی قبل از طلوع آفتاب و شام را حتی الامکان تا دو ساعت بعد از غروب آفتاب میل کنید
18. کم خوابی و پر خوابی هر دو سبب چاقی می شود بنابراین بیش از 8 ساعت در طول شبانه روز کمتر از 6 ساعت در شب نخوابید.
19. در هنگام خواب سعی کنید اتاقتان کاملاً تاریک باشد و اگر نور چراغ ماشین ها وارد اتاقتان می شود، پرده ها را بکشید.
20. در سالاد خود از هویج، گوجه فرنگی، انواع کلم، انواع فلفل تند و دلمه ای، خیار، قارچ، کاهو، کلم قرمز، بر و کلی، انواع جوانه ها، ترب، تربچه، شلغم، پودر لیمو عمانی، سیوس، سرکه، آبلیمو، ماست و ادویه جات و... استفاده کنید.
21. اتاق خود را در زمستان زیاد گرم و در تابستان زیاد سرد نکنید، لباس خود را تغییر دهید.
22. در سالاد خود از سوسیس، کالباس، ماکارونی، ذرت، سیب زمینی، مایونز و روغن (حتی روغن زیتون) استفاده نکنید.
23. حتی الامکان تا دو ساعت بعد از غذا چیزی نخورید
24. همیشه مقداری میوه، کاهو، کلم، گوجه، و... تمیز شده در آشپزخانه جهت مصرف بعنوان میان وعده در دسترس باشد
25. تاجایی که مقدور است از وسایل پلاستیکی برای غذا خوردن، نگره داری آب در یخچال، میکروویو کردن و... استفاده نکنید
26. هر جا و هر وقت فرصت کردید قدم بزنید مثلاً در رستوران یا مطب پزشک و... (برای قدم زدن بهانه پیدا کنید)
27. در پارک با بچه ها بازی کنید و سر جای خود ننشینید
28. آب را برای خوردن و درست کردن چای حدود 2 ساعت در ظرفی جداگانه نگه دارید (ظروف غیر پلاستیکی).
29. مرغ و ماهی و عدس پلو را با 2 عدد خرما بخورید.
30. اگر کم خونی ندارید مصرف گوشت خود را کاهش دهید و از جایگزین حبوبات استفاده کنید.
31. گرسنگی کشیدن سبب چاقی می شود پس خود را گرسنه نگه ندارید. (سروقت غذا بخورید)
32. فقط هفته ای یکبار، آن هم فقط با یک ترازو با لباس سبک و قبل از صبحانه خود را وزن کنید.
33. هفته ای سه الی چهار بار بیشتر پنیر مصرف نکنید.

فالسلاام

