



# Back To Chiropractic Wellness: The Studies

Presented by  
**Marcus Strutz, DC**

**Marcus Strutz, DC**  
**Life Chiropractic College West Graduate**  
**June 1996, Summa Cum Laude**

**Professor Life Chiropractic College West, 1997-2002**

- **Physiotherapy Rehab** (authored course manual)
- **Physiotherapy Modalities** (authored course manual)
- **X-Ray Physics** (authored course manual)
- **Philosophy I**
- **Philosophy V - Practice Management**
- **Microbiology Lab**
- **Spinal Biomechanics**
- **Systemic Physiology Lab**

- **Private Practice, 2000-2013 Mendocino/Ft Bragg, CA**
- **CE Seminars, 2002-present:**  
**Technique, Wellness (Pt Ed), Physiotherapy,**  
**History Taking & Physical Examination Procedures**
- **Ghost Writer Practice Management, 2007-2014**
- **National Board Review Instructor, 1999-2000**  
**Dr. Irene Gold & Dr. John Donofrio**
- **Middle School Teacher Math & Science, 1989-1993**
- **Racquetball Club Pro & Weight Trainer**  
**Walnut Creek, 1982-1987**
- **Father: Amuel Strutz DC Palmer Grad 1961**

## Wellness: The Studies ~ 6 Hours

### Learning Objectives

1. To be aware of the demographics changes of our country and how it will affect the type of patients coming into our offices. To provide patients with information and strategies to make healthy choices and how chiropractic is an integral part of that decision. To guide patients to healthier choices and make them aware of the unhealthy choices.
2. How to incorporate the key factors of health (diet, exercise, stress reduction, proper rest), into a practice on a daily basis and how they relate to chiropractic. Literature is provided to support the validity of these health areas that are useful for both the chiropractor and patient.
3. The physiological effects of healthy living will be given as well as “how to” lists for increased patient compliance.

## Hourly Outline

Hours 1-3 Demographics of our Nation: Overview of population growth trends, aging statistics, factors that attribute to the aging, morbidity and mortality rates and the fall-out on health issues and insurance costs. A review of the growth of legal drug use in the US, including sales figures, the public demand for them and how the media effects our decision making. A closer look at aspirin, acetaminophen, naproxen; including peer reviewed literature on the health risks and costs for individuals and our nation.

Hours 4-6 Key factors of health (diet, exercise, stress, rest). Each factor is reviewed in detail with peer-reviewed literature on the impact it has on overall health. Eating habits, exercise regimens, the epidemic of obesity, the importance of rest and sleep, emotional and physical stress, are reviewed. Includes the physiological effects of diet, exercise, stress and rest; and methods to implement these factors into chiropractic practice and the patient's daily life.

# A word about the studies in this presentation. I try to use old & new studies.

## Why old studies?

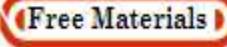
1. to show the idea has been around a while
2. nothing new that is significant
3. the study is so important you have to keep it

## Why new studies?

1. to show the latest ideas & data
2. something new that is significant



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# Sharing Studies

If you have a study that you would like to share,  
and you think it fits this presentation or not,  
that is great!

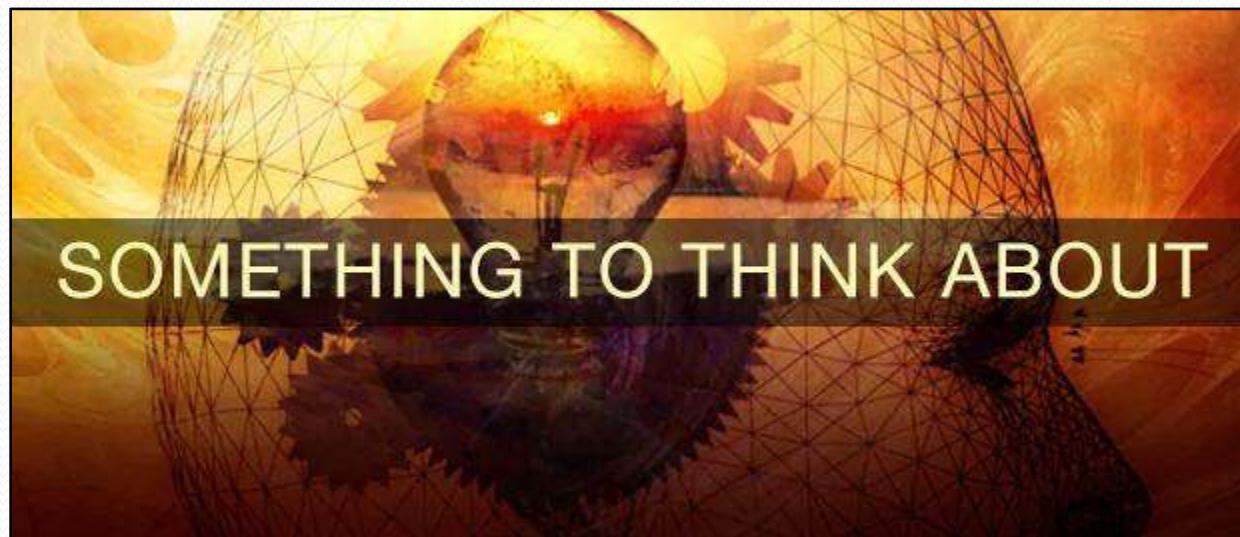
Email to: [marcusstrutzdc@gmail.com](mailto:marcusstrutzdc@gmail.com)



Why is it called research when  
you haven't searched for it before?

**Don't wait until you are sick,  
maintain your health!**

**Everything seems so important until you are sick.  
Then you realize there is only one thing that was  
important.**



# **Chiropractic: The Alternative!**

**Initially the goal of chiropractic care is often correction of dysfunction with pain relief & restoring function. Once that is achieved then care changes over to a wellness model.**

**The goal then becomes to live a long, healthy life, maintaining full function & well-being.**

**DC's make pts aware of their role & responsibility in maintaining their health.**

To start off with Wellness we need to take a look at the demographics of our country, the history and current habits. Once we identify the ills of health, we then can move forward and make educated decisions on how to stay healthy versus waiting until we are sick.



# US Health Status



In fewer than 100 years, humans made greater gains in life expectancy than they did in the proceeding 50 centuries.

~ Dr. Robert Butler



# Life Expectancy

In the year 1900:  
life expectancy  
for a man was 46.3  
for a woman was 48.3

In the year 2023:  
life expectancy  
for a man was 75.8 &  
for a woman was 81.1

Source: [CDC/National Center for Health Statistics](https://www.cdc.gov/nchs/fastats/life-expectancy-at-birth.aspx)

# Life Expectancy Shortening?

Obesity rates have  $\uparrow$  50% per decade since 1980.  
Consequently, for the first time in US history, it is  
anticipated that life expectancy will drop!  
New England Journal of Medicine, March 2005

Life expectancy would  
grow by leaps and  
bounds  
if green  
vegetables  
smelled  
as good  
as bacon.



# Life Expectancy at Birth, 2023

Life expectancy at birth by sex, in years, 2023

Male    Female



Note: Comparable countries include: Australia, Austria, Belgium, Canada, France, Germany, Japan, the Netherlands, Sweden, Switzerland, and the U.K. 2023 U.K. life expectancy data is only for England and Wales. See Methods [section](#) of "How does U.S. life expectancy compare to other countries?"

Source: KFF analysis of [CDC](#), [OECD](#), [Australian Bureau of Statistics](#), [German Federal Statistical Office](#), [Japanese Ministry of Health, Labour, and Welfare](#), [Statistics Canada](#), and [U.K. Office for National Statistics](#) data • [Get the data](#) • [PNG](#)

Peterson-KFF  
**Health System Tracker**

# Life Expectancy at Birth, 2023

	Country	Age
1	Hong Kong	85.83
2	Macao	85.51
3	Japan	84.95
4	Switzerland	84.38
5	Singapore	84.27
6	Italy	84.20
7	South Korea	84.14
8	Spain	84.05
9	Malta	83.85
10	Australia	83.73
47	USA	79.74

# US Health Care

## Most Expensive in the World

### The U.S. Has the Most Expensive Healthcare in the World

Per-capita health expenditure in selected countries in 2021



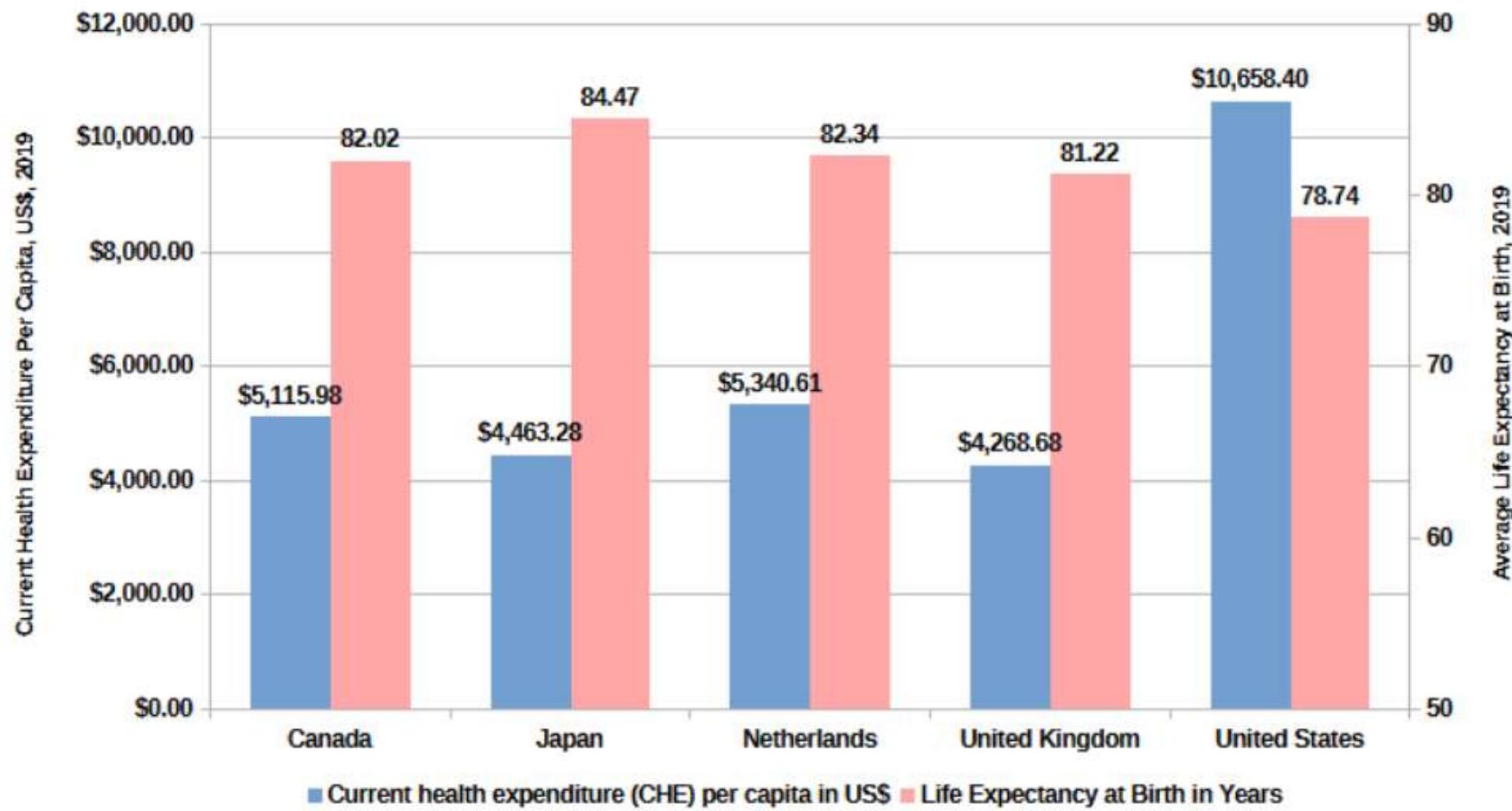
Includes government and private/compulsory and voluntary spending  
Source: OECD



# US Health Care

## Most Expensive in the World

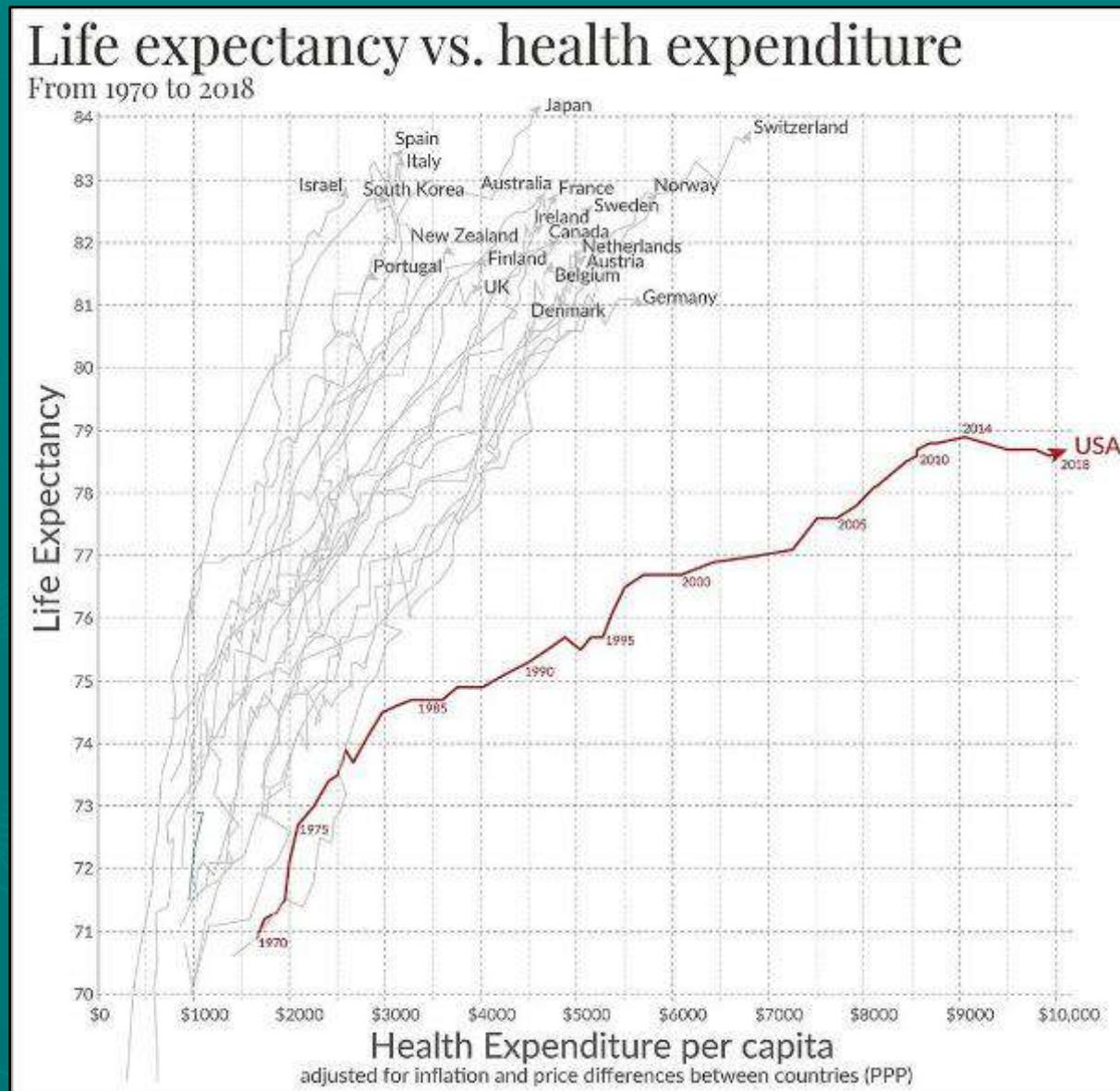
Current Health Expenditure Per Capita and Average Life Expectancy at Birth



Source: Global Health Observatory. Geneva: World Health Organization. Last accessed Sept. 9, 2024.

# US Health Care

## Life Expectancy vs. Health Expenditure



# US Health Care

## 69<sup>th</sup> best in the World

### Best Healthcare in the World

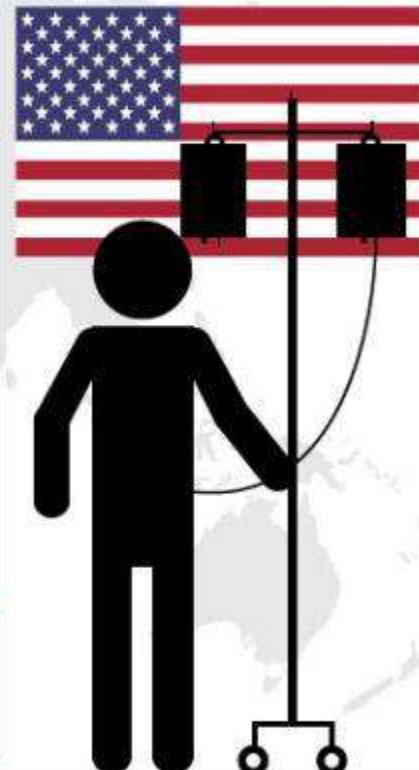
1. Singapore	27. Cuba	53. Croatia	79. Tunisia
2. Japan	28. Czech Republic	54. Turkmenistan	80. Serbia
3. South Korea	29. Cyprus	55. Oman	81. Mauritius
4. Taiwan	30. Costa Rica	56. Saudi Arabia	82. Ecuador
5. China	31. Thailand	57. Panama	83. Brazil
6. Israel	32. Canada	58. Iran	84. Russia
7. Norway	33. UAE	59. Latvia	85. Azerbaijan
8. Iceland	34. United Kingdom	60. Argentina	86. Morocco
9. Sweden	35. Uruguay	61. Lithuania	87. Indonesia
10. Switzerland	36. Colombia	62. Belarus	88. Paraguay
11. Netherlands	37. Estonia	63. Turkey	89. Dominican Republic
12. Luxembourg	38. Qatar	64. Trinidad and Tobago	90. Georgia
13. Germany	39. Seychelles	65. Bulgaria	91. Belize
14. Hong Kong	40. Portugal	66. Albania	92. Cambodia
15. Finland	41. Greece	67. Jamaica	93. Moldova
16. Denmark	42. Malaysia	68. Armenia	94. São Tomé and Príncipe
17. Italy	43. Kuwait	69. United States	95. Bosnia-Herzegovina
18. Belgium	44. Vietnam	70. Algeria	96. Philippines
19. Malta	45. Slovakia	71. Mexico	97. Venezuela
20. France	46. Hungary	72. Romania	98. El Salvador
21. Australia	47. Sri Lanka	73. Cabo Verde	99. Honduras
22. Austria	48. Poland	74. Macedonia	100. Jordan
23. Ireland	49. Uzbekistan	75. Tajikistan	101. Ukraine
24. Slovenia	50. Bahrain	76. Kyrgyzstan	102. Lebanon
25. New Zealand	51. Chile	77. Kazakhstan	103. Montenegro
26. Spain	52. Peru	78. Nicaragua	104. Guatemala

# US Health Care

## Ranks last among wealthy countries

A recent international study compared 11 nations on health care quality, access, efficiency, and equity, as well as indicators of healthy lives such as infant mortality.

### Overall Health Care Ranking



Source: K. Davis, K. Stremikis, D. Squires, and C. Schoen, *Mirror, Mirror on the Wall: How the Performance of the U.S. Health Care System Compares Internationally, 2014 Update*, The Commonwealth Fund, June 2014.



The  
**COMMONWEALTH**  
FUND

# US Health Care

## Ranks among wealthy countries

Ranking World Healthcare by Country 2021-2022

	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
Data: Commonwealth Fund Mirror Mirror Report 2021, OECD Health Data 2022											
OVERALL RANKING	3	10	8	5	2	6	1	7	9	4	11
Access to Care	8	9	7	3	1	5	2	6	10	4	11
Affordability	9	8	6	4	2	7	3	5	10	1	11
Timeliness	5	11	8	2	1	4	3	10	6	7	9
Care Process	6	4	10	9	3	1	8	11	7	5	2
Preventive Care	6	4	10	11	7	5	8	1 (T)	9	1 (T)	3
Safe Care	7	5	8	9	3	1	11	10	6	4	2
Coordinated Care	8	7	9	10	3	1	4	11	2	6	5
Engagement and Patient Preferences	4	6	8	1	5	3	9	11	7	10	2
Administrative Efficiency	2	7	6	9	8	3	1	5	10	4	11
Equity	1	10	7	2	5	9	8	6	3	4	11
Health Care Outcomes	1	10	6	7	4	8	2	5	3	9	11
Health Expenditures Per Capita 2022	\$4,709	\$5,161	\$4,980	\$6,524	\$6,128	\$3,888	\$6,072	\$5,421	\$5,602	\$4,725	\$10,687

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Data: Commonwealth Fund  
Mirror Mirror Report 2021,  
OECD Health Data 2022

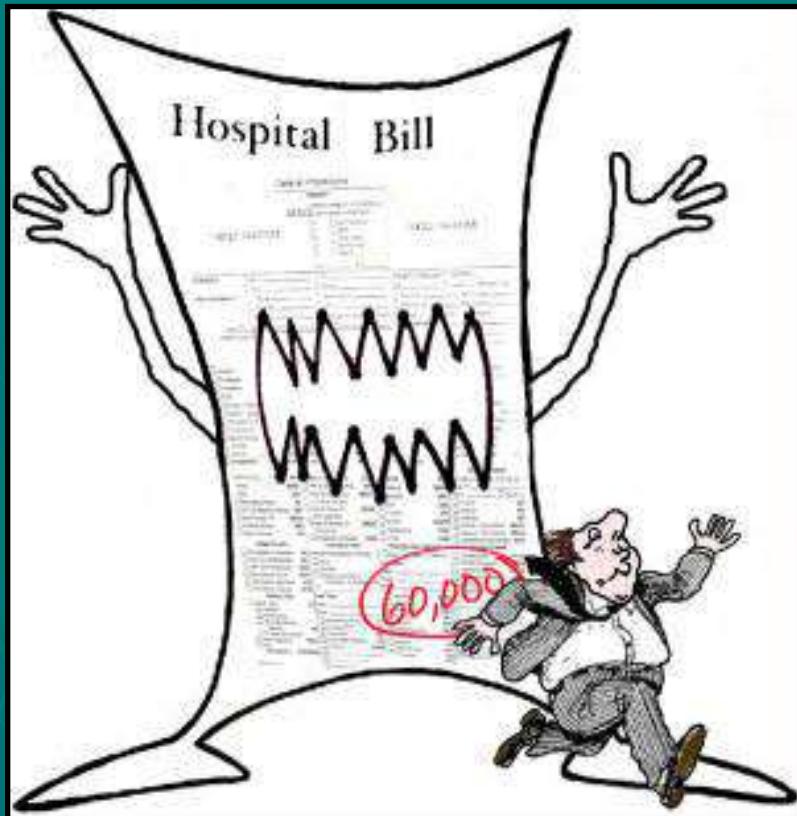
<https://www.commonwealthfund.org/publications/fund-reports/2021/aug/mirror-mirror-2021-reflecting-poorly#how-we-measured-performance>

<https://stats.oecd.org/Index.aspx?ThemeTreeId=9#>

[https://www.commonwealthfund.org/sites/default/files/2021-08/Schneider\\_Mirror\\_Mirror\\_2021.pdf#page=29](https://www.commonwealthfund.org/sites/default/files/2021-08/Schneider_Mirror_Mirror_2021.pdf#page=29)

# Healthy Insurance?

High health insurance costs are another great reason to stay healthy

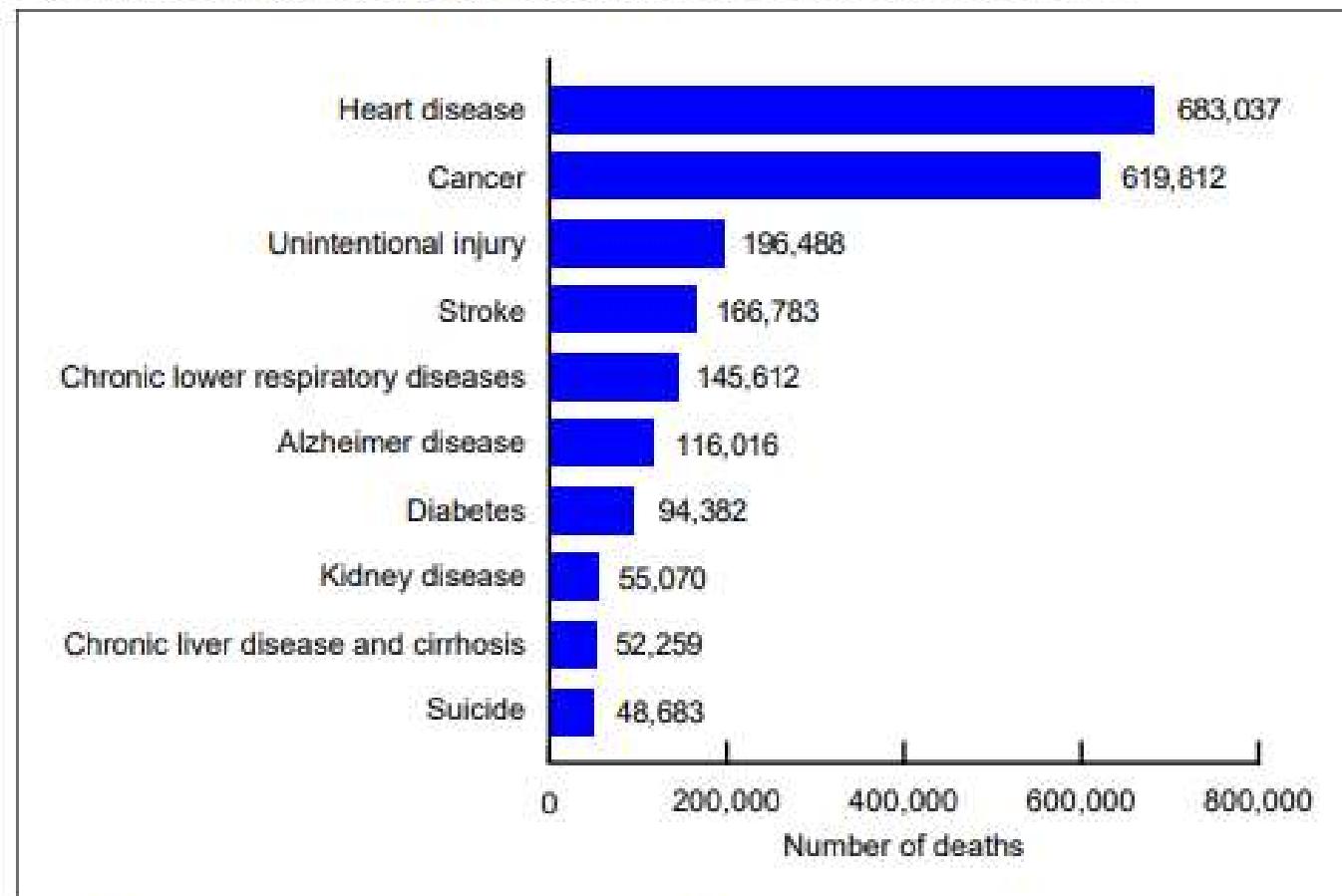


"We don't have a company health plan, but we do have a secretary in accounting who claims to be a faith healer."

# Top 10 Causes of Death

CDC, June 2025

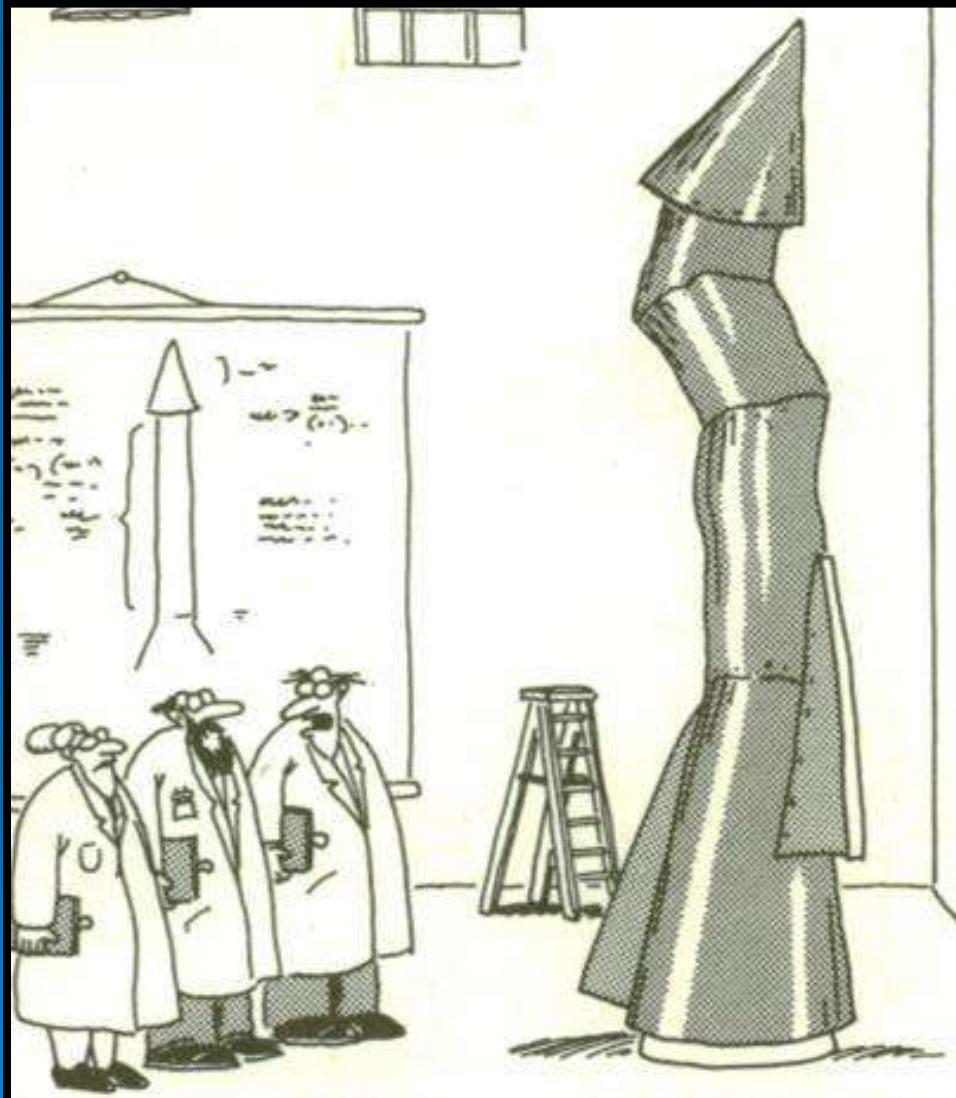
Figure. Leading underlying causes of death: United States, 2024



NOTES: Deaths that occurred in the United States among residents of U.S. territories and foreign countries were excluded. Estimates for 2024 are based on provisional data as of June 1, 2025 (provisional mortality data are available from <https://wonder.cdc.gov>). Provisional data are incomplete, and data from December are less complete because of reporting lags.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality.

# Medical Errors: Iatrogenic Deaths?



“It’s time we face reality, my friends. We’re not exactly rocket scientists.”

# Medical Errors: Iatrogenic Deaths?

This is an area of much controversy.

Many deaths are recorded with the primary health problem being the cause of death, when they really died from a medical error.

The “take home point” is regardless of the actual number, we are way better off staying healthy and avoiding the need for medical care the best we can.



# Medical Errors: Iatrogenic Deaths?

**Diagnostic Errors:** A major study published in estimated that 371,000 Americans die and 424,000 are permanently disabled annually due to diagnostic errors.

BMJ Quality & Safety, July 2023

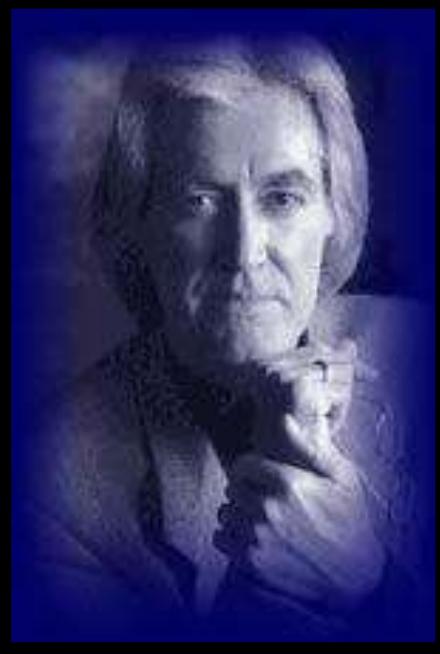
**Total Preventable Errors:** While specific 2023-only totals for all error types (medication, surgical, etc.) are often cited using a 2016 Johns Hopkins estimate of 250,000 deaths per year, some current legal and medical analyses suggest the number remains between 220,000 and 440,000 annually.



# American Medical System: #3 cause of death?

1. Heart disease 683,037
2. Cancer 619,812
3. Iatrogenic  $\approx 250,000$





**“People increasingly see conventional medicine not as health care but as disease care.**

**People want more than that.  
It’s irrational to always wait until  
one develops a problem to pay  
attention to one’s health.”**

**Larry Dossey, MD**



# Heart Disease

The #1 cause of death in the US!

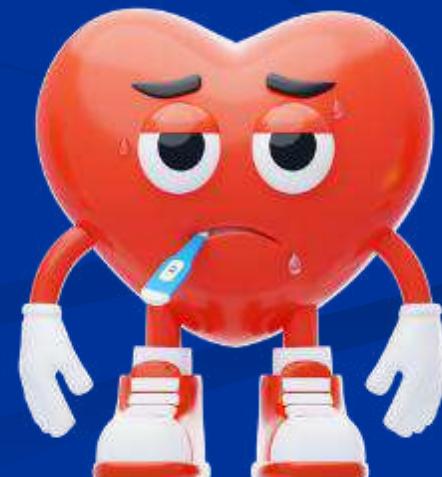
**683,037 die/yr ~ 1871/day**

One person dies every 34 seconds from heart disease.

In 2023, 919,032 people died from cardiovascular disease. That's 1 in every 3 deaths.

Heart disease cost \$417.9 billion from 2020 to 2021.  
(includes the cost of health care services, medicines, and lost productivity due to death)

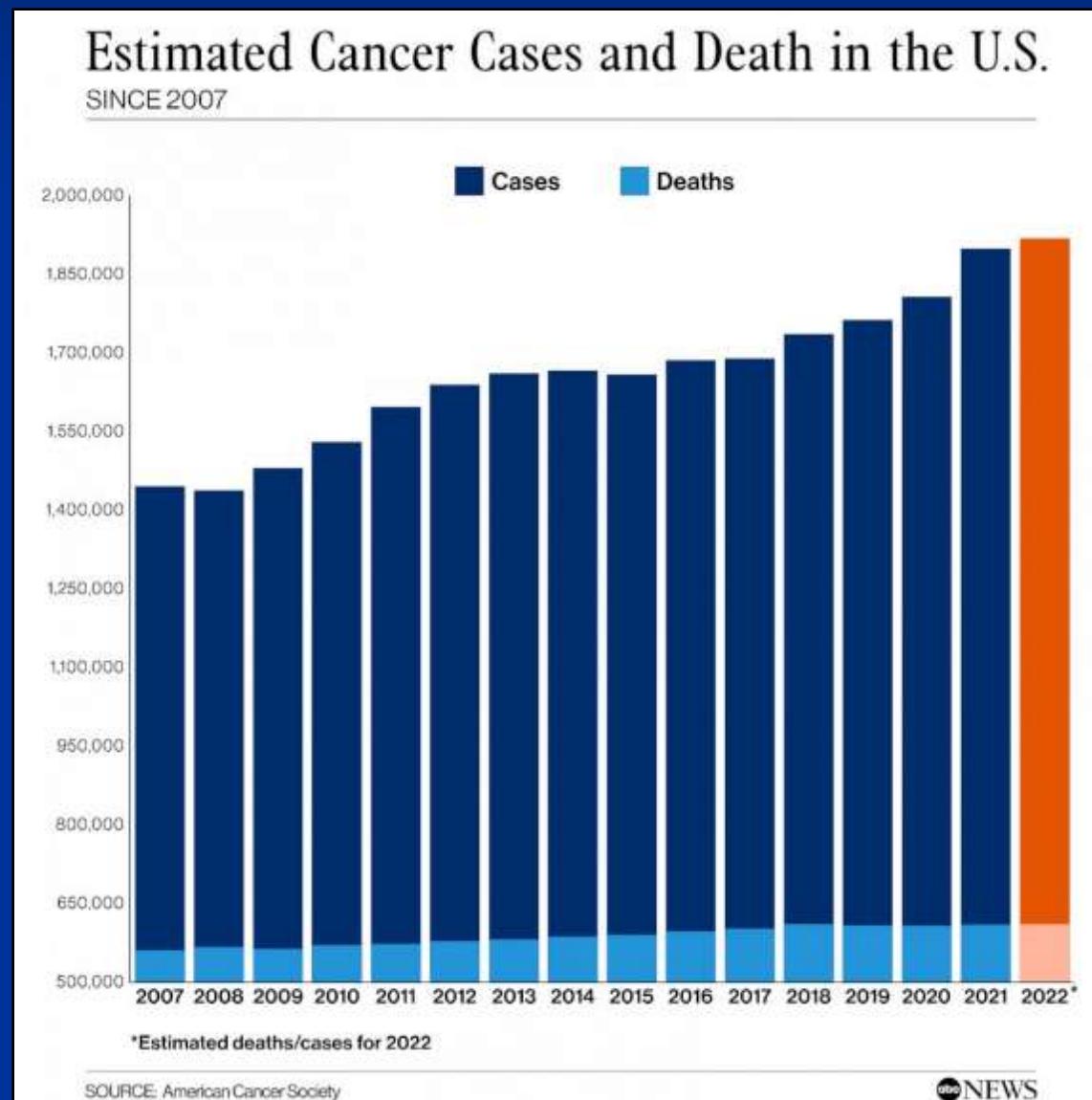
National Center for Health Statistics, Feb 2025



# Cancer

The #2 cause of death in the US!

**619,812 die/yr ~ 1,698/day**



# Cancer

The #2 cause of death in the US!

**619,812 die/yr ~ 1,698/day**

	Male			Female		
	Cancer Type	Estimated New Cases	% of Total	Cancer Type	Estimated New Cases	% of Total
Estimated New Cases	Prostate	299,010	29%	Breast	310,720	32%
	Lung & bronchus	116,310	11%	Lung & bronchus	118,270	12%
	Colon & rectum	81,540	8%	Colon & rectum	71,270	7%
	Urinary bladder	63,070	6%	Uterine corpus	67,880	7%
	Melanoma of the skin	59,170	6%	Melanoma of the skin	41,470	4%
	Kidney & renal pelvis	52,380	5%	Non-Hodgkin lymphoma	36,030	4%
	Non-Hodgkin lymphoma	44,590	4%	Pancreas	31,910	3%
	Oral cavity & pharynx	41,510	4%	Thyroid	31,520	3%
	Leukemia	36,450	4%	Kidney & renal pelvis	29,230	3%
	Pancreas	34,530	3%	Leukemia	26,320	3%
	All sites	1,029,080		All sites	972,060	
	Male			Female		
	Cancer Type	Estimated Deaths	% of Total	Cancer Type	Estimated Deaths	% of Total
Estimated Deaths	Lung & bronchus	65,790	20%	Lung & bronchus	59,280	21%
	Prostate	35,250	11%	Breast	42,250	15%
	Colon & rectum	28,700	9%	Pancreas	24,480	8%
	Pancreas	27,270	8%	Colon & rectum	24,310	8%
	Liver & intrahepatic bile duct	19,120	6%	Uterine corpus	13,250	5%
	Leukemia	13,640	4%	Ovary	12,740	4%
	Esophagus	12,880	4%	Liver & intrahepatic bile duct	10,720	4%
	Urinary bladder	12,290	4%	Leukemia	10,030	3%
	Non-Hodgkin lymphoma	11,780	4%	Non-Hodgkin lymphoma	8,360	3%
	Brain & other nervous system	10,690	3%	Brain & other nervous system	8,070	3%
	All sites	322,800		All sites	288,920	

Estimates are rounded to the nearest 10, and cases exclude basal cell and squamous cell skin cancers and in situ carcinoma except urinary bladder. Estimates do not include Puerto Rico or other US territories. Ranking is based on modeled projections and may differ from the most recent observed data.

©2024, American Cancer Society, Inc., Surveillance and Health Equity Science

# Cancer: Common Presentation

Complains of persistent insidious onset of pain

Unexplained weight loss

Fatigue

Pain worse at night

Pain does not change with motion

Care for 1 month with no change

Sore that does not heal

Unusual bleeding or discharge

Thickening or lump in breast or elsewhere

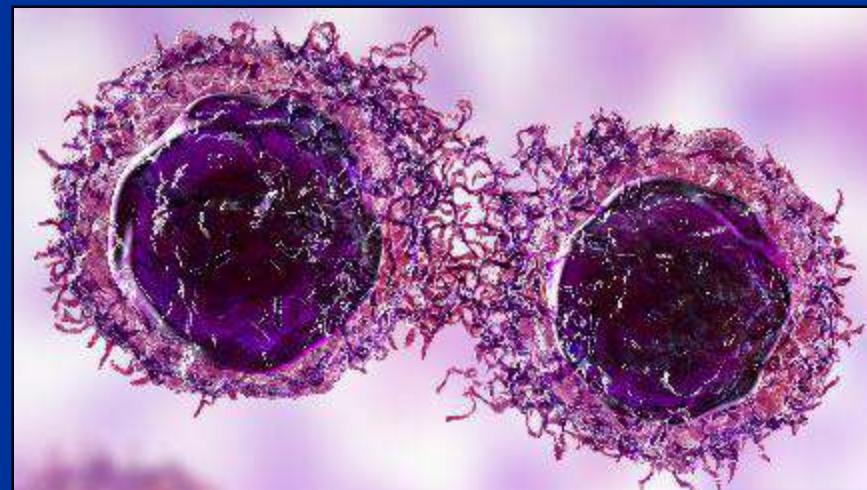
Indigestion or difficulty in swallowing

Obvious change in a wart or mole

Nagging cough or hoarseness

# Cancer & Lifestyle Factors

Poor diet & obesity	30%
Smoking	30%
Genetics	10%
Carcinogens in the workplace	5%
Family History	5%
Lack of Exercise	5%
Viruses	5%
Alcohol	3%
Reproductive Factors	3%
Socioeconomic Status	3%



# 3 Categories of Cancer

## Lifestyle

Diet  
Smoking  
Drinking  
Sun Exposure  
Lack of Exercise

## Internal

Genetics  
Infections

## External

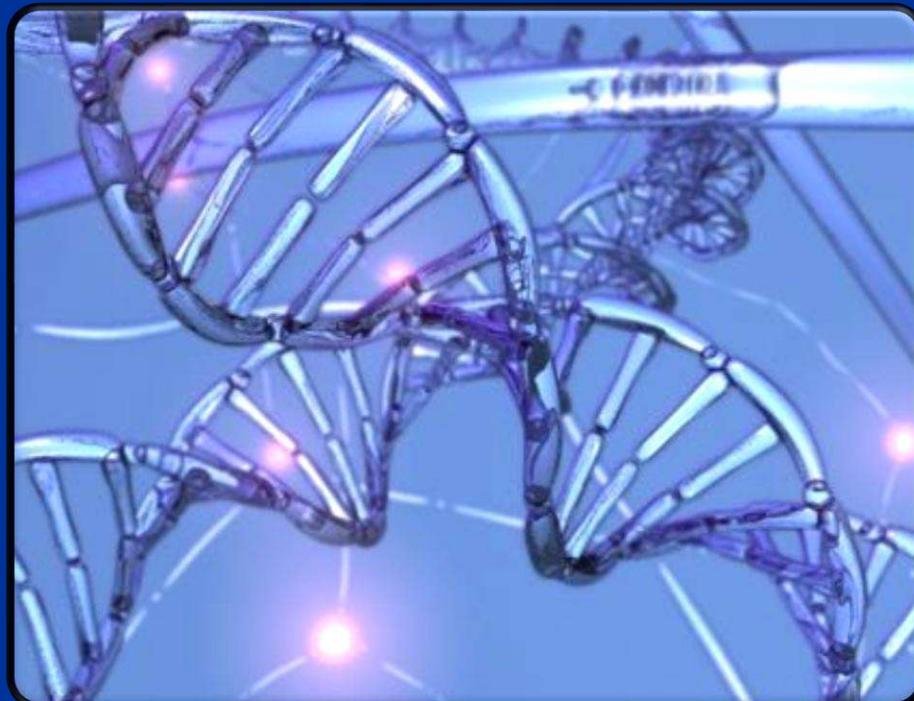
Workplace  
Air pollution  
Water pollution  
Chemicals  
Pesticides/Herbicides

## What Really Causes Cancer



# Probable Cause

DNA damage



## **Decrease Cancer Risk** American Cancer Society

1. max BMI of 25, limit adult weight gain to 11 lbs  
(daily moderate/wkly vigorous activity)
2. 5 or more servings of fruits & veggies daily
3. 7 or more portions of complex carbs daily
4. ↓ processed foods & refined sugars
5. limit alcoholic drinks: 1-women, 2-men daily
6. limit red meat to no more than 3 oz daily
7. ↓ fatty foods, particularly animal fats
8. limit intake of salted foods & use in cooking
9. eliminate tobacco use
10. practice sun safety/recognize skin changes
11. practice safe sex

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# Unintentional Injury

The #3 cause of death in the US!

**196,488 die/yr ~ 538/day**

Type of Accident	Lifetime odds of dying (1 in #)
Motor vehicle accident	101
Complications of medical and surgical care	798
Alcohol poisoning	1,606
Accidental building fire	1,825
Choking on food	2,745
Drowning in swimming pool	5,782
Sunstroke	6,368
Accidental firearm discharge	7,998
Drowning	10,386
Airplane accident	11,756
Bee or wasp sting	57,825
Dog attack	69,016
Lightning strike	138,849

# Stroke

The #4 cause of death in the US!

**619,812 die/yr ~ 457/day**

Every 40 seconds, someone in the US has a stroke.

Every 3 minutes and 14 seconds, someone dies of stroke in US.

Every year, more than 795,000 people in the US have a stroke.  
610,000 of these are first or new strokes.

185,000 strokes, nearly 1 in 4, are in people who have had a previous stroke.

National Center for Health Statistics, Feb 2025  
American Heart Association, 2023

# Stroke

The #4 cause of death in the US!

**619,812 die/yr ~ 457/day**

87% of all strokes are ischemic strokes, in which blood flow to the brain is blocked.

Stroke-related costs in the US came to \$56.2 billion between 2019 and 2020. Costs include the cost of health care services, medicines to treat stroke, and missed days of work.

Stroke is a leading cause of serious long-term disability.

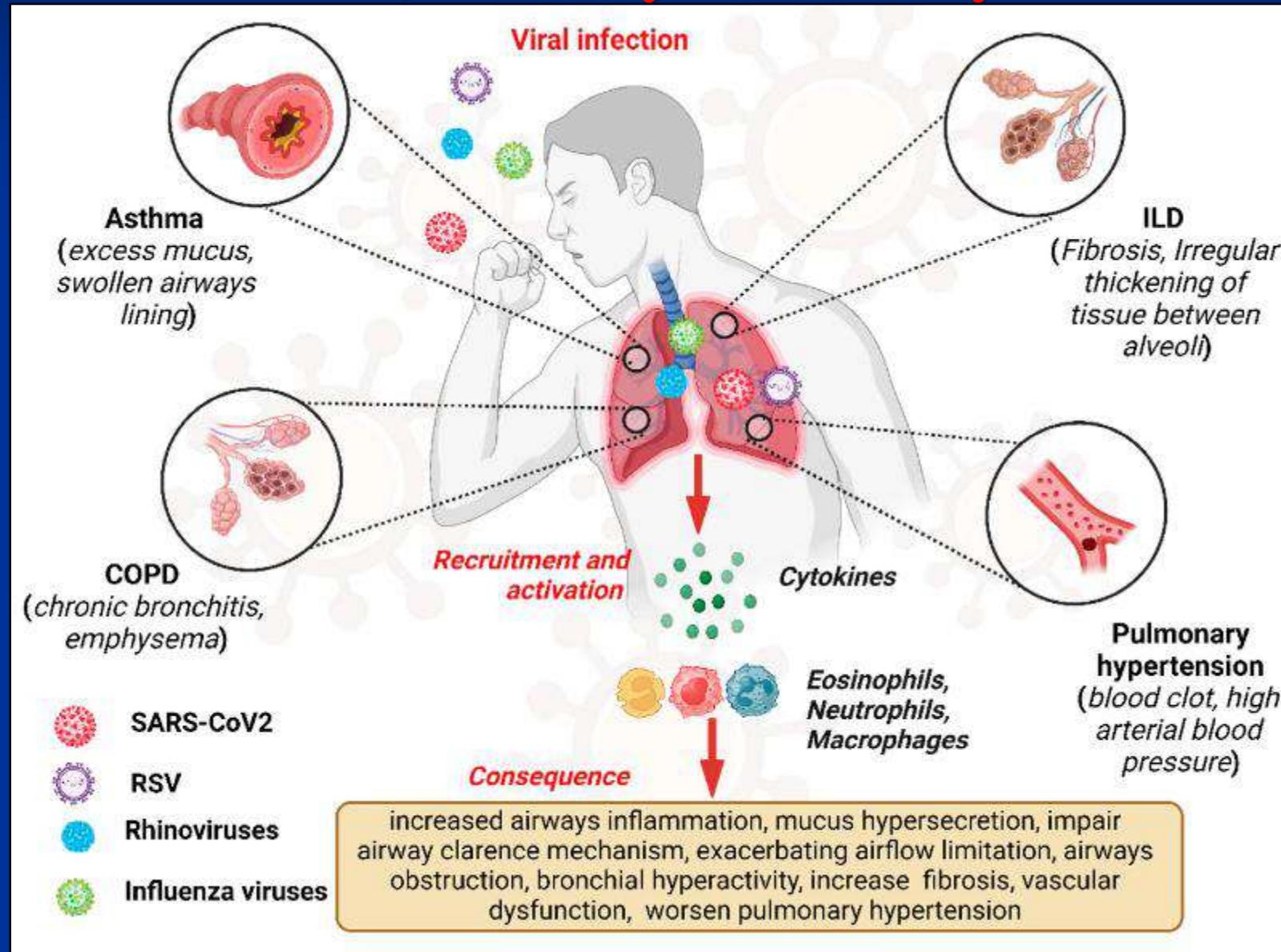
Stroke reduces mobility in more than half of stroke survivors age 65 and older.

American Heart Association, 2023, 2024

# Chronic Lower Respiratory Diseases

The #5 cause of death in the US!

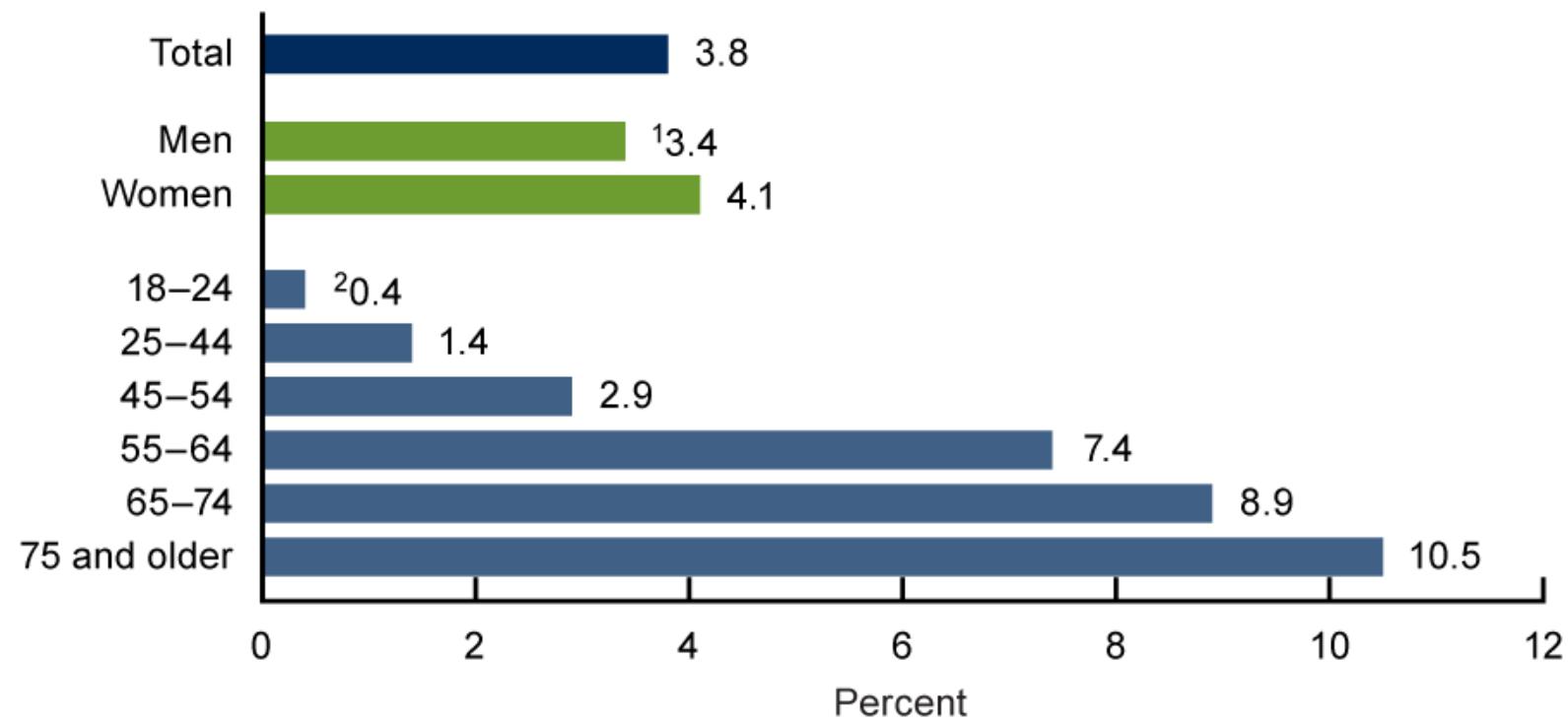
145,612 die/yr ~ 399/day



# Chronic Lower Respiratory Diseases

## The #5 cause of death in the US!

**Figure 1. Age-adjusted percentage of adults age 18 and older with chronic obstructive pulmonary disease, by sex and age group: United States, 2023**



<sup>1</sup>Significantly different from women ( $p < 0.05$ ).

<sup>2</sup>Significant linear trend by age ( $p < 0.05$ ).

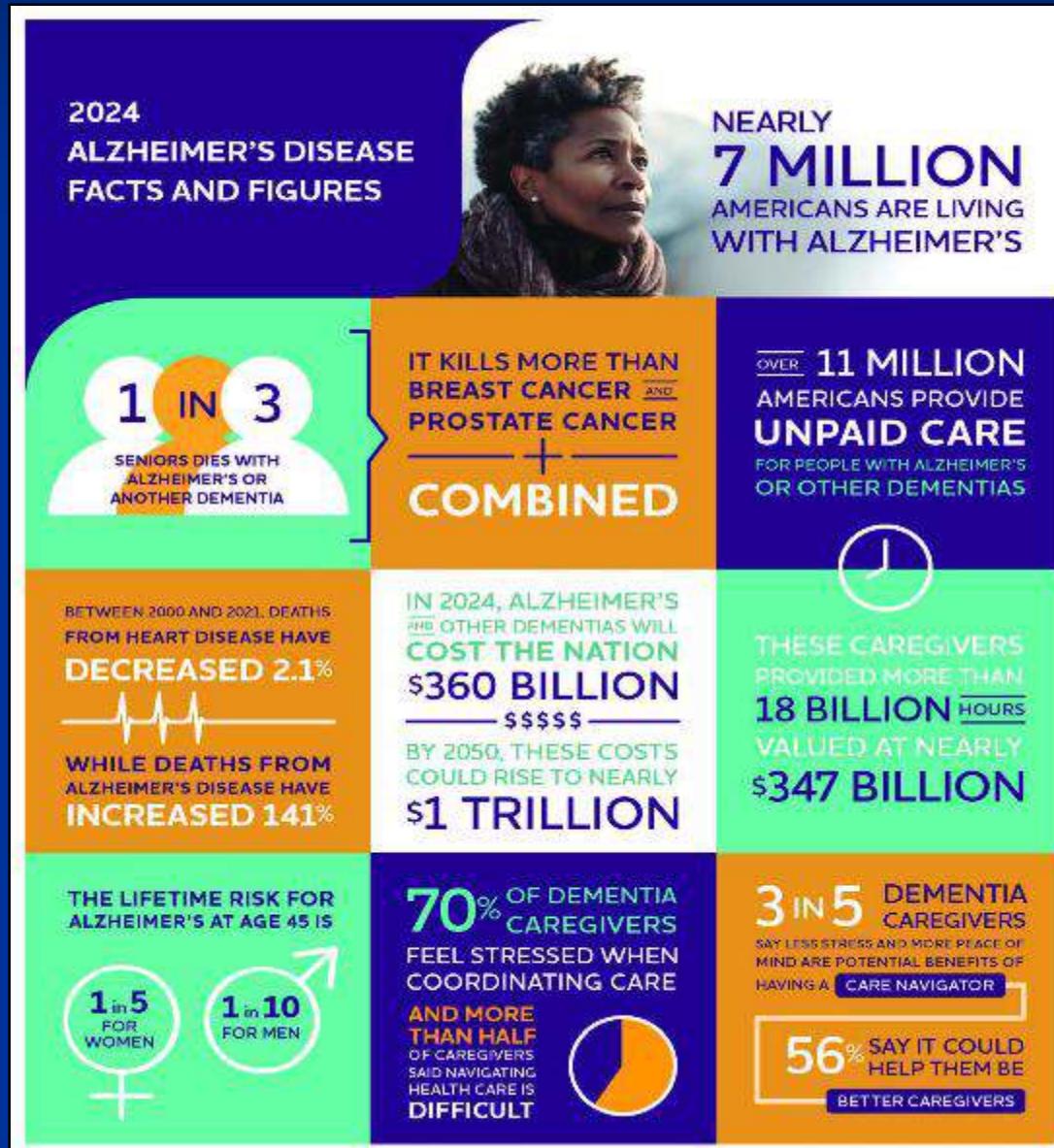
NOTES: Data are based on a yes response to the survey question, "Have you ever been told by a doctor or other health professional that you had chronic obstructive pulmonary disease, COPD, emphysema, or chronic bronchitis?" Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population. Age-specific percentages are not age adjusted. Estimates are age adjusted using the projected 2000 U.S. population as the standard population and four age groups: 18-44, 45-64, 65-74, and 75 and older.

SOURCE: National Center for Health Statistics, National Health Interview Survey, 2023.

# Alzheimer's Disease

## The #6 cause of death in the US!

**116,016 die/yr ~ 318/day**

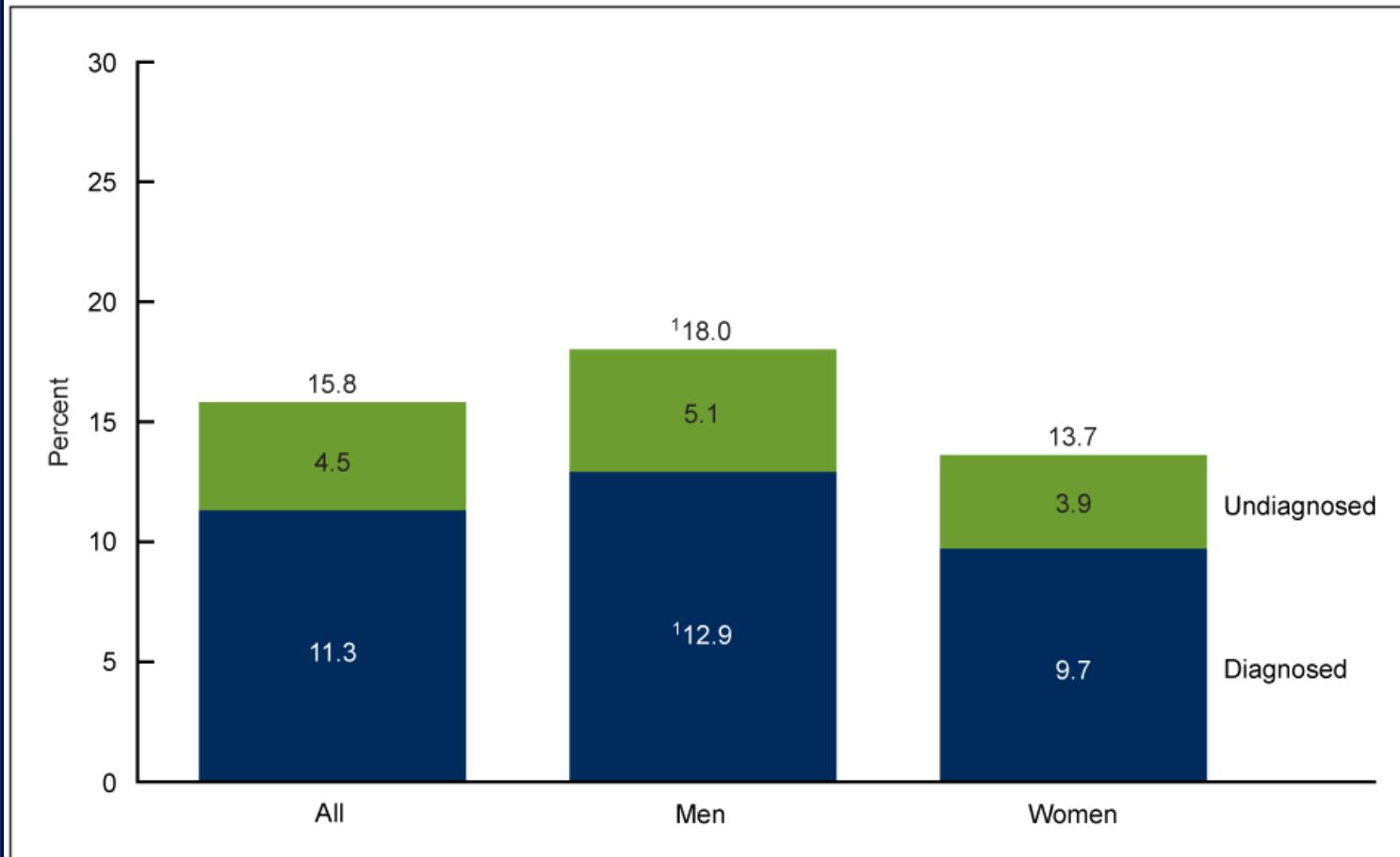


# Diabetes

## The #7 cause of death in the US!

### 94,382 die/yr ~ 259/day

Figure 1. Prevalence of total, diagnosed, and undiagnosed diabetes in adults age 20 and older, by sex: United States, August 2021–August 2023



<sup>1</sup>Significantly different from women ( $p < 0.05$ ).

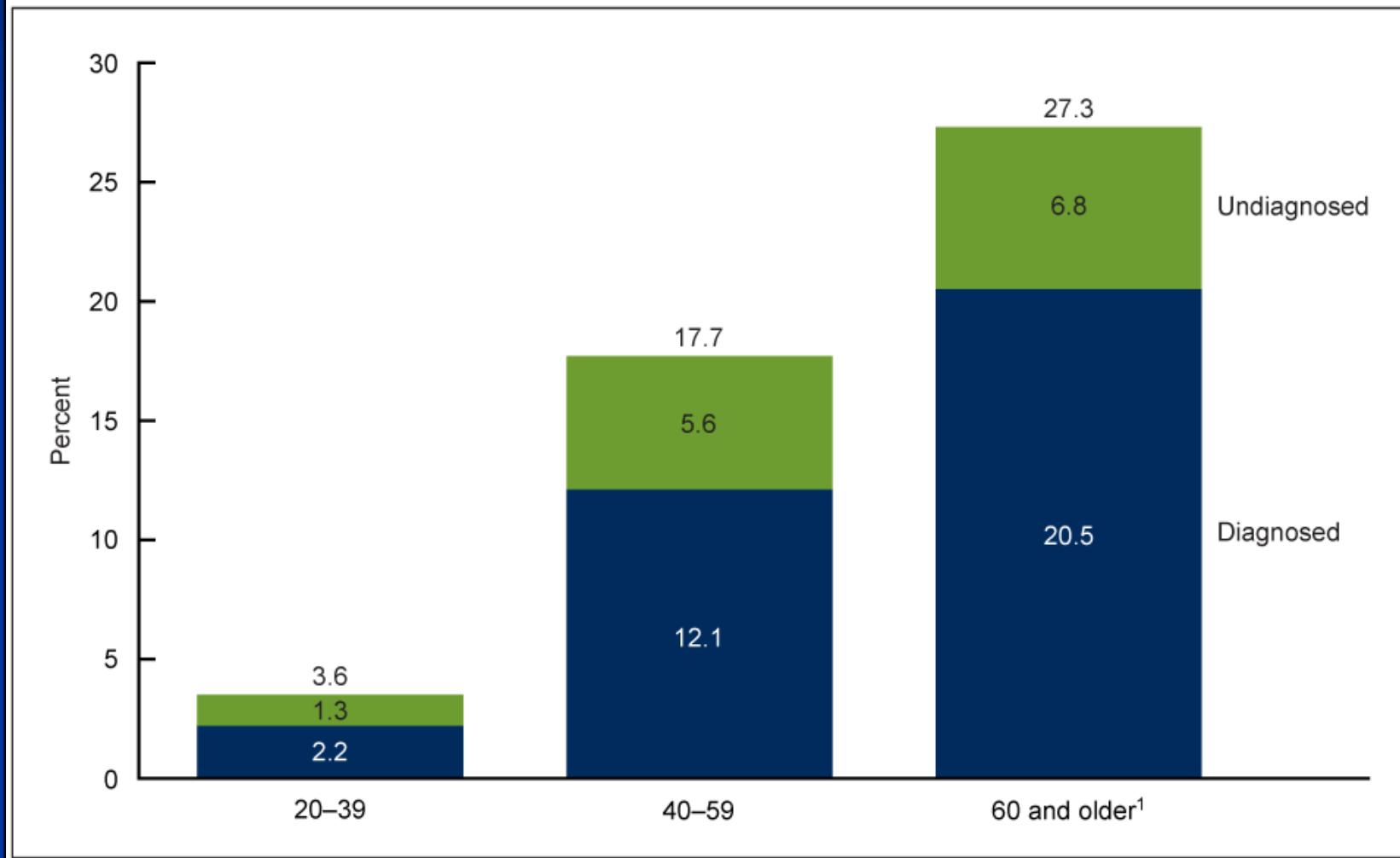
NOTES: Diagnosed and undiagnosed diabetes may not sum to total due to rounding. Estimates for diagnosed diabetes are based on responses to the survey question, "Other than during pregnancy, have you ever been told by a doctor or health professional that you have diabetes or sugar diabetes?" Estimates for undiagnosed diabetes are based on an 8- to 24-hour fasting plasma glucose greater than or equal to 126 mg/dL or hemoglobin A1c greater than or equal to 6.5% in a participant who reported never receiving a diabetes diagnosis from a healthcare provider. Age-adjusted estimates for adults age 20 and older are total diabetes: 14.3% all, 16.6% men, and 12.2% women; diagnosed diabetes: 10.1% all, 11.7% men, and 8.6% women; and undiagnosed diabetes: 4.2% all, 4.9% men, and 3.5% women, age adjusted by the direct method to the U.S. Census 2000 population using age groups 20–39, 40–59, and 60 and older.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, August 2021–August 2023.

# Diabetes

## The #7 cause of death in the US!

**Figure 2. Prevalence of total, diagnosed, and undiagnosed diabetes in adults age 20 and older, by age group: United States, August 2021–August 2023**



<sup>1</sup>Significant increasing linear trend for total, diagnosed, and undiagnosed diabetes ( $p < 0.05$ ).

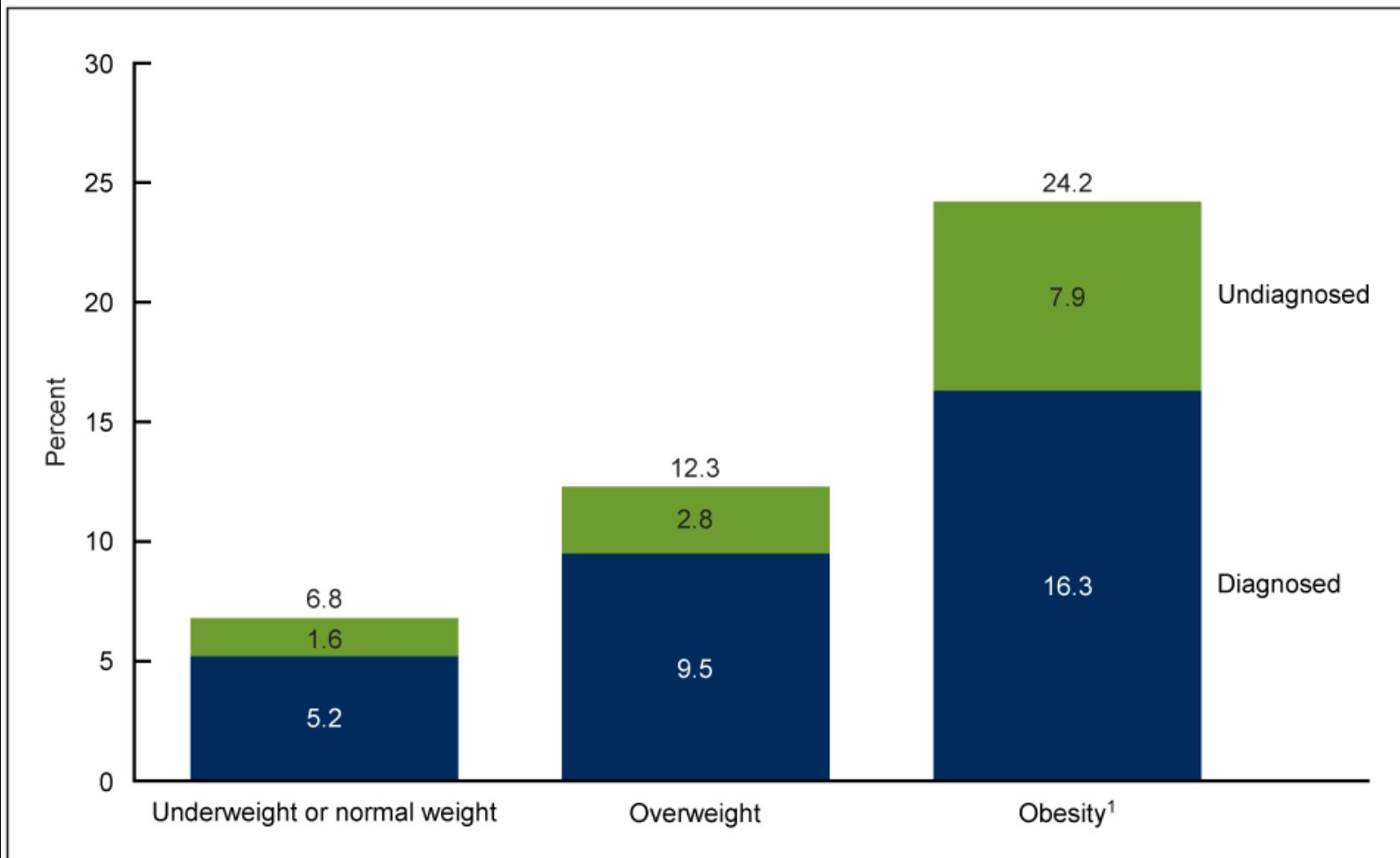
NOTES: Diagnosed and undiagnosed diabetes may not sum to total due to rounding. Estimates for diagnosed diabetes are based on responses to the survey question, "Other than during pregnancy, have you ever been told by a doctor or health professional that you have diabetes or sugar diabetes?" Estimates for undiagnosed diabetes are based on an 8- to 24-hour fasting plasma glucose greater than or equal to 126 mg/dL or hemoglobin A1c greater than or equal to 6.5% in a participant who reported never receiving a diabetes diagnosis from a healthcare provider.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, August 2021–August 2023.

# Diabetes

## The #7 cause of death in the US!

Figure 3. Prevalence of total, diagnosed, and undiagnosed diabetes in adults age 20 and older, by weight status: United States, August 2021–August 2023



<sup>1</sup>Significant increasing linear trend for total, diagnosed, and undiagnosed diabetes ( $p < 0.05$ ).

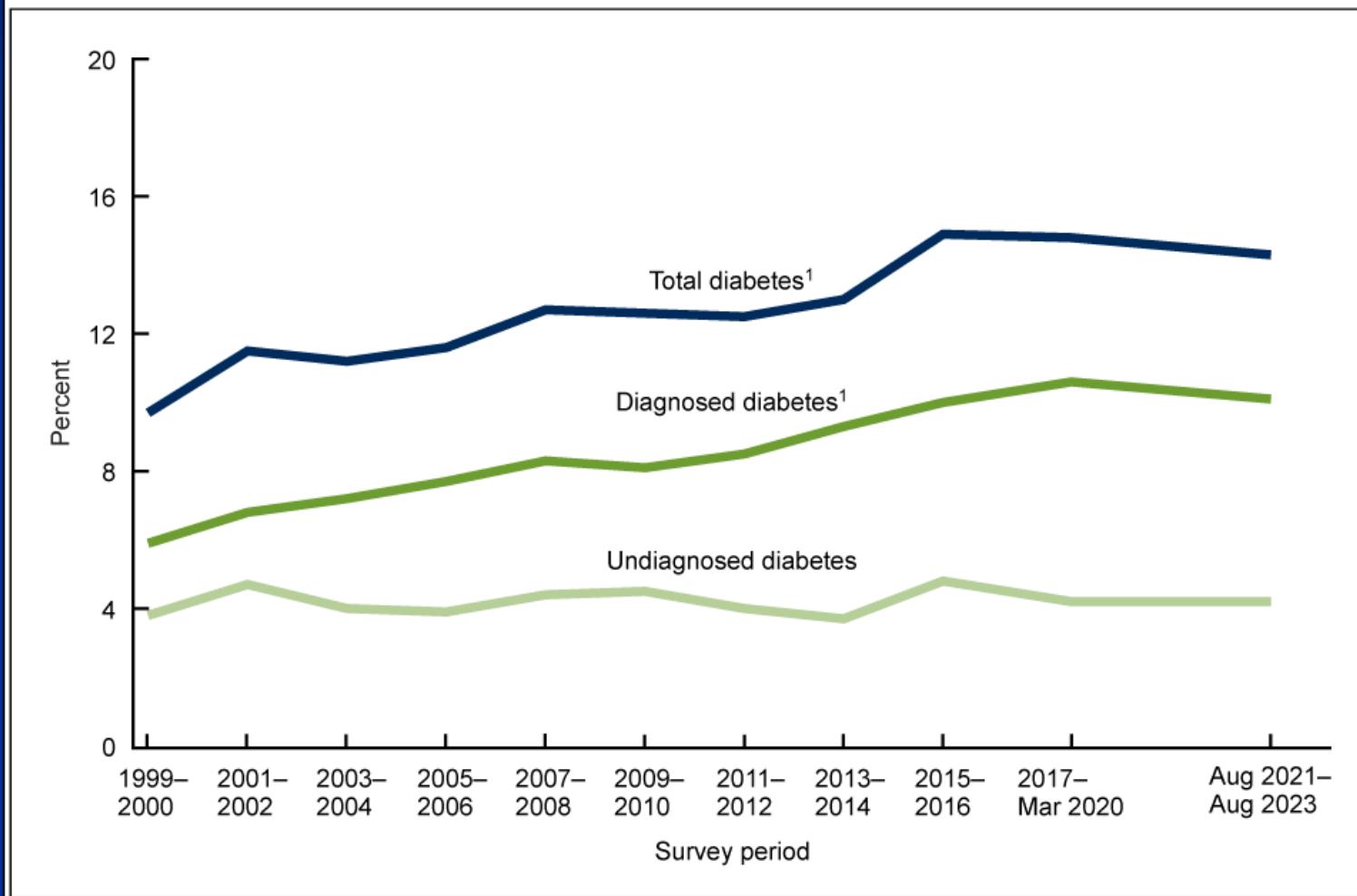
NOTES: Estimates for diagnosed diabetes are based on responses to the survey question, "Other than during pregnancy, have you ever been told by a doctor or health professional that you have diabetes or sugar diabetes?" Estimates for undiagnosed diabetes are based on an 8- to 24-hour fasting plasma glucose greater than or equal to 126 mg/dL or hemoglobin A1c greater than or equal to 6.5% in a participant who reported never receiving a diabetes diagnosis from a healthcare provider. Body mass index is weight in kilograms divided by height in meters squared. Weight status categories are defined as underweight or normal weight, body mass index less than 25.0; overweight, body mass index 25.0–29.9; and obesity, body mass index 30.0 or more.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, August 2021–August 2023.

# Diabetes

## The #7 cause of death in the US!

Figure 5. Trends in age-adjusted prevalence of total, diagnosed, and undiagnosed diabetes in adults age 20 and older: United States, 1999–2000 through August 2021–August 2023



<sup>1</sup>Significant increasing linear trend ( $p < 0.05$ ).

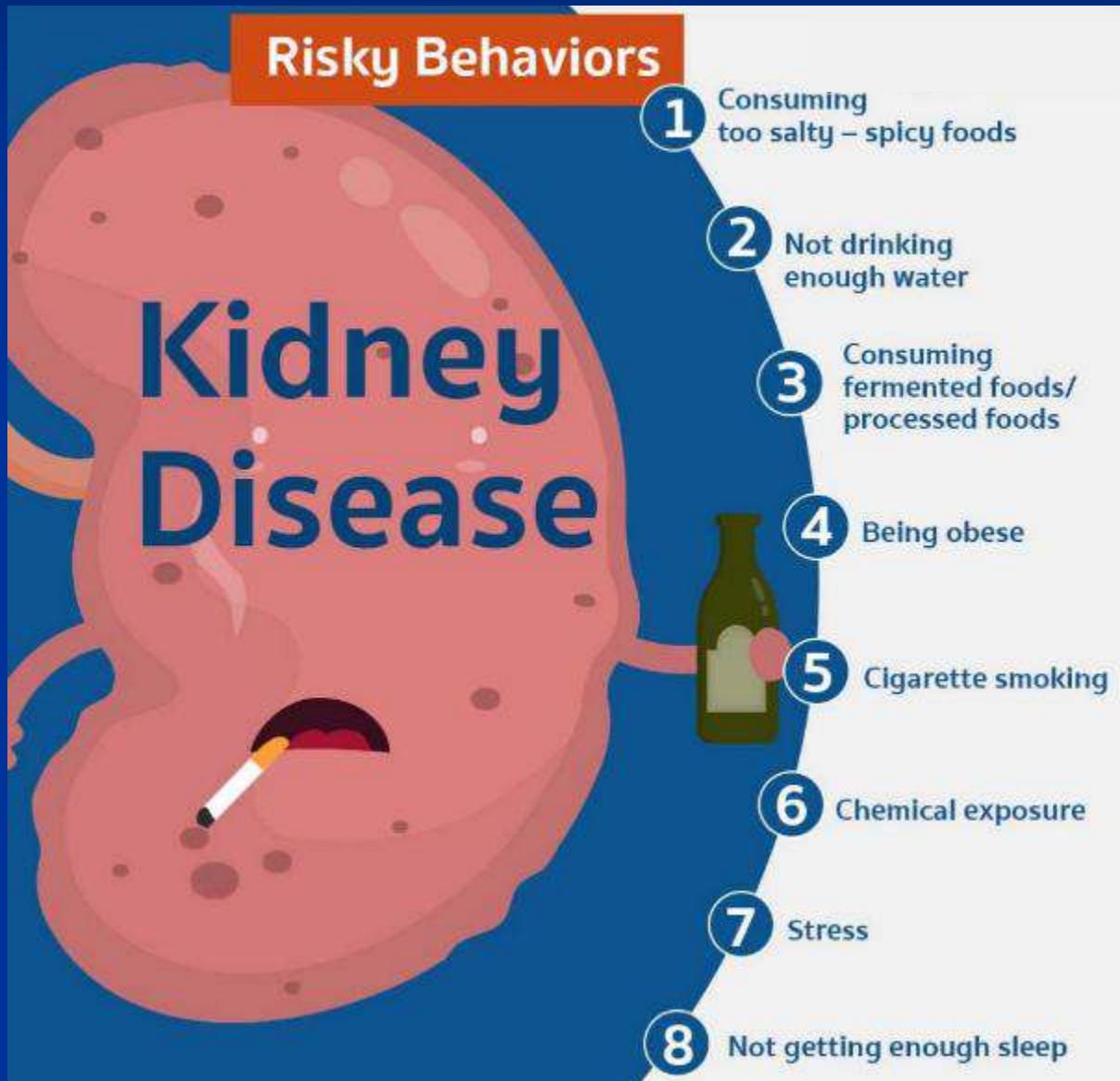
NOTES: Fasting glucose values were adjusted using forward regression equations provided by the National Center for Health Statistics. Estimates for diagnosed diabetes are based on responses to the survey question, "Other than during pregnancy, have you ever been told by a doctor or health professional that you have diabetes or sugar diabetes?" Estimates for undiagnosed diabetes are based on an 8- to 24-hour fasting plasma glucose greater than or equal to 126 mg/dL or hemoglobin A1c greater than or equal to 6.5% in a participant who reported never receiving a diabetes diagnosis from a healthcare provider. Estimates are age adjusted by the direct method to the U.S. Census 2000 population using the age groups 20–39, 40–59, and 60 and older.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Surveys, 1999–2000 through August 2021–August 2023.

# Kidney Disease

The #8 cause of death in the US!

**55,070 die/yr ~ 151/day**



# Kidney Disease

## The #8 cause of death in the US!

**CHRONIC KIDNEY DISEASE**  
COMMON • SERIOUS • COSTLY

Chronic kidney disease (CKD) causes loss of kidney function over time and may lead to kidney failure or end-stage kidney disease (ESKD).

**37 MILLION**  
MORE THAN **1 IN 7** US adults may have CKD

**90%** don't know they have it

Kidney diseases are a **A LEADING CAUSE OF DEATH** in the United States

**EVERY DAY MORE THAN 360** people begin treatment for kidney failure (dialysis or a kidney transplant)

**RISK FACTORS**

- Diabetes
- High blood pressure
- Heart disease
- Obesity
- Family history of CKD
- Older age

**1 IN 3** adults with diabetes may have CKD

**1 IN 5** adults with high blood pressure may have CKD

**TREATMENT LOWERS RISK FOR ESKD**

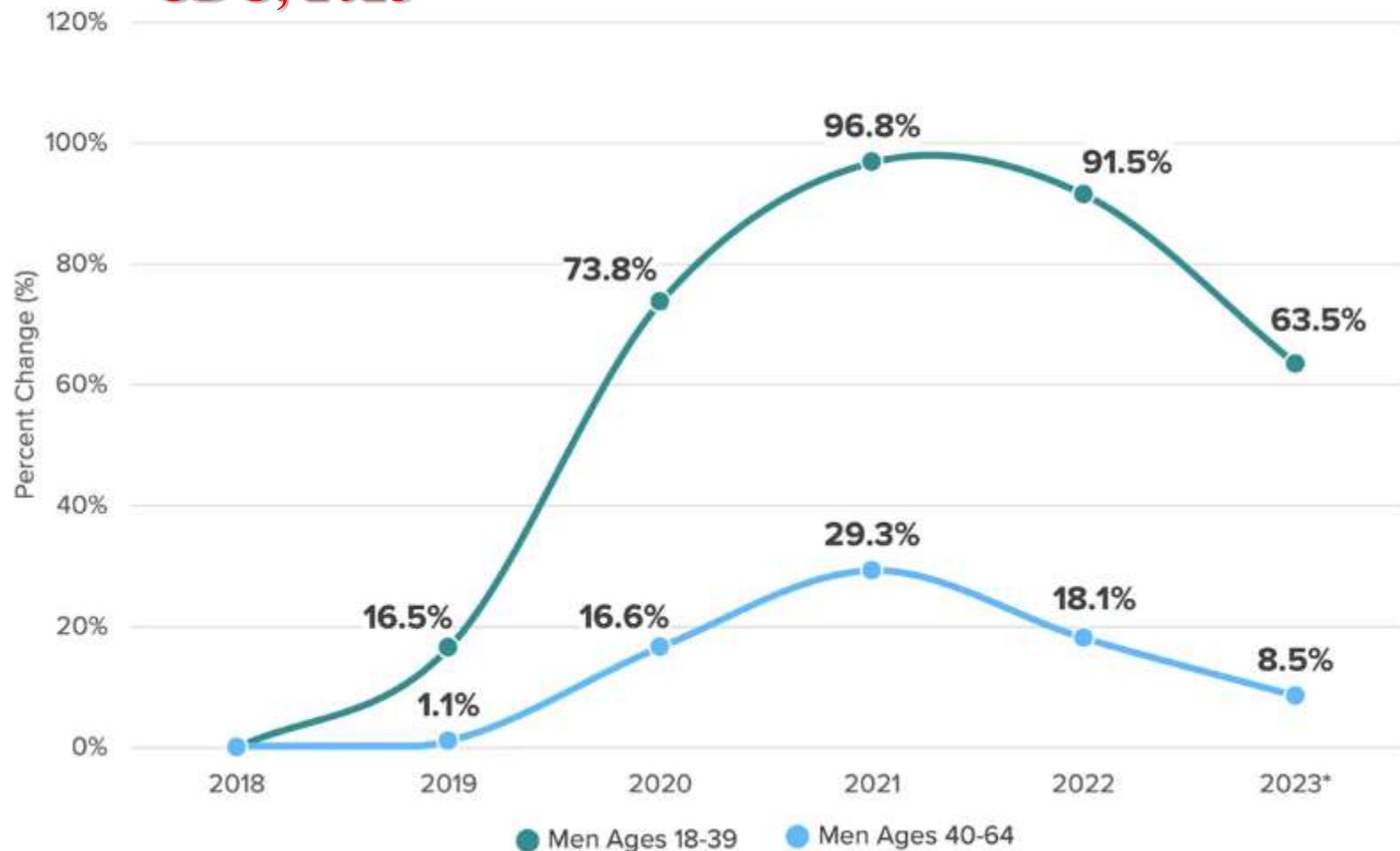
# Chronic Liver Disease & Cirrhosis

The #9 cause of death in the US!

**52,259 die/yr ~ 143/day**

FIGURE 1. Mortality From Liver Disease and Cirrhosis, Percent Change from 2018, Men Ages 18-39 and 40-64, 2018-2023

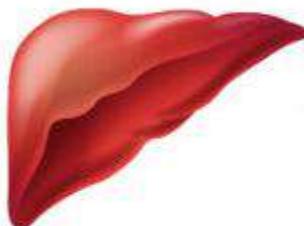
**CDC, 2023**



# Chronic Liver Disease & Cirrhosis

The #9 cause of death in the US!

## Stages of Liver Disease



**Healthy Liver**

100% of Liver Function



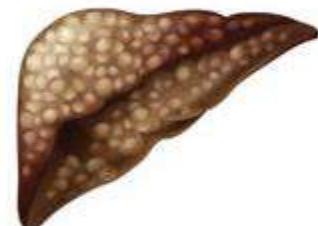
**Fatty Liver**

75-80% of Liver Function



**Liver Fibrosis**

20-30% of Liver Function

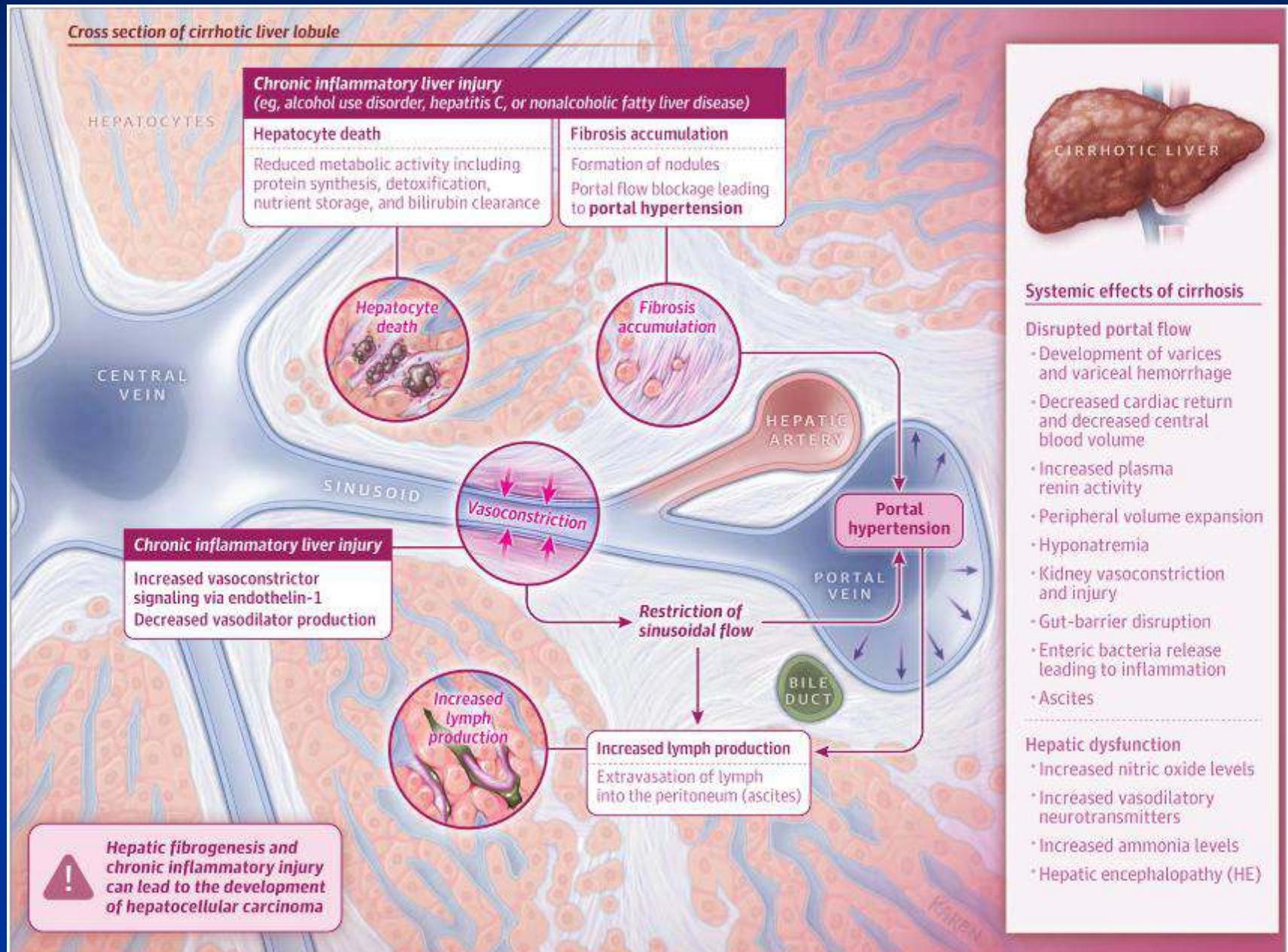


**Cirrhosis**

2-7% of Liver Function

# Chronic Liver Disease & Cirrhosis

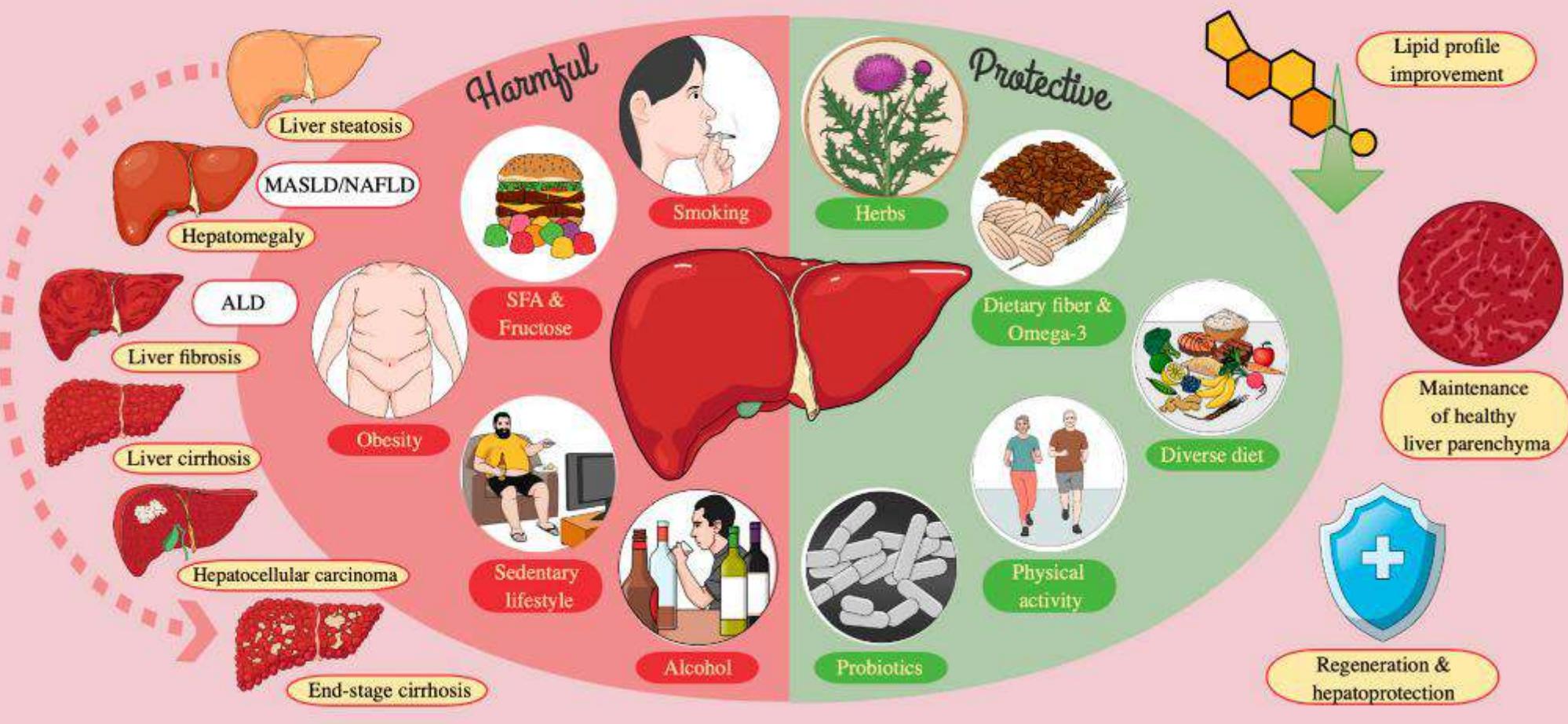
The #9 cause of death in the US!



# Chronic Liver Disease & Cirrhosis

The #9 cause of death in the US!

Protective and Risk Factors Influencing the Development and Prevention of Chronic Liver Diseases



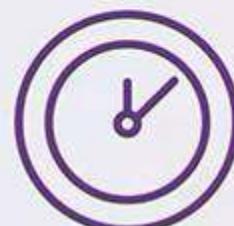
# Suicide

The #10 cause of death in the US!

**48,683 die/yr ~ 133/day**



Over  
**49,000**  
people died by  
suicide in 2022



**1** death every  
**11** minutes

Many adults think about  
suicide or attempt suicide

---

**13.2 million**  
Seriously thought about suicide

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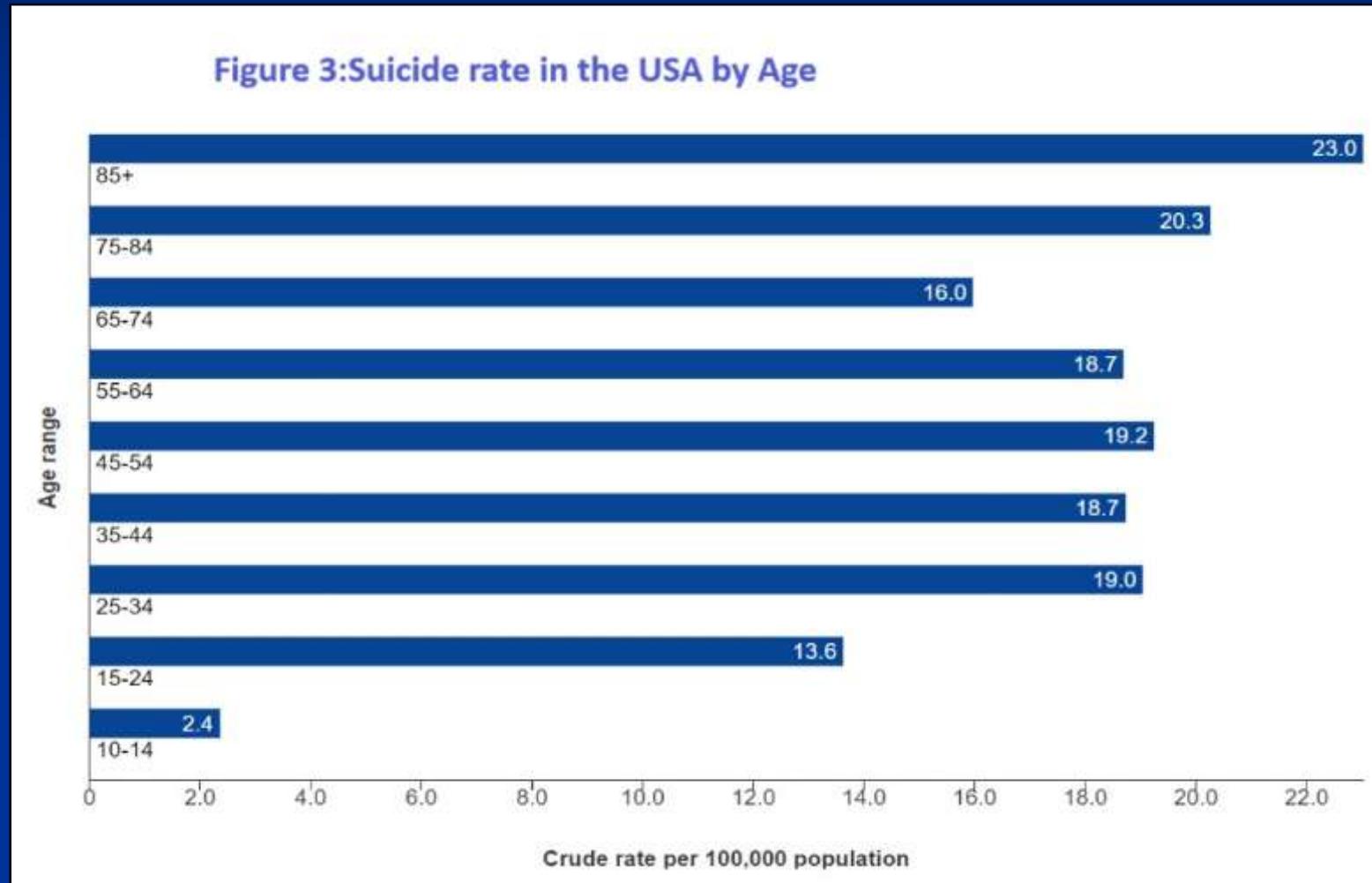
**3.8 million**  
Made a plan for suicide

---

**1.6 million**  
Attempted suicide

# Suicide

## The #10 cause of death in the US!



# Suicide

The #10 cause of death in the US!



# **Suicide**

## **The #10 cause of death in the US!**

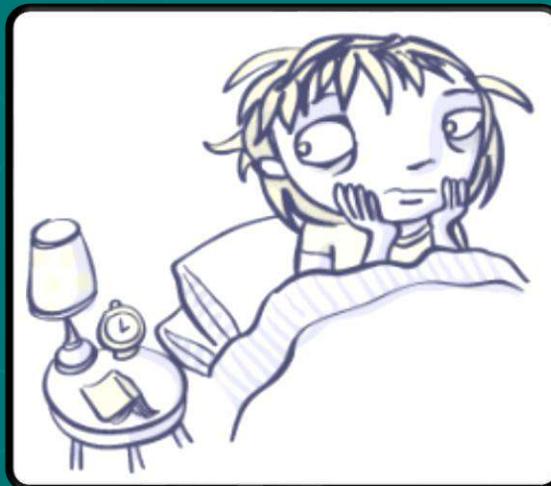
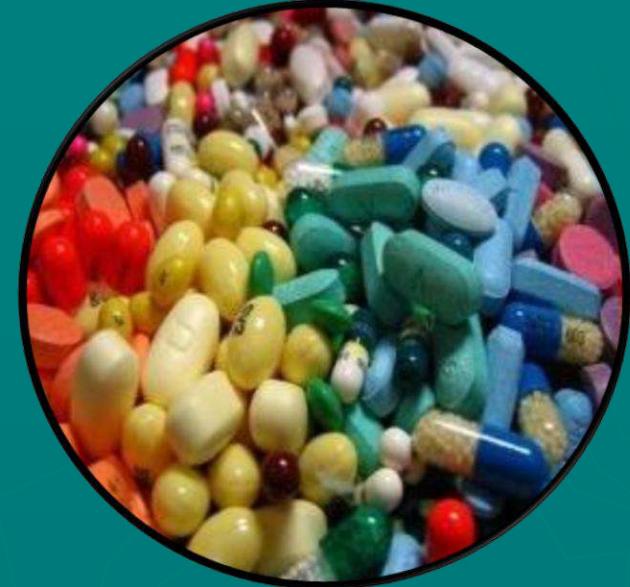
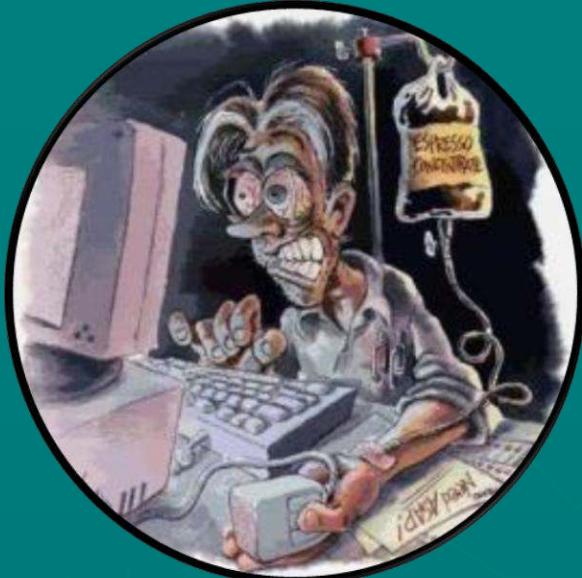
**Individual Risk Factors** include, previous suicide attempt, history of depression and other mental illnesses, serious illness such as chronic pain, criminal/legal problems and issues, job/financial problems or loss, impulsive or aggressive tendencies, substance use, current or prior history of adverse childhood experiences, sense of hopelessness, violence victimization.

**Relationship Risk Factors** include bullying, family/loved one's history of suicide, loss of relationships, high conflict or violent relationships, social isolation etc.

**Community Risk Factors** include lack of access to healthcare, suicide cluster in the community, stress of acculturation, community violence, historical trauma, discrimination etc.

**Societal Risk Factors** include stigma associated with help-seeking and mental illness, easy access to lethal means of suicide among people at risk, unsafe media portrayals of suicide etc.

# Why Is The US So Unhealthy?



# Why Is The US So Unhealthy?

Here are 10 key reasons the U.S. faces significant health challenges:

1. Dietary Habits & Ultra-Processed Foods: Americans consume high calories, sugar, and unhealthy fats from UPFs, linked to heart disease, diabetes, and mental health issues.
2. Obesity Epidemic: High obesity rates (affecting over half of Americans) drive related illnesses, making the U.S. one of the unhealthiest nations.
3. Economic Inequality & Poverty: Higher poverty and inequality than peer nations mean many lack resources, leading to poorer health outcomes.
4. Healthcare Access & Costs: A fragmented system, high costs, and lack of prevention focus hinder overall population health.
5. Sedentary Lifestyles: Less activity, compared to other nations, combined with car dependency, reduces physical health.
6. Social Determinants of Health: Factors like stress, racism, trauma, isolation, and even ZIP code greatly impact longevity and well-being.
7. Substance Abuse: Higher rates of illicit drug and prescription drug misuse, including the opioid crisis, significantly harm public health.
8. Mental Health Crisis: Rising rates of anxiety, depression, and suicide, often linked to inequality and social stressors, are major concerns.
9. Firearm Violence: Widespread firearm availability contributes to high rates of accidental deaths and suicides.
10. Poor Food Quality & Food Deserts: Limited access to nutritious, affordable food in certain areas exacerbates diet-related diseases.

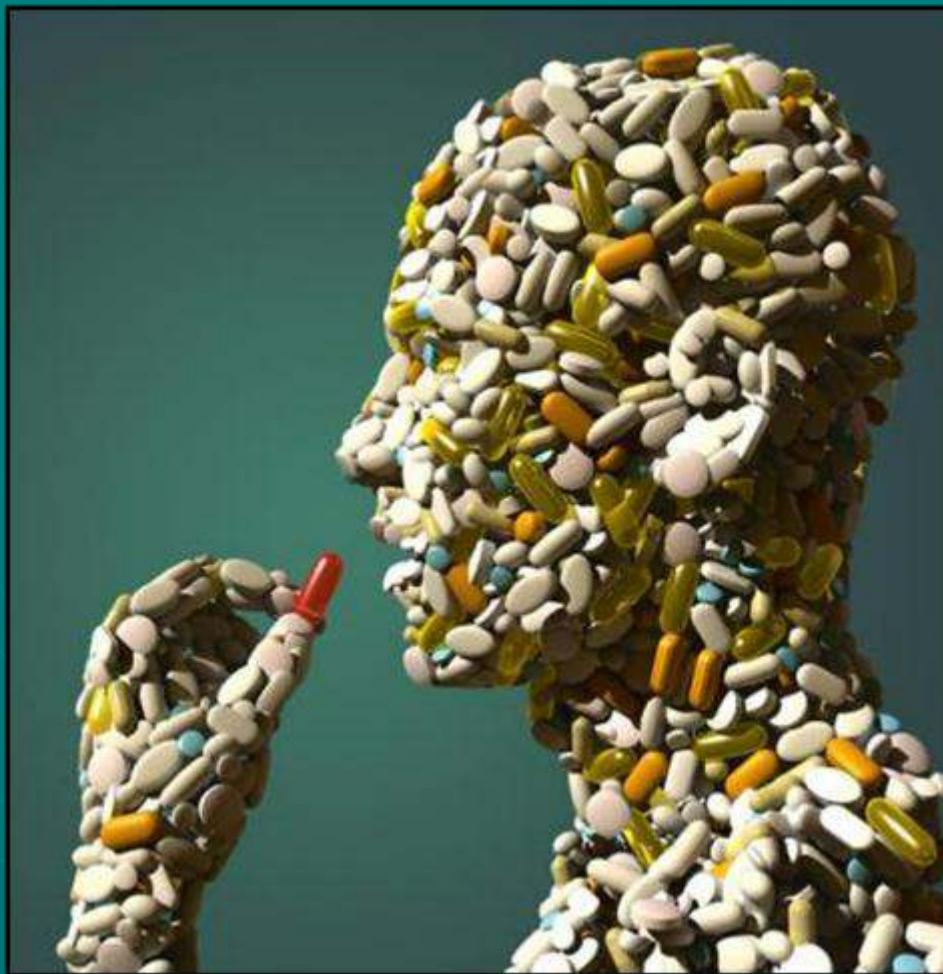
**565,000 deaths related to:**

- ✳ poor nutrition
- ✳ physical inactivity
- ✳ excessive weight

**American Cancer Society**



# Pharmaceutical Drugs



# Pharmaceutical Drugs

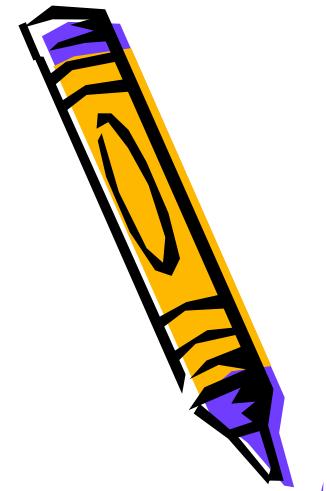
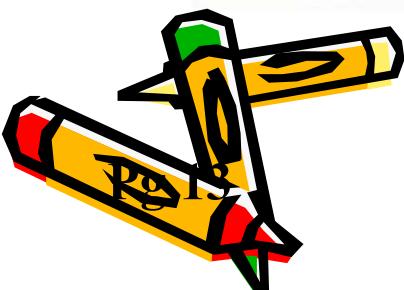
**We have become too dependent on pills for our health!**



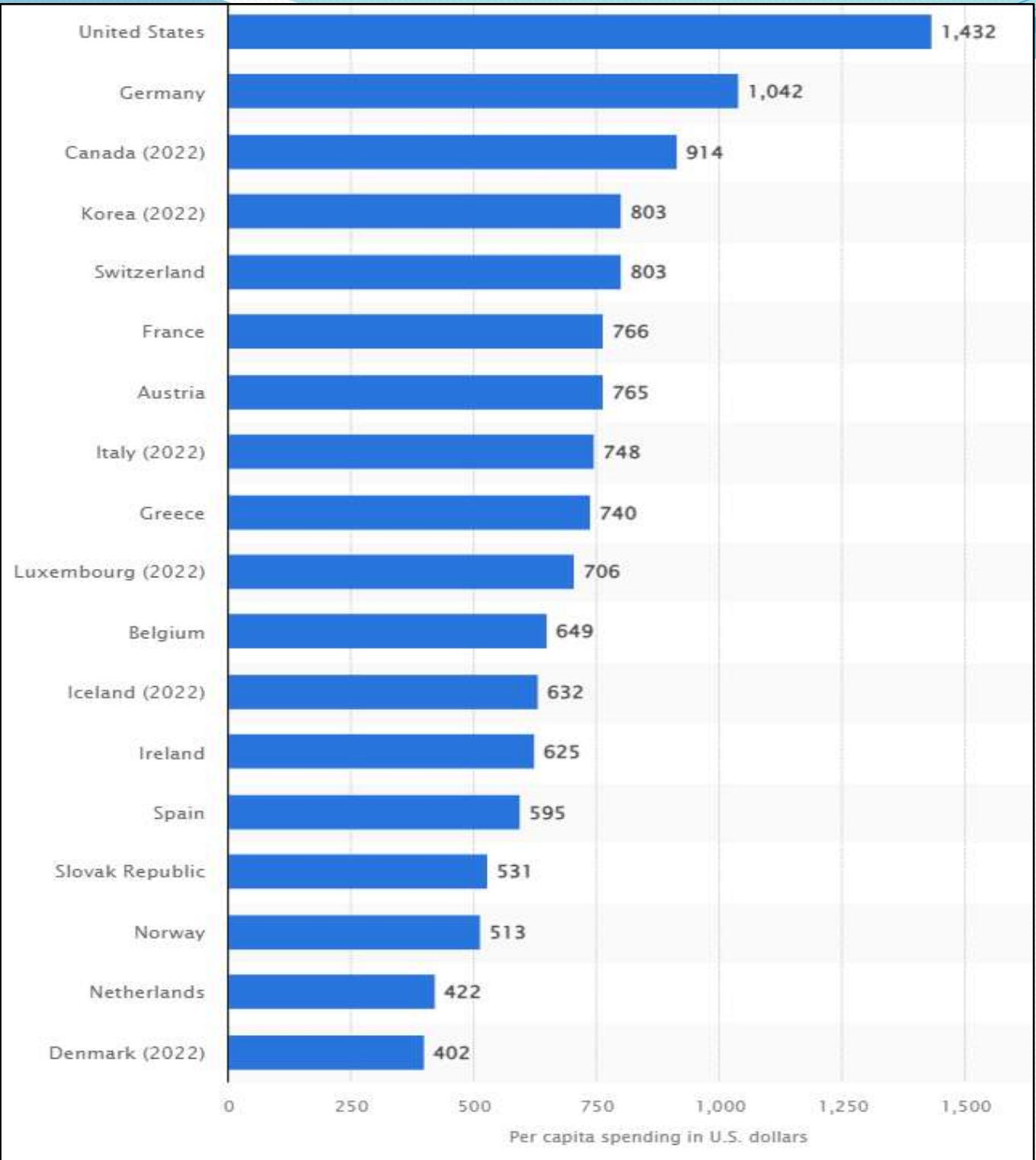


Health is a process,  
not an event.

**Marcus Strutz, DC**



# Pharmaceutical spending per capita in selected countries in 2022 (in U.S. dollars)



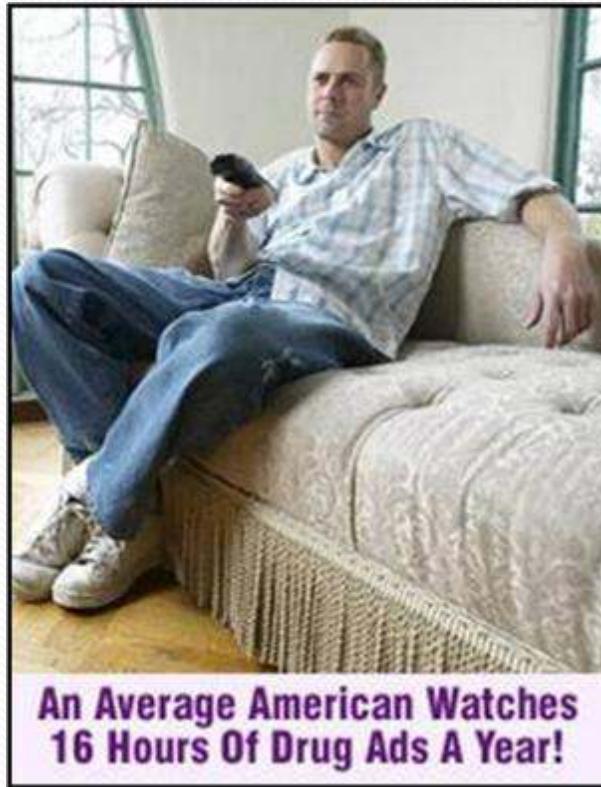
If drugs are the solution why do US consumers need more every year?

**Are we addicted?**



# Pharmaceutical Drugs

**Watch any TV ad for a prescription drug and listen  
for the long list of potential risks  
& adverse side effects!**





*"I stopped taking the medicine because I prefer the original disease to the side effects."*

There are no  
side effects of  
pharmaceutical  
drugs,  
only unwanted  
direct effects.

# Chiropractor's Scope

As a Chiropractor it's out of our scope of practice to take a patient off a prescription medication. If in your clinical judgement the patient should not be taking a given med, then refer your patient back to the prescribing doctor.

Provide a written statement of your concerns.



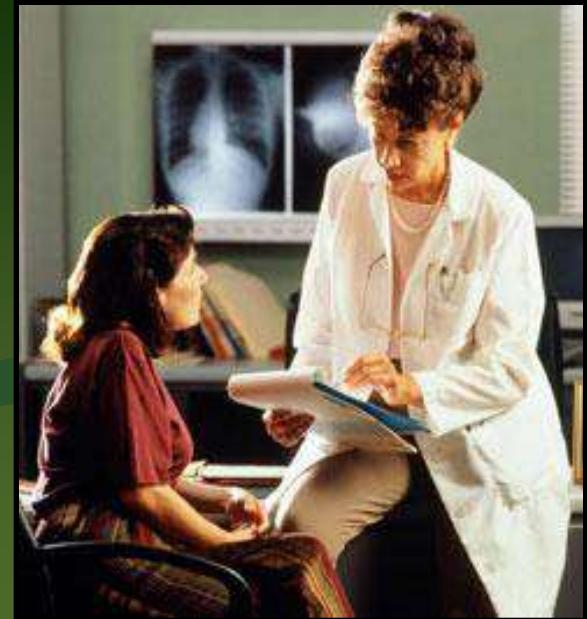
# Chiropractor's Scope

If you are having your patient take vitamins, minerals, herbs or specific foods. Always consult with a physician to see if there is any contraindications.



# Things to Tell Patients

- \* There are no "safe" drugs, every drug has side-effects
- \* With every pill, there is risk
- \* The more pills, the more risk
- \* Taking drugs in combo multiplies the risks
- \* Try preventing illness & maintaining health
- \* Once ill there are often non-drug methods to regain your health

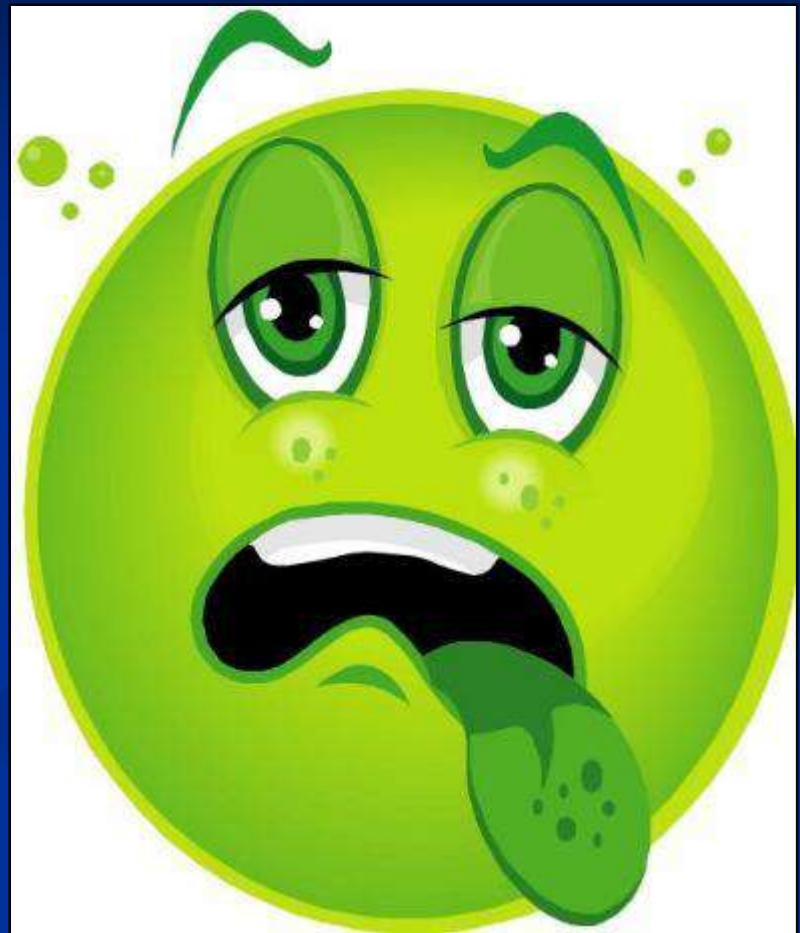


WebMD.com

## Avoiding Illness

People feel helpless and think that you “catch a cold or you catch cancer” and there is nothing you can do about it. They think it’s just bad luck when you become ill.

**It is our duty to inform our patients on the best strategies in avoiding all illness and living a long healthy life.**



# Am I Sick?

The average person has 2-6 colds per year! So often I hear DC's say they never get sick? How can this be? What are they doing differently so that they don't get sick? **Yes, make a list and share it with your patients.** They should want to know why you don't get sick!

A different perspective is that we are always sick, we just don't express symptoms or they are really subtle. For example, when you get up in the morning and your nose is a little clogged or you need to clear your throat a bit, yup that was your cold! It just didn't last very long. What did it take about 5 minutes of the early morning grogginess? And then you are good to go! Of course, the reason you do not get a full-blown cold is because you have a strong immune system. Another thing our patients do not realize!



# Why Don't Doctors & Nurses Constantly Get Sick?

The average American gets  
2-6 colds per year!



Do you take the flu  
vaccine?  
Did you get the flu?  
Do you tell your pts?

# **5 Keys To Wellness**

- 1. Breathing**
- 2. Nutrition**
- 3. Rest**
- 4. Exercise**
- 5. Stress Reduction**



# Keys To Wellness

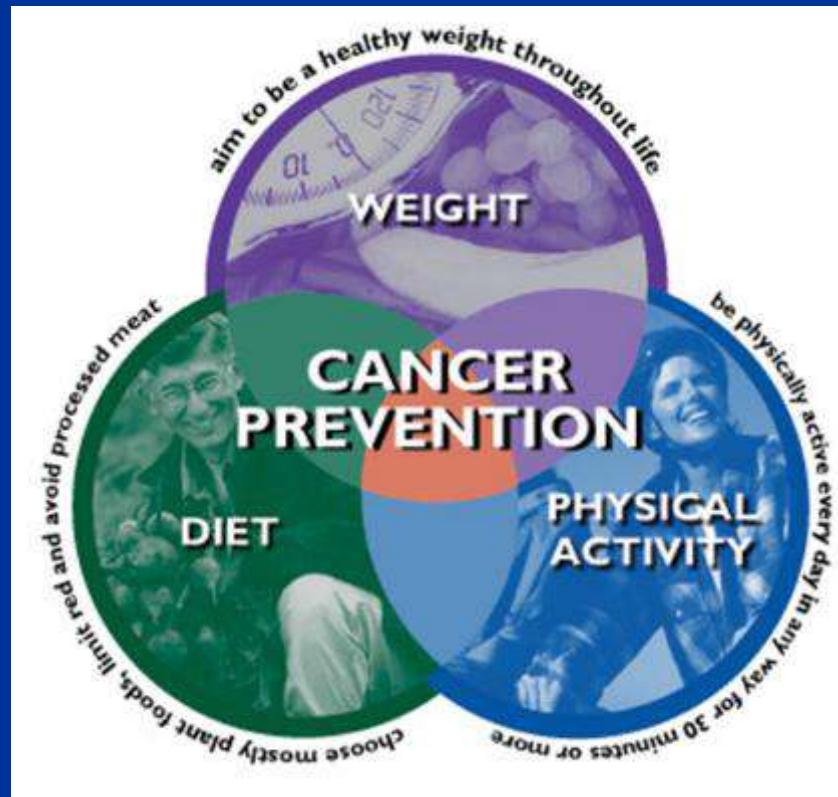
- Be responsible for your health.
- Be proactive & maintain your health before you become ill or injured.
- Once you lose your health it is difficult to regain.
- Health is about taking care of your body for the long term.
- Health is hard work & requires discipline, but you are worth it!



For printable version go to the Patient Education tab,  
on the  tab on our website: [backtochiropractic.net](http://backtochiropractic.net)

Poor diet, lack of exercise & unhealthy lifestyle are responsible for **65% of cancer deaths!**

American Cancer Society



# \***Preventing The Flu (Grade America)**

- \* careful hygiene
- \* avoid crowds/sneezers
- \* plenty of rest
- \* balanced diet
- \* lots of fluids
- \* stress management
- \* regular exercise



Coordinating Center for Infectious Diseases

**This list could be for most diseases!**

# \*What To Do?

- \* Deep breathing: 5-10 deep breaths per hour
- \* Water: 40% of your weight in ounces
- \* Cardiovascular exercise: 20-40 mins 3-5x/wk
- \* Lift weights: 2-3x/wk & daily stretching
- \* Diet:  $\downarrow$ : calories, refined sugars, saturated fats, processed foods, dairy & soda  
 $\uparrow$ : organic fruits, vegetables, good fats, protein & complex carbs
- \* Positive attitude & minimize stress

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# 1st Key To Wellness

## Breathing



# **Breathing**

**One of the healthiest things you can do for yourself is regular slow deep breathing exercises.**

**Chiropractic is one of the very few professions that improves breathing through adjustments and postural alignment.**

**Advice: Take 5-10 Deep breaths per hour**

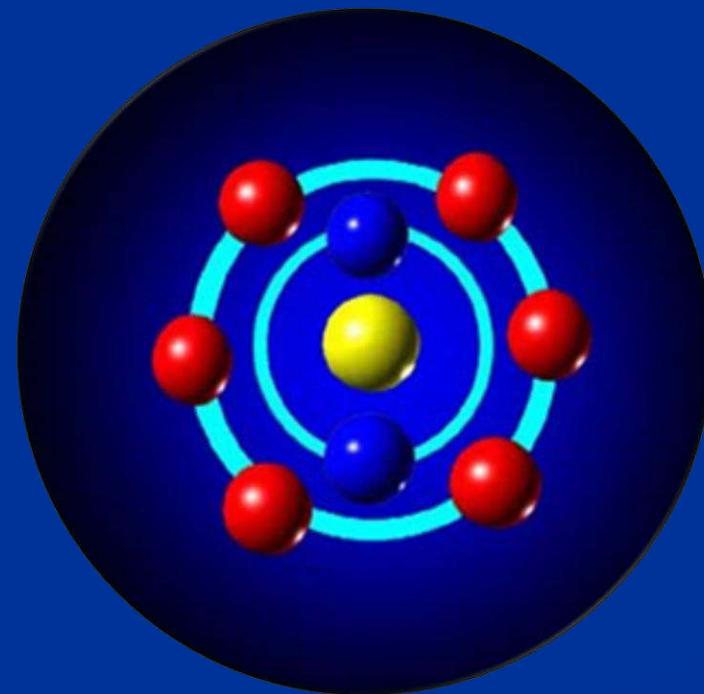
**If dizzy or light headed, STOP.**

**From 35-60 years of age your oxygen uptake decreases 35%.**



# How Long Will You Live?

- ✳ 6 mins without oxygen
- ✳ 10 days without water
- ✳ 4-6 wks without food



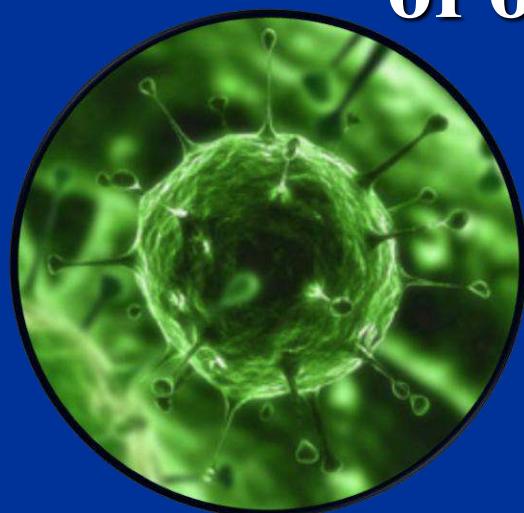
\*“Virus, amoeba, parasites, fungi & bacteria cause many diseases!

None of those hostile organisms can live in an environment with high concentrations of oxygen.

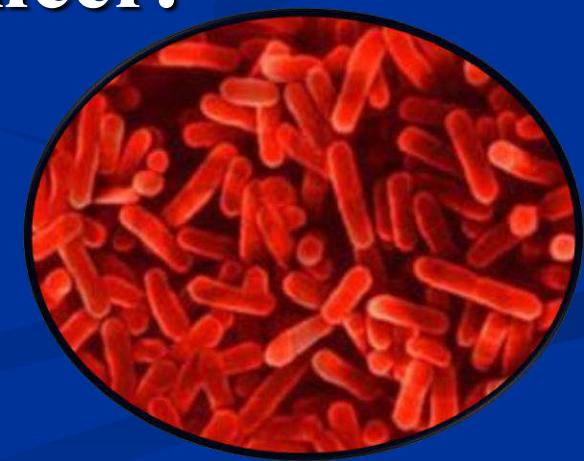


Oxygen gets rid of toxicity.

These pathogens are destroyed in the presence of oxygen - especially cancer.”



Dr. Alec Borsenko



\*“Cancer has one prime cause. The replacement of normal oxygen respiration of the body's cells by an anaerobic (oxygen-deficient) respiration.”

**Dr. Otto Warburg ~ 1883-1970**

**Winner Nobel Prize 1931**

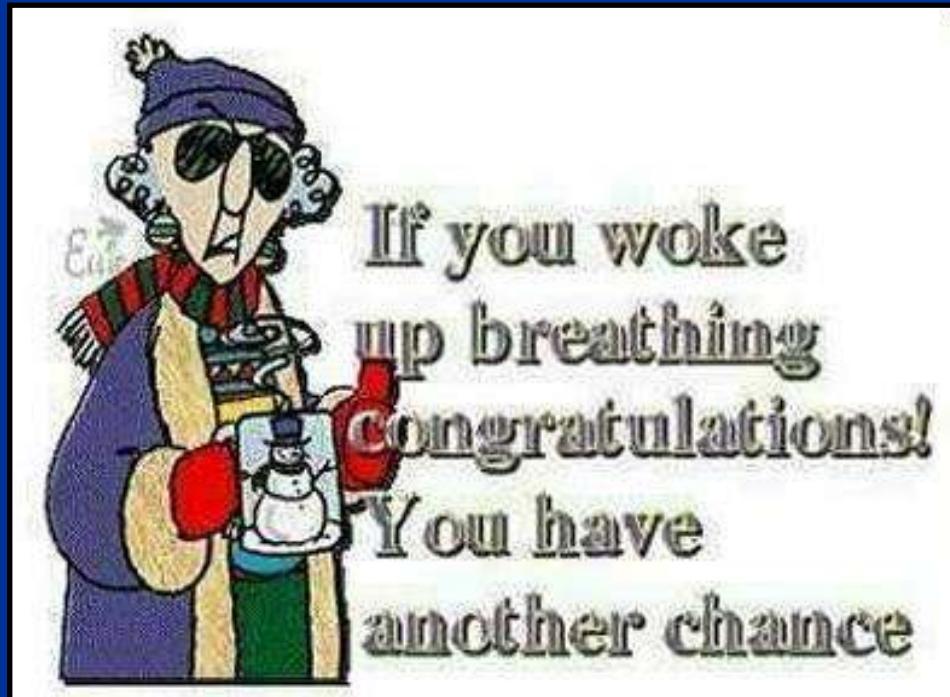


# \*Respiratory System

After age 20 vital capacity  
↓ 5-20% per decade

(maximum volume of air that a person can exhale after maximum inhalation)

Brian K Ross MD, University of Washington



# Oxygen: (Pts will not appreciate this list)

- ✿ Creates energy (defeats fatigue)
- ✿ Aids in digestion
- ✿ Cleans & detoxifies
- ✿ Metabolizes fats & carbs
- ✿ Transports gases across cell membranes
- ✿ Makes hormones & proteins
- ✿ Regulates pH
- ✿ Maintains a strong immune system



# Symptoms of O<sub>2</sub> Starvation

Circulation problems

Depression

Irrational behavior

Fatigue

Poor digestion

Lung problems

Acid stomach

Body weakness

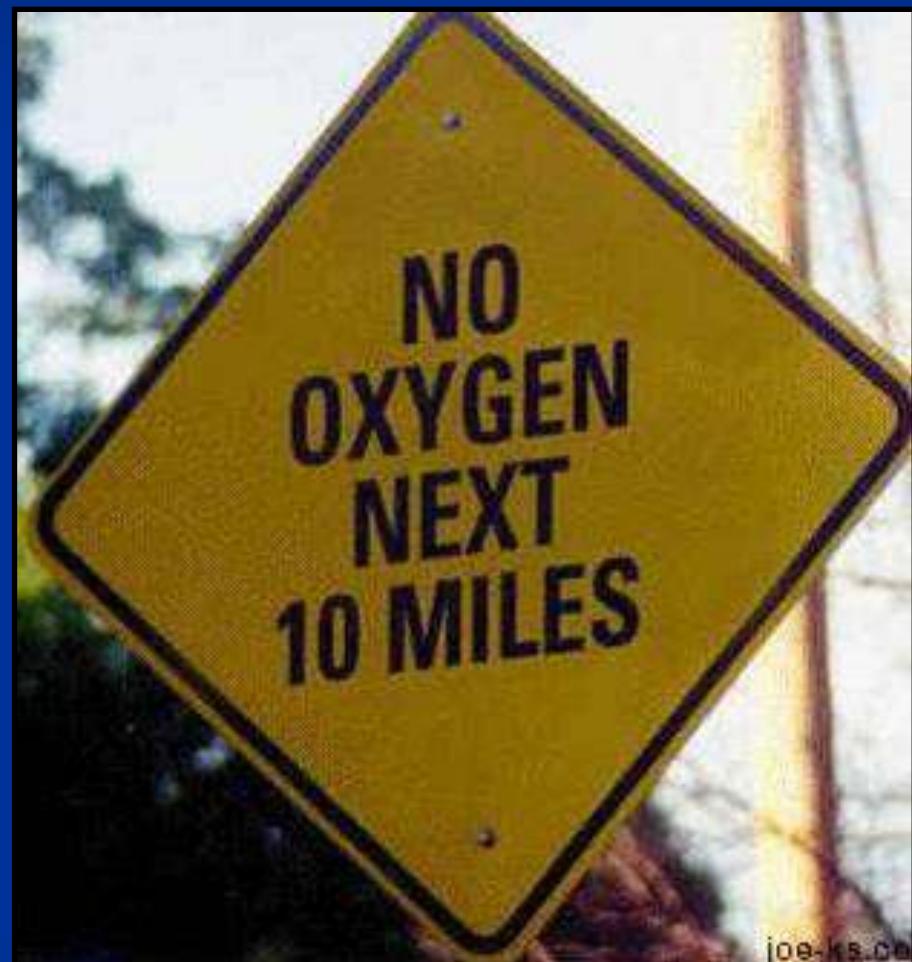
Growth of pathogens

Memory loss

Irritability

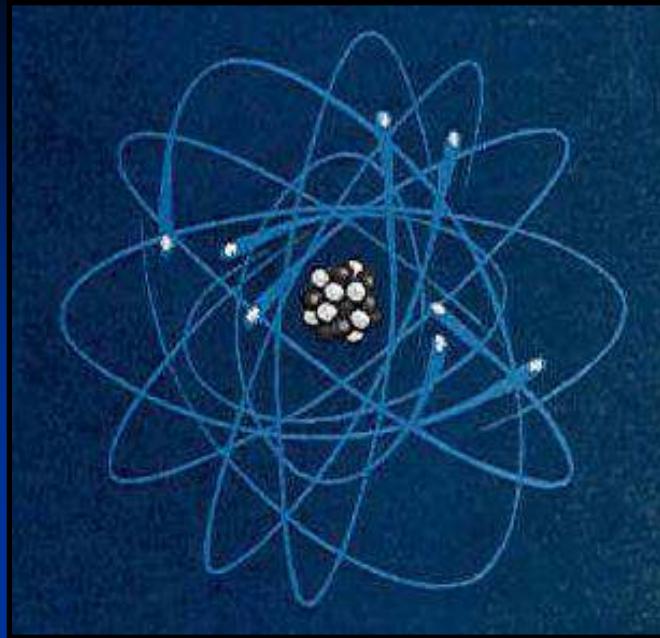
Muscle aches & pains

Dizziness



joe-ks.com

# O<sub>2</sub>

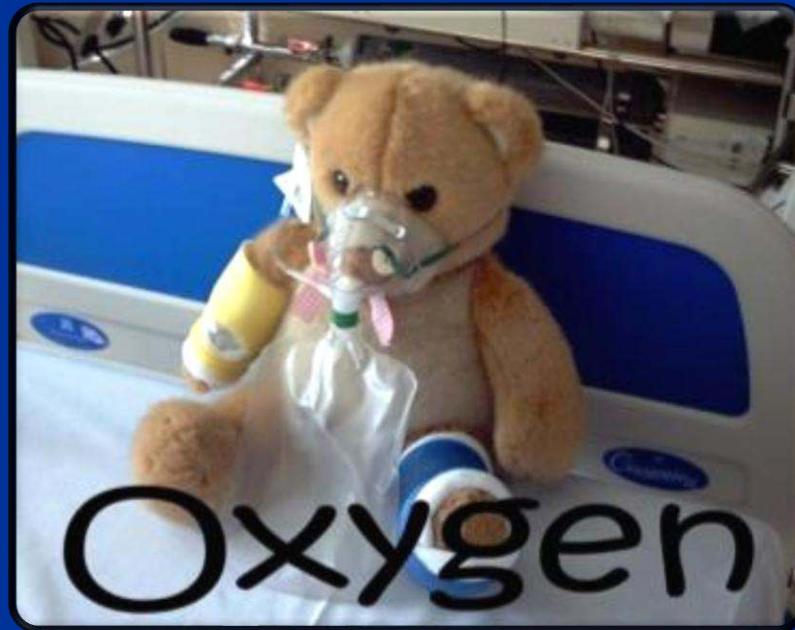


**"Starved of oxygen the body  
will become ill &  
if this persists it will die."**

**Dr. John Muntz**

**\*"In all serious disease  
we find a low oxygen state.**

**Hypoxia in the tissues is the fundamental cause  
for all degenerative disease."**



**Dr. Stephen Levine**

**Oxygen Deficiency: A Concomitant to All Degenerative Illness**

# **2nd Key To Wellness**

## **Nutrition**



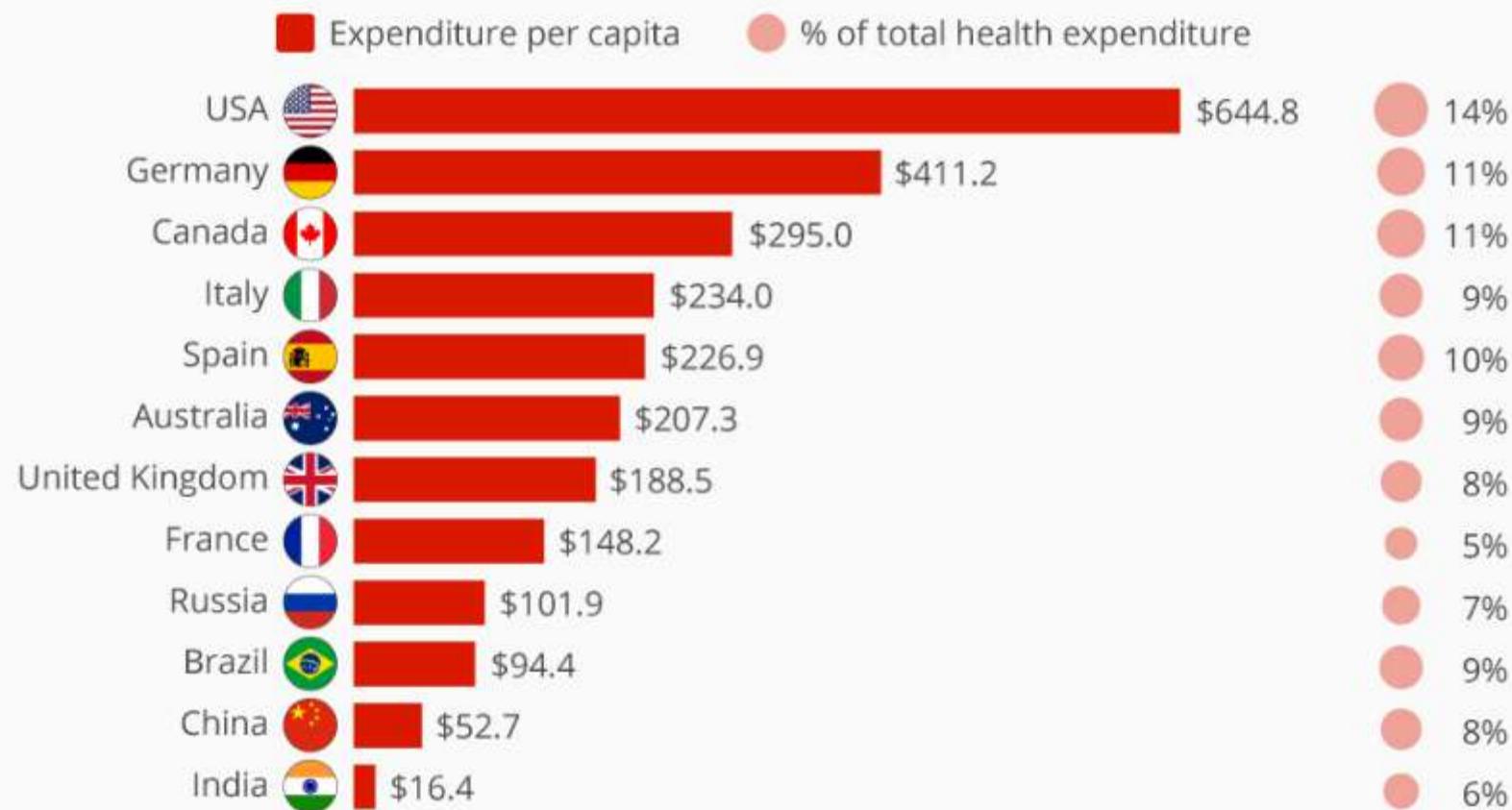
**Diet changes have the potential to ↓ the risk of death & illness. 365,000 deaths/yr result from nutrition related diseases: heart disease, stroke, high BP, diabetes & obesity.**

Journal Watch Cardiology, May 2005



# Where Obesity Places The Biggest Burden On Healthcare

Average annual health expenditure per capita due to obesity from 2020-2050\*



\* U.S. dollars - purchasing power parity.

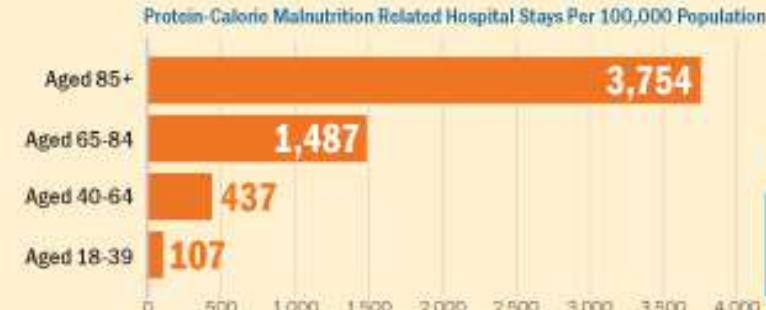
Source: OECD

statista

# Malnutrition In The Elderly

## RATE OF MALNUTRITION BY AGE

Rate of malnutrition is highest with older adults



SOURCE: AMERICAN SOCIETY FOR PARENTERAL AND ENTERAL NUTRITION. MALNOURISHED HOSPITALIZED PATIENTS ARE ASSOCIATED WITH HIGHER COSTS, LONGER STAYS & INCREASED MORTALITY. [HTTPS://WWW.NUTRITIONCARE.ORG/UPLOADEDFILES/DOCUMENTS/MALNUTRITION/ASPEN-HCUP-INFOGRAPHIC-MAW2019-FINAL.PDF](https://www.nutritioncare.org/uploadedfiles/documents/malnutrition/aspen-hcup-infographic-maw2019-final.pdf)

Total federal spending for OAA nutrition services was about \$25 per older adult in 1990 compared to about \$12 per older adult in 2013.

\$ 51.3 BILLION  
Disease-related cost of malnutrition

ALMOST NINE IN TEN FOOD INSECURE OLDER ADULTS RECEIVED NEITHER CONGREGATE NOR HOME-DELIVERED MEALS.



33 %

About 33% of older adults admitted to the hospital may be malnourished.

60 %

About 60% of older adults in emergency rooms are either malnourished or at risk of malnutrition

# How Much Water?

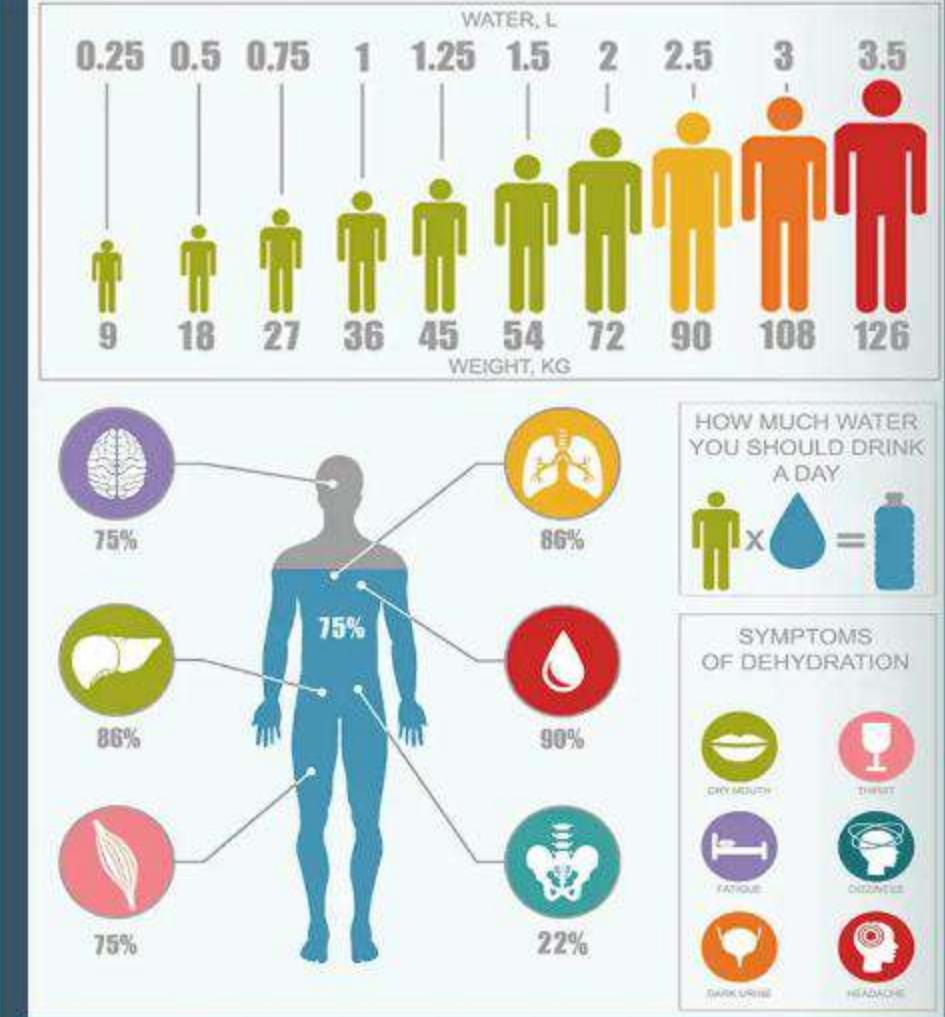
70-90% of your body is water



# DRINKING WATER



70%

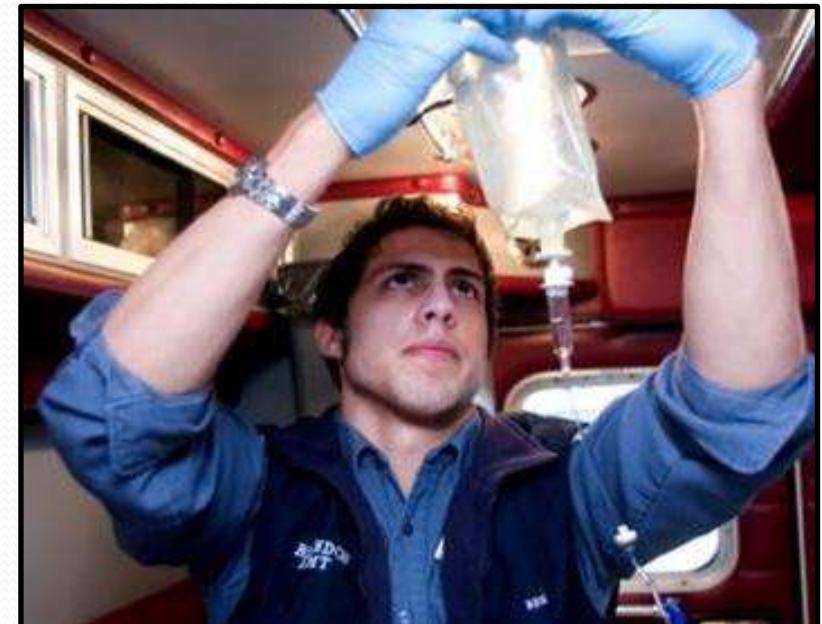


- ✿ During weight loss, after an injury or an adjustment we release toxins. Water helps flush these toxins.
- ✿ Soda, juice, alcohol, coffee & tea don't count, as they contain sugar &/or caffeine speeding up dehydration.

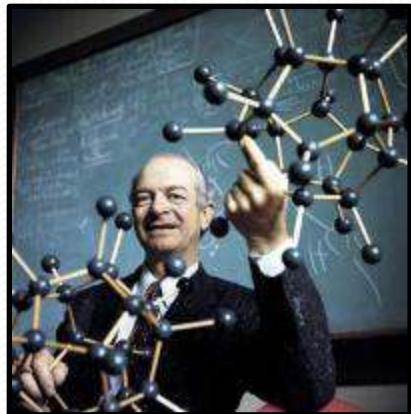
Do you tell your pts to drink water after an adjustment?

Examples: plants watered vs. not watered

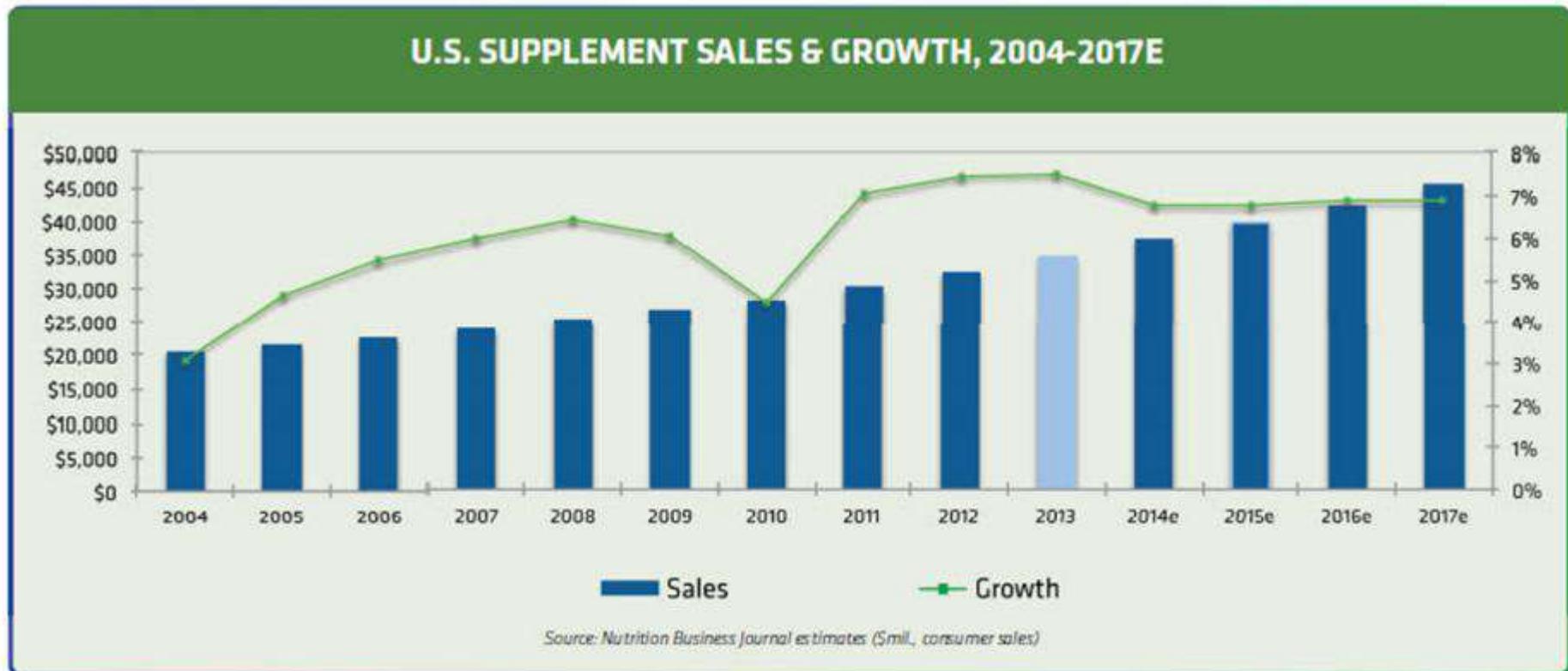
Why do EMTs give fluids in emergencies?



# Vitamins & Supplements



Are we taking supplements like we take medicine? Health doesn't come in a pill!



Nutrition Business Journal, July 2014

## Cholesterol

### Facts

Leading cause of death in US is coronary heart disease.  
Primary risk factors: high cholesterol, smoking & hypertension.  
Some cancers linked to high-fat diets.

### Common Presentation

Men > 35      Women > 45  
Smoker, Obese, Hypertension, Diabetic

### Total Cholesterol

Safe = 200 mg/dl  
Borderline = 200-240 mg/dl  
High Risk = > 240

<u>HDL Cholesterol</u>	<u>Men</u>	<u>Women</u>
Normal	45-50	50-60
Protective	70-80	70-80
High Risk	< 35	< 35

### Nutrition:

Chromium picolinate > ↓ cholesterol improves HDL:LDL ratio (400-600 mcg/day)

Coenzyme Q10 > ↑ circulation (60mg/day)

L-Carnitine > ↓ cholesterol & death rates in heart attack patients in 1 yr @ 4 gms/day

Vitamin B complex

Cayenne, goldenseal, hawthorne berries & spirulina

**Foods:** apples, bananas, carrots, cold-water fish, dried beans, garlic, grapefruit & olive oil, apple pectin, Chinese red yeast rice extract, garlic, raw nuts: almonds & walnuts.

**Fiber:** fruits, vegetables & whole grains, (oat bran).

**Fresh juice:** carrot, celery & beet.

Use only unrefined cold (< 110 degrees) or expeller pressed oils. Olive, soybean, flaxseed, primrose & black currant seed oils.

Reduce saturated fats & cholesterol in diet: all fats of animal origin, coconut & palm kernel oil, margarine, lard, butter, pork, fried foods, fatty foods, processed or refined foods.

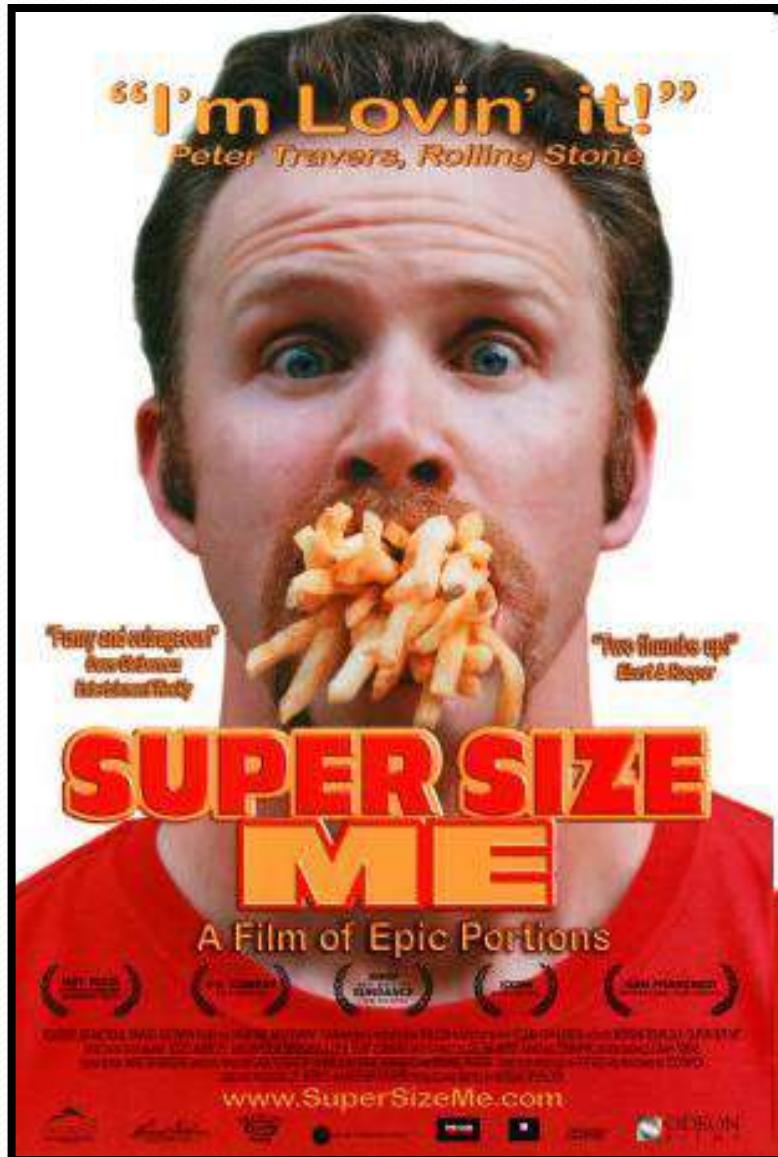
Get regular moderate exercise.

Avoid stress & tension.



For printable version go to the Patient Education tab,  
on the  tab on our website: [backtochiropractic.net](http://backtochiropractic.net)

# McDonald's # of restaurants

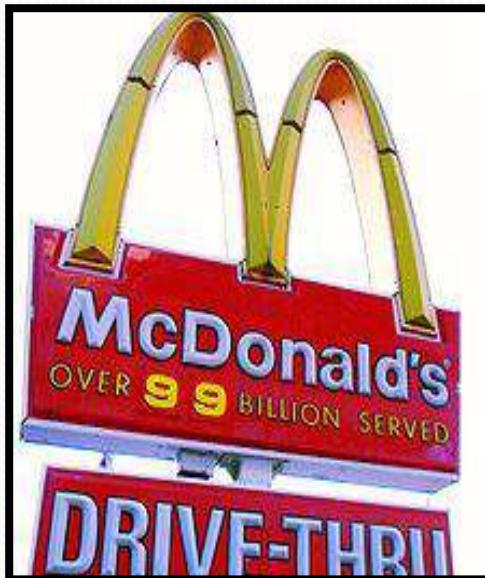


1. US	14,157
2. Japan	2,975
3. China	2,200
4. Germany	1,470
5. Canada	1,417
6. France	1,419
7. UK	1,274
8. Australia	920
9. Brazil	812
10. Italy	531

McDonalds, 2016

# Would you like an apple pie with that?

<u>Item</u>	<u>Calories</u>	<u>Fat</u>	<u>Sugar</u>
Big Mac	540	29g	9g
Lg Fries	500	25g	0g
Coke 32 oz	310	0g	82g
Apple Pie	250	13g	19g
<b>Total</b>	<b>1600</b>	<b>67g</b>	<b>110g</b>



How does that Big Mac jingle go?

Since 1970 caloric intake has ↑ 22%

2168 calories/day 1970

2640 calories/day 2010

CDC National Center for Health Statistics, 2010



Joey Chestnut

Food	20 Years Ago	Today
Bagel	 140 calories (3" diameter)	350 calories (6" diameter)
Muffin	 210 calories (1.5 oz)	500 calories (4 oz)
Cheeseburger	 333 calories	590 calories
Pasta (Spaghetti & Meatballs)	 500 calories	1025 calories
French Fries	 210 calories (2.4 oz)	610 calories (6.9 oz)
Soda	 85 calories (6.5 oz)	250 calories (20 oz)
Theater Popcorn	 270 calories (5 cups)	630 calories (1 tub)
Turkey Sandwich	 320 calories	820 calories
Pizza	 500 calories (2 slices)	850 calories (2 calories)

# Fat Planet

1.6 billion people are overweight! US 74%, UK 64%, Canada 61%, Germany 60%, Russia 49%, China 29%. WHO, 2007



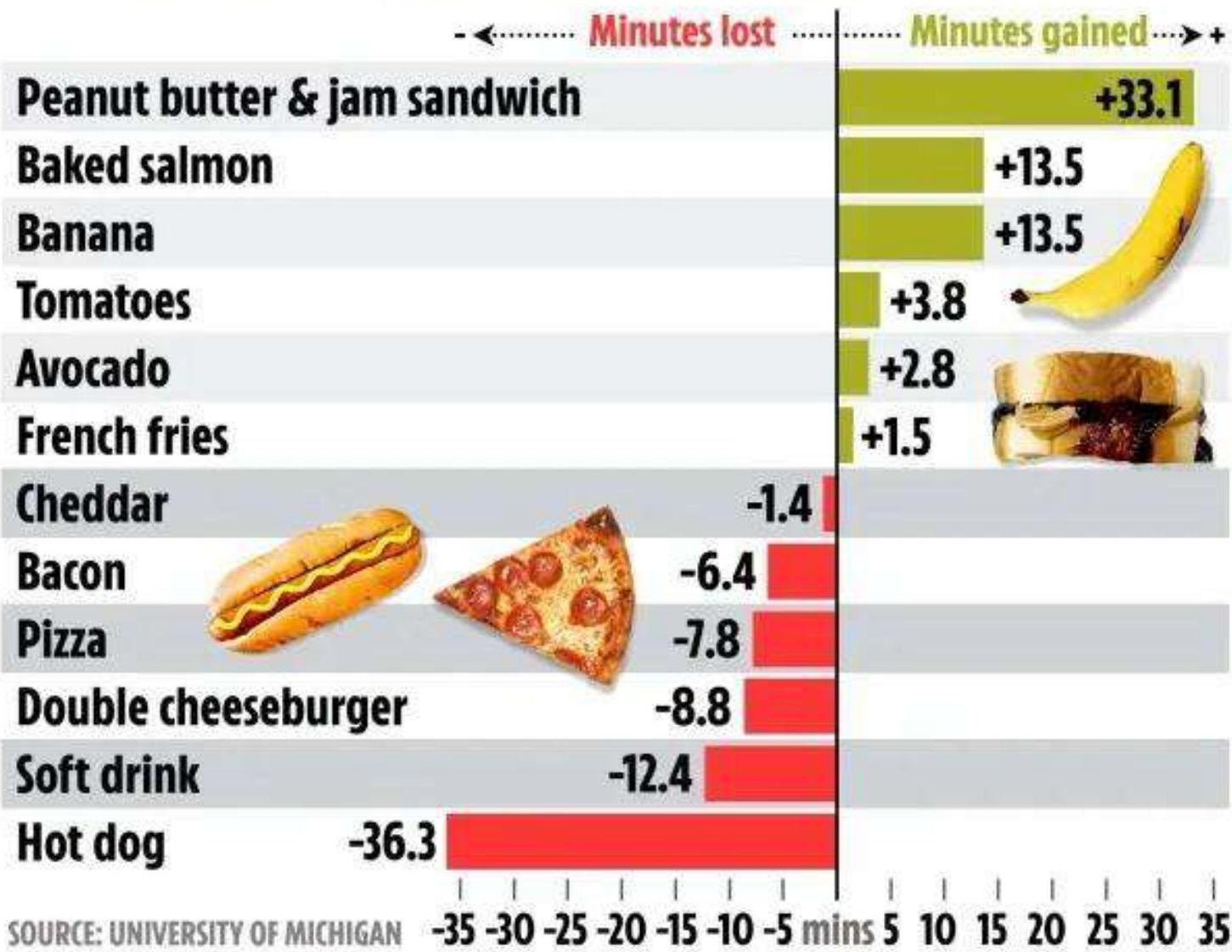
# More Than Two Thirds of Americans Are Overweight or Obese

	Overweight	Obese
Men	40%	35%
Women	30%	37%

JAMA Internal Medicine, Aug 2015



# HOW EATING VARIOUS FOODS AFFECTS YOUR LIFE SPAN



SOURCE: UNIVERSITY OF MICHIGAN

# Restricted Calories Benefits The Heart

In a 6 yr study where half ate a calorie-restricted diet (1,670 calories) & half ate a Western diet (2,445calories):

The 1<sup>st</sup> group showed significantly improved cardiac performance, suggesting less aging.

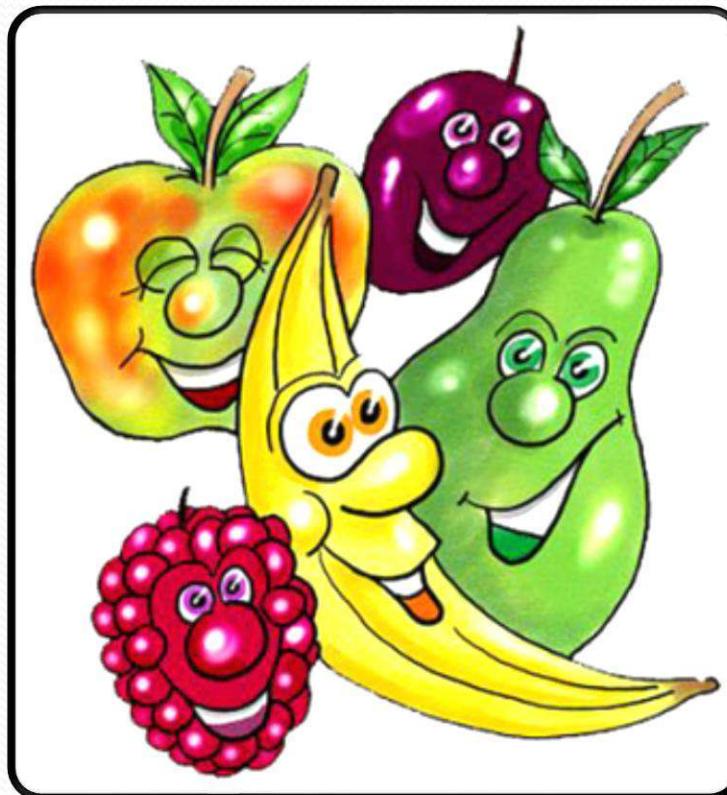
**Journal of the American College of Cardiology, 2006**



# Fruit for Kids

Lung, bowel & breast cancer were less likely to occur in people who ate more fruit when they were young.

Journal of Epidemiology & Community Health, 2003



# Whole Grain for Heart Success

Whole-grain foods, make congestive heart failure less likely. Men who averaged one bowl of whole-grain cereal a day (25% or more whole grain or bran) were diagnosed with heart failure half as often, compared to those who rarely ate such cereals.

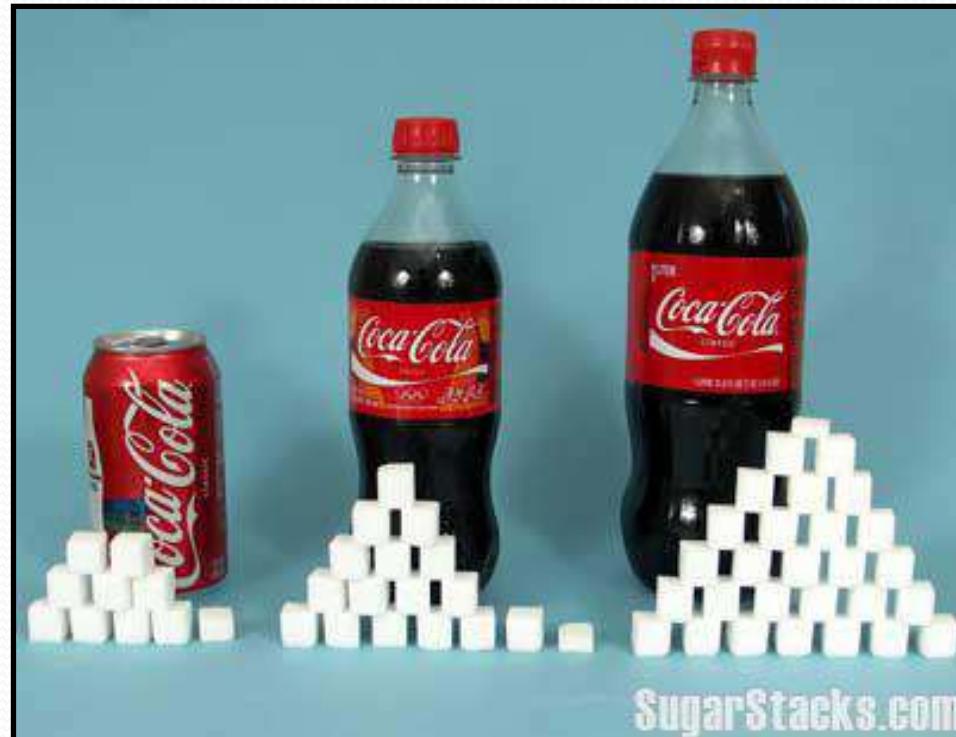
Archives of Internal Medicine, Oct 2007



# **Sugar Please?**

**We consume 102 lbs of sugar a year,  
5x more than the WHO recommends!**

**WHO, May 2015**



"Sugar is in nearly every packaged product, including spaghetti sauce, salad dressing, peanut butter, mayonnaise & ketchup. Highly processed carbs & refined sugars cause hormonal changes that drive hunger, cause overeating & ↑ the risk of diabetes & heart disease."

Dr. David Ludwig, Boston Children's Hospital  
CBS News, June 2007



# US Diet!

**High fructose corn syrup ↑ 10,673% since 1970**

**25% of calories are added sugars**

**90% of the food is processed**

**Journal of Nutrition**



# \*Risky Soda

One soda per day:

- \*31% greater risk of becoming obese
- \*25% ↑ risk of high triglycerides & high blood sugar
- \*32% greater risk of ↓ HDLs
- \* ↑ risk of heart disease & diabetes

Framingham Heart Study, 2006

40.6 gallons consumed per person,  
which weighs 339lbs

Euromonitor International, June 2015



## \*Soda a Day?

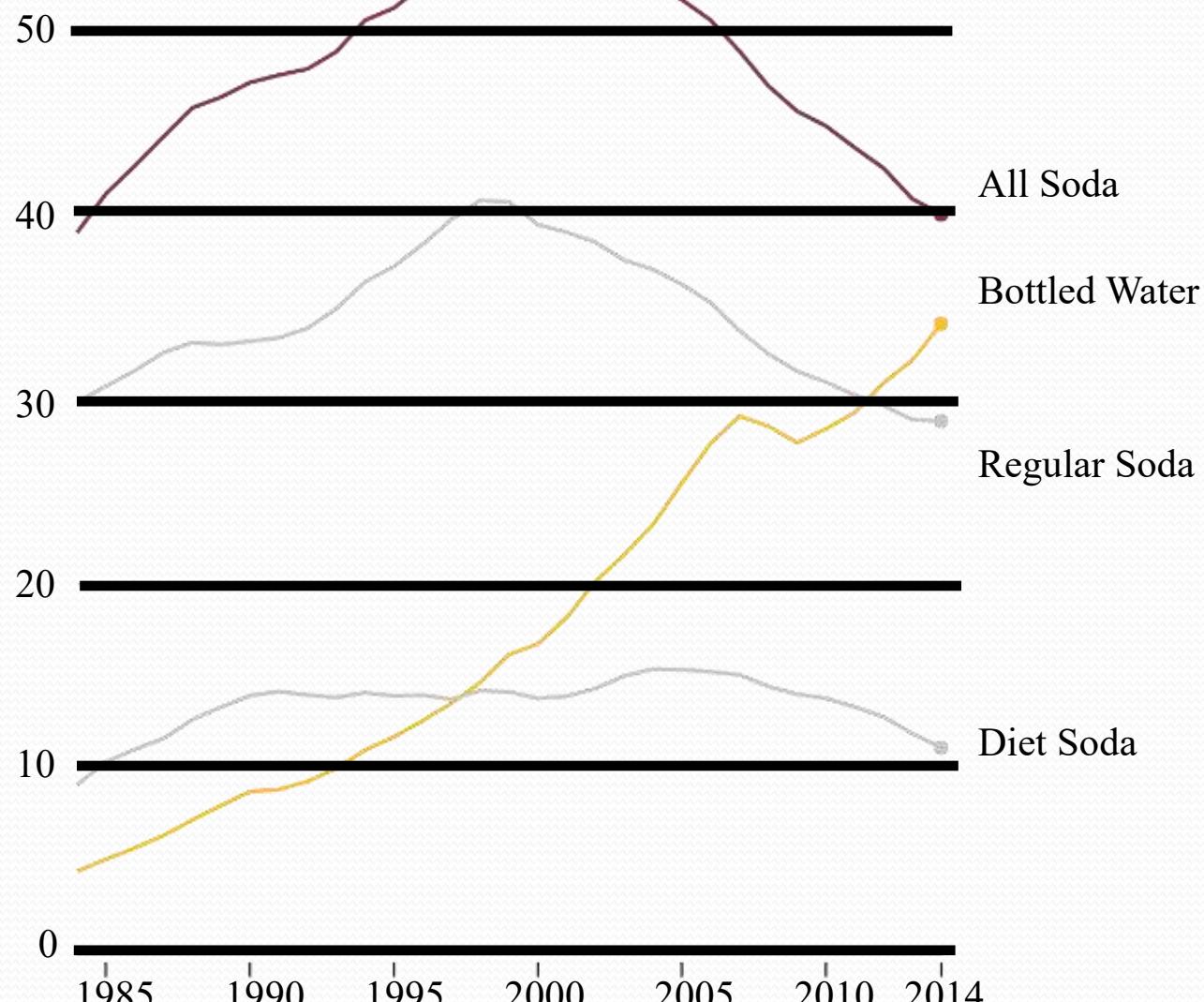


- :( 85% of kids drink at least one soda
- :( 20% drink 4 or more
- :( One soda a day can add 15 lbs to your weight in a year

CDC, 2006

# Water Is Gaining on Soda

## Gallons per capita

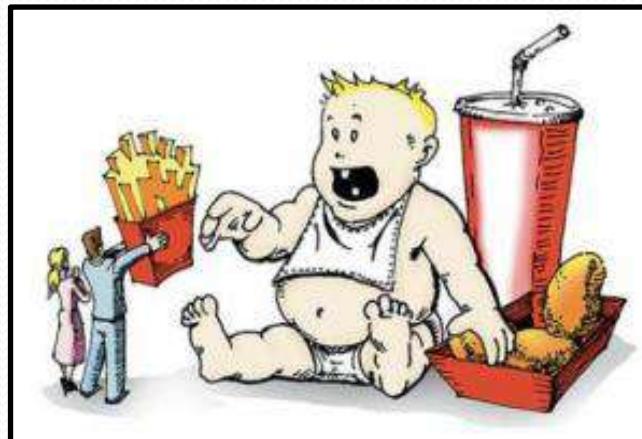


Beverage Marketing Corporation, 2015

## Bad Parenting? Child Abuse?

- ⌚ Kids 1-2 eat 30% more calories than required
- ⌚ 17% of 6 month-olds get their total caloric intake through breastfeeding
- ⌚ 20% of kids 19-24 months old eat fries daily
- ⌚ 33% of kids under 2 eat no fruits or vegetables on a daily basis
- ⌚ 60-70% eat a dessert or candy daily

**American Academy of Pediatrics**



# IF FOOD PRODUCTS WERE HONESTLY LABELED...



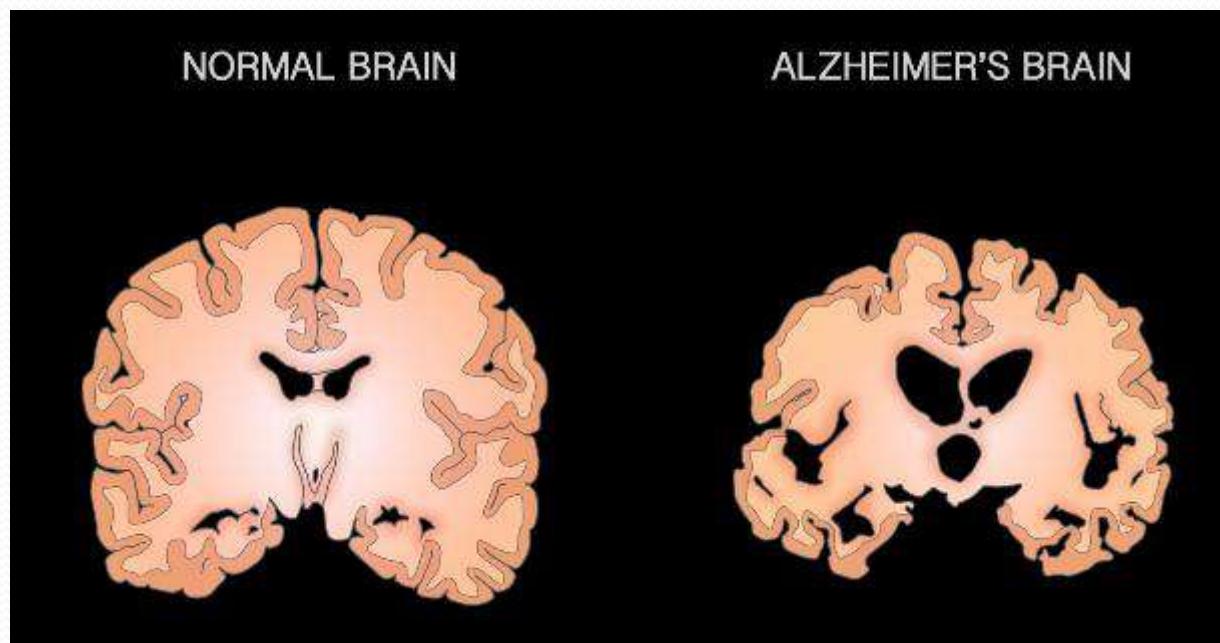
# Preventing Alzheimer's

People in their early 40s with cholesterol levels between 249-500 mgs/dl are

1.5x more likely to develop Alzheimer's compared to those who had levels of 198 mgs/dl or lower.

Alzheimer's pts who took high doses of Vit E had mortality rates 26% lower than those taking nothing.

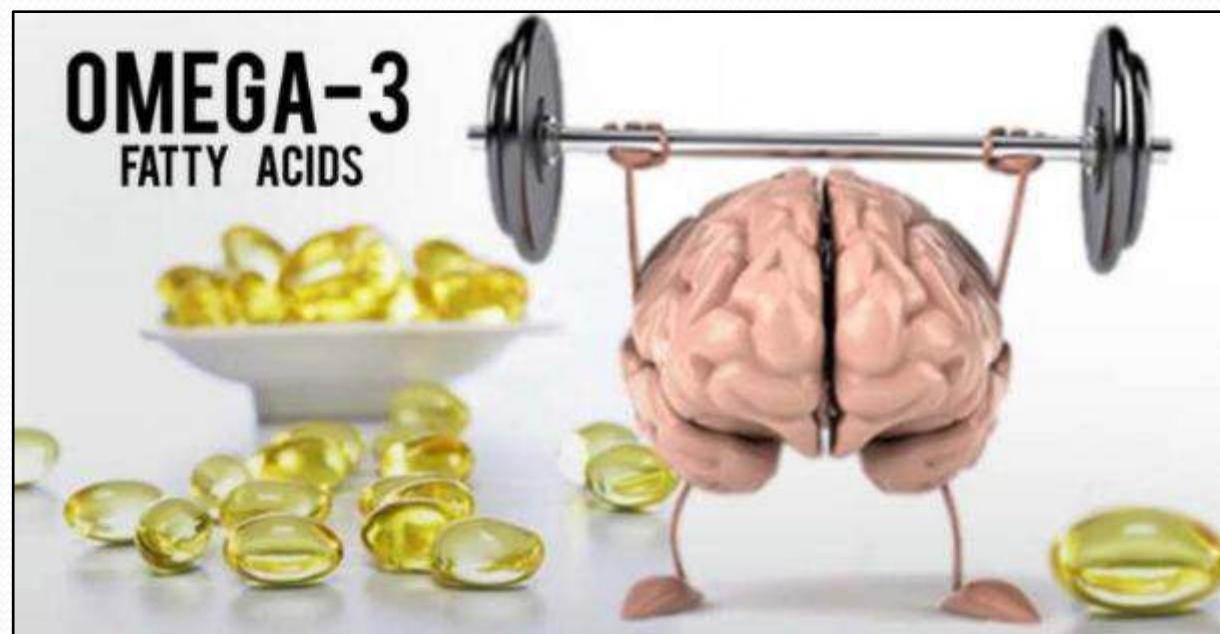
Baylor College of Medicine, 2008



## Omega 3's on the Brain

MRIs show consuming omega-3 fatty acids ↑ the volume of gray matter in the mood & emotional regulation areas of the brain (bilateral anterior cingulate cortex, right amygdala & right hippocampus). People with a lower intake of omega-3 fatty acids tend to be impulsive & have negative moods.

University of Pittsburgh Reuters, April 2007

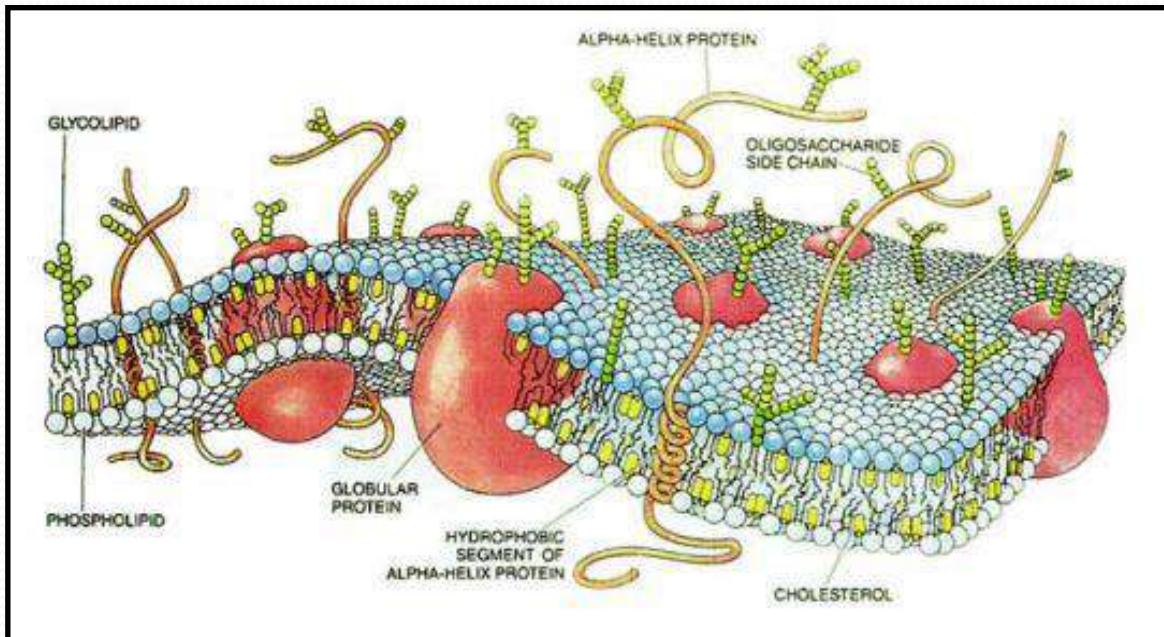


# \*Reducing Alzheimer's Risk

Eating meals rich in fish, nuts & oily salad dressings at least once a wk may  the risk of Alzheimer's by 60%.

The link is fatty acids, an essential part of the brain's cell membrane.

Archives of Neurology, 2003



## \***Fish Protects the Heart**

Men who eat fish  $> 2x/\text{wk}$  had a heartbeat of 2 beats/minute less than men who ate fish  $< 1x/\text{wk}$ .

**1,051,200 beats less a year!**

**36,792,000 in a year if heart rate is 70**

**About 3% change.**

**Fish-eaters had:**

$\uparrow$  fatty acids,  $\downarrow$  triglycerides,  $\downarrow$  BP &  $\uparrow$  HDLs.

**Circulation, Aug 2003**



**What else could you have pts do to lower their heart rate?**

# Lower risk of coronary heart disease!

Substitute one red meat serving a day  
with protein-rich foods:

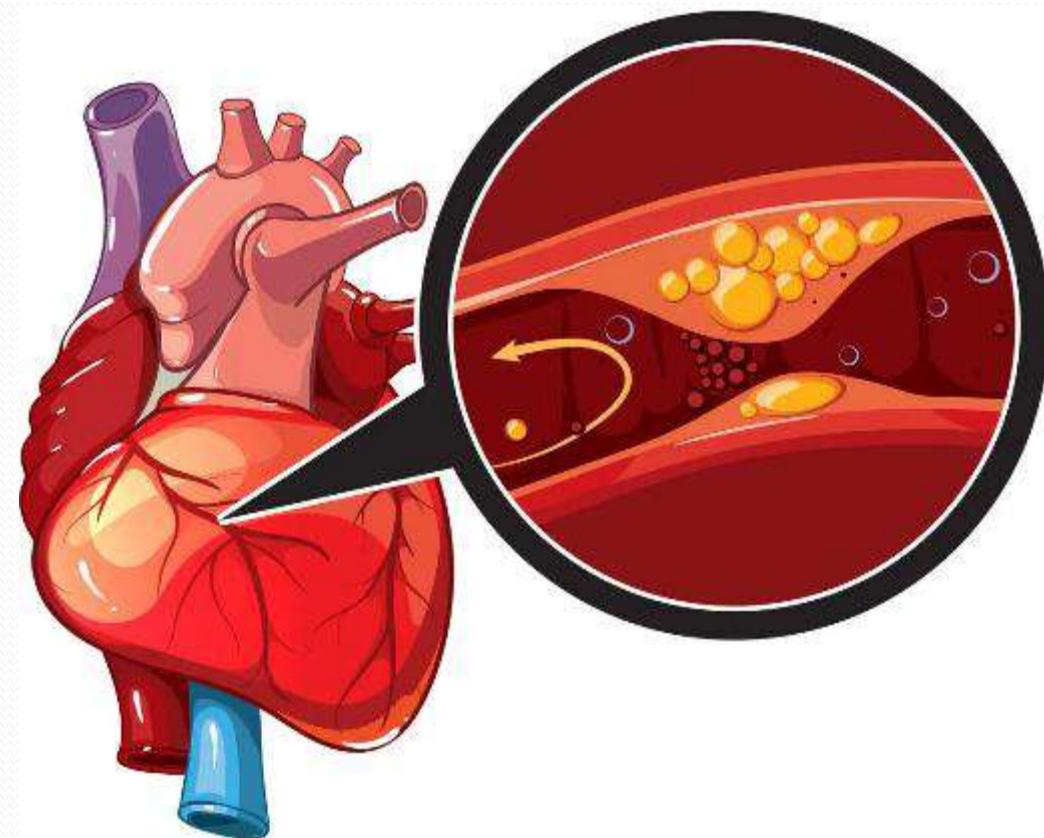
low-fat dairy products ↓ risk 13%

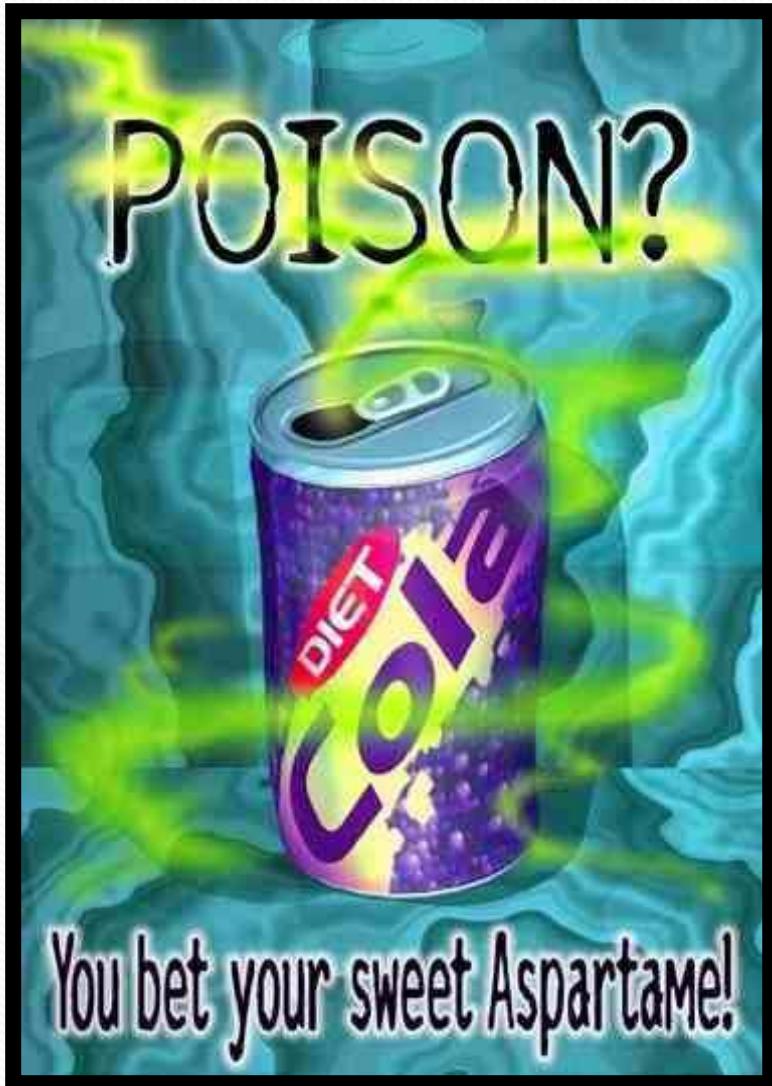
poultry ↓ risk 19%

fish ↓ risk 24%

nuts ↓ risk 30%

Annals Of Internal Medicine





# Toxic Food!

## Aspartame

Accounts for 75% of  
adverse reactions to food  
additives reported to FDA

US Dept of Health & Human  
Services

# Aspartame

**Another way to stay healthy is to be aware of what you are eating and avoid as much as you can the unhealthy items.**

**Accounts for 75% of adverse reactions to food additives reported to FDA**

US Dept of Health & Human Services

**Aspartame Symptoms** Headaches/Migraines, dizziness, seizures, nausea, numbness, muscle spasms, rashes, depression, fatigue, irritability, tachycardia, insomnia, vision problems, hearing loss, heart palpitations, breathing difficulties, anxiety attacks, slurred speech, loss of taste, tinnitus, vertigo, memory loss & jt pain.

This list could apply to any toxic substance!

**Chronic Aspartame Illness** brain tumors, multiple sclerosis, epilepsy, chronic fatigue syndrome, Parkinson's, Alzheimer's, mental retardation, lymphoma, birth defects, fibromyalgia, diabetes.

**NutraSweet Shown to Cause Cancer** In a 7yr study on aspartame, rats were given the equivalent of 4-5 bottles of diet soda a day. It was linked to high rates of lymphoma, leukemia & other cancers. Carcinogenic effects of aspartame were at levels as low as 400 parts per million, or about 20 mg a day for humans. The RDA is 50 mg. Environmental Health Perspectives, March 2006

# Aspartame Symptoms

**Headaches/Migraines,  
dizziness, seizures, nausea,  
numbness, muscle spasms,  
rashes, depression, fatigue,  
irritability, tachycardia,  
insomnia, vision problems,  
hearing loss, heart palpitations,  
breathing difficulties, anxiety  
attacks, slurred speech, loss of  
taste, tinnitus, vertigo, memory  
loss & jt pain.**



# Chronic Aspartame Illness



**brain tumors**  
**multiple sclerosis**  
**epilepsy**  
**chronic fatigue syndrome**  
**Parkinson's**  
**Alzheimer's**  
**mental retardation**  
**lymphoma**  
**birth defects**  
**fibromyalgia**  
**diabetes**

# Pesticides

You ingest up to 20 different pesticides a day.  
Eating organic & avoiding foods high in pesticides  
can ↓ exposure by 90%.

[foodnews.org](http://foodnews.org)

Carcinogens make up:

**30% of insecticides**

**60% of herbicides**

**90% of fungicides**

EPA, 2007



- ✿ Pesticide use has  $\uparrow$  50x since 1950
- ✿ 2.5 million tons are used a year
- ✿ Chemicals in pesticides are soil contaminants that remain for decades

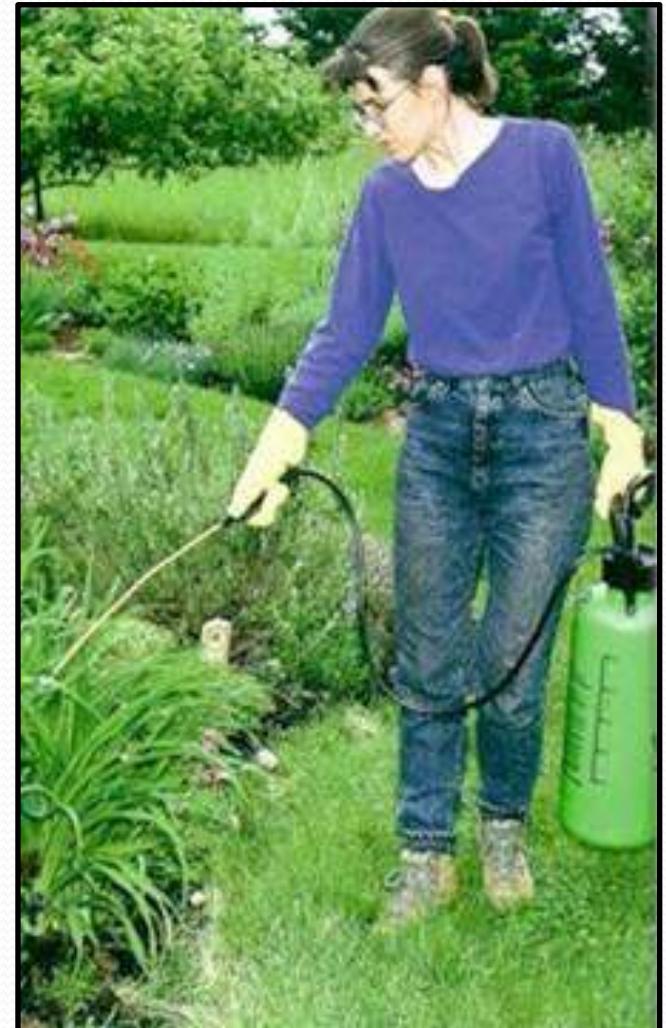
EPA, 2007



# Pesticides contribute to:

- ✿ Birth defects, miscarriages & stillbirths
- ✿ Infertility
- ✿ Learning disorders
- ✿ Aggressive behavior
- ✿ Cancers of: breast, prostate & lymphatics
- ✿ The average person has 13 harmful pesticides in them

EPA, 2007



# Organic fruits & vegetables contain a higher percentage of antioxidants.

With pesticides protecting the plant from insects, the natural production of antioxidants ↓.

Journal of Agricultural & Food Chemistry, March 2003



# What's Organic? **USDA**

**Single-Ingredient Foods** On foods like fruits & vegetables, look for sticker version of the USDA Organic label or check the signage in the produce section for the seal. The word "organic" & the seal may also appear on meat packages, egg or milk cartons, cheese & other single-ingredient foods.

**Multi-Ingredient Foods** Beverages, snacks & other processed foods use the following classification system to indicate their use of organic ingredients.

**100% Organic** Foods bearing this label are made with 100% organic ingredients & may display the USDA Organic seal.

**Organic** These products contain at least 95-99% organic ingredients (by weight). The remaining ingredients are not available organically but have been approved by the National Organic Program. These products may display the USDA Organic seal.

**Made With Organic Ingredients** Food packages that read "Made With Organic Ingredients" contain 70-94% organic ingredients. These products may list up to 3 ingredients on the front of the package & can't bear the USDA Organic seal.

**Other** Products with less than 70% organic ingredients may only list organic ingredients on the information panel of the package. These products will not bear the USDA Organic seal. Even if a producer is certified organic, the use of the USDA Organic label is voluntary. Not everyone goes through the process of becoming certified, especially small farming operations. When shopping at a farmers' market, consumers should ask vendors how the food was grown.

For printable version go to the Patient Education tab,  
on the  tab on our website: [backtochiropractic.net](http://backtochiropractic.net)

**Farmed Out? Most US citizens are suffering from dangerous diet deficiencies. The alarming fact - fruits, vegetables & grains - are now being raised on millions of acres that no longer contain enough minerals.**

**No matter how much of them we eat, these foods are starving us! It's bad news to learn from our leading authorities that 99% of North Americans are deficient in vital minerals. A marked deficiency in any of these results in disease.**

**Senate Document No. 264, 1936**





# GMO's



**80%** of organic farmers report GMO's being carried by wind or water into their fields. Commingled crops during harvest or cross-pollination can also cause contamination.

53% say they won't buy GMO food, but there are no labeling requirements in US.

**92% of soybeans** (soybean oil) & **80% of corn** (high fructose corn syrup) are said to be GMO!

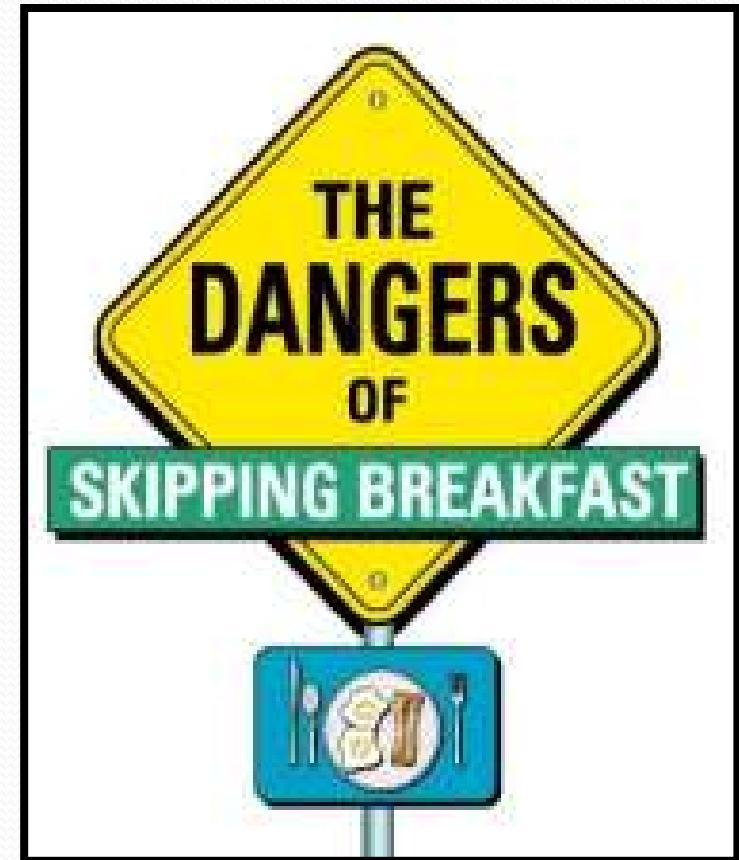
**Whole Foods Magazine, 2008**

# **Breakfast to Stay Slim**

**People who eat breakfast every morning are **half** as likely to be overweight or show signs of diabetes. **Children's Hospital in Boston, 2003****

**Skipping breakfast can  your metabolic rate by 5%, adding up to 10 lbs/yr.**

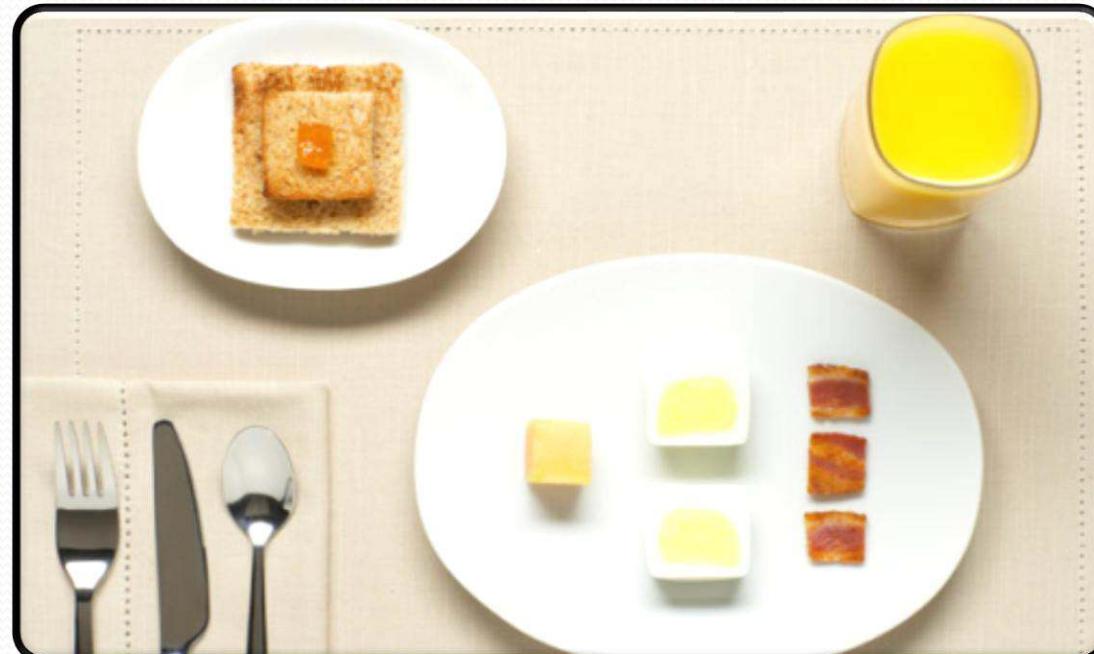
**Medical College of Cornell University**



## How Many Meals?

**The ideal diet is 4-6 small meals. Not eating for long periods can lower your metabolic rate 10-20% preventing the use of 250-300 calories a day.**

**Dr. Sears, The Zone**

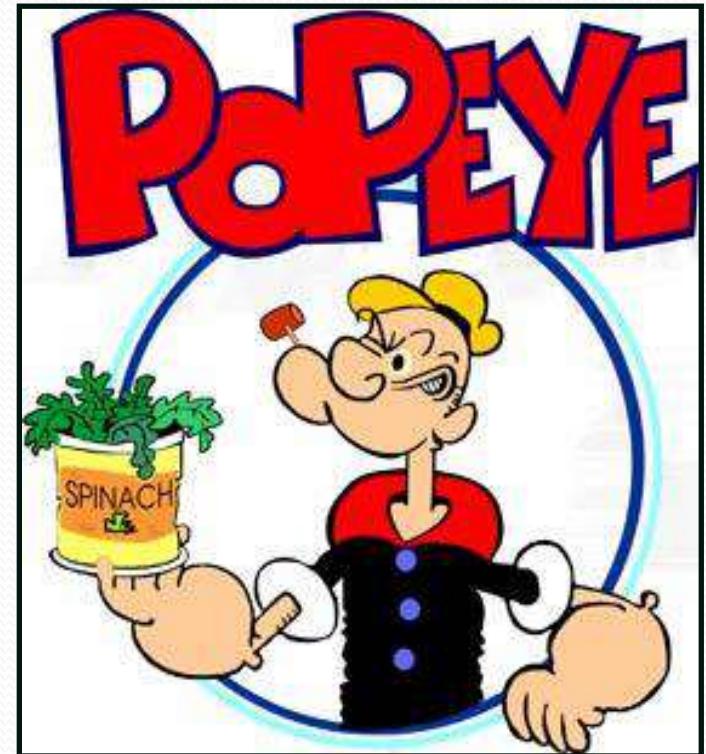


**\*Calories in vs Calories out is still the key!**  
**Diet for a lifetime.**



# 10 Reasons To Eat Veggies

1. Keep trim
2. Prevent heart disease
3. Control diabetes
4. Avoid diverticulosis
5. Reduce the risk of certain cancers
6. Prevent stroke & other diseases/illnesses
7. Lower blood pressure
8. Lower risk of adult blindness
9. Satisfy your sweet tooth
10. Pure pleasure



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## NUTRIENT-DENSE SEAFOOD



oyster - 84%      mussels - 91%      salmon - 85%      mackerel - 87%

pollock - 85%      tuna - 84%      caviar - 84%      shrimp/prawns - 83%

squid - 80%      cod - 71%      tilapia - 69%      scallops - 62%

## NUTRIENT-DENSE FOODS



spinach - 100%      mussels - 91%      liver - 89%      broccoli - 88%

mackerel - 87%      salmon - 85%      shrimp/prawns - 83%      chicken thigh - 72%

sirloin steak - 71%      whole egg - 71%      lupins - 69%      cottage cheese (low-fat) - 66%

## NUTRIENT-DENSE MEATS



liver - 90%      chicken thigh - 72%      drumstick - 72%      sirloin steak - 71%

lamb roast - 71%      chicken breast - 67%      pork chops - 68%      filet mignon - 62%

ground pork - 66%      ribeye steak - 64%      lean ground beef - 64%      T-bone - 61%

## NUTRIENT-DENSE VEGETABLES



spinach - 100%      asparagus - 96%      kale - 88%      broccoli - 88%

Brussels sprouts - 86%      cauliflower - 86%      lettuce - 86%      green beans - 78%

zucchini - 74%      carrots - 71%      celery - 69%      bell peppers - 65%

## NUTRIENT-DENSE DAIRY & EGG



whole egg - 71%      cottage cheese (low-fat) - 69%      Greek yogurt (non-fat) - 68%      protein powder (whey) - 64%

camembert cheese - 63%      milk (whole) - 62%      gouda cheese - 60%      parmesan cheese - 60%

## NUTRITIOUS FRUIT



tomato - 69%      black currants - 55%      strawberries - 54%      raspberries - 51%

blackberries - 51%      cantaloupe - 49%      apricot - 48%      kiwi fruit - 48%

peach - 46%      avocado - 42%      mango - 42%      orange - 41%

# 10 Tips To Healthy Eating

1. Eat a variety of nutrient-rich foods. You need more than 40 different nutrients. Include bread & other whole-grain products, fruits, vegetables, dairy products & meat, poultry, fish & other protein foods.



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on the **Free Materials** tab on our website: [backtochiropractic.net](http://backtochiropractic.net)

## 10 Tips To Healthy Eating

2. Eat whole grains, fruits & vegetables.

6-11 servings from the bread, rice, cereal & pasta group, 3 should be whole grains. 2-4 servings of fruit & 3-5 servings of vegetables.



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## 10 Tips To Healthy Eating

3. Maintain a healthy weight. Your best weight depends on: your sex, height, age & heredity. Excess body fat increases your chances for high blood pressure, heart disease, stroke, diabetes, some types of cancer & other illnesses. Being too thin can increase your risk for osteoporosis, menstrual irregularities & other health problems. Regular exercise is important to maintain a healthy weight.



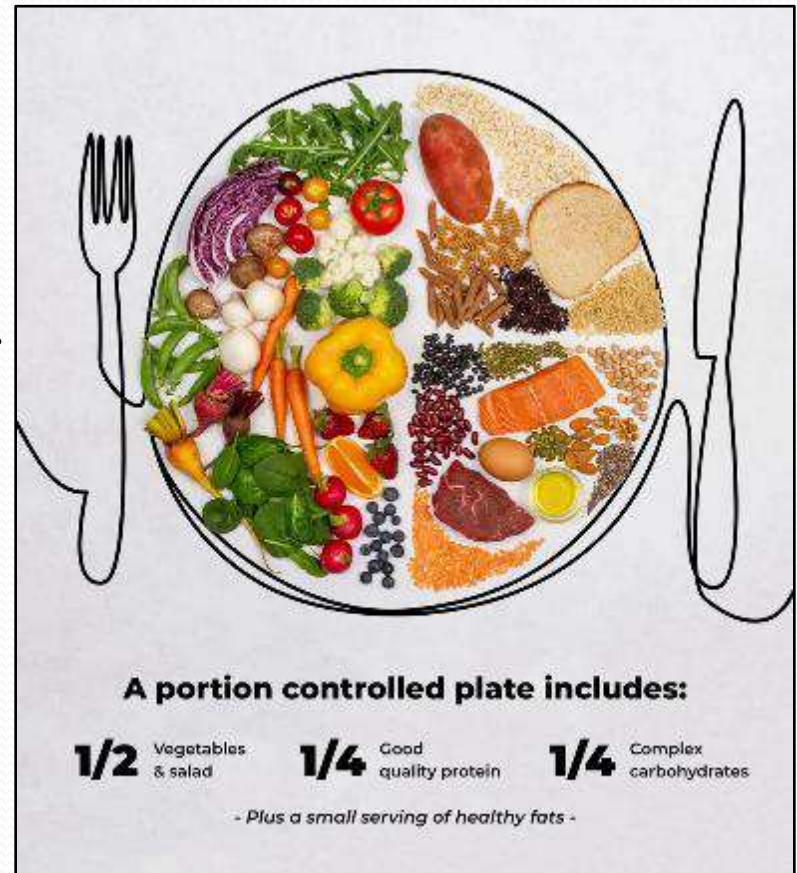
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## 10 Tips To Healthy Eating

4. Eat moderate portions. If you keep portion sizes reasonable, it's easier to eat the foods you want & stay healthy. The recommended serving of cooked meat is 3 ounces, similar in size to a deck of playing cards.

A medium piece of fruit is 1 serving & a cup of pasta is 2 servings.

A pint of ice cream contains 4 servings.



**A portion controlled plate includes:**

**1/2** Vegetables & salad

**1/4** Good quality protein

**1/4** Complex carbohydrates

*- Plus a small serving of healthy fats -*

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## 10 Tips To Healthy Eating

5. Eat regular meals. Skipping meals can lead to out-of-control hunger, resulting in overeating.

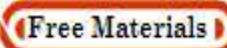
When you're hungry, it's also tempting to forget about good nutrition. Snacking between meals can help curb hunger.



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## 10 Tips To Healthy Eating

6. Reduce, don't eliminate certain foods. Most people eat for pleasure as well as nutrition. If your favorite foods are high in fat, salt or sugar, the key is moderating how much of these foods you eat & how often you eat them. Choosing skim or low-fat dairy products & lean cuts of meat can reduce fat intake. If you love fried chicken you don't have to give it up. Just eat it less often. When dining out, share it with a friend, ask for a take-home bag or a smaller portion.

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## 10 Tips To Healthy Eating

7. Balance your food choices over time. Not every food has to be "perfect." When eating a food high in fat, salt or sugar, select other foods that are low in these ingredients. If you miss out on any food group one day, make up for it the next. Your food choices over several days should fit together into a healthy pattern.

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## 10 Tips To Healthy Eating

8. Know your diet pitfalls. To improve your eating habits, you first have to know what's wrong with them. Write down everything you eat for three days. Then check your list according to the rest of these tips. Do you add a lot of butter, creamy sauces or salad dressings? Rather than eliminating these foods, just cut back your portions.

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## 10 Tips To Healthy Eating

9. Make changes gradually. Just as there are no "superfoods" or easy answers to a healthy diet, don't expect to totally revamp your eating habits overnight. Changing too much, too fast can get in the way of success. For instance, if you don't like the taste of skim milk, try low-fat. Eventually you may find you like skim, too.

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## 10 Tips To Healthy Eating

10. Remember, foods are not good or bad. Select foods based on your total eating patterns.

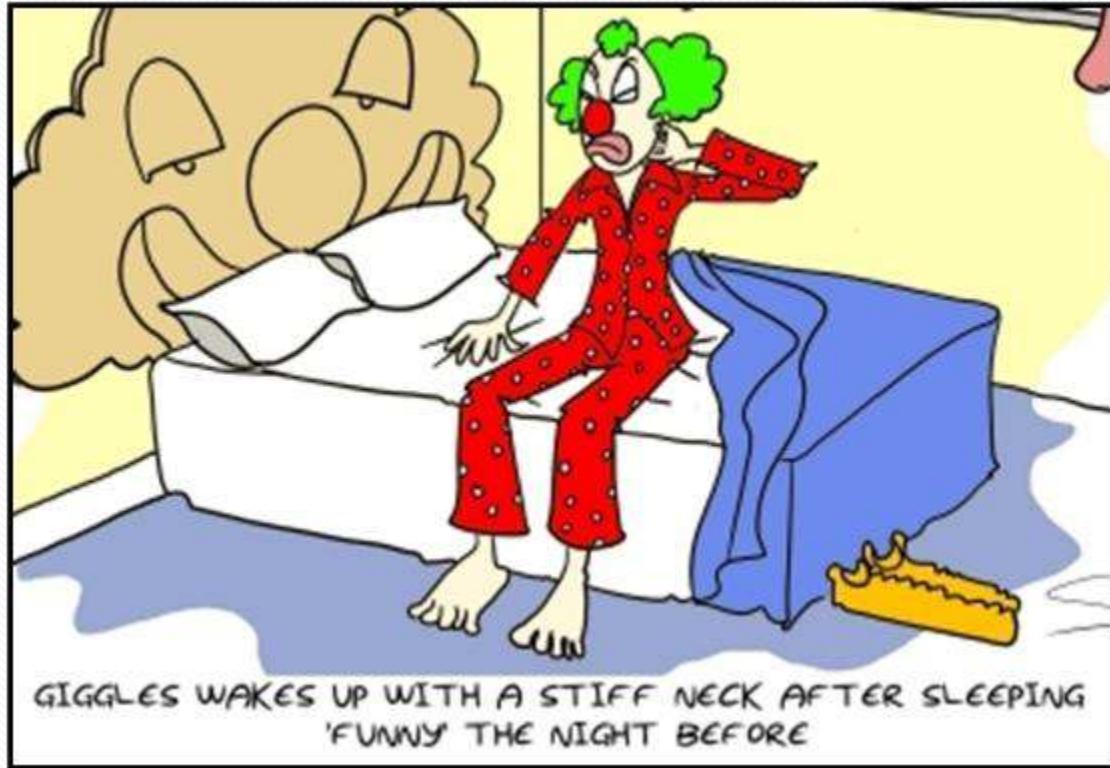
Don't feel guilty if you love foods such as apple pie, potato chips, candy bars or ice cream. Eat them in moderation & choose other foods to provide the balance & variety that are vital to good health.

International Food Information Council Foundation

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# 3rd Key To Wellness

## Rest



# Sleep & Injury Rest

Sleep 7-8 hours per night.

## With Rest:

The body heals, repairs & grows

The immune system is boosted

Helps Prevent injuries

## During daily activities:

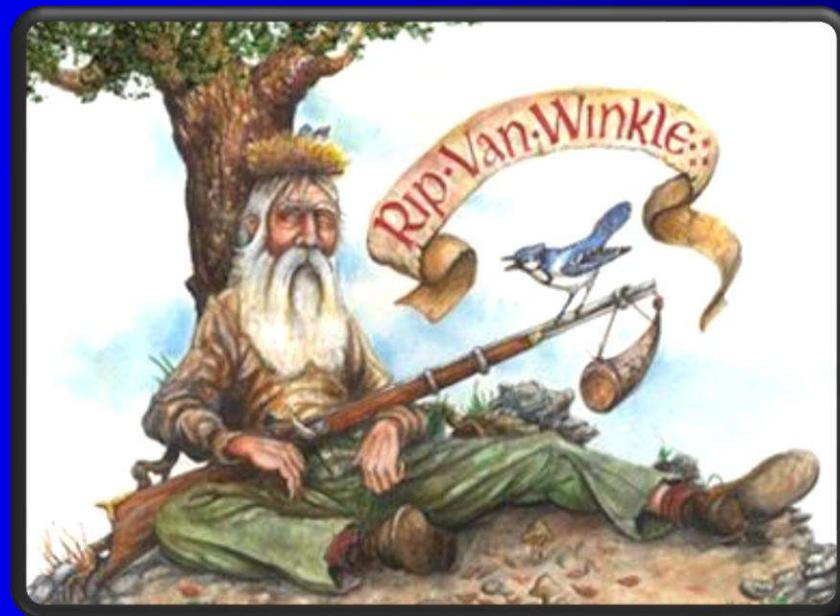
take breaks & decrease repetitive activities.



# Insomnia

In a 2022 [Gallup survey](#), only 32% of Americans said they got “excellent” or “very good” sleep; 35% described their sleep as “good”; and 33% said their sleep was “fair” or “poor.”

\*Remind Pts that chiropractic helps you sleep better!



# Sleep or Gain Weight

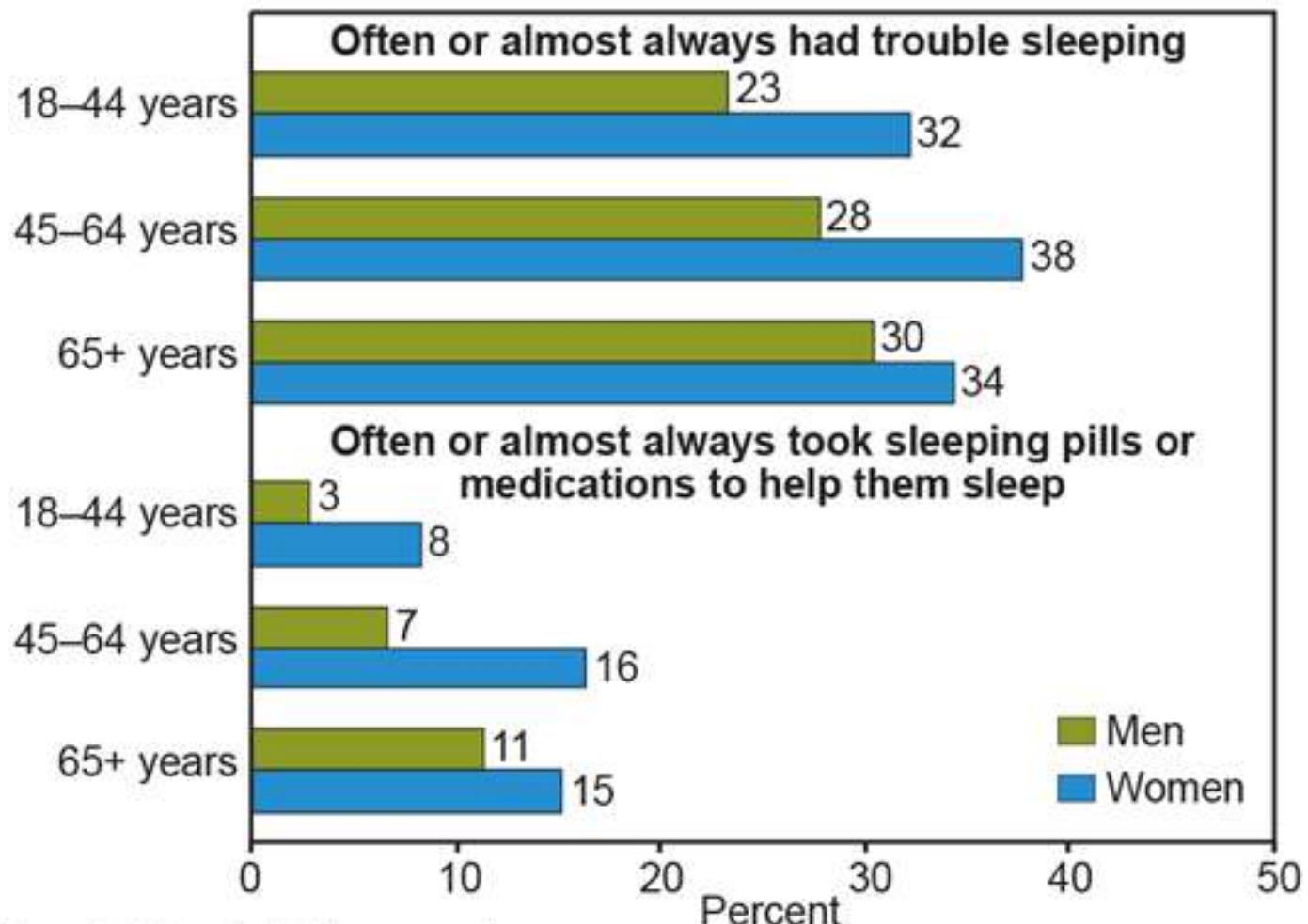
Women sleeping 5 hrs or less a night were 32% more likely to gain at least 33 lbs, compared to those who slept at least 7 hrs.

The weight gain was due to a change in the metabolic rate rather than diet or exercise. •

Reuters, 2006



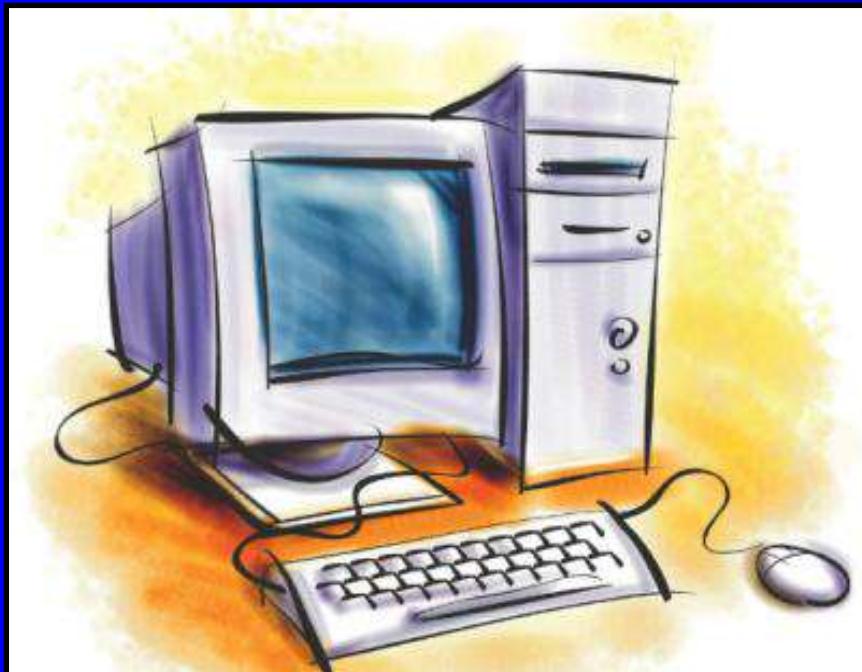
## Adult sleep problems in past month



SOURCE: CDC/NCHS, *Health, United States, 2009*, Figure 8. Data from the National Health and Nutrition Examination Survey.

**Technology?** 3400 messages are sent per month at bedtime. 78% of kids have problems falling asleep & were woken once per night by a technology device. 50% of kids who text or surf the internet at bedtime have problems falling asleep. They experience mood, behavior & cognitive problems including: ADHD, anxiety, depression & learning difficulties.

American College of CHEST Physicians, 2010



## Naps for the Heart

Those who napped  
30 mins, 3x/wk,  
were 37% less likely  
to die from a heart  
problem.

Archives of Internal Medicine,  
2007



# Sleep Right, Live Long

The secret to a long life may come with just the right amount of sleep. Less than 5 hrs a night is not enough; more than 6.5 hrs is too much. The best survival was seen in women who slept 5-6.5 hrs, as they were more likely to be alive at the 14 yr follow-up.

Sleep Medicine, Oct 2010

# A Better Night's Sleep Without Pills

Exercise. Vigorous exercise or even a small increase in exertion helps nocturnal sleep. Don't exercise

5-6 hours before bedtime, as the body takes several hours to slow down.

Lose weight. Being overweight can increase the risk of sleep apnea.

Cut back on napping. "If you must nap, keep it brief & early in the day," says Donald Bliwise, professor of neurology at Emory University School of Medicine. If you can't resist dozing, keep it to 30 minutes or less.

Get 1-2 hours of daily sunlight exposure. If you are unable to fall asleep, get sun exposure in the morning. Those who fall asleep too early & want to reset their body clock should get sun exposure late in the afternoon. Natural light synchronizes the inner clock that regulates sleep, nudging the body into wakefulness by day & sleepiness at night. If you live where winter days are short, consider a bright lamp. Remember no light works as well as Mother Nature, even on an overcast day.

Sleep in darkness. If there is even the tiniest bit of light in the room it can disrupt your circadian rhythm & your pineal gland's production of melatonin & serotonin.

Use night-lights. Exposing yourself to regular room light in the middle of the night can shift your internal sleep/wake clock, causing you to awaken early.

Supplements. Melatonin, St John's Wort or Valerian Root.

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# A Better Night's Sleep Without Pills

Set a sleep schedule. Go to bed at the same time each night. Set an alarm & get up at the same time each morning. "The brain's sleep center wants a schedule," says Leah Friedman, a sleep researcher at Stanford. Your body, particularly your adrenals, do most of their recharging from 11 pm to 1 am. Your gallbladder dumps toxins during this time. If you are awake the toxins back up into your liver, which then backs up into your entire system.

Ear plugs. Blocks out sleep disturbing sounds.

Wear socks to bed. Having poor circulation, the feet often feel cold before the rest of your body. Take a hot bath 1-2 hours before bedtime. In addition to relaxing you, the cooling of your core body temperature after you leave the bath, promotes sleep. Don't take your bath too close to the time you turn out the lights, because it takes the body an hour or two to cool down.

Puzzles. Crossword or Sudoku puzzles force you to focus, thus all the distracting thoughts go away & then you can sleep.

Listen to white noise or relaxation CDs. The sound of white noise or nature sounds, such as the ocean, can be soothing for sleep. Read something spiritual or religious. This will help you relax. Avoid reading anything stimulating,

(mystery or suspense novels), as they have the opposite effect. If you are enjoying a suspenseful book you might wind up unintentionally reading for hours instead of sleeping.

Keep a journal. If you often lie in bed with your mind racing, keep a journal. This is a great way to help you recover from the effects of stress.

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# A Better Night's Sleep Without Pills

Avoid TV before bed. Get the TV out of your bedroom. It stimulates your brain & it will take longer to fall asleep.

Avoid loud alarm clocks. It is stressful to awake suddenly.

Remove the clock from view. Constantly staring at it adds to angst.

Keep bedroom temperature less than 70 degrees. Turn down the heat 2 hours before you go to bed to give your bedroom time to cool off.

Big meals close to bedtime can lead to general discomfort and/or heartburn.

Avoid before-bed snacks, particularly grains & sugars. This will raise blood sugar & inhibit sleep.

Later when blood sugar drops too low, you may wake up & not fall back asleep.

Drink a glass of warm milk at bedtime. Tryptophan, an amino acid in milk & other dairy promotes sleep. If this causes too many trips to the toilet, try a bit of cheese or yogurt instead.

Eat a high-protein snack several hours before bed. This can provide the tryptophan needed to produce melatonin & serotonin.

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# A Better Night's Sleep Without Pills

Eat a piece of fruit. This can help the tryptophan cross your blood-brain barrier.

Avoid foods you are sensitive to. Especially dairy & wheat products, as they may have an effect on sleep, such as causing apnea, excess congestion, gastrointestinal upset & gas.

Avoid caffeine. In some people caffeine is not metabolized efficiently & they can feel the effects long after. So an afternoon cup of coffee or tea may keep you awake.

Avoid alcohol. Alcohol will make people drowsy, but the effect is short lived. People will often wake up several hours later unable to fall back asleep. Alcohol will also keep you from falling into the deeper stages of sleep, where the body does most of its healing. A cocktail at 5 pm is a lot more conducive to a good night's sleep than a nightcap.

Don't drink any fluids within 2 hours of going to bed. This will reduce the likelihood of needing to get up & go to the bathroom or at least minimize the frequency.

Medication might cause your sleep problem. If you suspect a medicine is interfering with your sleep, talk to your doctor. Switching drugs, lowering the dosage or changing the time of day you take a pill may help.

For printable version go to the Patient Education tab,  
on the  tab on our website: [backtochiropractic.net](http://backtochiropractic.net)

# Top 10 Health Benefits of a Good Night's Sleep

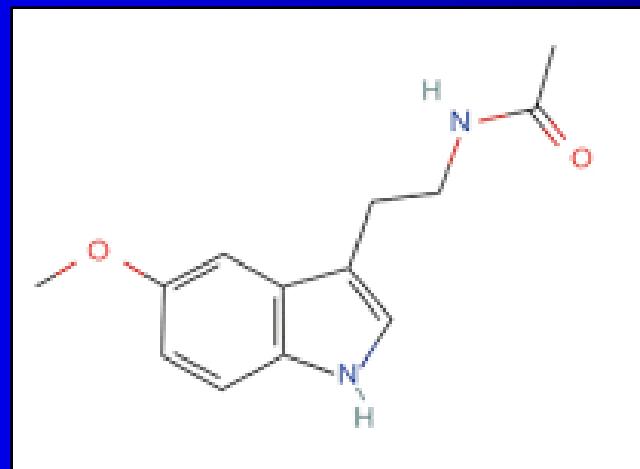
1. A Healthy Heart: Lack of sleep has been associated with high blood pressure & high cholesterol. Your heart will be healthier if you get 7-9 hours of sleep a night.

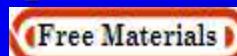


For printable version go to the Patient Education tab,  
on the  tab on our website: [backtochiropractic.net](http://backtochiropractic.net)

# Top 10 Health Benefits of a Good Night's Sleep

2. May Prevent Cancer: People working late shifts have a higher risk for breast & colon cancer. The extra light exposure at night suppresses melatonin production. Melatonin is a hormone that makes us sleepy & appears to suppress the growth of tumors. Keep your bedroom dark to help produce melatonin.



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# Top 10 Health Benefits of a Good Night's Sleep

3. Reduces Stress: When your body is sleep deficient, it goes into a state of stress. This causes an increase in blood pressure & production of stress hormones. Higher blood pressure increases your risk for heart attacks & strokes. Stress hormones make it harder to sleep, so try relaxation techniques.

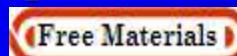


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on the  tab on our website: [backtochiropractic.net](http://backtochiropractic.net)

## Top 10 Health Benefits of a Good Night's Sleep

4. Reduces Inflammation: Stress hormones increase inflammation & the risk for heart problems, cancer & diabetes. Inflammation contributes to the aging process.



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on the  tab on our website: [backtochiropractic.net](http://backtochiropractic.net)

## Top 10 Health Benefits of a Good Night's Sleep

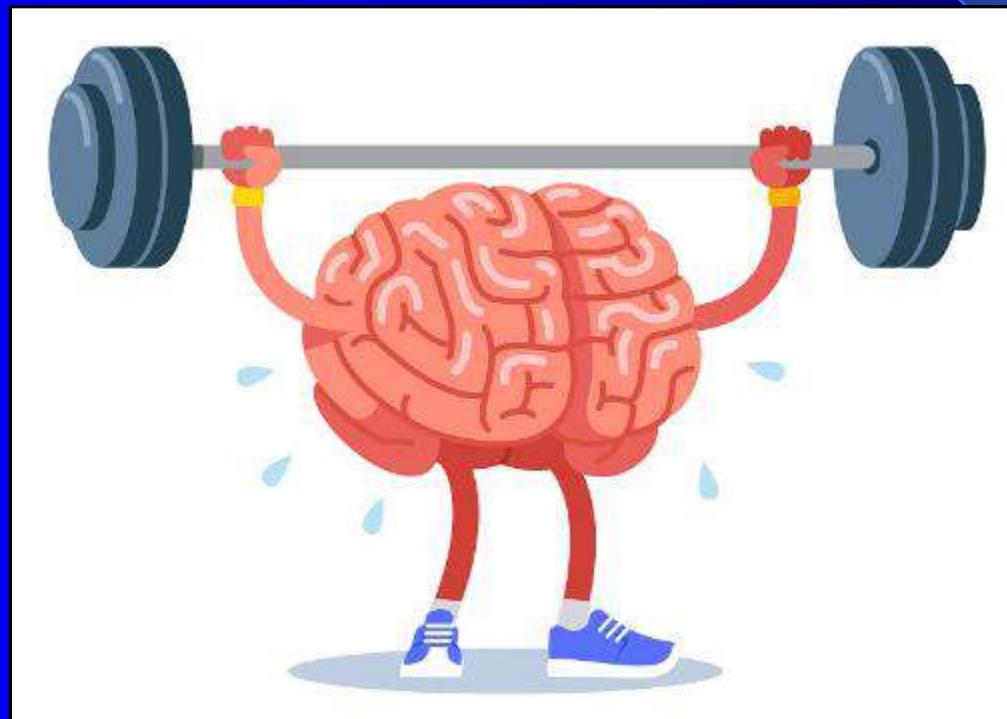
5. Be More Alert: A good night's sleep makes you feel energized & alert. Being active not only feels good, it ups the odds for another good night's sleep.

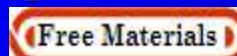
**BE ALERT THE  
WORLD NEEDS  
MORE ALERTS**

For printable version go to the Patient Education tab,  
on the  tab on our website: [backtochiropractic.net](http://backtochiropractic.net)

# Top 10 Health Benefits of a Good Night's Sleep

6. Improves Memory: While resting, your brain processes your day, connecting events, sensory input, feelings & memories. Dreams & deep sleep are important for your brain to make memories & links.



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# Top 10 Health Benefits of a Good Night's Sleep

7. Lose Weight: People who sleep less than 7 hours a night are more likely to be overweight or obese.

Hormones called ghrelin & leptin regulate appetite & are disrupted by lack of sleep.



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on the  tab on our website: [backtochiropractic.net](http://backtochiropractic.net)

# Top 10 Health Benefits of a Good Night's Sleep

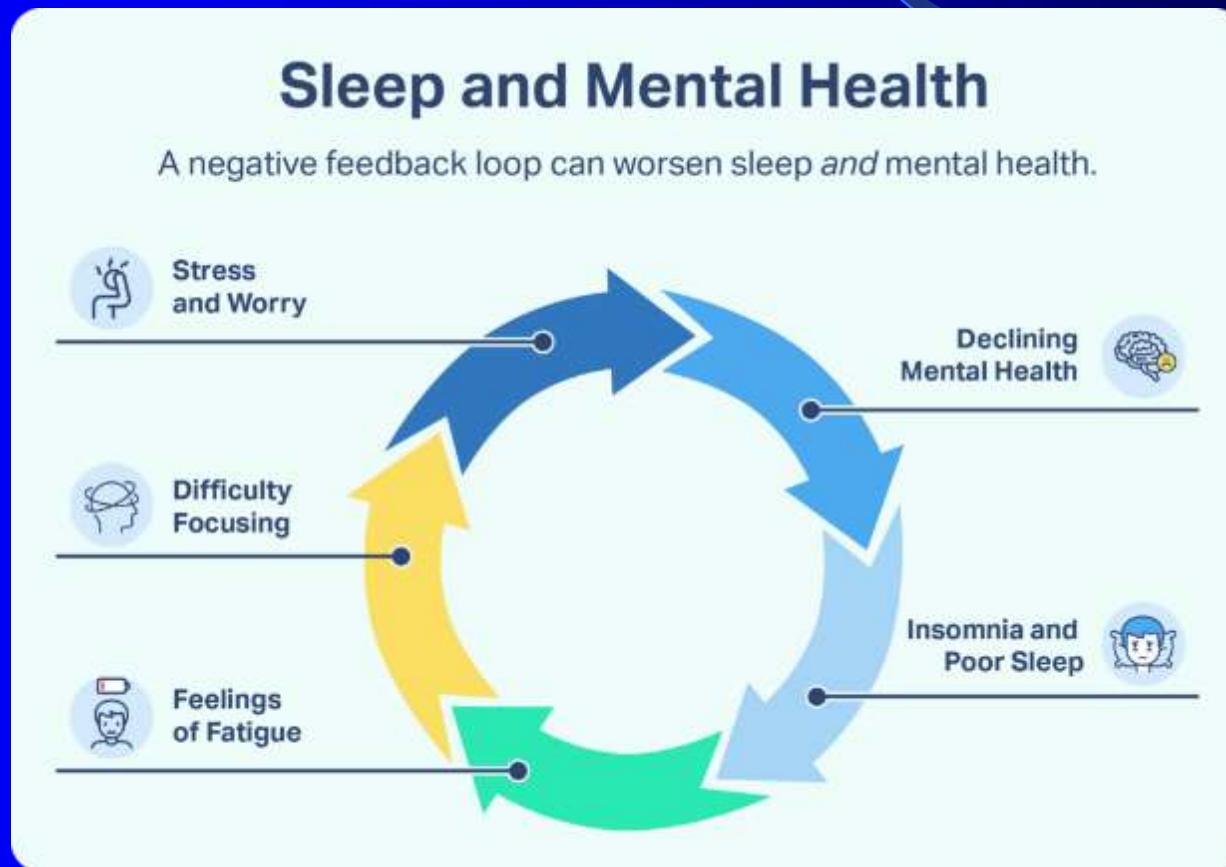
8. Naps Make You Smarter: Napping several times a week lowers the risk for heart disease, improves memory, improves cognitive function, improves mood, protects your health & makes you more productive.



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# Top 10 Health Benefits of a Good Night's Sleep

9. Reduces Depression Risk: Lack of sleep decreases serotonin production which can lead to depression.



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on the  tab on our website: [backtochiropractic.net](http://backtochiropractic.net)

# Top 10 Health Benefits of a Good Night's Sleep

10. Helps the Body Repair: Sleep is a time for your body to repair damage caused by stress, ultraviolet rays & other harmful exposures. Your cells produce more protein while you sleep & the protein forms the building blocks for cells, allowing them to repair damage. ~ Mark Stibich, PhD



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## **Activity #7 So We Are Not Perfect!**

List 2-4 flaws that you personally have. They can be anything, personality wise, overweight, etc. I would be surprised if this is the first time you have noticed the flaw. I also bet you have tried correcting the flaw in the past but it persists.

Try it. Focus on one of your flaws and try changing it over the next few weeks. Hopefully you can. Most often we struggle. Whether it is smoking, drinking, eating poorly, being impatient, etc. We are very much creatures of habit and it is often difficult to change. So when you are talking to patients always remember, they too will struggle to change from a western medicine paradigm to a chiropractic paradigm.

**I Know I'm  
Not Perfect**

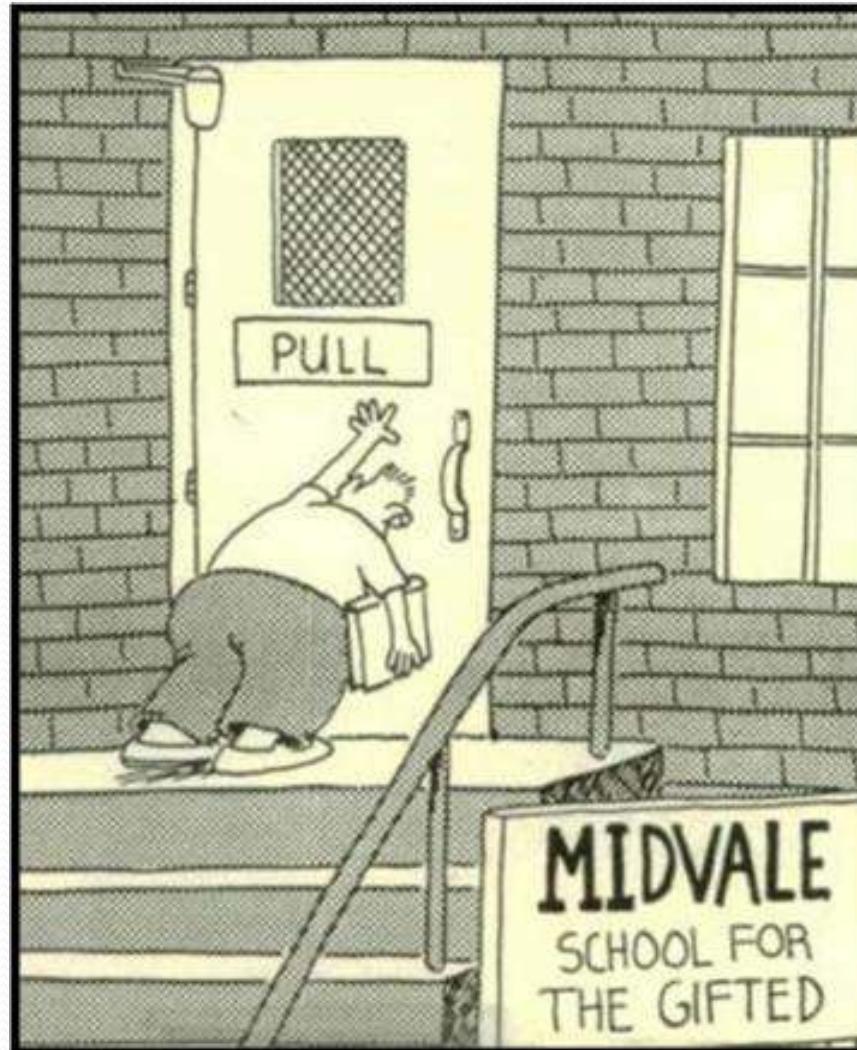
**But I'm So Close It's Scary**

# 4th Key To Wellness

## Exercise



# No reason just fun!



# Exercise

Cardiovascular training:

3-5 times per week, (minimum 20 continuous minutes).

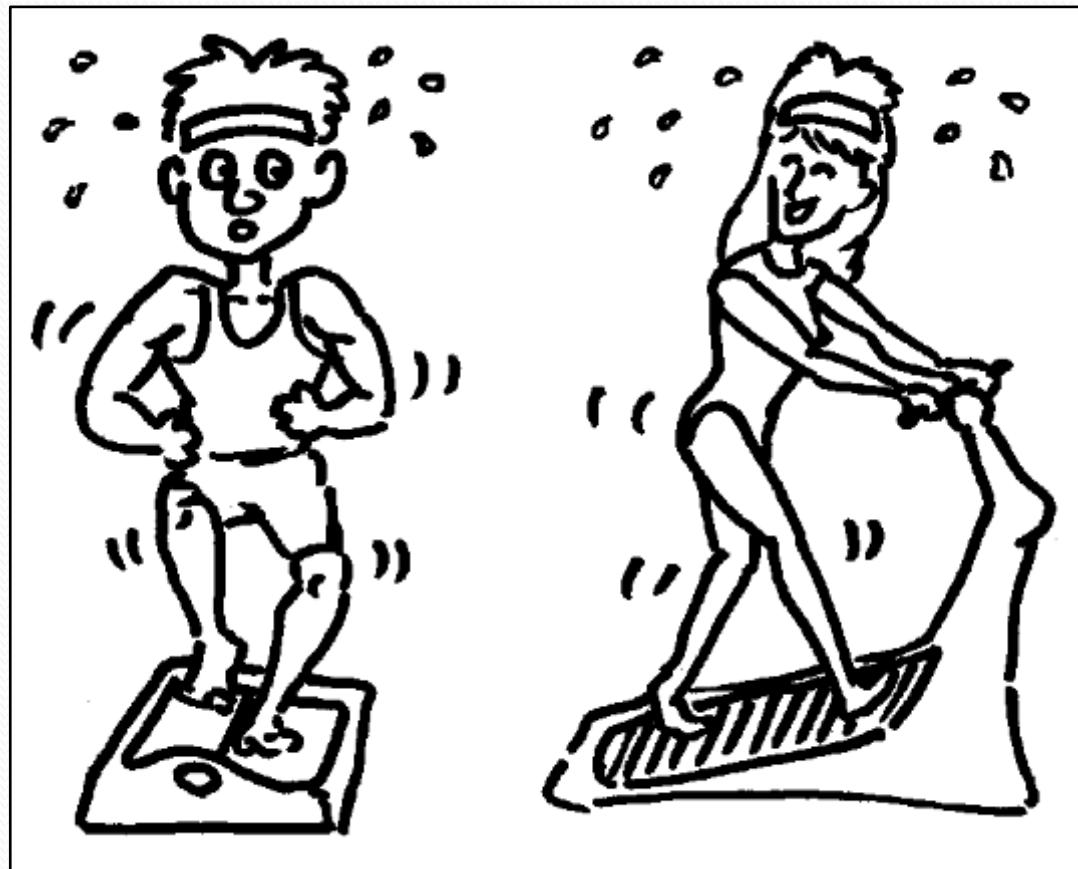
Weight training: 3 times per week.

Stretching: daily.

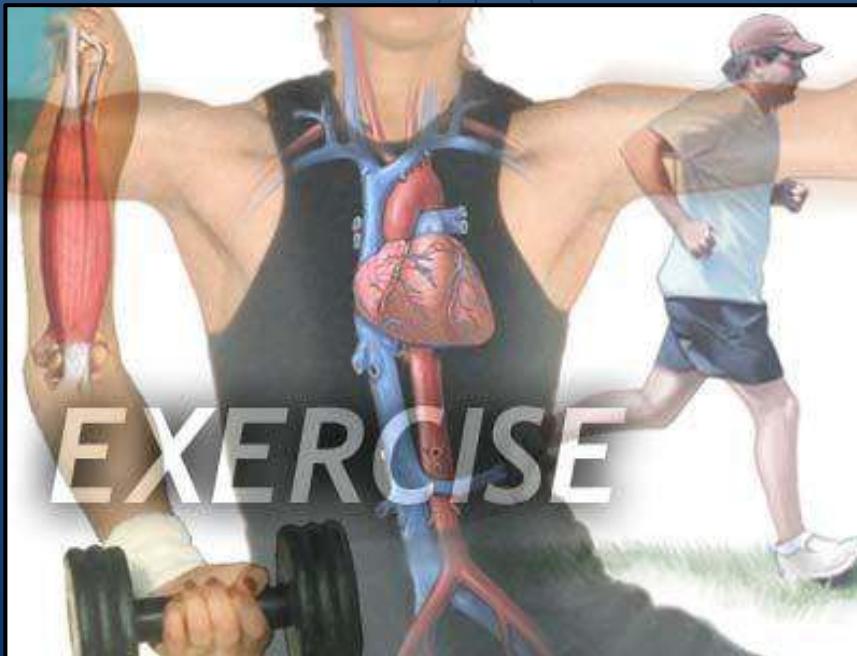


**Exercise:** Cancer is less prevalent in active people, as exercise  depression &  oxygen to the tissues

Harvard Medical School



"Those who think they have no time for bodily exercise will sooner or later have to find time for illness."



# Moving is the key to health!

Visit a hospital,  
see how pts become weak in just a few days.



# No Time?

\*Current recommendations:  
30 mins of exercise 5 days/wk.

1,440 minutes in a day, 168 hours in a week  
30 mins is 2% of a day!

Remember the pt thinks you want them to exercise 1.5 hrs/day, start them with 5 mins.



# Calculate Your Body Mass Index

## Imperial System:

$$\text{BMI} = 703 \times \frac{\text{Weight (in pounds)}}{\text{Height}^2 \text{ (in inches)}}$$

## Metric System:

$$\text{BMI} = \frac{\text{Weight (in kilograms)}}{\text{Height}^2 \text{ (in meters)}}$$

# Body Mass Index

## Weight in Pounds

	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330
4' 5"	30	33	35	38	40	43	45	48	50	53	55	58	60	63	65	68	70	73	75	78	80	83
4' 6"	29	31	34	36	39	41	43	46	48	51	53	56	58	60	63	65	68	70	72	75	77	80
4' 7"	28	30	33	35	37	40	42	44	47	49	51	54	56	58	61	63	65	68	70	72	75	77
4' 8"	27	29	31	34	36	38	40	43	45	47	49	52	54	56	58	61	63	65	67	70	72	74
4' 9"	26	28	30	33	35	37	39	41	43	46	48	50	52	54	56	59	61	63	65	67	69	72
4' 10"	25	27	29	31	34	36	38	40	42	44	46	48	50	52	54	57	59	61	63	65	67	69
4' 11"	24	26	28	30	32	33	36	38	40	43	45	47	49	51	53	55	57	59	61	63	65	67
5' 0"	23	25	27	29	31	32	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63	65
5' 1"	23	25	26	28	30	32	34	36	38	40	42	44	45	47	49	51	53	55	57	59	61	62
5' 2"	22	24	25	27	29	31	33	35	37	38	40	42	44	46	48	49	51	53	55	57	59	60
5' 3"	21	23	25	27	28	30	32	34	36	37	39	41	43	45	46	48	50	51	53	55	57	59
5' 4"	21	22	24	26	28	29	31	33	34	36	38	40	41	43	45	46	48	50	52	53	55	57
5' 5"	27	29	31	34	36	38	40	43	45	47	49	52	54	56	58	61	63	65	67	70	72	74
5' 6"	19	21	23	24	26	27	29	31	32	34	36	38	39	40	42	44	45	47	49	50	52	53
5' 7"	19	20	22	24	25	27	28	30	31	33	35	36	38	39	41	42	44	46	47	49	50	52
5' 8"	18	20	21	23	24	26	27	29	30	32	34	35	37	38	40	41	43	44	46	47	49	50
5' 9"	18	19	21	22	24	25	27	28	30	31	33	34	36	37	38	40	41	43	44	46	47	49
5' 10"	17	19	20	22	23	24	26	27	29	30	32	33	35	36	37	39	40	42	43	45	46	47
5' 11"	17	18	20	21	22	24	25	27	28	29	31	32	34	35	36	38	39	41	42	43	45	45
6' 0"	16	18	19	20	22	23	24	26	27	29	30	31	33	34	35	37	38	39	41	43	43	45
6' 1"	16	17	19	20	21	22	24	25	26	28	29	30	32	33	34	36	37	38	40	41	42	44
6' 2"	15	17	18	19	21	22	23	24	26	27	28	30	31	32	33	35	36	37	39	40	41	42
6' 3"	15	16	18	19	20	21	23	24	25	26	28	29	30	31	33	34	35	36	38	39	40	41
6' 4"	15	16	17	18	20	21	22	23	24	26	27	28	29	30	32	33	34	35	37	38	39	40
6' 5"	14	15	17	18	19	20	21	23	24	25	26	27	29	30	31	32	33	34	36	37	38	39
6' 6"	14	15	16	17	19	20	21	22	23	24	25	27	28	29	30	31	32	34	35	36	37	38
6' 7"	14	15	16	17	18	19	20	21	23	24	25	26	27	28	29	30	32	33	34	35	36	37
6' 8"	13	14	15	17	18	19	20	21	22	23	24	25	26	28	29	30	31	32	33	34	35	36
6' 9"	13	14	15	16	17	18	19	20	21	23	24	25	26	27	28	29	30	31	32	33	34	35
6' 10"	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	34	35

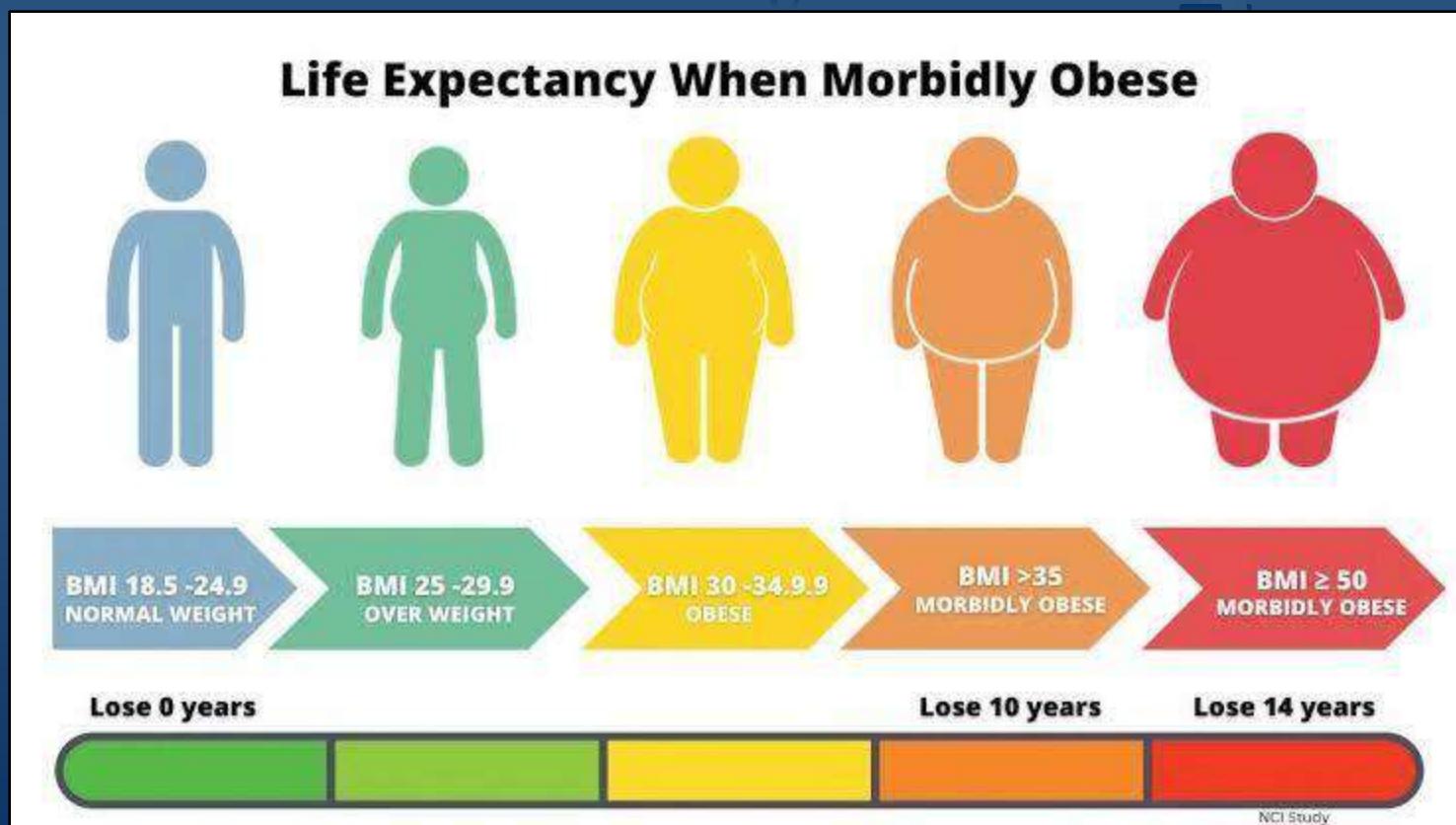
  - Severely Underweight  
  - Underweight

  - Optimal  
  - Overweight

  - Obese  
  - Severely Obese

# Excess Weight Shortens Life

A 20yr old who has a BMI of 45 (well into the obese category) will lose 13-20 yrs off their life.  
JAMA, Jan 2003



# Teen Obesity a Killer in Middle Age

Females who were overweight or obese at age 18, were most likely to die between 36-56.

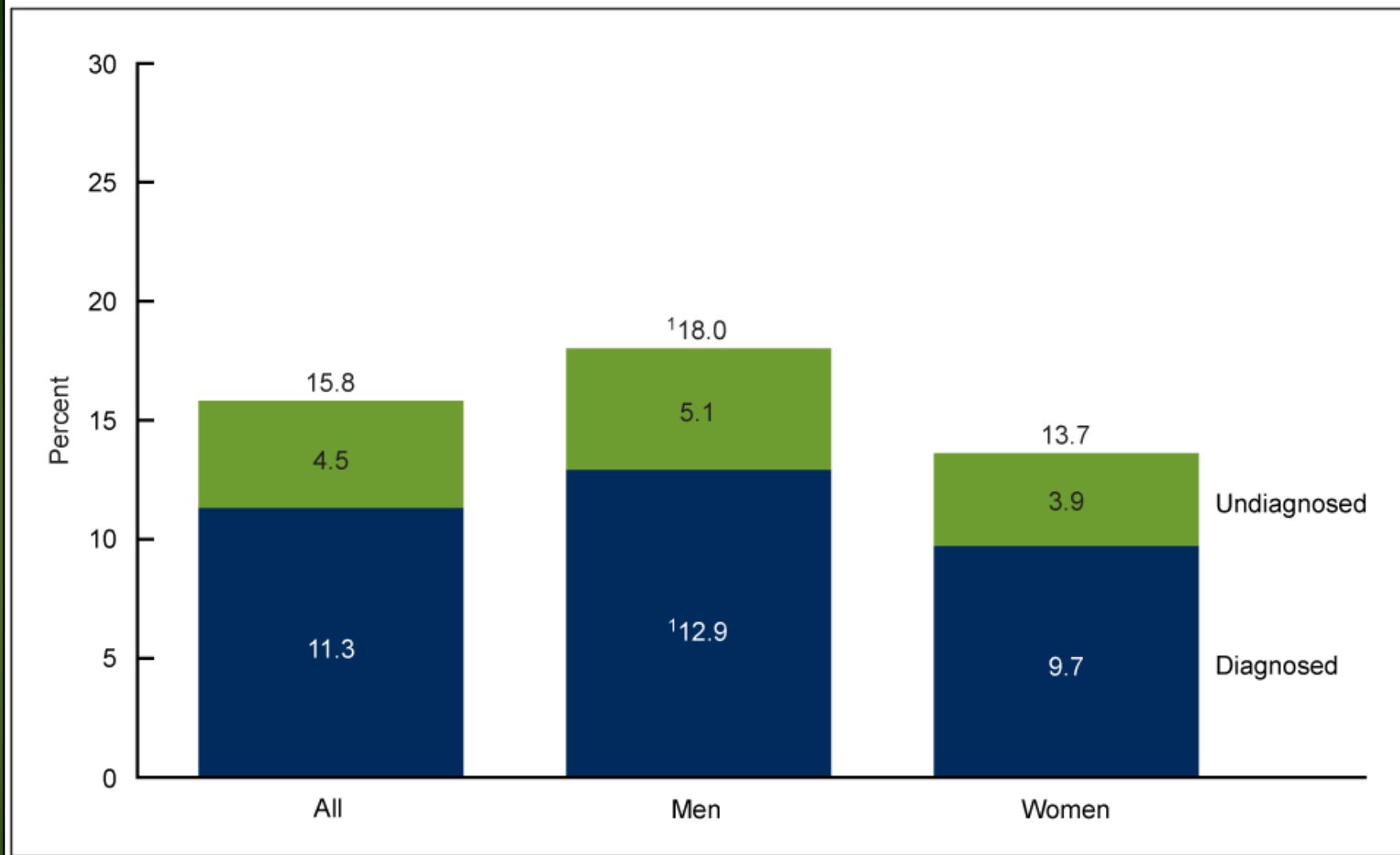
Causes of death included:

cancer, heart disease, stroke & suicide.

Annals of Internal Medicine, July 2006



**Figure 1. Prevalence of total, diagnosed, and undiagnosed diabetes in adults age 20 and older, by sex: United States, August 2021–August 2023**

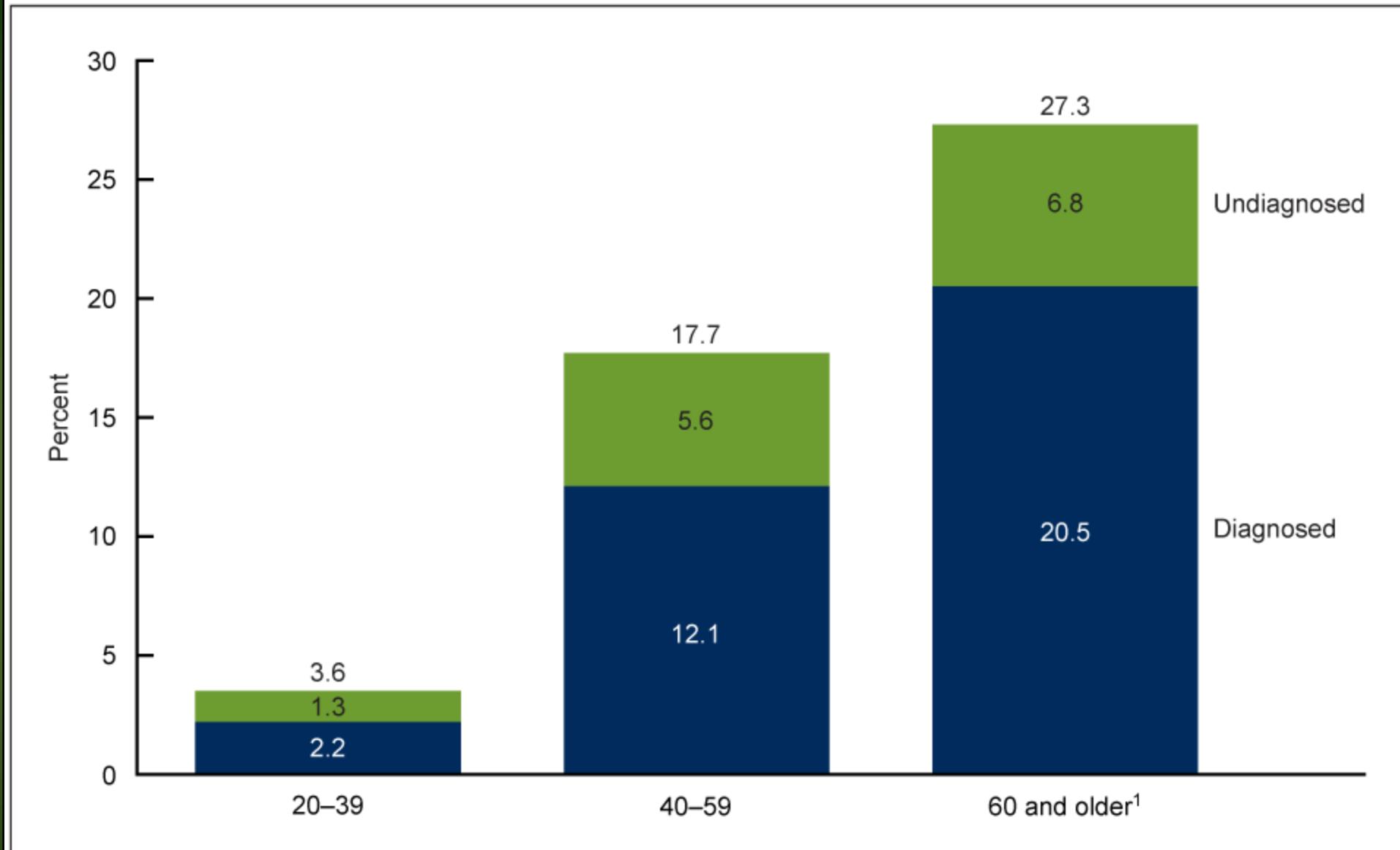


<sup>1</sup>Significantly different from women ( $p < 0.05$ ).

NOTES: Diagnosed and undiagnosed diabetes may not sum to total due to rounding. Estimates for diagnosed diabetes are based on responses to the survey question, "Other than during pregnancy, have you ever been told by a doctor or health professional that you have diabetes or sugar diabetes?" Estimates for undiagnosed diabetes are based on an 8- to 24-hour fasting plasma glucose greater than or equal to 126 mg/dL or hemoglobin A1c greater than or equal to 6.5% in a participant who reported never receiving a diabetes diagnosis from a healthcare provider. Age-adjusted estimates for adults age 20 and older are total diabetes: 14.3% all, 16.6% men, and 12.2% women; diagnosed diabetes: 10.1% all, 11.7% men, and 8.6% women; and undiagnosed diabetes: 4.2% all, 4.9% men, and 3.5% women, age adjusted by the direct method to the U.S. Census 2000 population using age groups 20–39, 40–59, and 60 and older.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, August 2021–August 2023.

**Figure 2. Prevalence of total, diagnosed, and undiagnosed diabetes in adults age 20 and older, by age group: United States, August 2021–August 2023**

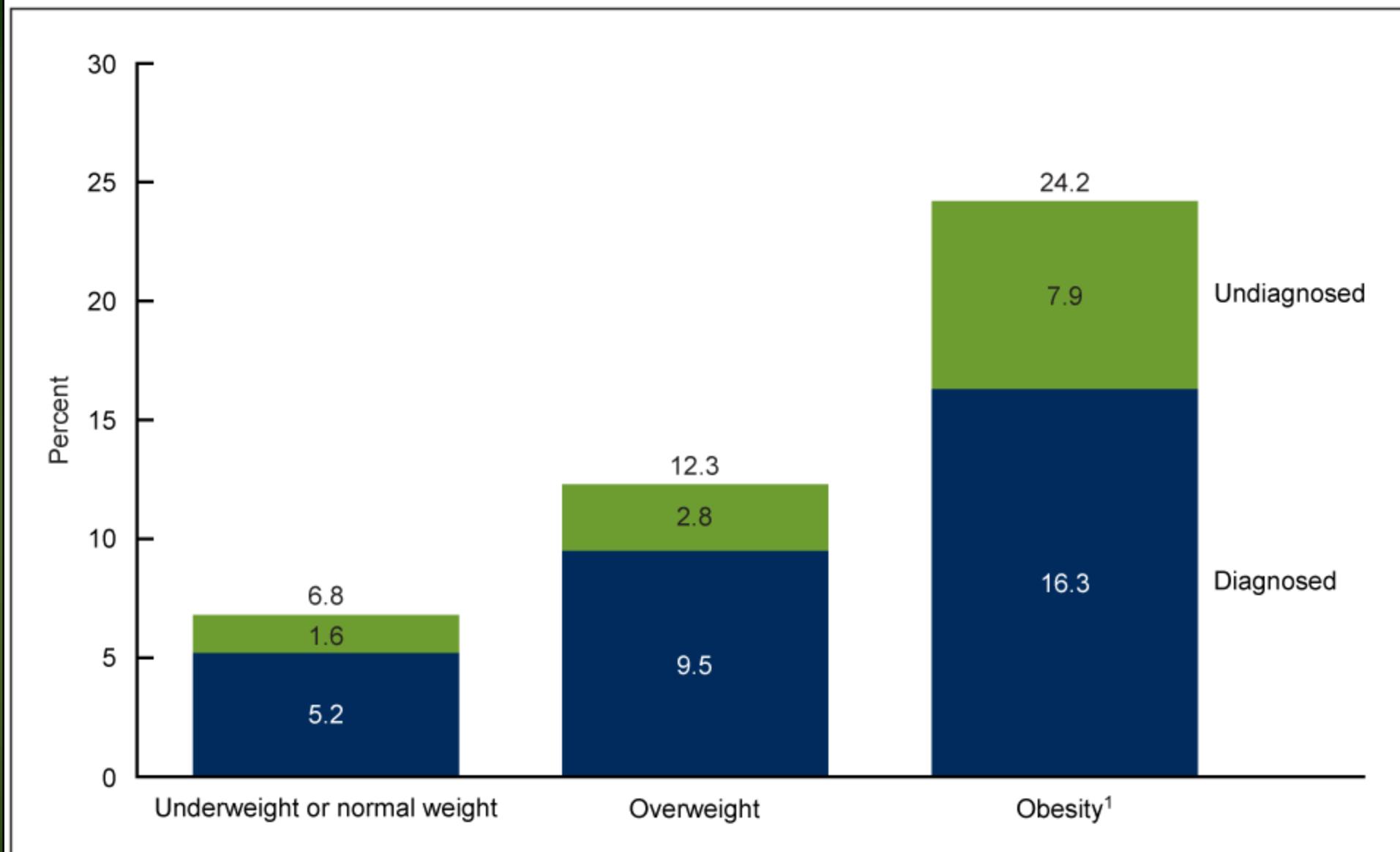


<sup>1</sup>Significant increasing linear trend for total, diagnosed, and undiagnosed diabetes ( $p < 0.05$ ).

NOTES: Diagnosed and undiagnosed diabetes may not sum to total due to rounding. Estimates for diagnosed diabetes are based on responses to the survey question, "Other than during pregnancy, have you ever been told by a doctor or health professional that you have diabetes or sugar diabetes?" Estimates for undiagnosed diabetes are based on an 8- to 24-hour fasting plasma glucose greater than or equal to 126 mg/dL or hemoglobin A1c greater than or equal to 6.5% in a participant who reported never receiving a diabetes diagnosis from a healthcare provider.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, August 2021–August 2023.

**Figure 3. Prevalence of total, diagnosed, and undiagnosed diabetes in adults age 20 and older, by weight status: United States, August 2021–August 2023**

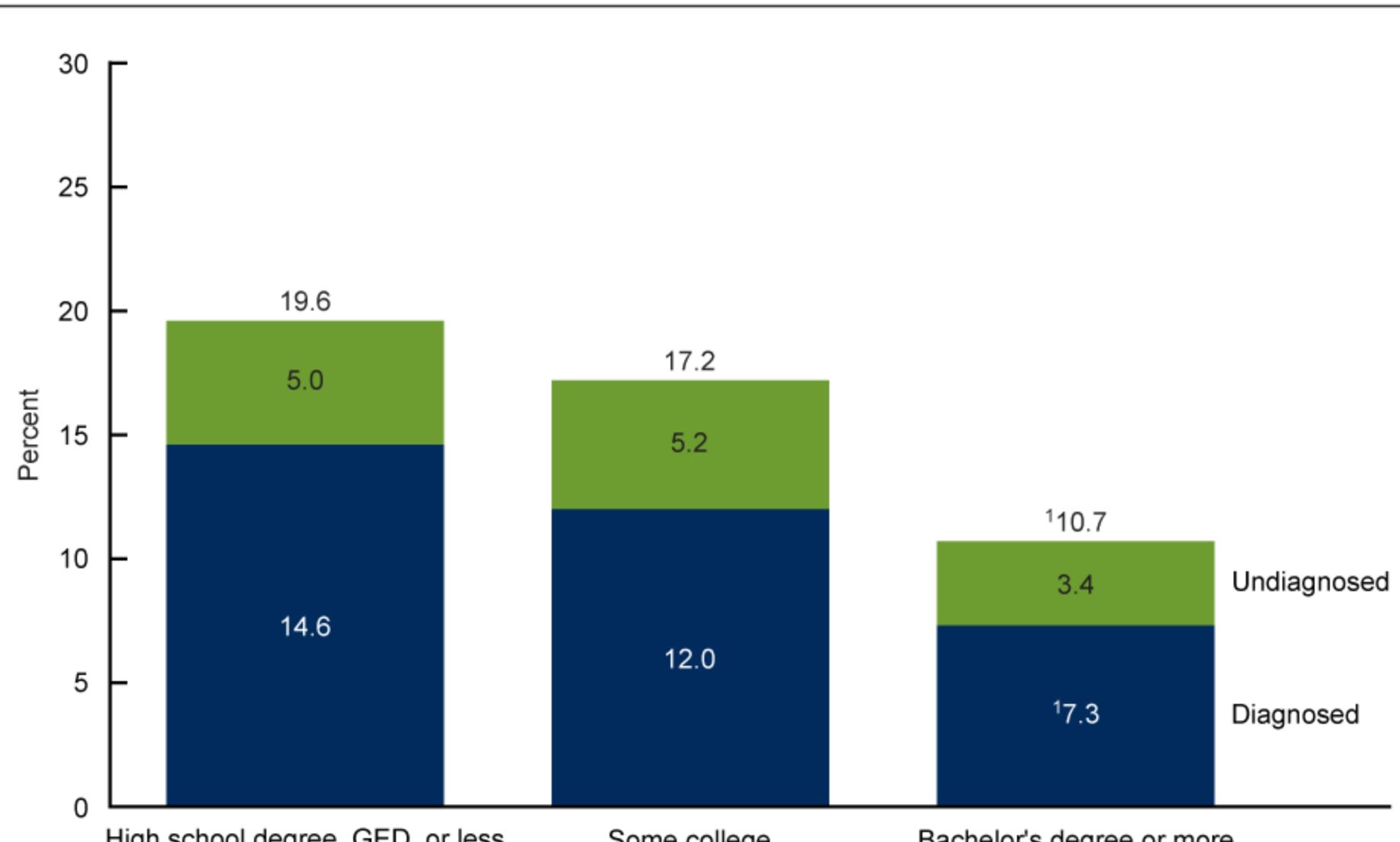


<sup>1</sup>Significant increasing linear trend for total, diagnosed, and undiagnosed diabetes ( $p < 0.05$ ).

NOTES: Estimates for diagnosed diabetes are based on responses to the survey question, "Other than during pregnancy, have you ever been told by a doctor or health professional that you have diabetes or sugar diabetes?" Estimates for undiagnosed diabetes are based on an 8- to 24-hour fasting plasma glucose greater than or equal to 126 mg/dL or hemoglobin A1c greater than or equal to 6.5% in a participant who reported never receiving a diabetes diagnosis from a healthcare provider. Body mass index is weight in kilograms divided by height in meters squared. Weight status categories are defined as underweight or normal weight, body mass index less than 25.0; overweight, body mass index 25.0–29.9; and obesity, body mass index 30.0 or more.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, August 2021–August 2023.

**Figure 4. Prevalence of total, diagnosed, and undiagnosed diabetes in adults age 20 and older, by educational attainment: United States, August 2021–August 2023**

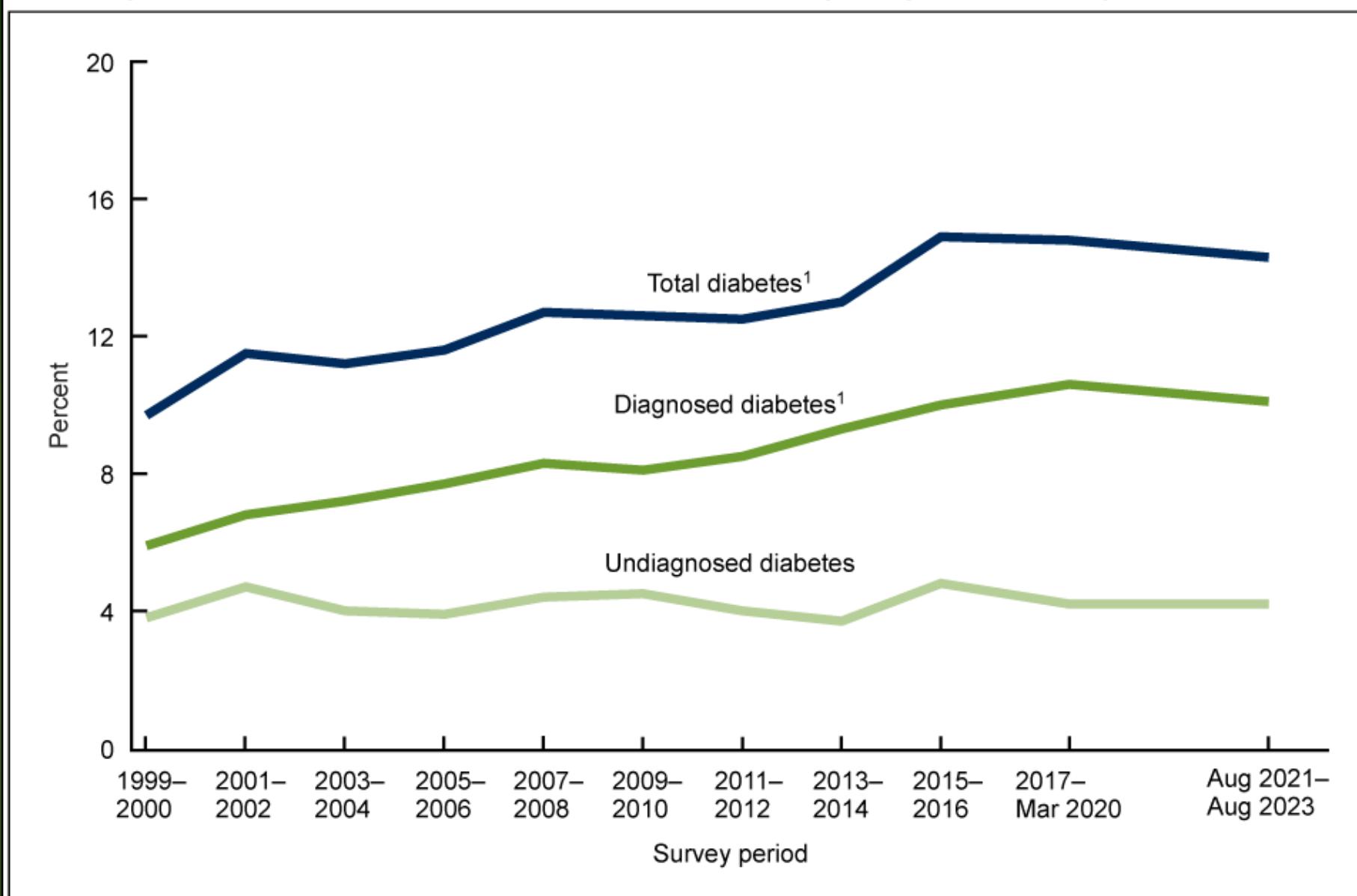


<sup>1</sup>Significant decreasing linear trend ( $p < 0.05$ ).

NOTES: Estimates are weighted using fasting sample weights. Estimates for diagnosed diabetes are based on responses to the survey question, "Other than during pregnancy, have you ever been told by a doctor or health professional that you have diabetes or sugar diabetes?" Estimates for undiagnosed diabetes are based on an 8- to 24-hour fasting plasma glucose greater than or equal to 126 mg/dL or hemoglobin A1c greater than or equal to 6.5% in a participant who reported never receiving a diabetes diagnosis from a healthcare provider.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, August 2021–August 2023.

Figure 5. Trends in age-adjusted prevalence of total, diagnosed, and undiagnosed diabetes in adults age 20 and older: United States, 1999–2000 through August 2021–August 2023



<sup>1</sup>Significant increasing linear trend ( $p < 0.05$ ).

NOTES: Fasting glucose values were adjusted using forward regression equations provided by the National Center for Health Statistics. Estimates for diagnosed diabetes are based on responses to the survey question, "Other than during pregnancy, have you ever been told by a doctor or health professional that you have diabetes or sugar diabetes?" Estimates for undiagnosed diabetes are based on an 8- to 24-hour fasting plasma glucose greater than or equal to 126 mg/dL or hemoglobin A1c greater than or equal to 6.5% in a participant who reported never receiving a diabetes diagnosis from a healthcare provider. Estimates are age adjusted by the direct method to the U.S. Census 2000 population using the age groups 20–39, 40–59, and 60 and older.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Surveys, 1999–2000 through August 2021–August 2023.

# Cardiovascular Disease

- \* 82.6 million Americans have cardiovascular disease
- \* 814,000 die/yr ~ 2230/day
- \* \$400 billion/yr in medical expenses & lost productivity

American Heart Association, 2011



# Blood Pressure

- \* 76.4 million Americans have high BP
- \* 40% receive proper treatment
- \* Effects > 50% of people over 65 yrs old
- \* **60% have BP in high-normal range & can be managed with diet/exercise**

American Heart Association, 2011

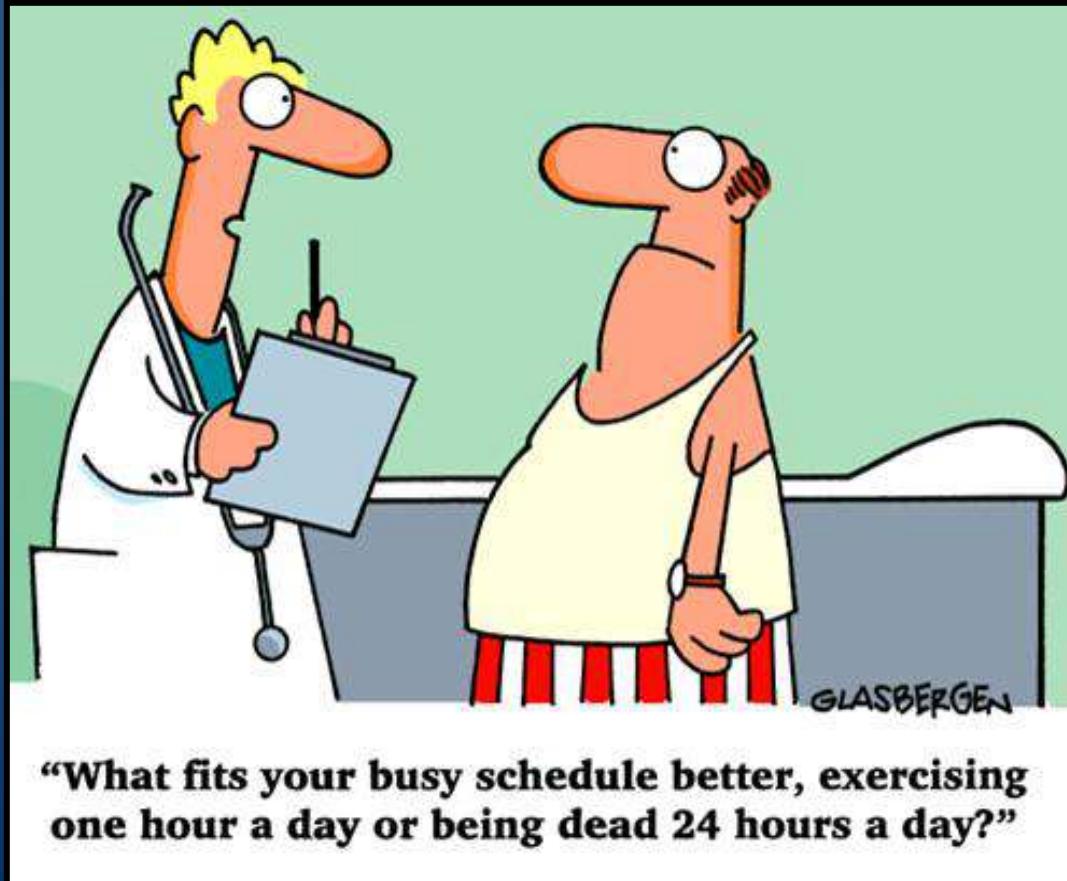


## \*Exercise for Hypertension

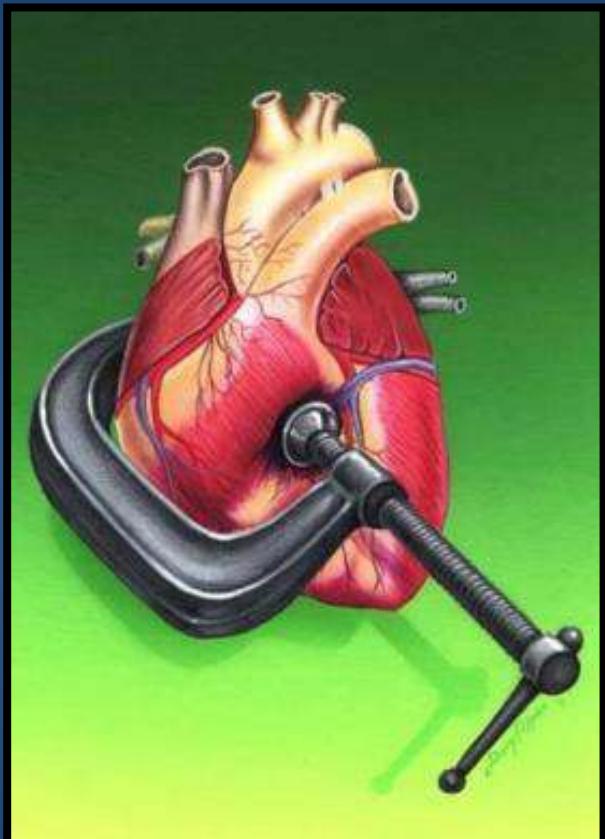
Those who exercise 60-90 mins per wk:

- ↓ systolic pressure by 12 pts
- ↓ diastolic pressure by 8 pts

American Journal of Hypertension, 2003



# Hypertension



## High Blood Pressure - Managed Naturally

	<u>Mild</u>	<u>Moderate</u>	<u>Severe</u>	<u>Very Severe</u>
DBP	90-99	100-109	110-119	>120
SBP	140-159	160-179	180-209	>210

### Nutrition:

Calcium > 1500-3000 mg/day

Magnesium > 750-1000 mg/day

Potassium > as directed on label

Selenium > 200 mcg/day

Deficiencies linked to high BP

Coenzyme Q10 >  $\uparrow$  circulation (label)

Coenzyme A > works well with CoQ10 (label)

Garlic >  $\downarrow$  BP (2 capsules 3x/day)

Essential Fatty Acids-black currant seed oil, flaxseed oil, olive oil & primrose oil

L-glutamic acid & L-glutamine > prevents heart disease (500 mg/day)

Vitamin E > improves heart function (100 IU/day add 100/month until reach 400 IU/day)

Cayenne, chamomile, fennel, hawthorne berries, parsley & rosemary >  $\downarrow$  BP

Hops & valerian root > calms nerves

Suma tea > 3 cups/day

**Salt free diet:** Avoid foods with salt, soda, sodium or Na symbol.

**Avoid:** Accent, MSG, baking soda, canned vegetables, commercially prepared foods, ibuprofen, Advil, Nuprin, diet soft drinks, preservatives, sugar substitutes & soy sauce. Also avoid all animal fats, broiled white fish, skinless turkey & chicken in moderation. Avoid alcohol, caffeine & tobacco.

**Foods:** apples, bananas, broccoli, cabbage, cantaloupe, eggplant, garlic, grapefruit, green leafy vegetables, melons, peas, prunes, raisins, squash & sweet potatoes.

**Fiber:** oat bran, brown rice, buckwheat & millet.

**Fresh juice:** carrot, celery, currant, cranberry, citrus, parsley, spinach, watermelon & beet.

Keep you weight down > Fast 3-5 days month.

Regular light to moderate exercise.

The entire list on one page is available:  
on the **Free Materials** tab on our website:  
[backtochiropractic.net](http://backtochiropractic.net)

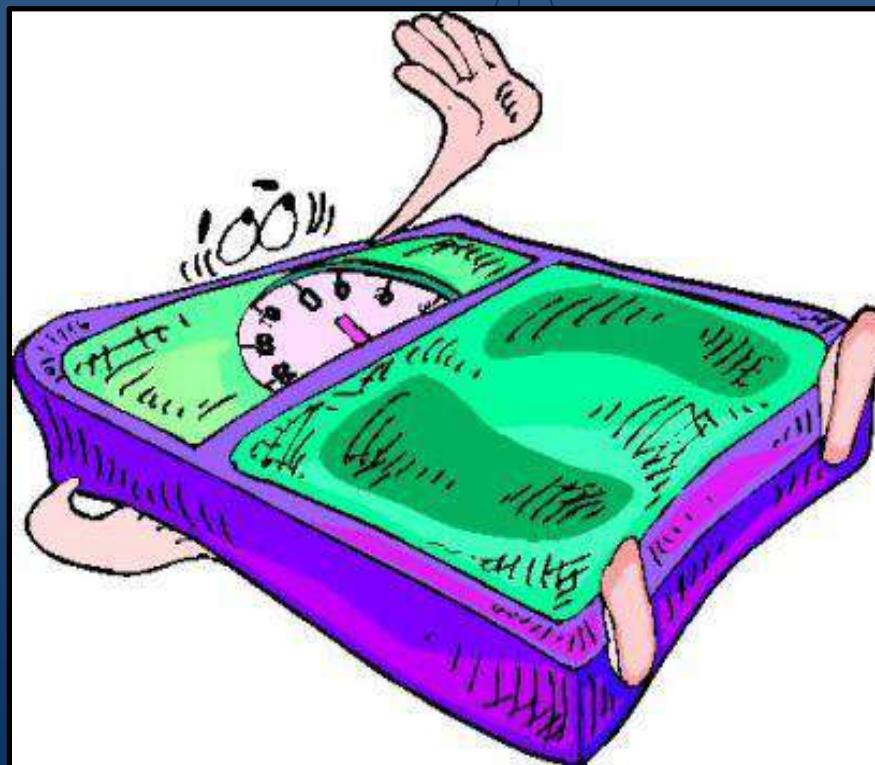
# Pt Education: Have pt hold a bag of groceries to simulate extra weight.



# Watch Your Weight!

People 70 lbs overweight will spend  
\$30,000 extra in their lifetime  
for health care.

Scientific American, 2011



# An Expensive Meal!

The adverse effects of obesity cost \$86 billion last year & will quadruple over the next decade!

50% of US adults & 30% of kids will be obese by 2018 & costs will ↑ to \$344 billion.

33% of kids & teens in the US (25 million) are overweight.

If obesity rates held at current levels, the US would save \$200 billion in health care costs.

CDC & WHO, 2009



# Type II Diabetes Worldwide!

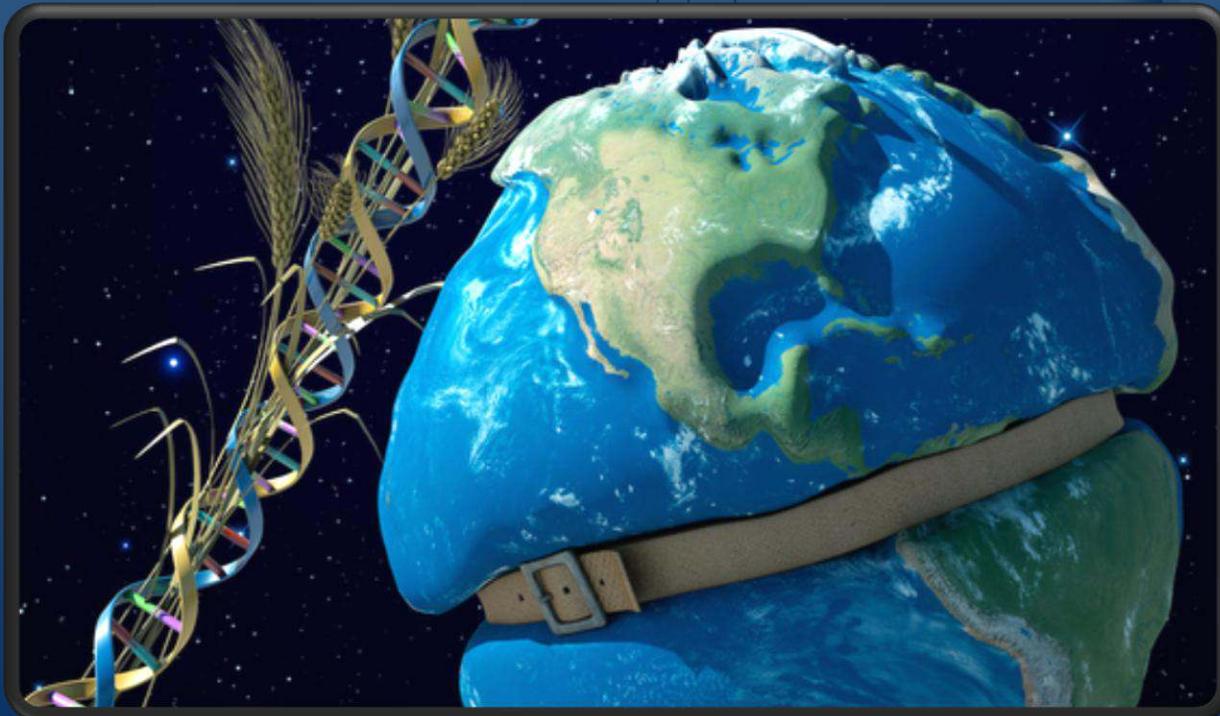
**366 million diabetics**

**4.6 million deaths a year**

**one person dies every 7 seconds**

**Health care bill: \$465 billion**

**Diabetes Atlas, Nov 2011**



# Type II Diabetes Rates

## Fueled by obesity rates & sedentary lifestyles.

**9.3% or 29.1 million** people in

**US have type II diabetes**

**86 million have prediabetes**

**\$245 Billion in total medical costs**

National Diabetes Statistics Report, 2014



# Couch-Potato Kids

Kids ages 4-17, who watch 4 or more hrs of TV a day are 3x more likely to have high BP than those who view < 2 hrs.

**American Journal of Preventive Medicine, 2007**



# The average American watches:

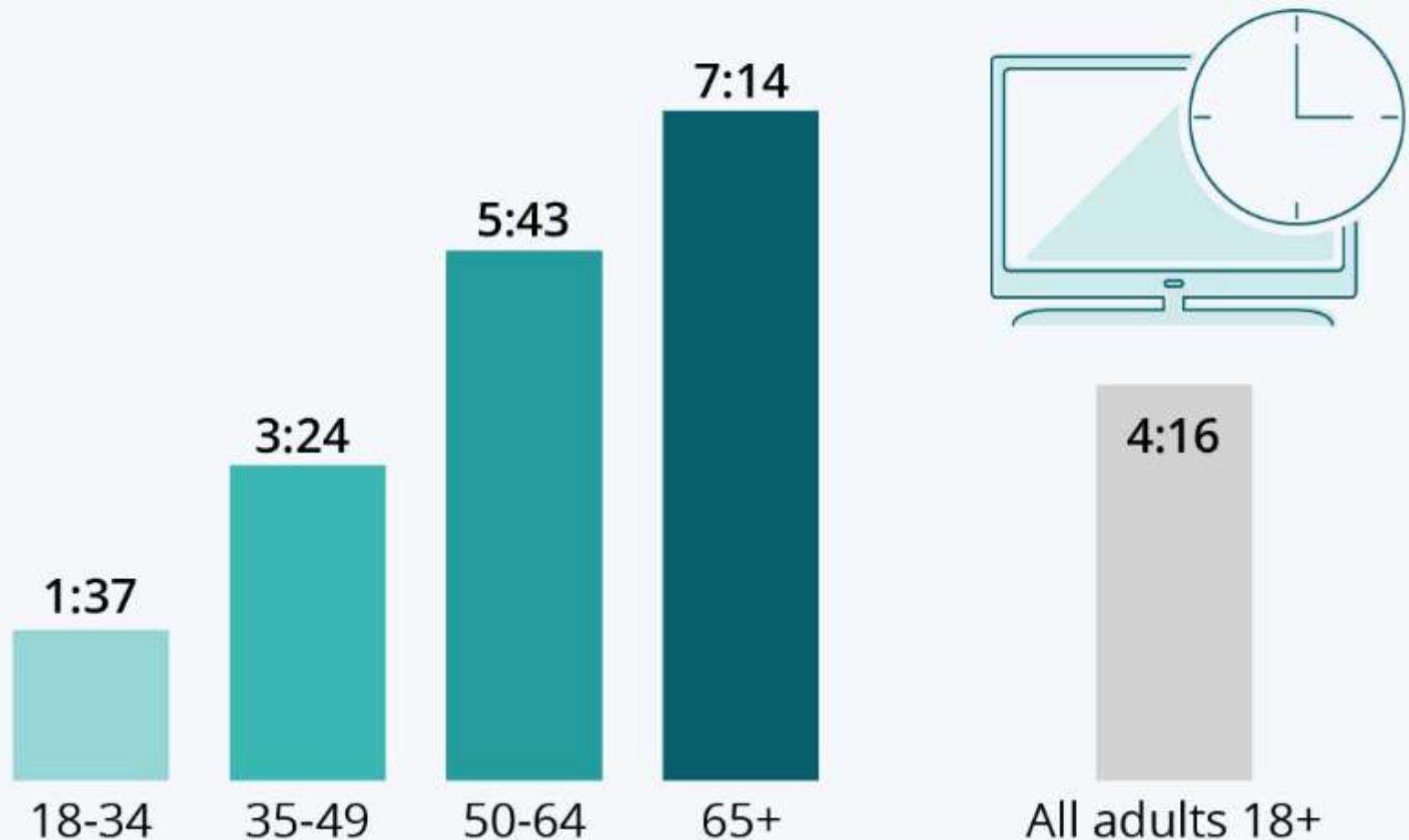
- 4 hours of TV a day
- 28 hours a week
- 1456 hours a year (almost 75% of a full-time job)
- 2 months of nonstop TV a year
- In a 65 year life, 9 years are lost watching TV

The Nielsen Total Audience Report, 2020



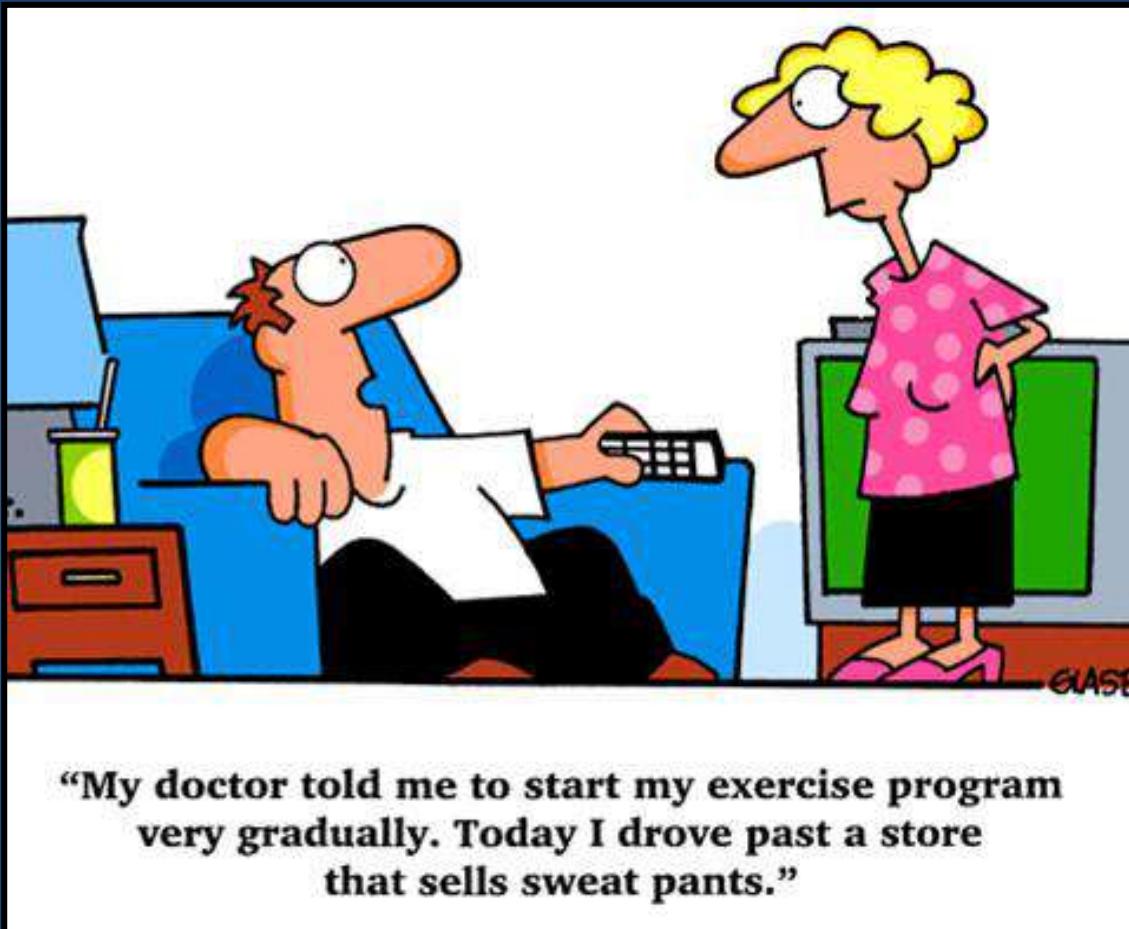
# The Generation Gap in TV Consumption

Average daily TV consumption (live + time-shifted) of American adults, by age group (in hh:mm)



# How to Motivate Patients To Exercise

## Top 15 Benefits of Exercise



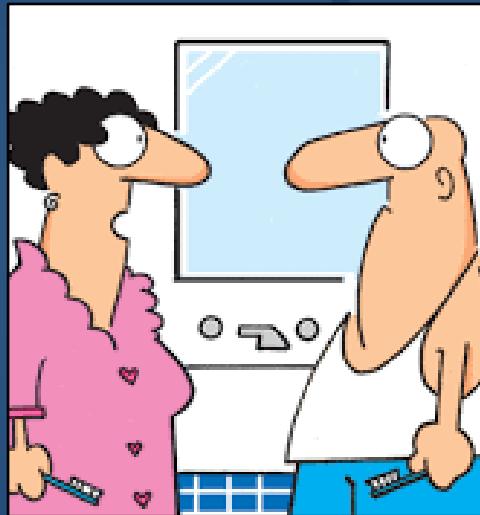
**“My doctor told me to start my exercise program very gradually. Today I drove past a store that sells sweat pants.”**

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on the  tab on our website: [backtochiropractic.net](http://backtochiropractic.net)

# How to Motivate Patients To Exercise

## Top 15 Benefits of Exercise

1. Increases metabolism to burn calories by increasing oxidation (breakdown & use) of fat.



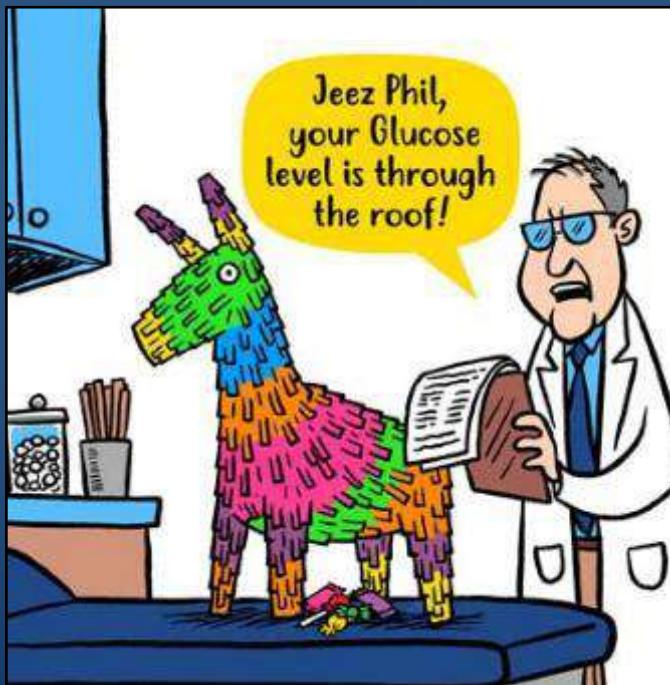
I must have a slow metabolism!  
I caught a snowflake on my tongue and gained 2 lbs!

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# How to Motivate Patients To Exercise

## Top 15 Benefits of Exercise

2. Improves blood sugar control. With inactivity the body becomes more resistant to insulin, increasing the risk for type 2 diabetes.

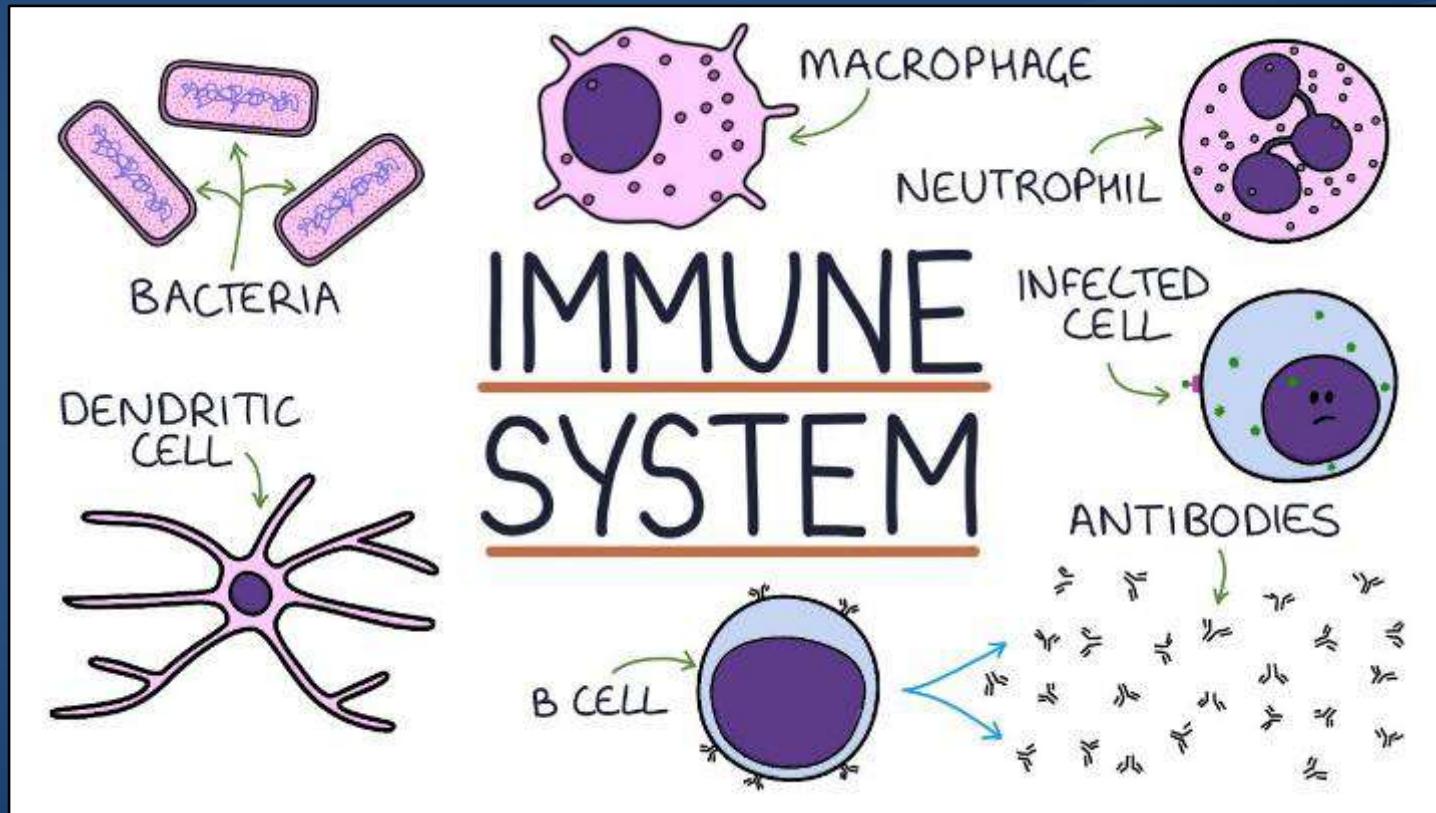


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# How to Motivate Patients To Exercise

## Top 15 Benefits of Exercise

3. Improves immune system function.



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# How to Motivate Patients To Exercise

## Top 15 Benefits of Exercise

4. Protects the body from cancer & increases digestive efficiency reducing the incidence of colon cancer 30-40%. Decreases women's risk of endometriosis by 50%.



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# How to Motivate Patients To Exercise

## Top 15 Benefits of Exercise

5. Increases aerobic capacity.

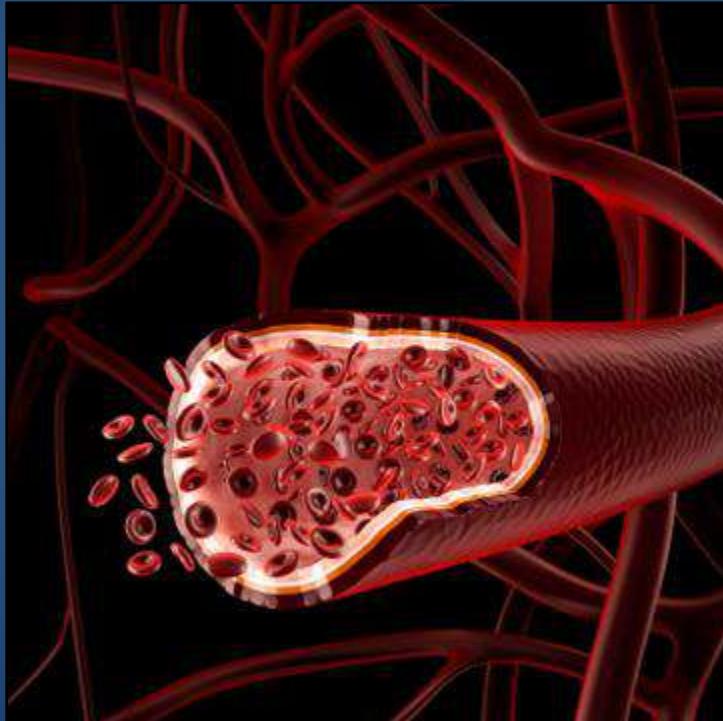


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# How to Motivate Patients To Exercise

## Top 15 Benefits of Exercise

6. Develops new blood vessels in the heart & muscles.

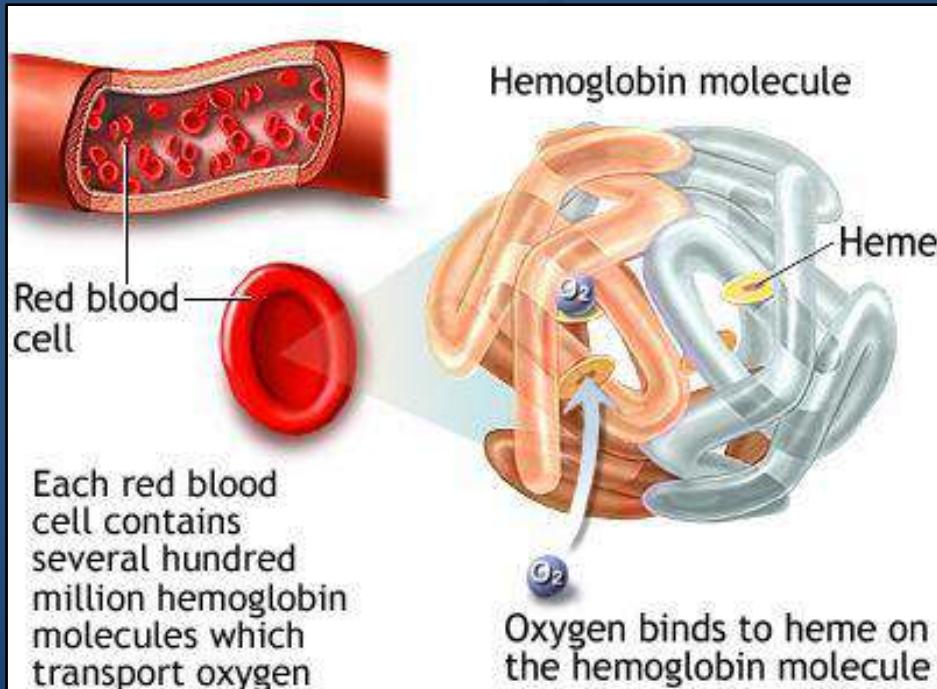


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# How to Motivate Patients To Exercise

## Top 15 Benefits of Exercise

7. Increases hemoglobin, for better oxygen transport.

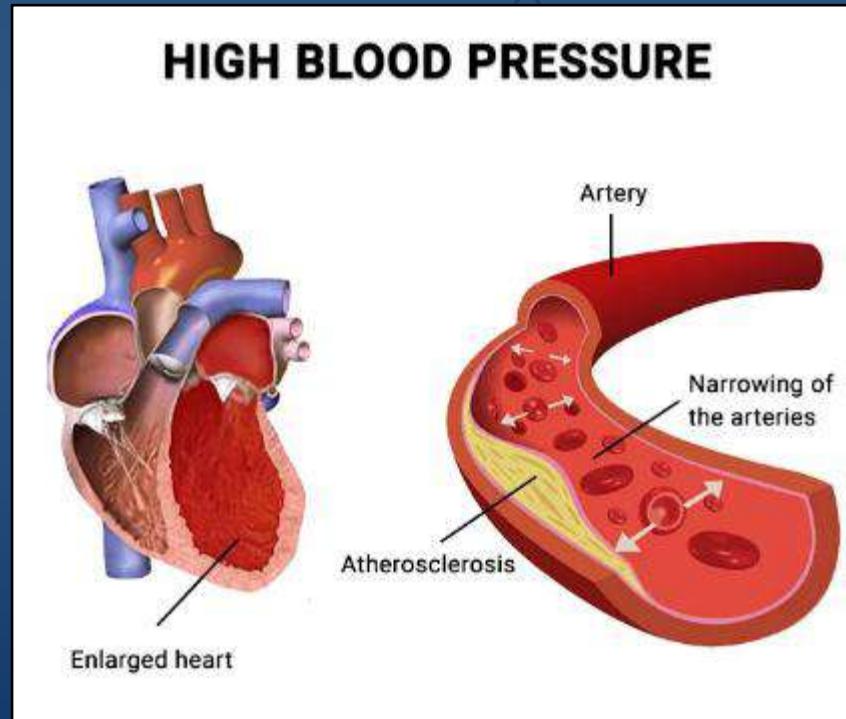


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# How to Motivate Patients To Exercise

## Top 15 Benefits of Exercise

8. Decreases blood pressure, increases HDL (good) cholesterol & decreases chance of blood clots, heart disease & stroke.



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# How to Motivate Patients To Exercise

## Top 15 Benefits of Exercise

9. Maintains, tones & strengthens muscles & increases muscular endurance. Inactivity causes muscles to atrophy, for women in their 40s & men in their 50s.

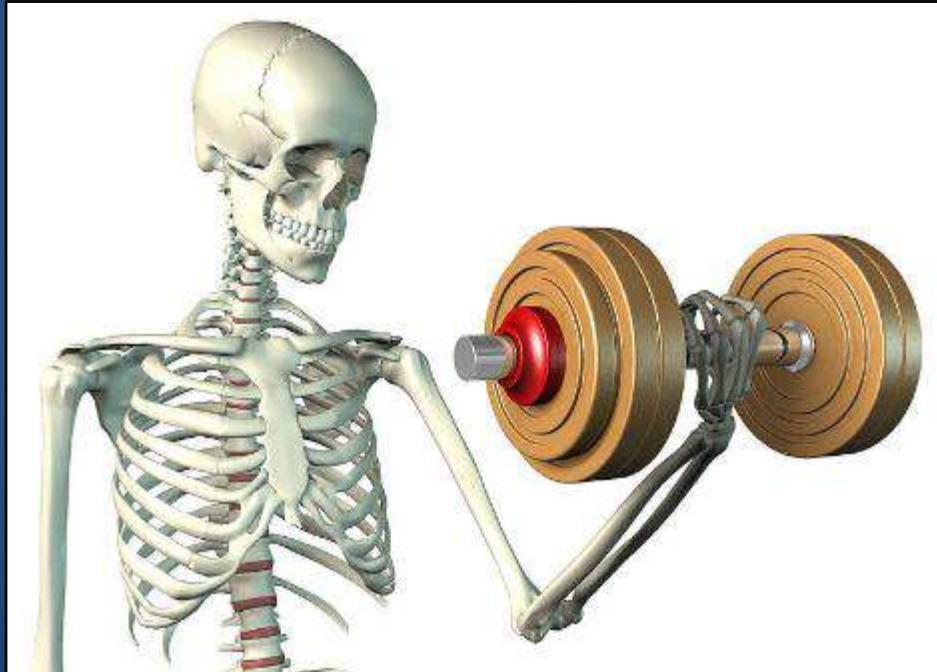


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# How to Motivate Patients To Exercise

## Top 15 Benefits of Exercise

10. Increases bone strength. Lack of activity leads to bone weakness, osteoporosis & bone loss.

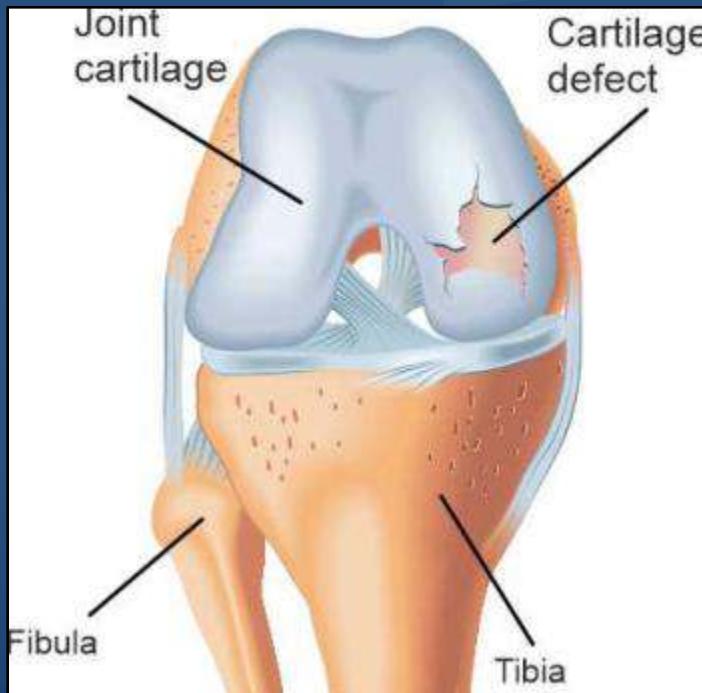


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# How to Motivate Patients To Exercise

## Top 15 Benefits of Exercise

11. Increases thickness of joint cartilage.

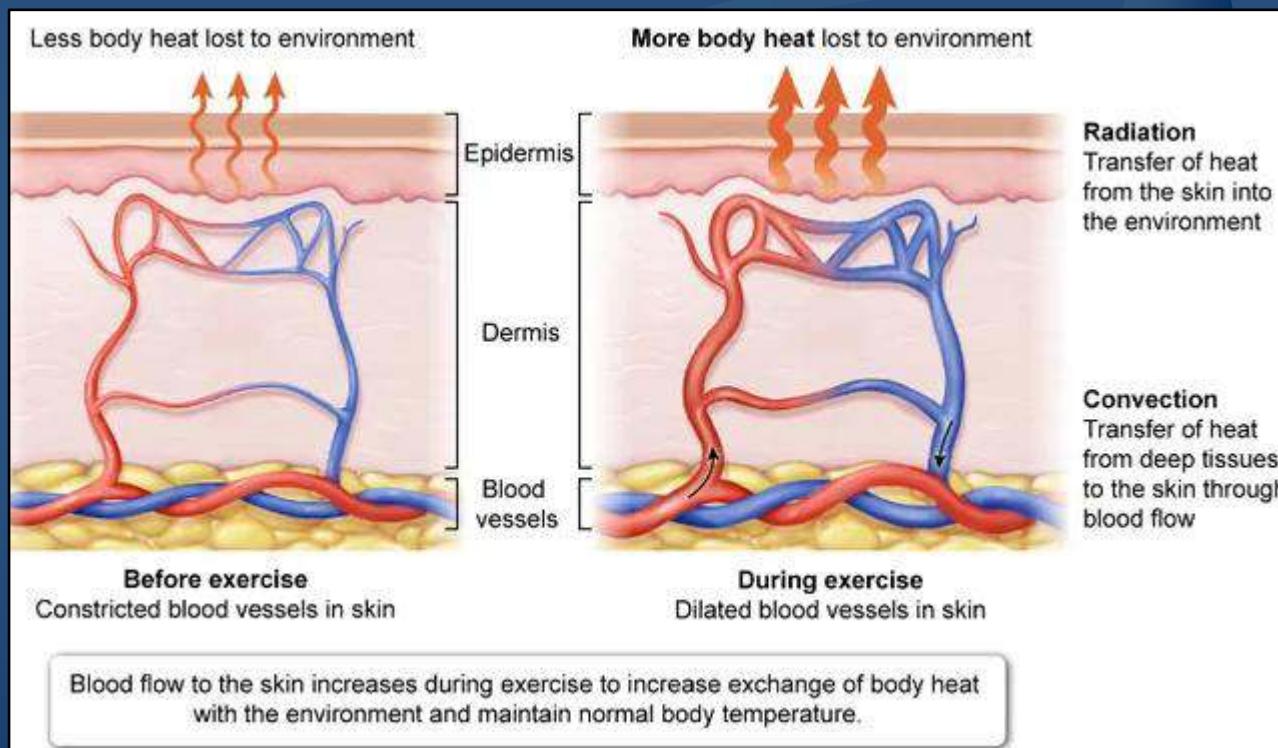


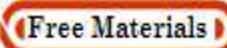
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# How to Motivate Patients To Exercise

## Top 15 Benefits of Exercise

### 12. Increases blood flow to the skin.



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# How to Motivate Patients To Exercise

## Top 15 Benefits of Exercise

13. Improves sleep patterns.

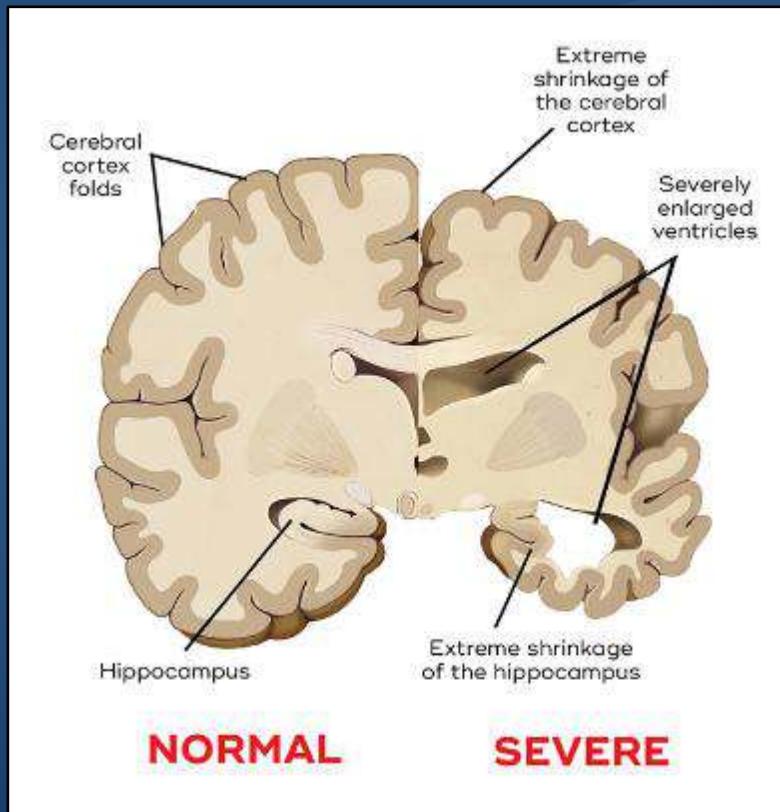


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# How to Motivate Patients To Exercise

## Top 15 Benefits of Exercise

14. Decreases risk of cognitive decline & dementia.

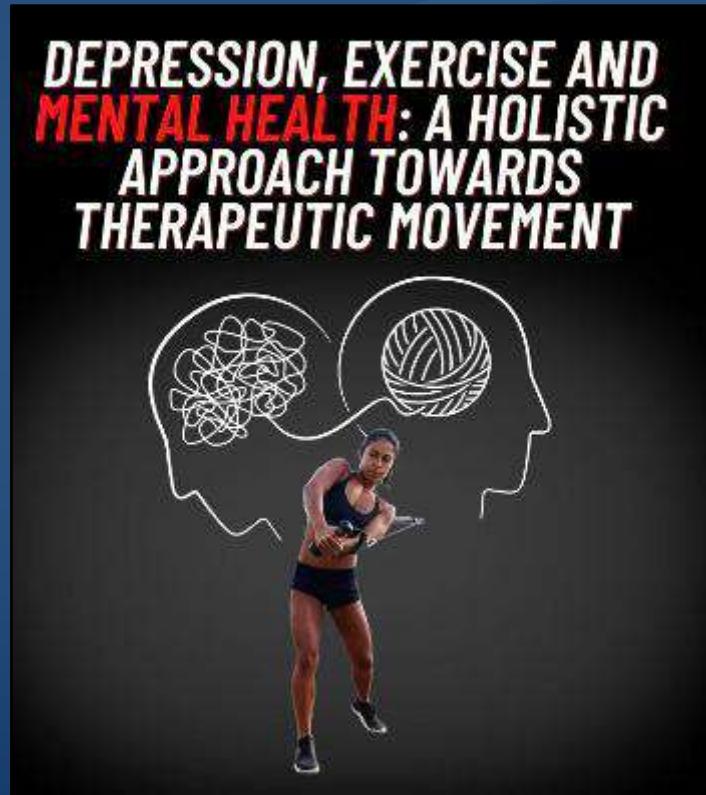


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# How to Motivate Patients To Exercise

## Top 15 Benefits of Exercise

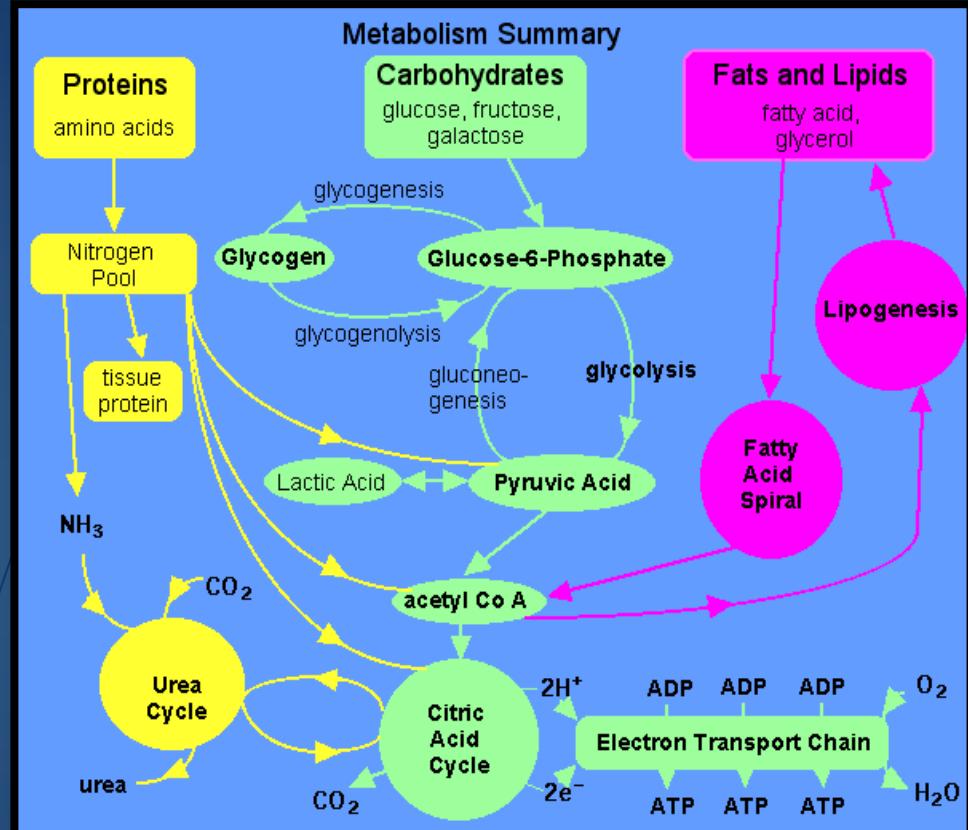
15. Decreases risk of depression & symptoms of those already depressed.



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# Metabolism...

Beginning in your 30's your metabolism slows by 5% a decade due to muscle loss. By 65 you can lose half your muscle mass &  your metabolic burn by 200-300 calories.



Strength training  
2x/wk maintains  
metabolism & will  
replace 5-10 yrs  
worth of muscle loss  
in a few months.

Let the pt know they  
will burn calories  
while they sleep!



# Exercise for Alzheimer's

Regular exercise can protect the brain & even improve cognitive performance in older adults that show signs of mental decline.

45-60 minutes on a treadmill or stationary bike 4 days a week

Archives of Neurology, 2011



Kozo Haraguchi

# Quick Healer

Regular exercise may speed up  
wound-healing by 25%,  
(skin wounds healed 10 days faster).

Ohio State University, Jan 2006

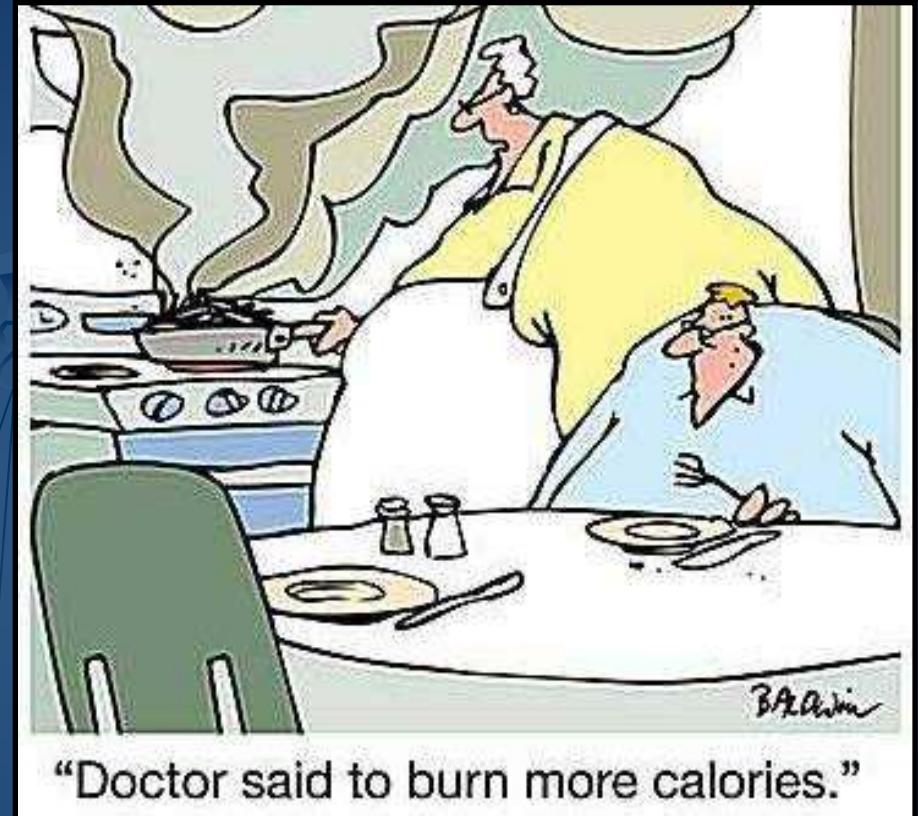


# Burn Calories Live Longer

In a 6 yr study of healthy seniors, the most active burned 830 calories more a day than the least active group.

**Side note:** the most active were **70%** more likely to be alive at the study's end!

National Institute on Aging,  
Oct 2006



# **\*Never Too Late!**

People who became more active in their 40's cut their risk of heart disease by nearly the same amount as those who had maintained a lifetime of activity.

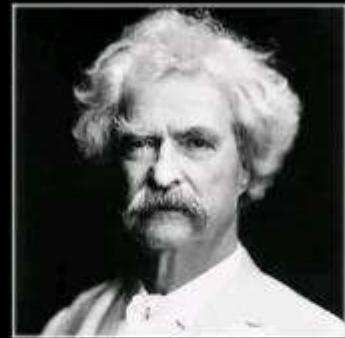
University of Heidelberg, 2006



# Age Does Not Matter!

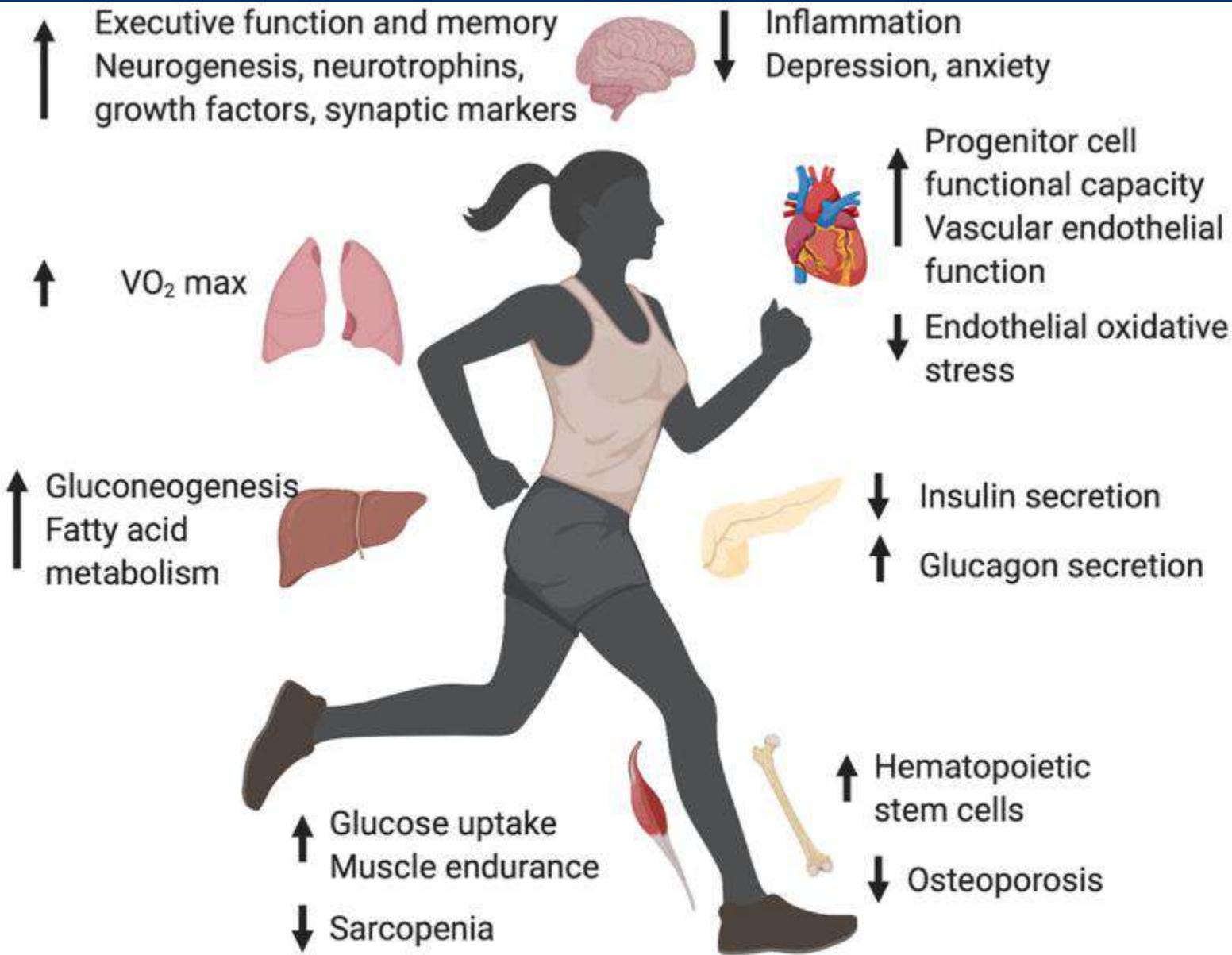
People in their 60s & 70s who trained 3 days/wk for 6 months ↑ their daily calorie-burn by more than 230 calories. Strength training builds bone using more nutrients & ultimately burns more calories.

University of Alabama Birmingham, 2007



**“Age is an issue of mind over matter. If you don't mind, it doesn't matter.”**

— Mark Twain



**Longevity effects: exercise >150 but <2000 minutes/week.  
Combination of aerobic and resistance exercise**

# Just Good For You!

**2½ hours of exercise per week** ↓  
**the risk of all disease by 60%**

Framington Heart Study

A graphic featuring the Star Trek logo's "Live Long and Prosper" text in a stylized, glowing blue font, set against a dark background with a glowing white outline.

**“Failure to exercise a minimum of 3 times per week for at least 30 minutes in duration each time is the equivalent of smoking one pack of cigarettes each day.**

**What this means is that exercise is no longer just good for you, it is bad for you if you don’t exercise.”**

**Surgeon General, July 11, 1996.**



# Abdominal Fat

30 obese men (age 20 yrs) trained for 4 months. The average loss was 26 lbs & they kept their muscle mass.

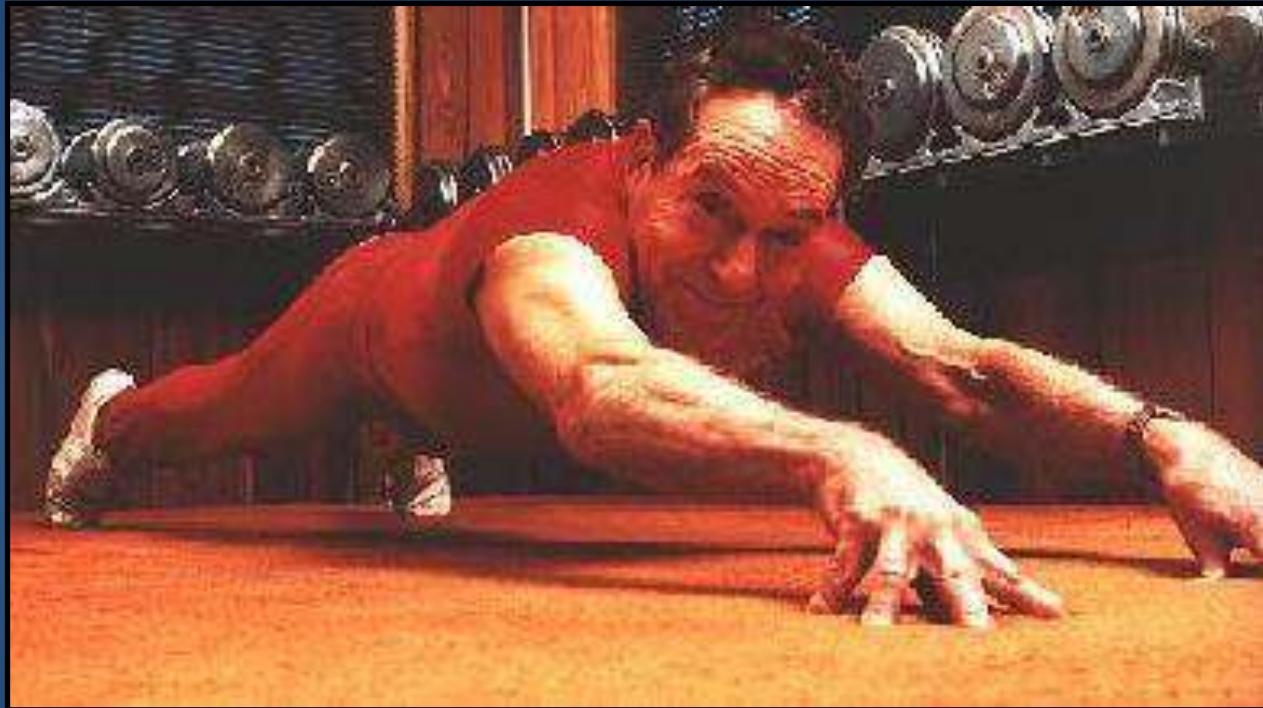
Fat loss was most pronounced around the waist.

Dieting without exercise, muscle mass is lost.

Medicine & Science in Sports & Exercise, 2003



# Top 10 Reasons To Strengthen Muscles

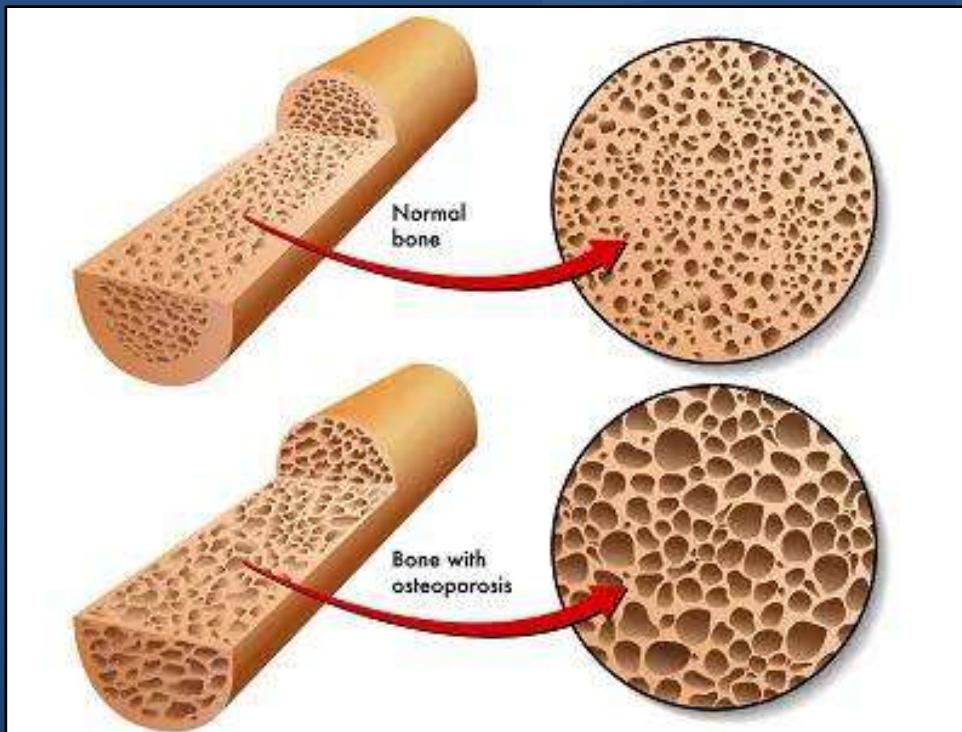


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# Top 10 Reasons To Strengthen Muscles

## 1. Healthy bones:

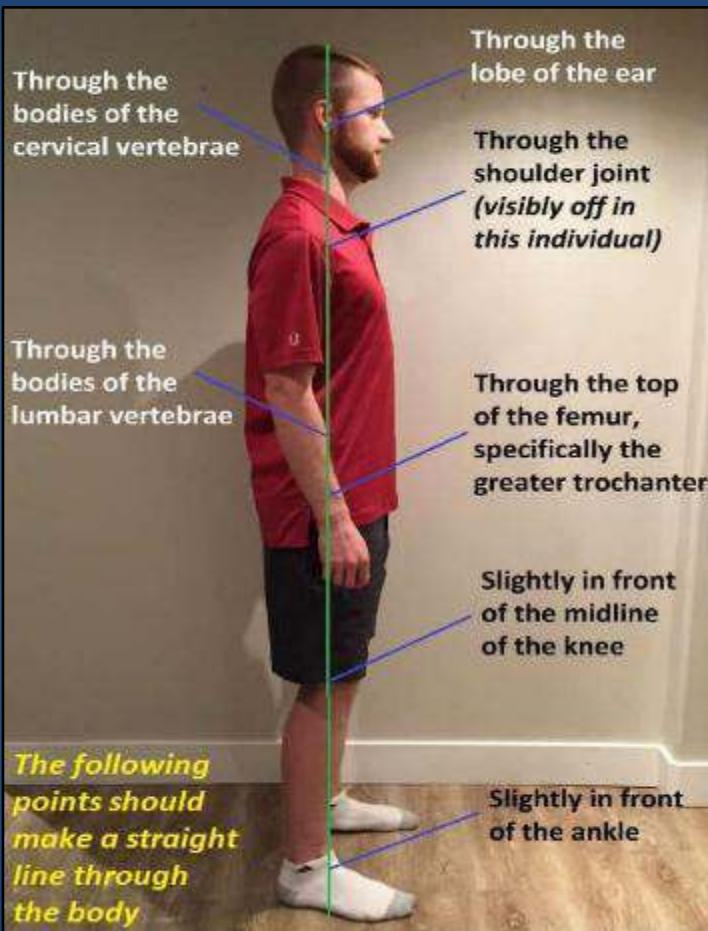
Regular weight bearing exercise & strengthening work can prevent osteoporosis.



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# Top 10 Reasons To Strengthen Muscles

2. Great posture: Strong muscles lift & hold your posture.



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# Top 10 Reasons To Strengthen Muscles

3. Fewer injuries: With strong muscles, connective tissue also becomes stronger. This provides protection against injuries caused by weak ligaments, tendons & muscles.



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## Top 10 Reasons To Strengthen Muscles

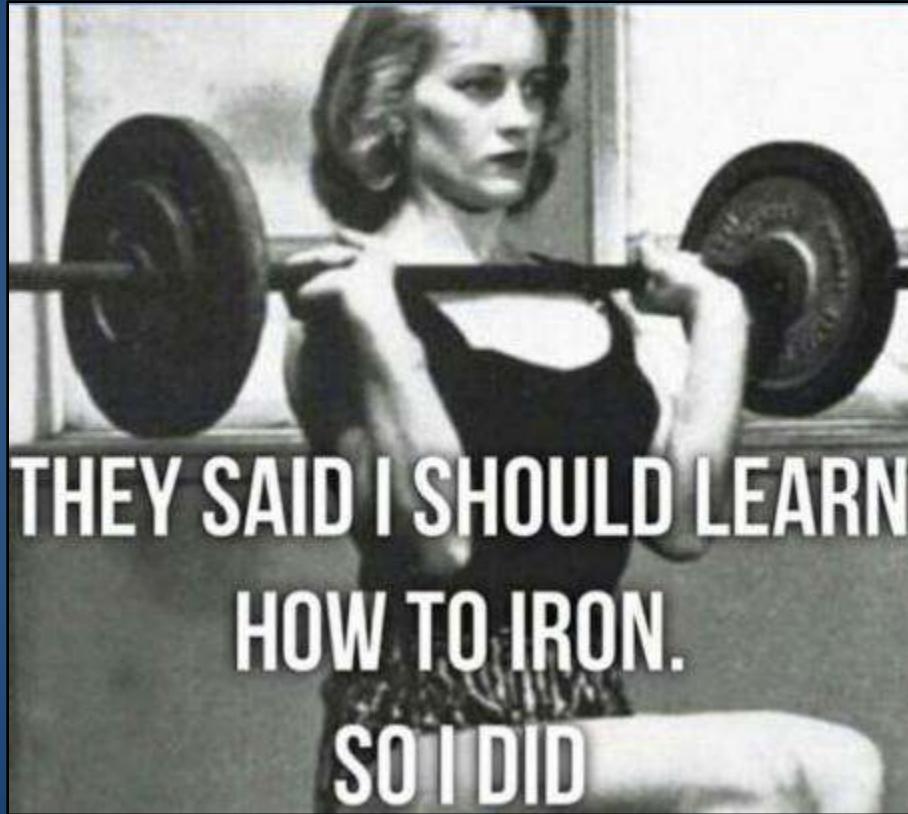
4. Higher metabolism: There's no better way to  $\uparrow$  your metabolism than to develop muscle mass. Muscles burn calories even at rest.



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# Top 10 Reasons To Strengthen Muscles

5. Better sports performance: Top athletes use resistance training to enhance their skills.

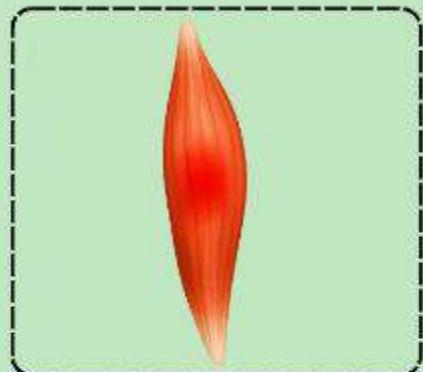


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# Top 10 Reasons To Strengthen Muscles

6. Faster rehab: Strong muscles assist in recovery from injury.

## ESTIMATED RECOVERY TIMELINES FOR PULLED MUSCLES



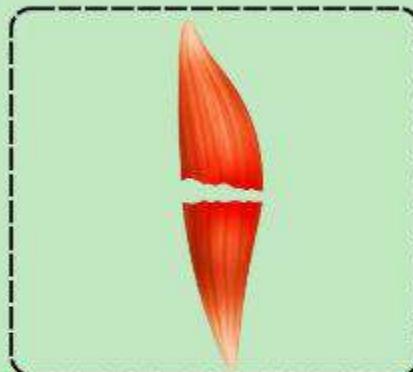
### Grade I (Mild Strain)

- Recovery: 1-2 weeks
- Minimal muscle fiber damage



### Grade II (Moderate Strain)

- Recovery: 3-6 weeks
- More damaged fibers
- Noticeable strength loss



### Grade III (Severe Strain)

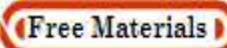
- Recovery: Several months – 1 year
- Complete muscle or tendon tear
- Often requires surgery + rehab

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# Top 10 Reasons To Strengthen Muscles

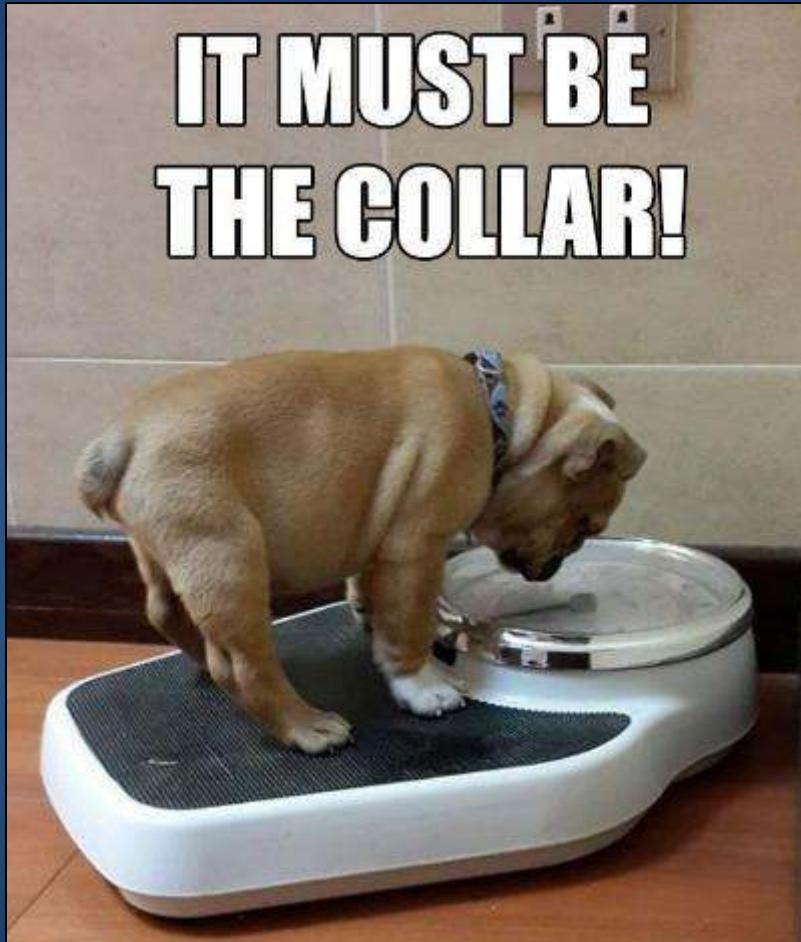
7. Improved balance: Regular strength training leads to better muscle control & balance.



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## Top 10 Reasons To Strengthen Muscles

8. Minimized body fat: When you build muscle, you burn fat. Keeping body fat down will add years to your life.



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# Top 10 Reasons To Strengthen Muscles

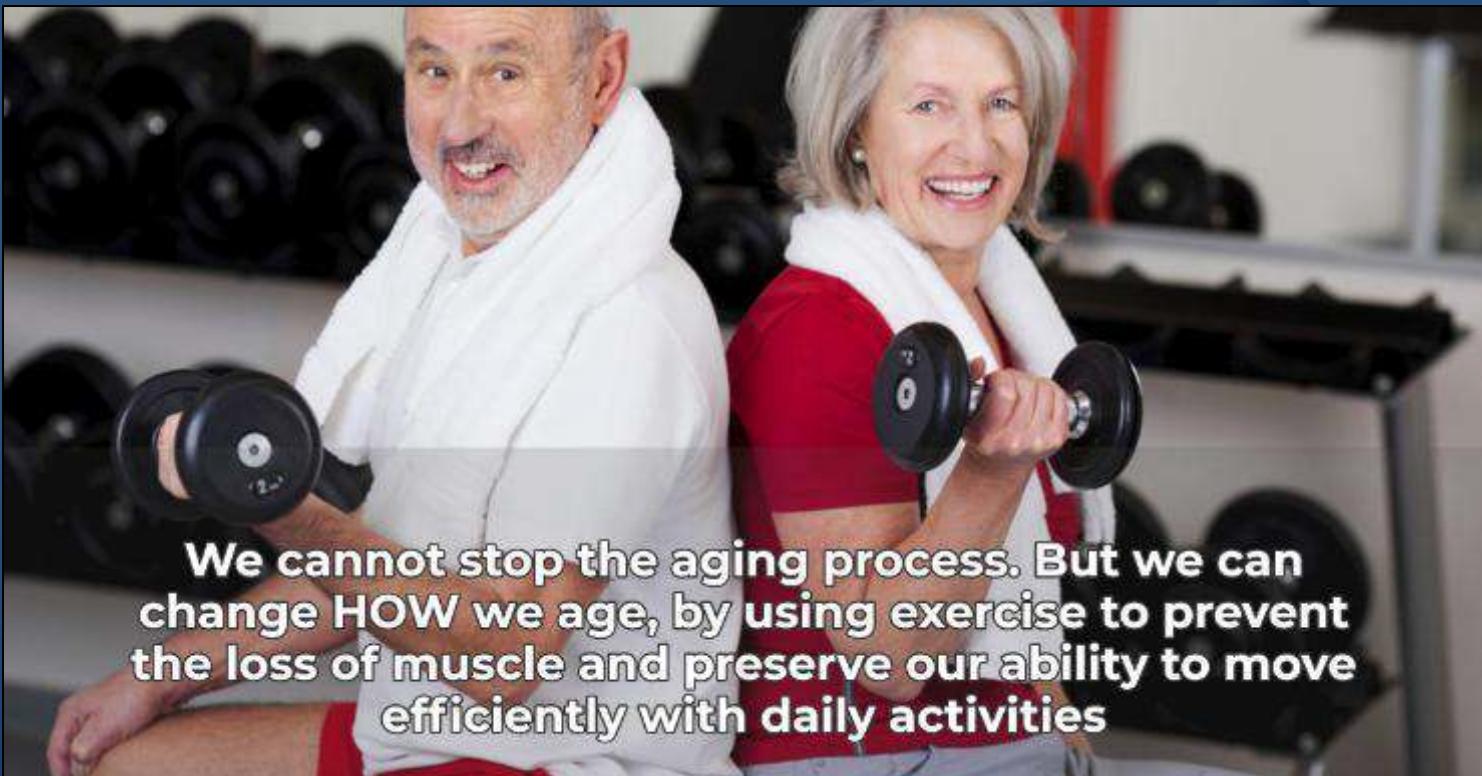
9. More fun: Your quality of life is enhanced.



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# Top 10 Reasons To Strengthen Muscles

10. Prevents ailments associated with aging: Conditions linked to old age are often a result of not exercising & eating poorly. By combining an exercise program of aerobic conditioning with strength training you can grow old gracefully.



**We cannot stop the aging process. But we can change HOW we age, by using exercise to prevent the loss of muscle and preserve our ability to move efficiently with daily activities**

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# How To Motivate Patients To Exercise

Register for an event or set specific goals.

Walk: Walk-a-thons, specific distances; 1, 2 or 5 miles, etc.

Run: 5K, 10K, half or full marathon.

Hike: top of local mountain or complete a trail.

Swim: Swim-a-thons or specific number of laps.

Cycle: Road races or distance.

Should set daily, weekly, monthly and/or annual goals.



**We need to set goals  
& stop chasing our tails,  
literally!**

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# How To Motivate Patients To Exercise

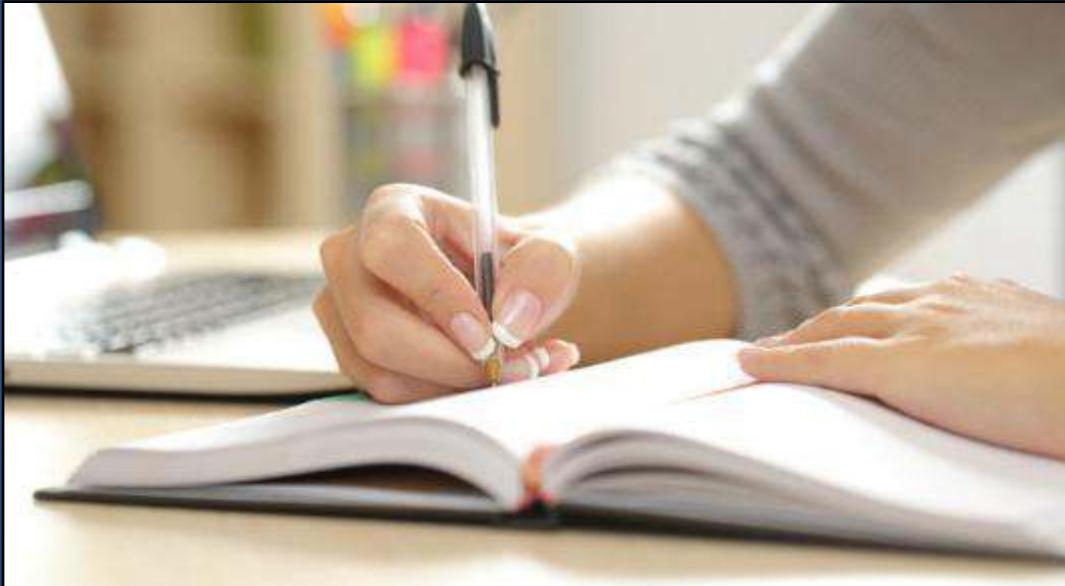
2. Measure Your Distance: Pedometer. Studies show wearing a pedometer increases your activity and weight loss. Set your step goal at 6,000-10,000 per day. Speed monitors, heart monitor watches - all make exercise more fun and give you a reason to exercise.



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# How To Motivate Patients To Exercise

3. Journal. Keep track of your exercise in minutes, steps, laps or mileage. Total each week to see your progress. Set a goal and you will find yourself exercising just to make those numbers add up.



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# How To Motivate Patients To Exercise

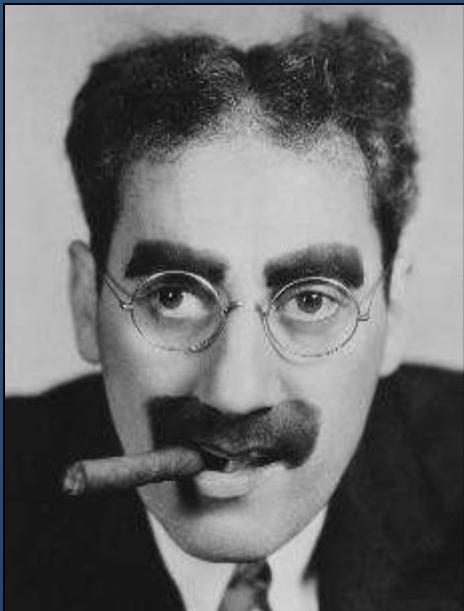
4. Get a Workout Buddy. You keep each other moving no matter what the weather or other excuses. The conversation, silly jokes and coffee afterwards are great ways to make even a blah workout a lot of fun.



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# How To Motivate Patients To Exercise

5. Join a Walking, Cycling, Running or Swim Club.  
Being the part of a club or organization makes exercise more fun. Clubs usually travel to events and train for them.



I refuse to join any  
club that would have  
me as a member!  
~ Groucho Marx

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# How To Motivate Patients To Exercise

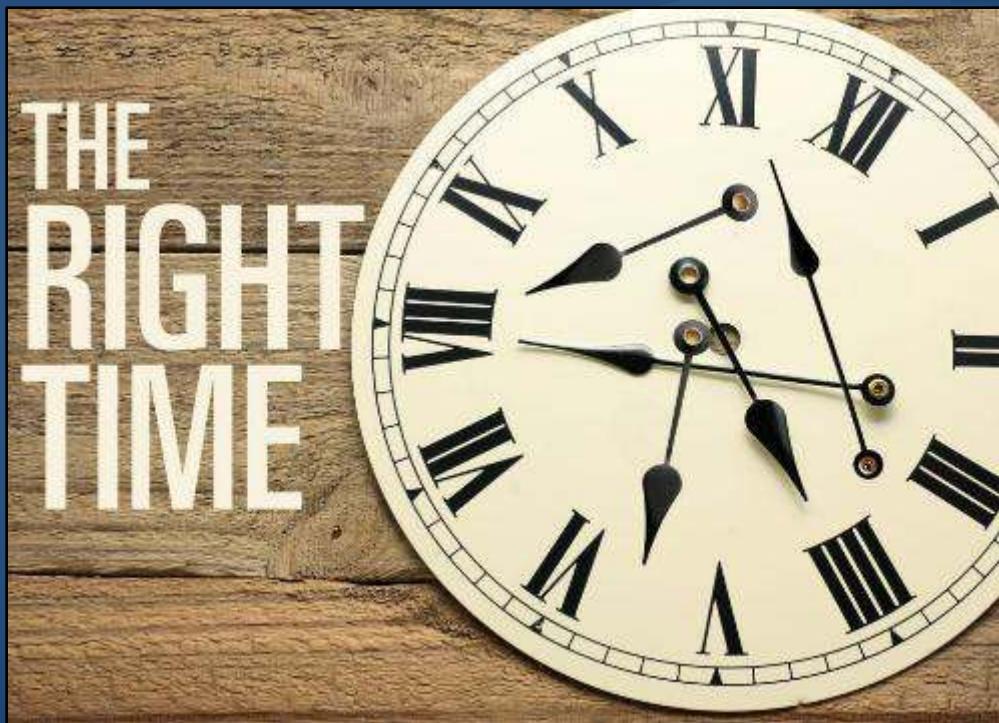
6. New Gear. Having new equipment or clothes will make exercise more enjoyable.



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# How To Motivate Patients To Exercise

7. Choose the Right Time. What is the best time to exercise? To stay motivated, analyze your habits and choose the time that will work best on a daily basis.



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# How To Motivate Patients To Exercise

8. Make Exercise a Part of Your Daily Life, But It Is Okay to Miss a Day. Often people perceive exercise as a chore or punishment. It is something that should be as routine as showering or brushing your teeth. Sometimes you may skip a day for many reasons and that is fine, just start again tomorrow.

\*Always consult with your doctor/chiropractor before starting any health-related program.

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# 5th Key To Wellness

## Stress Reduction

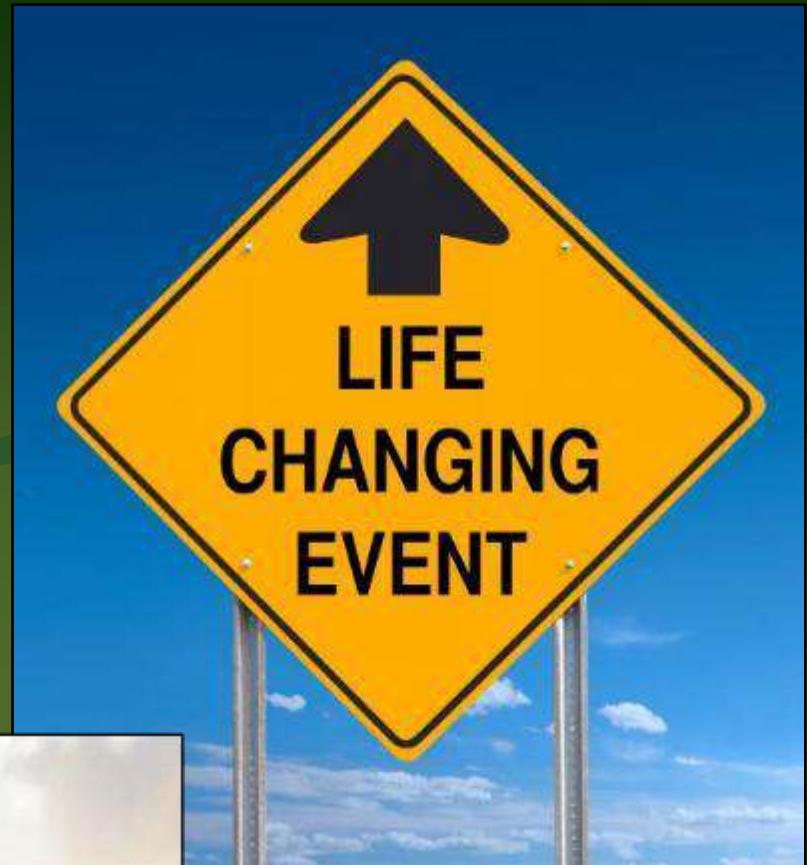


**“You know, we’re just not reaching that guy.”**

# Life changes cause stress:

Leading to physical ailments!

1. Birth, death or illness
2. Marriage or divorce
3. Hired or fired
4. Buy or sell a house
5. Finances



THE MOST

# STRESSED STATES

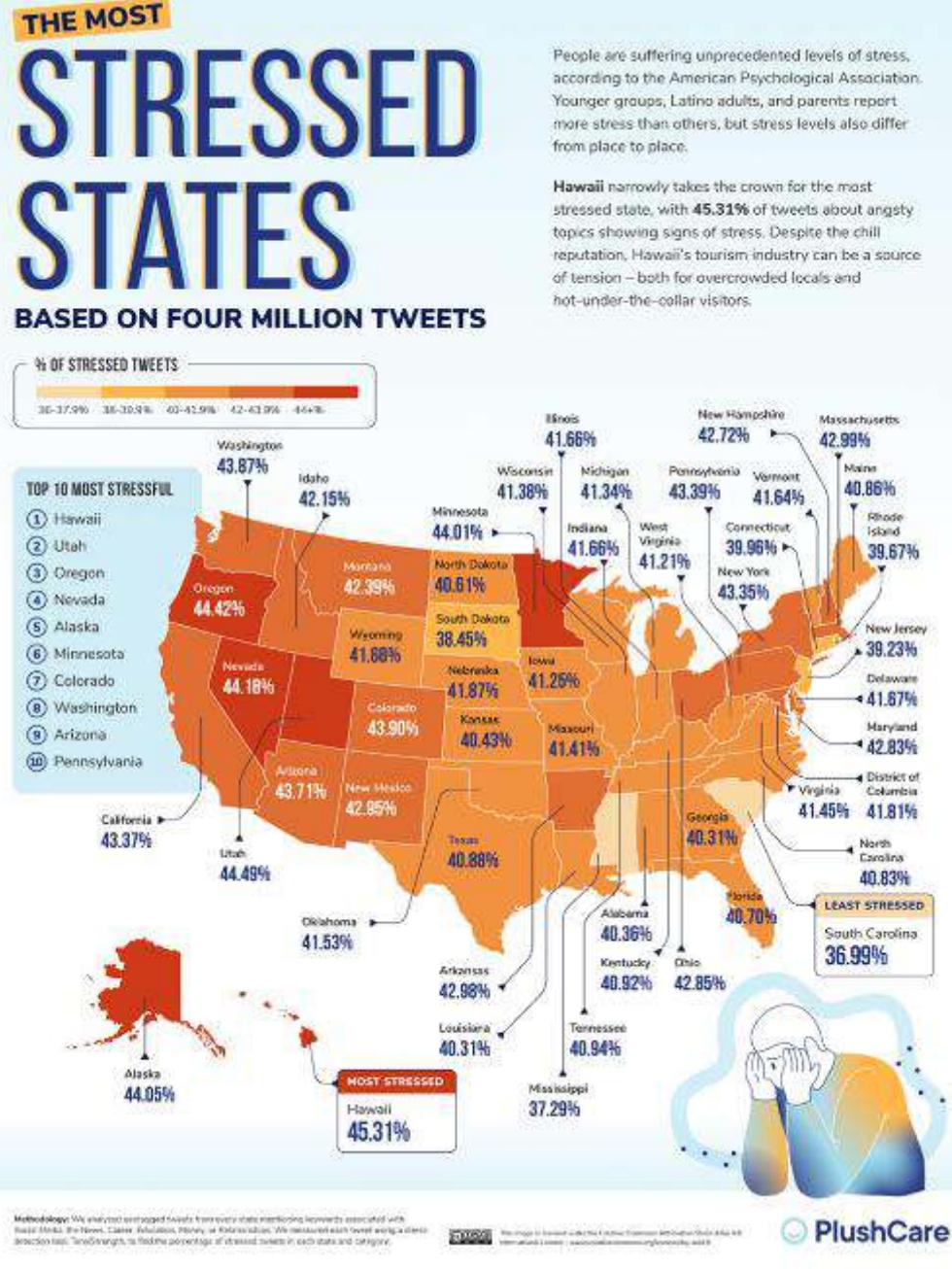
BASED ON FOUR MILLION TWEETS

% OF STRESSED TWEETS



TOP 10 MOST STRESSFUL

- 1 Hawaii
- 2 Utah
- 3 Oregon
- 4 Nevada
- 5 Alaska
- 6 Minnesota
- 7 Colorado
- 8 Washington
- 9 Arizona
- 10 Pennsylvania



People are suffering unprecedented levels of stress, according to the American Psychological Association. Younger groups, Latino adults, and parents report more stress than others, but stress levels also differ from place to place.

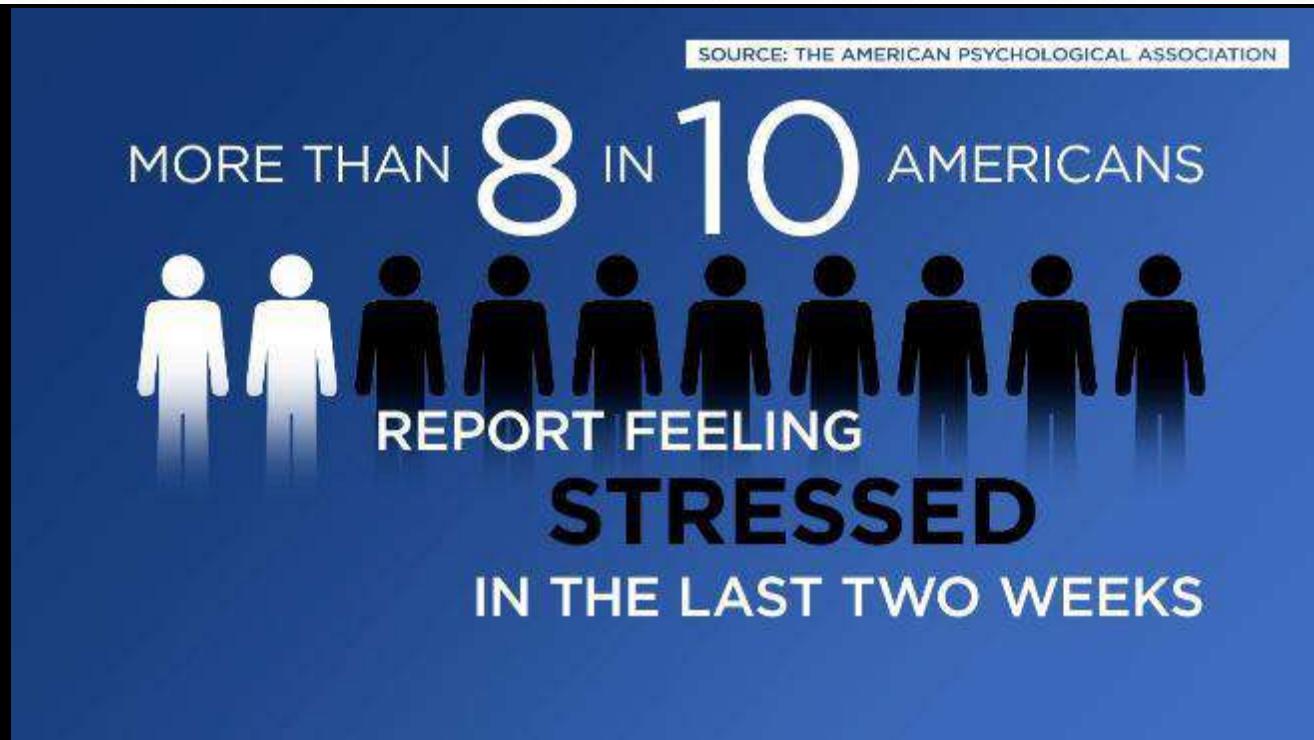
Hawaii narrowly takes the crown for the most stressed state, with **45.31%** of tweets about angsty topics showing signs of stress. Despite the chill reputation, Hawaii's tourism industry can be a source of tension – both for overcrowded locals and hot-under-the-collar visitors.

United States is the **second-most stressed country** out of 197 analyzed.

Study based on four stress-related categories:

1. work
2. money
3. social/family
4. health/safety

~ *CEO World Magazine*, January 2025



# What Is Stressing America Out?

Percent of U.S. adults who reported significant stress caused by the following topics

Inflation

83%

The future of our nation

76%

Violence/crime

75%

Mass shootings

73%

Gun violence

72%

Healthcare

70%

Increased global tensions/conflict

67%

The current political climate

66%



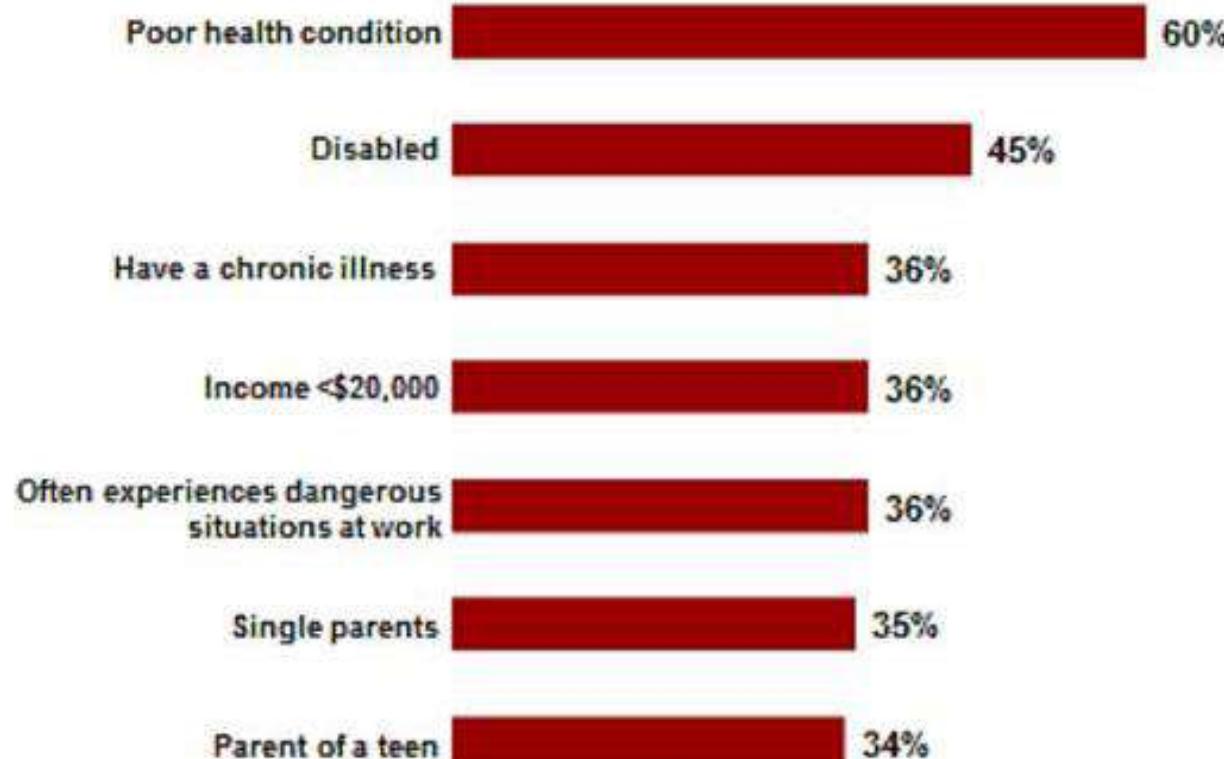
3,192 U.S. respondents (18+ y/o) surveyed Aug 18 - Sep 2, 2022

Source: APA Stress in America 2022



## Groups Experiencing High Stress Levels in the Past Month

% saying they experienced 'a great deal of stress' in the past month...



Showing groups with more than a third (33%) of respondents reporting 'a great deal of stress' in the past month.

NPR/Robert Wood Johnson Foundation/Harvard School of Public Health: The Burden of Stress in America, March 5- April 6, 2014

Harvard School of Public Health, April 2014

# The World's Most Stressed Countries

Share of the population that experienced a lot of stress yesterday (2018)\*

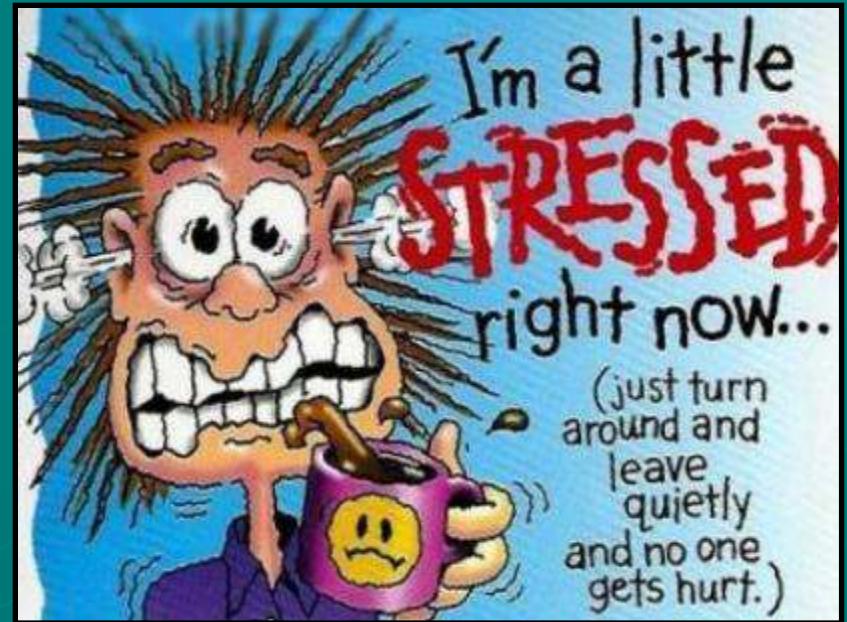


\* Based on interviews with 1,000 adults throughout 2018 in 143 countries.

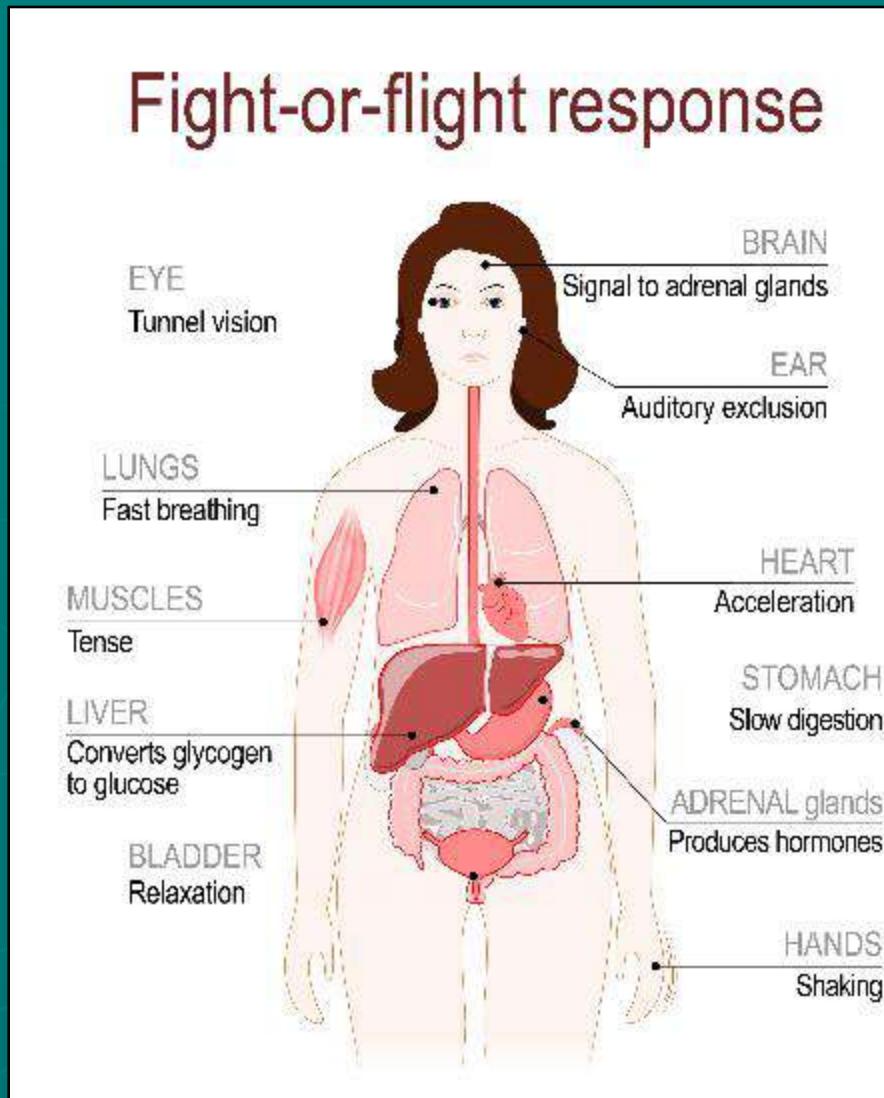
# Subliminal Stress

Increase in BP during mentally stressful situations is a warning sign. No correlation between high BP & whether the pt perceived their stress. BP is more reliable as a risk factor than smoking, diabetes or cholesterol levels. Subjects whose BP rose 20 pts during testing were 6x more likely to suffer a cardiac incident in the next 6 yrs.

Johns Hopkins University, Nov 2003



Stress activates the sympathetic nervous system (fight-or-flight). This response is triggered daily, hourly or may be constant!  
The adrenal medulla secretes adrenaline (epinephrine):



# Half Full?

Optimism ↓ the effects of stress &  
can ↑ life span at least 7.5 yrs!

Yale University, 2007



# When you feel like giving up, think of these people!



The professor then picked up a box of pebbles and poured them into the jar.

He shook the jar lightly. The pebbles rolled into the open areas between the golf balls. He then asked the students if the jar was full. They agreed it was.

The professor next picked up a box of sand and poured it into the jar. Of course, the sand filled up everything else.

He asked once more if the jar was full. The students responded “yes”.



# The Important Things In Life

When things in your life seem almost too much to handle, when 24 hours in a day are not enough, remember the mayonnaise jar...  
and the beer.

A professor stood before his philosophy class and had some items in front of him.

When the class began he picked up an empty mayonnaise jar and proceeded to fill it with golf balls. He then asked the students if the jar was full. They agreed that it was.

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The professor then produced 2 cans of beer from under the table and poured the entire contents into the jar, effectively filling the empty space between the sand. The students laughed.

Please recognize that this jar represents your life.

The golf balls are the important things: your family, your children, your health, your friends, and your favorite passions-things that if everything else was lost and only they remained, your life would still be full. The pebbles are the other things that matter, like your job, your house, your car. The sand is everything else, the small stuff.



If you put the sand into the jar first, there is no room for the pebbles or the golf balls. The same goes for life. If you spend all your time and energy on the small stuff, you will never have room for the things that are important to you. Pay attention to the things that are critical to your happiness.

Play with your children. Take time to get medical checkups. Take your partner out to dinner. There will always be time to clean the house, and fix the disposal. Take care of the golf balls first, the things that really matter. Set your priorities. The rest is just sand.



One of the students raised their hand and asked about the beer. The professor smiled. I'm glad you asked. It just goes to show you that no matter how full your life may seem, there's always room for a couple of beers.

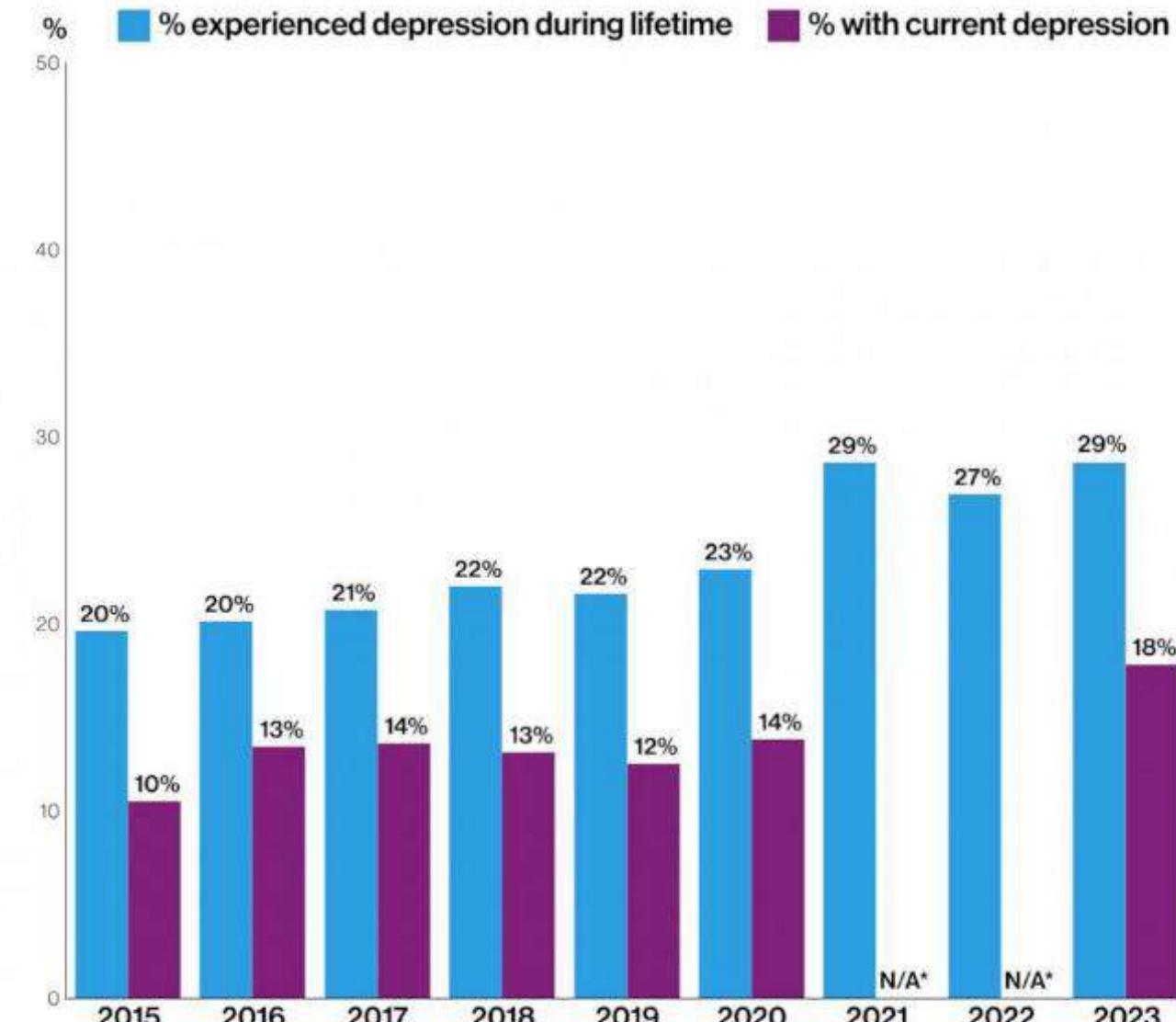


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# Lifetime and Current Depression Rates

2015-2023

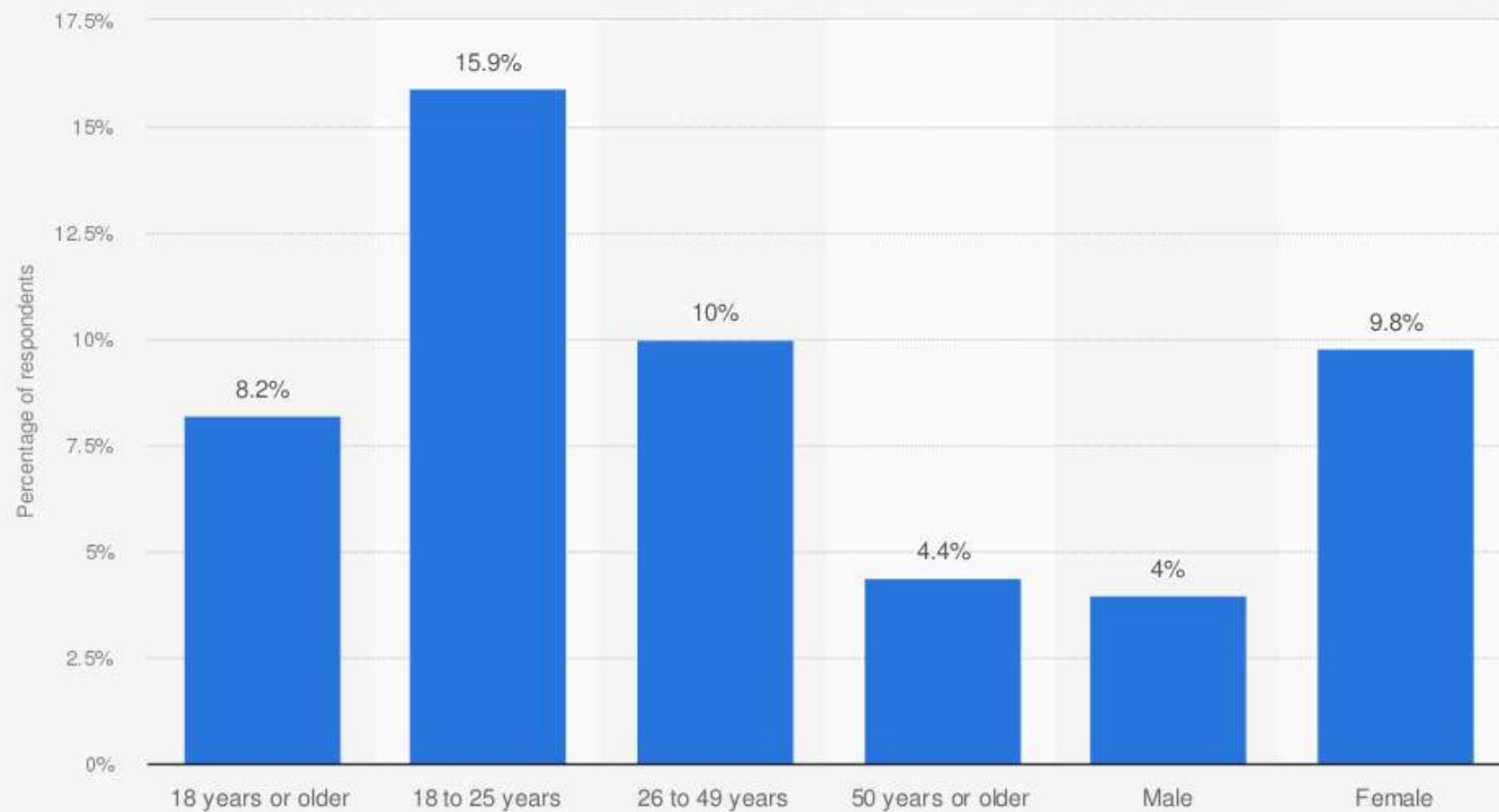


\*DATA NOT RECORDED

SOURCE: GALLUP

abcNEWS

Percentage of U.S. adults with a major depressive episode in the past year as of 2024,  
by age and gender



Sources

SAMHSA; US Department of Health and Human Services

© Statista 2025

Additional Information:

United States; RTI International; base: around 71,000; 18 years and older; Questionnaire

# Don't Antagonize Me!

Antagonistic people, especially those who are manipulative & aggressive, have a 40% higher risk of stroke & heart attack due to arterial wall thickening. Hypertension, 2010



# Stressed Out!

Workplace stress costs > \$300 billion/yr  
in health care & missed work

90% of all disease is stress related

American Institute of Stress, 2011



**Stressed workers** health costs are 46% higher, or \$600 more per person, than other employees

**National Institute for Occupational Safety and Health, 2011**

**Stress is responsible for:**

✳ 19% of employee absenteeism

✳ 40% of employee turnover

✳ 60% of workplace accidents costs

✳ 60-90% of doctor visits

**American Institute of Stress, 2006**



## Work stress increases:

- 💣 cardiovascular problems 2x
- 💣 anxiety/depression 2-3x
- 💣 substance abuse 2x
- 💣 infectious disease 2-3x
- 💣 certain cancers 5x
- 💣 back pain 3x
- 💣 injuries 2-3x

Lluminari Landmark Study, 2004



# **Stress Is A Killer!**

**Stress helps account for 66% of doctor visits & 50% of the deaths to Americans under 65.**

**Stress is implicated in heart, stomach & mental disorders, headaches, backaches, high blood pressure & high cholesterol levels.**

**CDC, 2011**



# Stress Stats

**75% of Americans experience symptoms related to stress in a given month:**

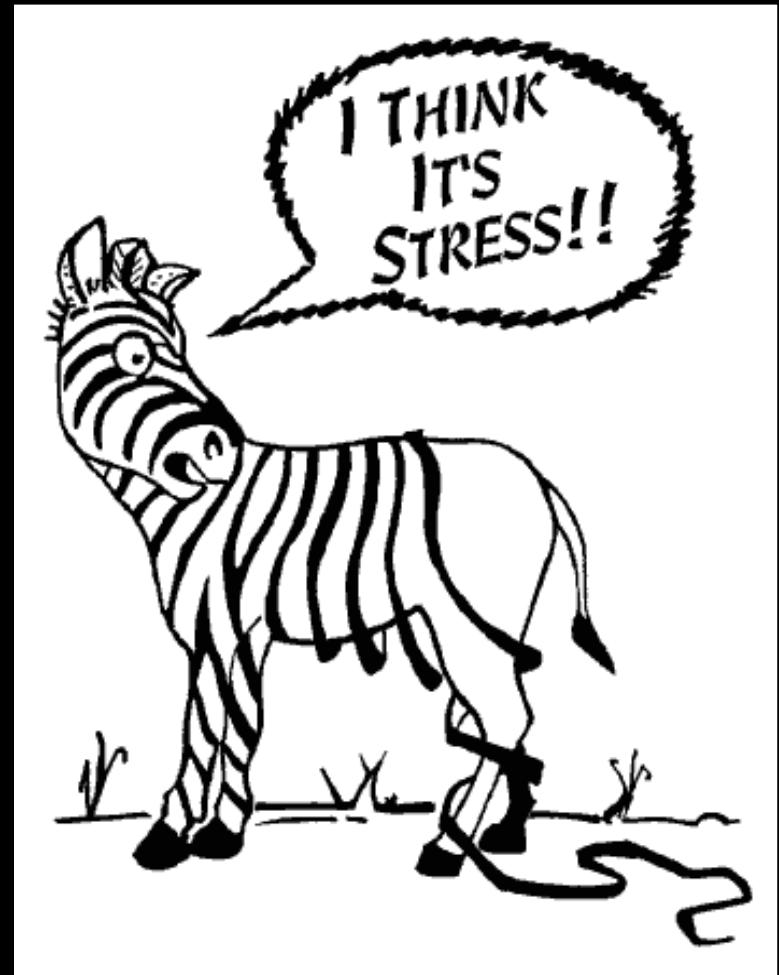
- 77% experience physical symptoms
- 73% experience psychological symptoms
- 33% feel they are living with extreme stress
- 48% feel their stress has  in the past 5 years



# Stress Stats

## Physical symptoms of stress:

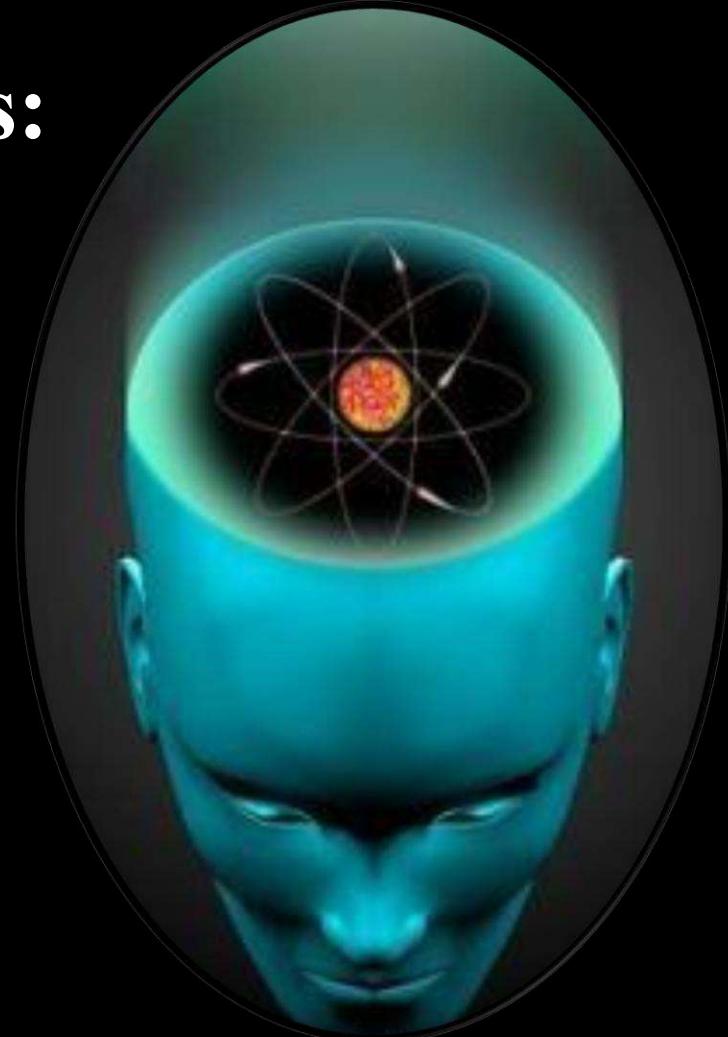
- fatigue 51%
- headache 44%
- upset stomach 34%
- muscle tension 30%
- change in appetite 23%
- teeth grinding 17%
- change in sex drive 15%
- feeling dizzy 13%



# Stress Stats

Psychological effects of stress:

- irritability or anger 50%
- feeling nervous 45%
- lack of energy 45%
- feel like crying 35%
- lying awake at night 48%

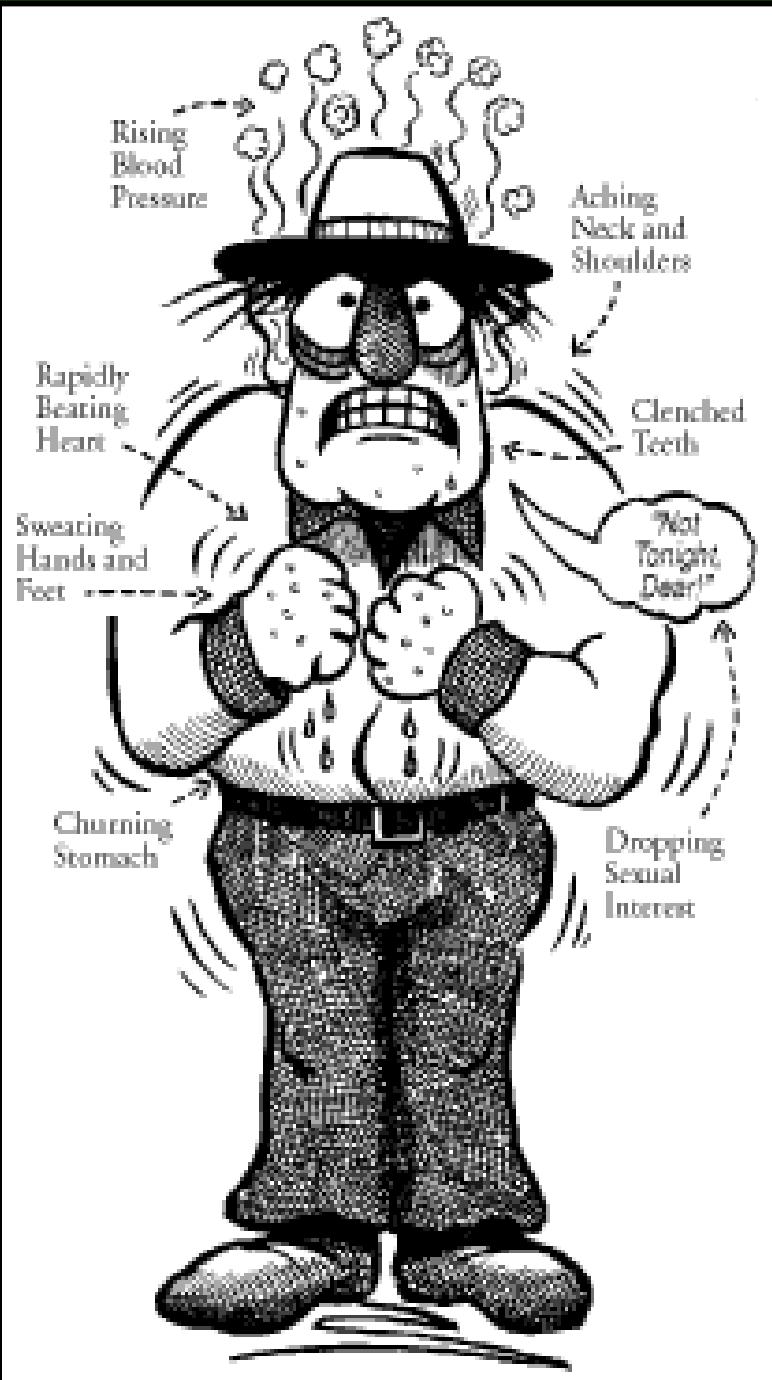


## Stress impacts lives in a dramatic way:

- 54% fight with people close to them
- 50% say stress has a negative impact on their personal & professional lives
- 35% cite jobs interfering with family or personal time as a significant source of stress
- 25% alienated from a friend or family
- 8% connect stress to divorce or separation

**American Psychological Association, 2007**





**Stress symptoms:**  
**tight shoulders,**  
**digestive upset,**  
**recurring headaches,**  
**↑ tendency to lose**  
**temper or become upset.**

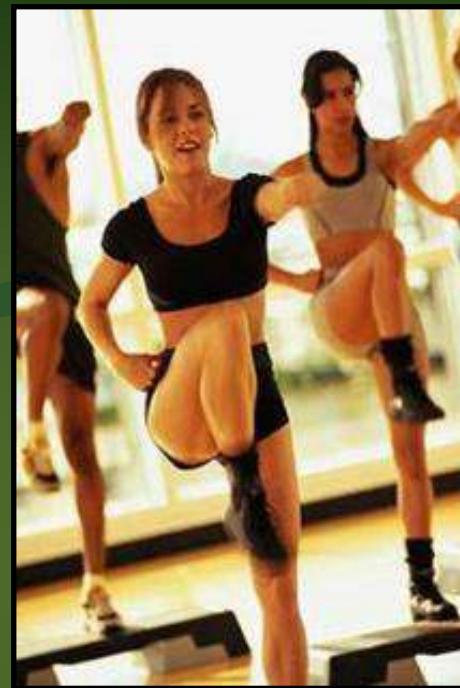
Stretching, breathing, relaxation & meditation are effective in managing stress.

# \*Exercise Instead of Medication

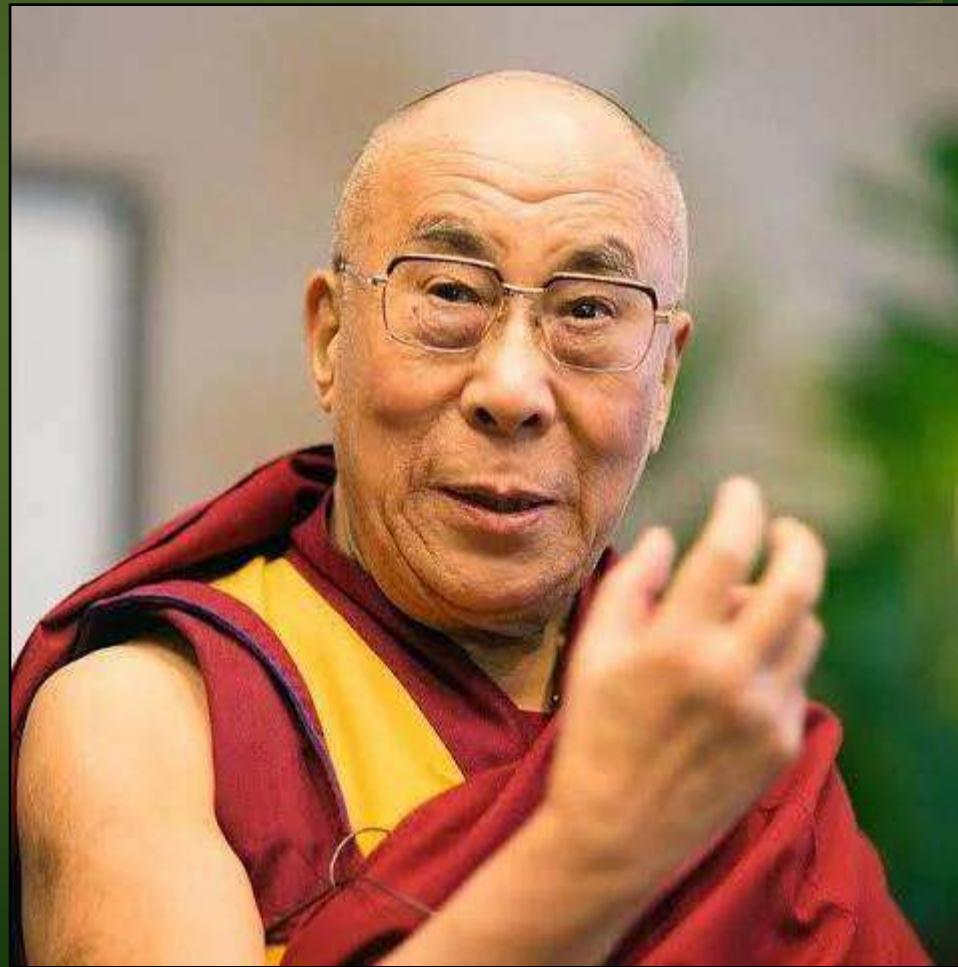
Regular exercise  
helps pts suffering  
from depression.

Group exercise  
3x/wk worked as  
well as drugs.

Psychosomatic Medicine, Sept 2007



**“Happiness is not something ready made.  
It comes from your own actions.” Dalai  
Lama**



## A Laugh a Day Keeps the Doctor Away

70% of people who saw a stressful movie,  
↓ blood flow by 35%.

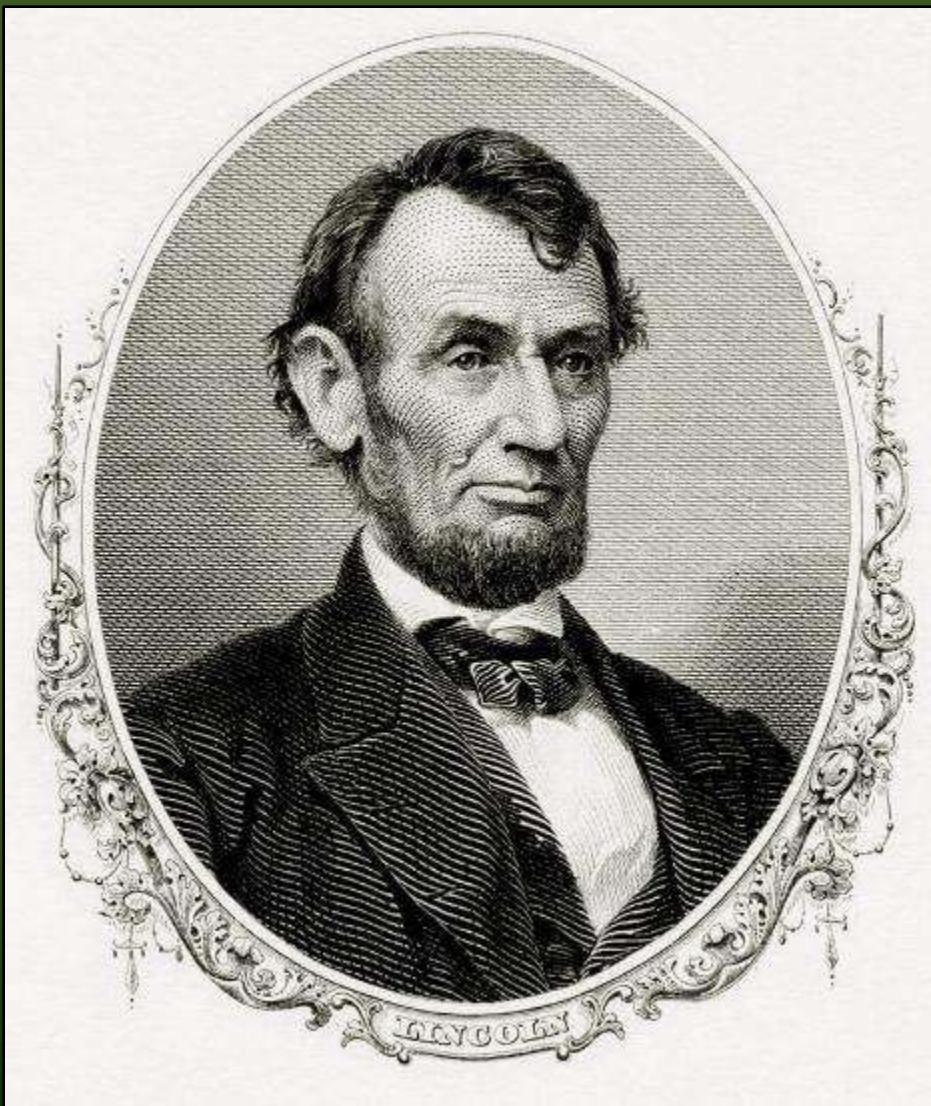
95% of people who saw a funny movie,  
↑ blood flow by 22%, equivalent to a 15-30  
min workout.

Laughing causes endorphins to release,  
which counteracts the effects of stress  
hormones, boosts the immune system &  
↓ inflammation.

Washington Post, March 2005

“Most folks are about as happy as they make their minds up to be.”

Abraham Lincoln ~ 1809-1865

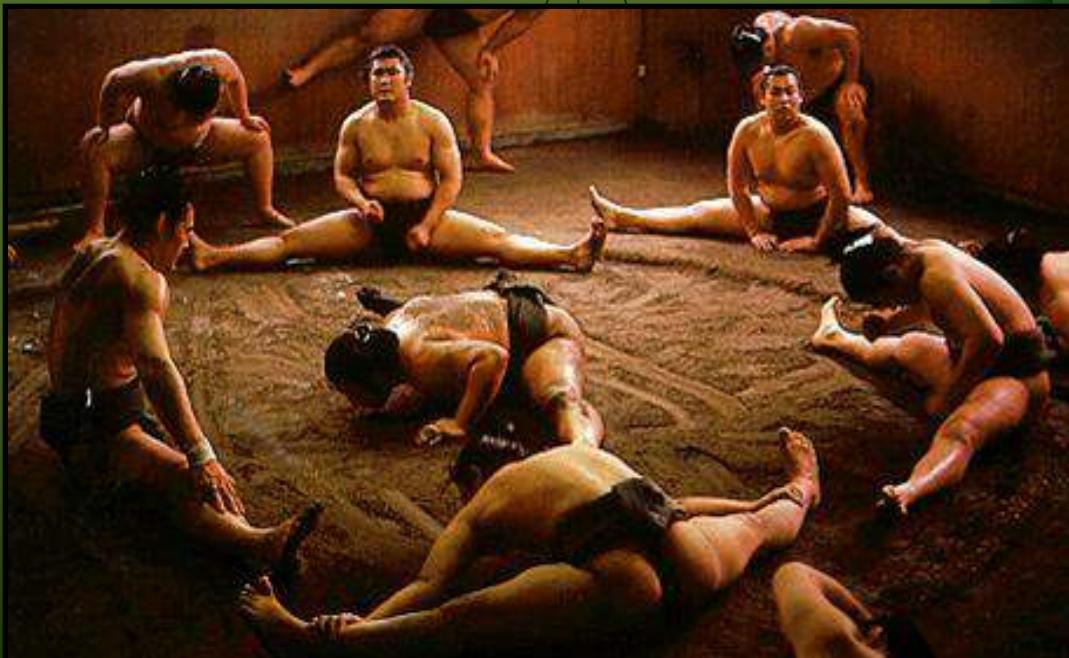


## \*Calm Down With Stretching

66% of Americans blame stress for their nighttime tossing & turning.

Stretching 4x/wk led to falling asleep 30% faster & using 60% less sleep meds.

Hutchinson Cancer Research Center, 2006



## Simple Ways to Decrease Stress

### Relax Your Body

Your body is your temple and can easily get run down by stress, strain and struggle so:

- \* Get good sleep
- \* Chiropractic adjustments
- \* Swedish massage, hot stone massage
- \* Foot or hand paraffin
- \* Body treatments: aromatherapy body wraps, body scrubs, etc
- \* Reflexology
- \* Rigorous and regular exercise
- \* Healthy sex

### Refresh Your Mind

Your mind is your guide, it can easily get distracted and off course so:

- \* Take long walks
- \* Spend time in nature the average person is outside only 17 minutes per day
- \* Read inspirational messages
- \* Learn new things
- \* Talk with a good friend
- \* Play with a dog or cat. Pet owners live longer and have fewer stress symptoms.
- \* Therapy or personal coaching on a regular basis

### Rejuvenate Your Spirit

Your spirit can easily be forgotten in the busyness of life so:

- \* Meditate 10-30 minutes per day
- \* Pray
- \* Sing & dance, people swear by the power of music to release tension and stress
- \* Consciously slow down
- \* Be fully present
- \* Know and live by your values and beliefs
- \* Surround yourself with supportive, loving and accepting people

### Stress-Free Activities

- \* Connect with nature, it restores homeostasis to your system.
- \* Make a list of your favorite things. Read it when you feel down.
- \* Rely on friends and animals, they are great sources of support.
- \* Create a pleasure drawer. Stock your drawer with personal momentos or simple indulgences: favorite scents, textures and tastes to create your own fully sensory stress relief treats
- \* Deep breathe. This will soothe your nervous system, it sends oxygen to your brain and refreshes your mind. Inhale through your nose and out through your mouth. Exhale through your mouth to the count of 10-15. Repeat 5-10 times per hour until you feel calmer.
- \* Laugh. Laughter is the best medicine for stress. Find humor in the situation. Smile often.
- \* Imagine. Use visualization and guided imagery to take your mind off the situation.

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## Stress Reduction Kit

Bang  
Head  
Here

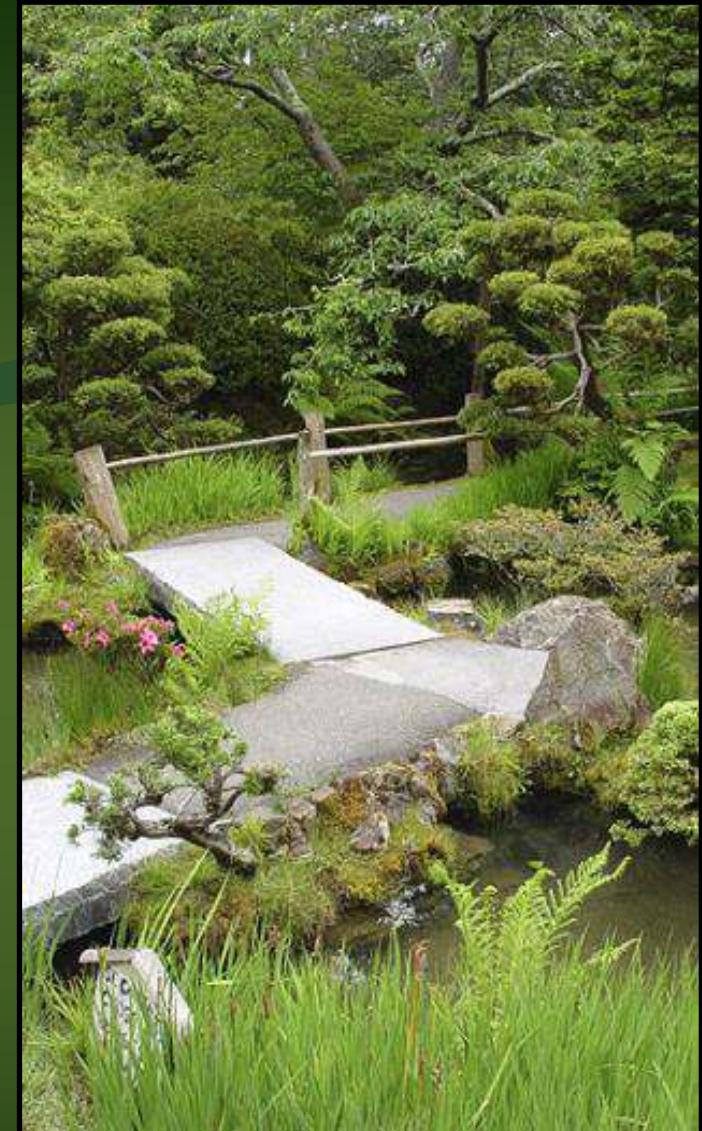
### Directions:

1. Place kit on FIRM surface.
2. Follow directions in circle of kit.
3. Repeat step 2 as necessary, or until unconscious.
4. If unconscious, cease stress reduction activity

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# More Ways To Decrease Stress!

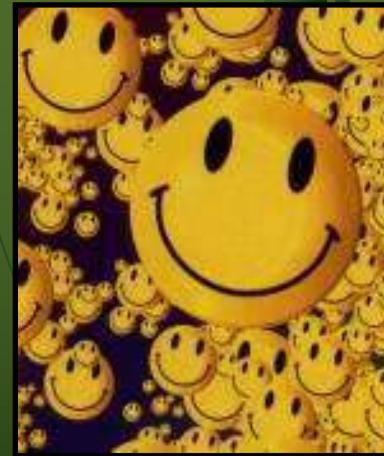
1. Yell! But---be sure you are alone. The best place is in the car with the windows up. Stuck in traffic? Try it.
2. Do something soothing. Start or try an activity like knitting, crochet or pottery. Don't worry about being good at it. It's the process that's beneficial. Sitting still while performing repetitive movements is calming and stabilizing for many people. It can be a good time to collect your thoughts.
3. Start a garden. Even apartment-dwellers can do this. Tending plants, fruits, vegetables, flowers and watching them grow, bloom or yield food is rewarding. Avid gardeners say working a garden is the best way to control stress and worry. An added benefit is the creation of a more beautiful, restful environment.
4. Gaze at the stars. Preferably in a still, dark and quiet area, sit back and observe the heavens. The vastness of space is awesome. This way can make a lot of problems seem very small.
5. Focus on the things you can change and do not worry about the rest
6. Eliminate stress by decreasing your activities and/or responsibilities
7. Do not over commit, manage your time, avoid rushing from place to place
8. Focus on the positive
9. Do not gossip
10. Be tolerant of others
11. Be giving & forgiving
12. Don't speed
13. Turn off your TV, do not watch the news, read & play games instead
14. Hug at least 5 people a day



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# I'll be happy when...

We convince ourselves that life will be better after we get married, have a baby, then another. Then we are frustrated that the kids aren't old enough and we'll be more content when they are. After that, we're frustrated that we have teenagers to deal with. We will certainly be happy when they are out of that stage.



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We tell ourselves that our life will be complete when our spouse gets his or her act together, when we get a nicer car, when we are able to go on a nice vacation or when we retire. The truth is there's no better time to be happy than right now. If not now when? Your life will always be filled with challenges. It's best to admit this to yourself and decide to be happy anyway. Happiness is the way.



So treasure every moment that you have  
and treasure it more because you shared  
it with someone special, special enough to  
spend your time with...  
and remember that time waits for no one.



# So stop waiting

Until your car or home is paid off.

Until you get a new car or home.

Until your kids leave the house.

Until you go back to school.

Until you finish school.

Until you lose or gain 10 lbs.

Until you get married or divorced.

Until you have kids.

Until you retire.

Until summer, spring, winter or fall.

Until you die.

Until this seminar ends.



There is no better time than right now to be happy. Happiness is a journey, not a destination. So work like you don't need money, love like you've never been hurt & dance like no one's watching. If you want to brighten someone's day, pass this on to someone special.

I just did!



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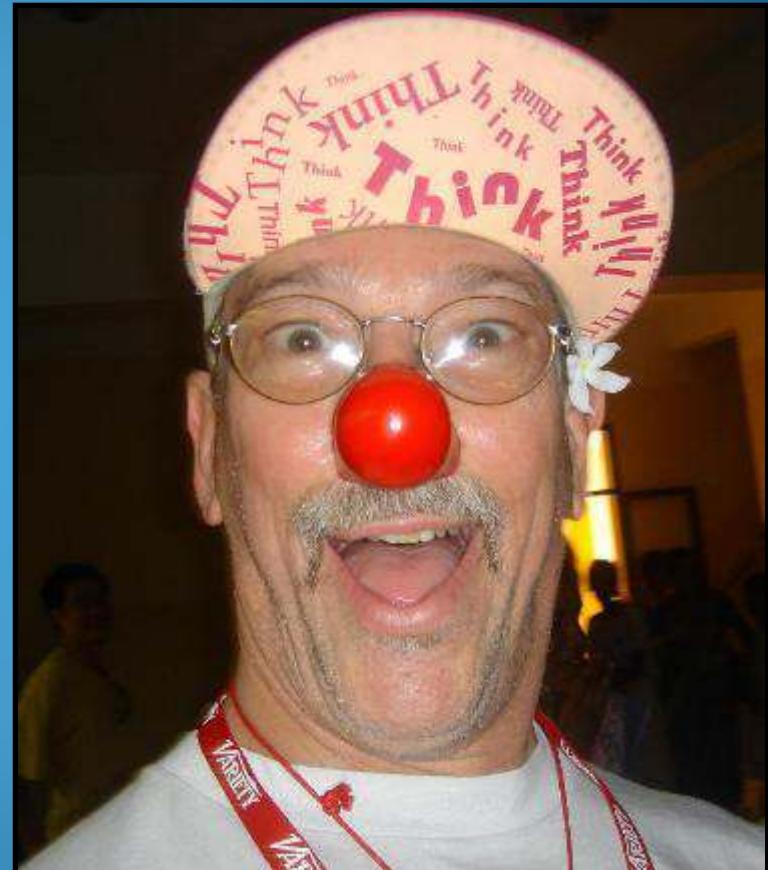


# Choose to Be Happy! ~ Patch Adams



“Laughter  $\uparrow$  secretion of catecholamines & endorphins, which  $\uparrow$  oxygenation of the blood, relaxes arteries,  $\uparrow$  heart rate,  $\downarrow$  BP, which has a positive effect on all cardiovascular & respiratory ailments, as well as  $\uparrow$  immune system response.”

From the movie Patch Adams



# 10 Ways to Improve Your Attitude

1. Work on relationships: They're our best source of happiness & biggest source of problems & frustrations. Develop good relationships & improve or end poor ones.



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# 10 Ways to Improve Your Attitude

2. Develop routine activities: an early morning walk, exercise, meditation & quiet time, are effective in getting the day off to a positive start. It is easier to stay positive, by starting positive.



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# 10 Ways to Improve Your Attitude

3. Monitor your mental state: Being aware of the cause of your negative mood makes it easier to return to the positive. If in a negative state, learn from it & then take action.

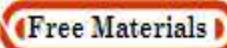


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# 10 Ways to Improve Your Attitude

4. Create an energizing physical environment: Invest time & money to make your surroundings pleasing & energizing. Small items make a difference in how your space affects your moods. Lighting can provide a mood improvement. Mood improves by cleaning up the bedroom or dirty dishes, as clutter is de-energizing. A water fountain can create a feeling of energy & music can offset feelings of isolation.



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# 10 Ways to Improve Your Attitude

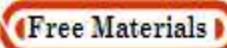
5. Monitor your negative self-talk: This is a source of low moods, be alert to negative messages. Focus on getting a truthful message, then shifting out of self-defeating criticism. We are usually our own worst critic. Refrain from making judgments ~ instead think positively.



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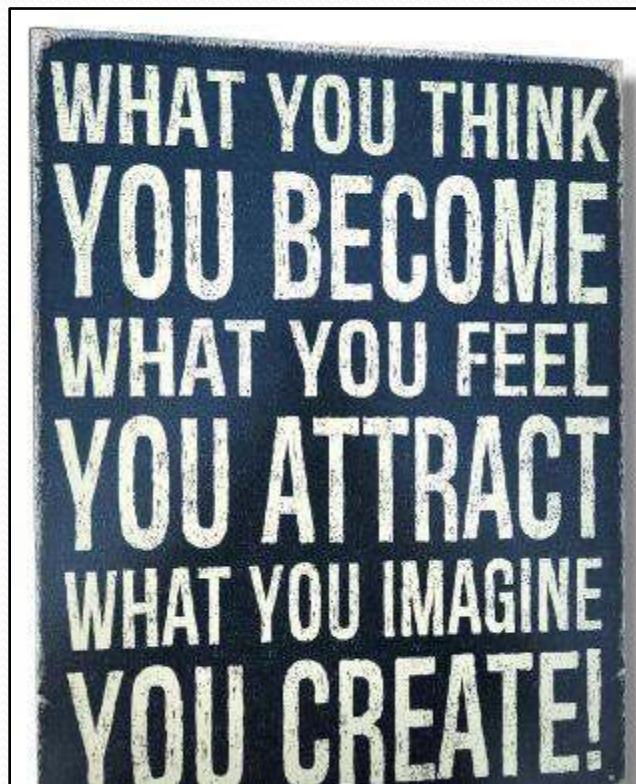
# 10 Ways to Improve Your Attitude

6. Deal with problems effectively: Problems are a part of life & we can learn from them.
  - a. Ask yourself:
  - b. What am I contributing to this problem?
  - c. What life lesson am I missing here?
  - d. What is the worst that can happen & how can I improve on that?
  - e. What am I doing right?
  - f. What am I going to do differently?

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# 10 Ways to Improve Your Attitude

7. Attract what you need: Time & energy is best spent pursuing desirable goals. Ask others for what you need. On Monday make a list of goals for the week.



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# 10 Ways to Improve Your Attitude

8. Be a positive energy source: Negative energy attracts negative results. Keep your own mood positive & suppress negative behavior. Pay it forward. For every kind deed offered to you, do a kind deed for someone else.



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# 10 Ways to Improve Your Attitude

9. Avoid using negative energy as an energy source: Negative people create busyness, use deadlines, crises & problems to keep them going. Serious burnout is the eventual result of becoming dependent on negative energy.



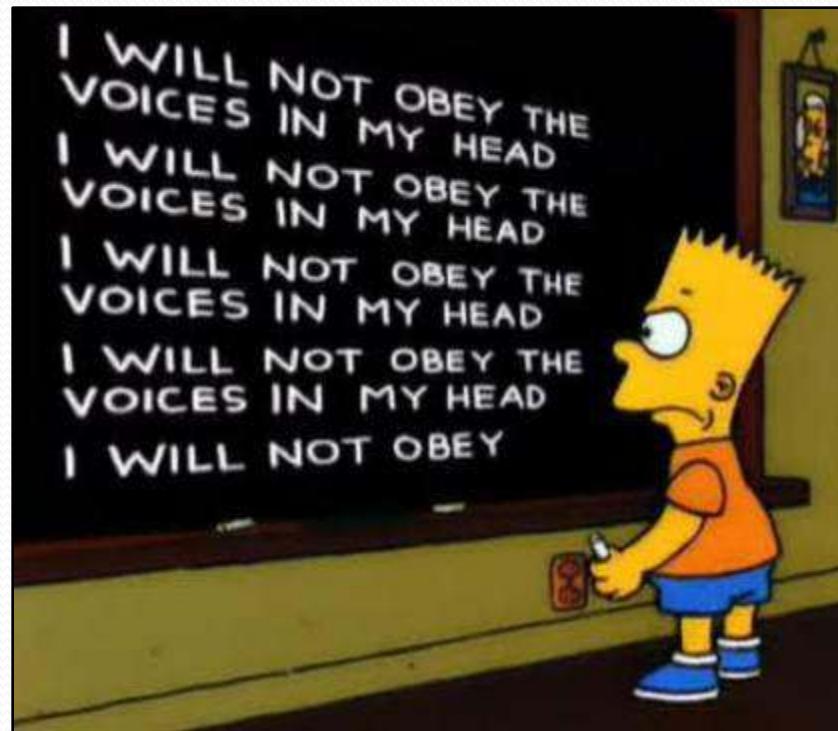
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# 10 Ways to Improve Your Attitude

10. Ease up on the internal life commentary.

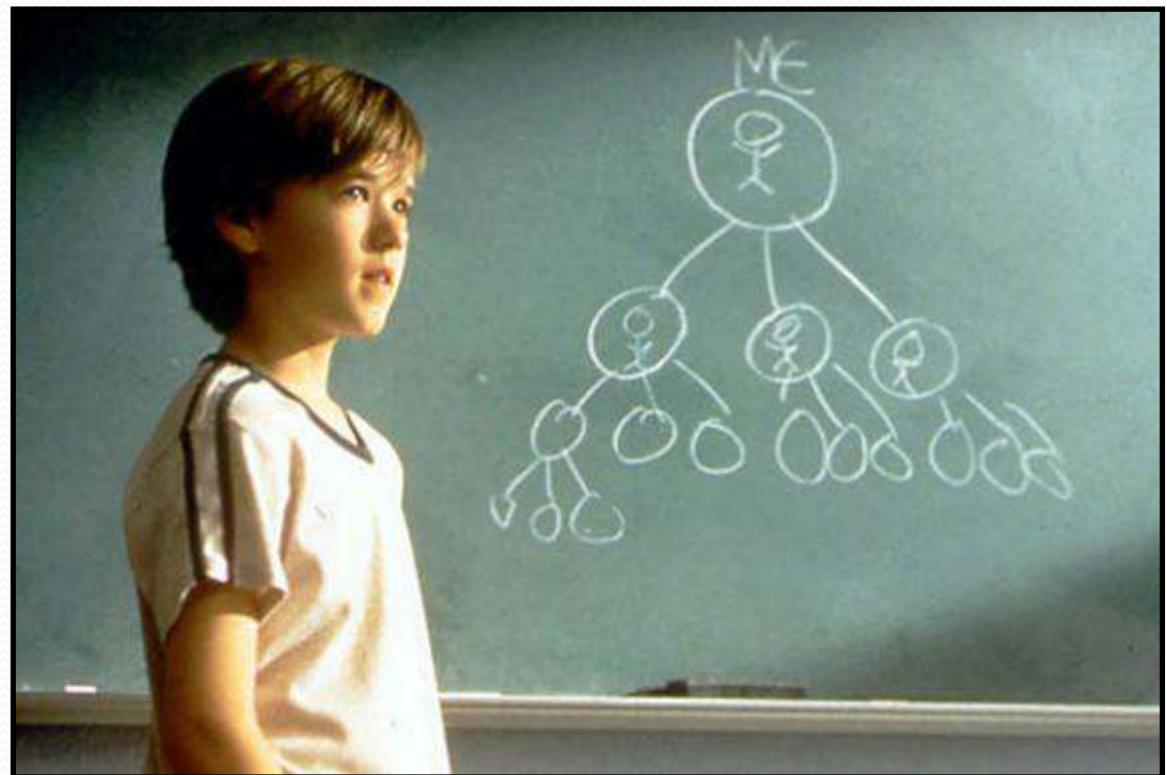
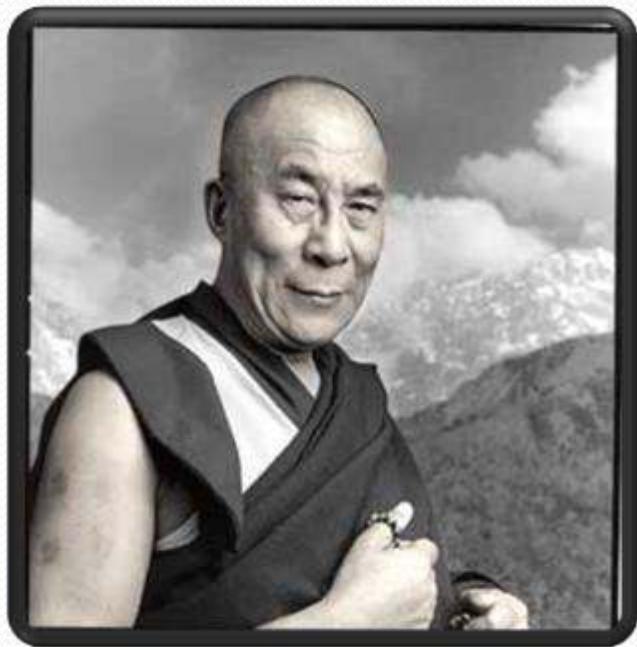
If you want to be happy, stop telling yourself you're miserable.

Bruce St. John, Leadership Coach



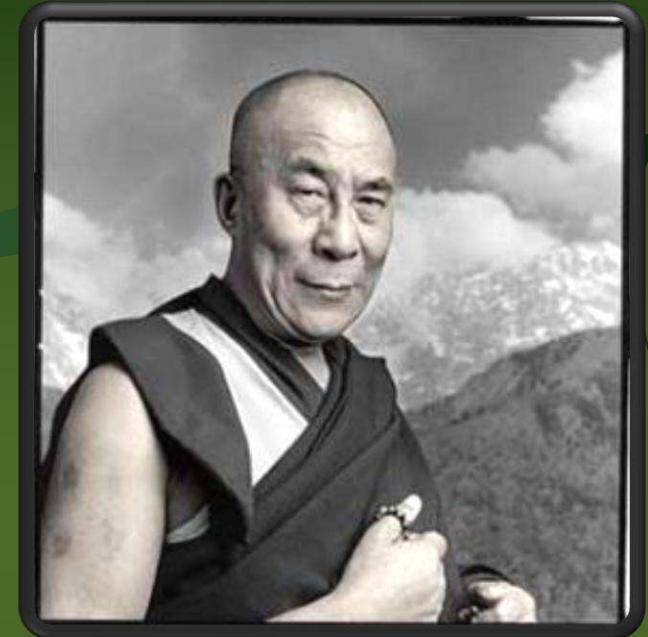
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# Pay It Forward ~ Good Deeds



“If you have fear of some pain or suffering, you should examine whether there is anything you can do about it.

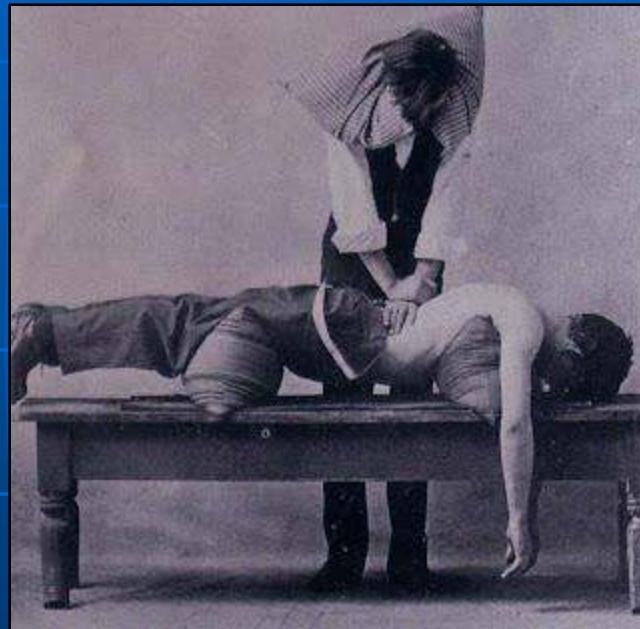
If you can, there is no need to worry about it; if you cannot do anything, then there is also no need to worry.”



Dalai Lama



Wondering where  
Chiropractic Care falls into this?  
Chiropractic *specifically* is covered in our  
Wellness: In The Office, Zoom & Online course.



Hope To See You Soon  
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# Thanks So Much For Being Here Today!



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