

THE SCIENCE OF STRESS

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What is stress?

How can stress make you sick?

What does stress do to our mind?

What do our experiences prior to the age of 18 have to do with our health in the long run?

Abuse? Neglect? Household dysfunction?

What does divorce have to do with heart disease?

According to Merriam Webster, stress is defined as:
a physical, chemical, or emotional factor that causes bodily or mental tension and may be a factor in disease causation

Stress generally refers to two things: the psychological perception of pressure and the body's response to it.

Stress means something different to different people.

**I STRESS ABOUT STRESS BEFORE
THERE'S EVEN STRESS TO
STRESS ABOUT. THEN I STRESS
ABOUT STRESSING OVER STRESS
THAT DOESN'T NEED TO BE
STRESSED ABOUT.
IT'S STRESSFUL.**

COUNTRYREBEL.COM

Deadlines

A first time mom

Children

Being a caregiver

Time

Change in
routine

Money

Algebra

Relationships

Self Esteem

Loss

Health

Intimidation

Work

Forgetting your
own bags while
grocery shopping

Wi-Fi

What if....

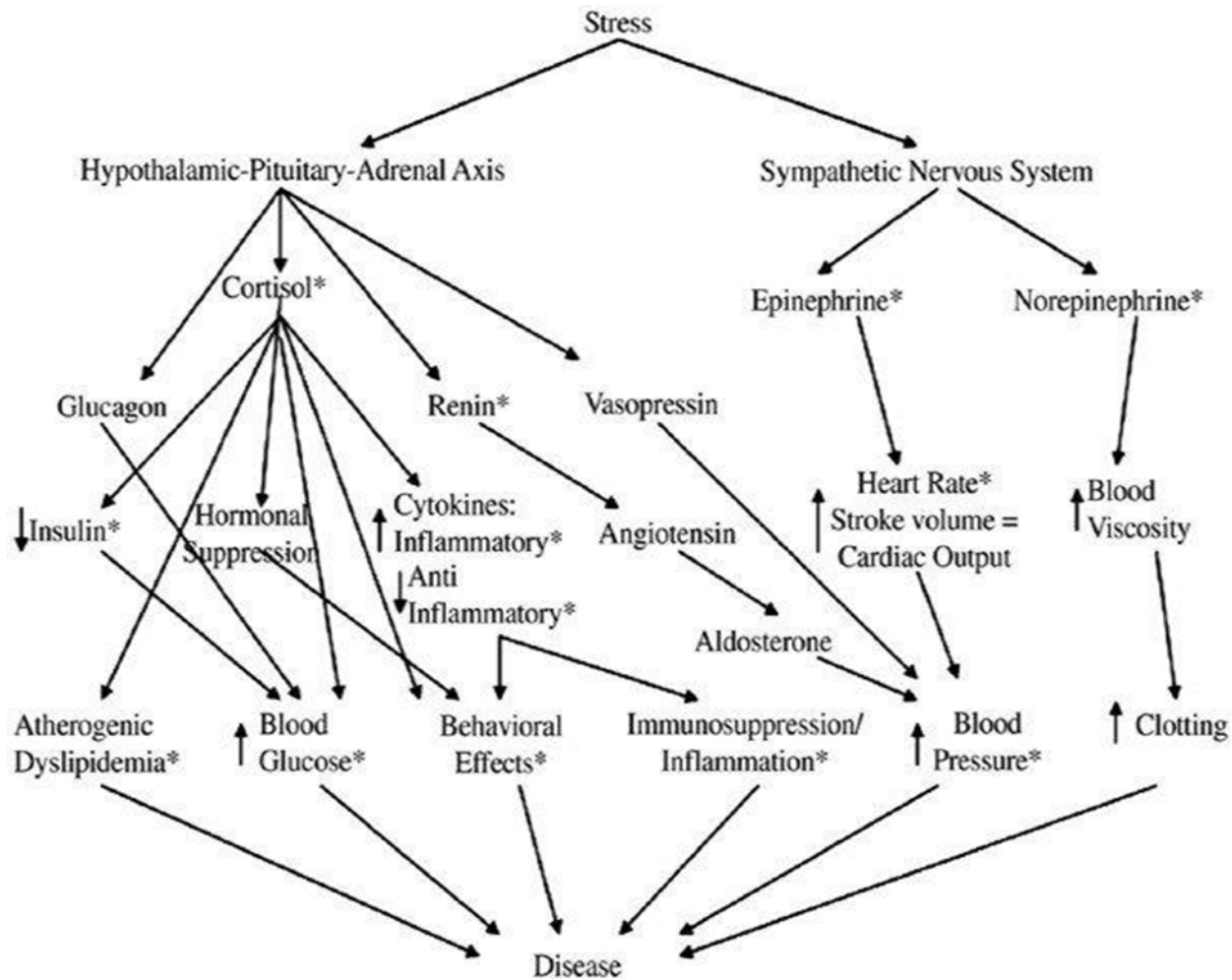
Will Brad Pitt and Angelina Jolie get back together?



Do penguins have knees?

COVFEFE???!!!????????





FIGHT or FLIGHT

NOTICEABLE EFFECTS

PUPILS DILATE
MOUTH GOES DRY
NECK + SHOULDER
MUSCLES TENSE
HEART PUMPS FASTER
CHEST PAINS
PALPITATIONS
SWEATING
MUSCLES TENSE
FOR ACTION
BREATHING FAST
+ SHALLOW -
HYPERVENTILATION
OXYGEN NEEDED
FOR
MUSCLES

HIDDEN EFFECTS

BRAIN GETS BODY
READY FOR ACTION
ADRENALINE
RELEASED FOR
FIGHT/FLIGHT
BLOOD PRESSURE
RISES
LIVER RELEASES
GLUCOSE TO PROVIDE
ENERGY FOR MUSCLES
DIGESTION SLOWS -
OR CEASES
SPHINCTERS CLOSE -
THEN RELAX
CORTISOL RELEASED
(DEPRESSES THE
IMMUNE SYSTEM)

F. Hedges

How can stress make you sick?





WHAT DOES THE PAST HAVE TO DO WITH MY HEALTH TODAY?

Our individual tolerance for stress varies person to person based on their life experiences.

BEFORE THE AGE OF 18 DID A PARENT OR OTHER ADULT...

ACE QUESTIONS

1. Swear at you, insult you, put you down, or humiliate you?
2. Push, grab, slap, hit hard ,or throw something at you?
3. A person 5 years older sexually abuse you?
4. No love or family did not look out for one another?
5. Didn't have basic need met or parents too involved in addiction?
6. Were your parents ever separated or divorced?
7. Was your mother or grandmother physically abused or threatened in front of you?
8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?
9. Was a household member depressed or mentally ill or did a household member attempt suicide?
10. Did a household member go to prison?

Adverse childhood experiences can alter the structural development of nervous system and the biochemistry of the interface of your nervous system and hormones and may have long-term effects on the body, including speeding up the processes of disease and aging and compromising immune systems

ACE STUDY

- The CDC-Kaiser Permanente Adverse Childhood Experiences (ACE) Study is one of the largest investigations of childhood abuse and neglect and later-life health and well-being.
- The original ACE Study was conducted at Kaiser Permanente from 1995 to 1997 with two waves of data collection. Over 17,000 HMO members from Southern California receiving physical exams and completed confidential surveys regarding their childhood experiences and current health status and behaviors.
- 75.2% college experience. Middle class.

FINDINGS

KAISER	
Emotional Abuse	11%
Physical Abuse	28%
Sexual Abuse	22%
Emotional Neglect	10%
Physical Neglect	10%
One of no bio parents	23%
Mother treated violently	13%
Substance Abuser in Home	27%
Mentally ill person in home	17%
Household member in prison	5%
No ACE's reported	33%

CCC Mar 2015	
Emotional Abuse	48%
Physical Abuse	44%
Sexual Abuse	35%
Emotional Neglect	35%
Physical Neglect	26%
One of no bio parents	22%
Mother treated violently	17%
Substance Abuser in Home	39%
Mentally ill person in home	31%
Household member in prison	9%
No ACE's reported	17%

The young brain is especially vulnerable to stress. When prolonged stress occurs during infancy and childhood, the stress hormone cortisol is released throughout the young brain and body. These stress hormones compromise normal brain development and the immature immune and nervous systems. The ACE Study demonstrates that early stress is a strong factor for developing the following national health problems.

- Cardiovascular disease
- Cancer
- Heart attacks
- High blood pressure
- Stroke
- Diabetes
- Weight gain(especially abdominal fat)
- Exhaustion
- Reduced Growth Hormone Levels
- Compromised immune function
- Bone loss

Table 1. ACE-Related Odds of Having a Physical Health Condition¹

Health Condition	0 ACEs	1 ACEs	2 ACEs	3 ACEs	4+ ACEs
Arthritis	100%	130%	145%	155%	236%
Asthma	100%	115%	118%	160%	231%
Cancer	100%	112%	101%	111%	157%
COPD	100%	120%	161%	220%	399%
Diabetes	100%	128%	132%	115%	201%
Heart Attack	100%	148%	144%	287%	232%
Heart Disease	100%	123%	149%	250%	285%
Kidney Disease	100%	83%	164%	179%	263%
Stroke	100%	114%	117%	180%	281%
Vision	100%	167%	181%	199%	354%

TAKE CARE OF YOU!

**TAKE CARE OF
YOUR BODY.
IT'S THE ONLY
PLACE YOU HAVE
TO LIVE IN.**

