



Physicians and the Suicidal Brain

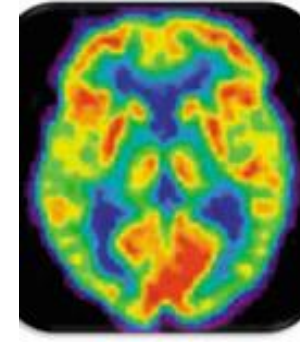
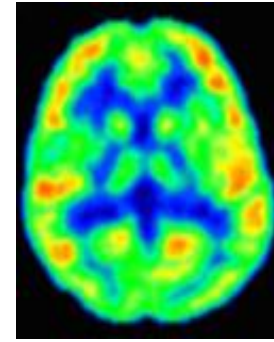
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9-18

After accidents, suicide is most common cause of death among medical students—almost invariably the results of untreated or inadequately treated affective disorders such as **depression (estimated at 12% of males and 19% of females) or **bipolar****

Suicide is most likely to occur just prior to the start of a clinical rotation or residency



Marriage may be a buffer to emotional distress for males; discord/divorce can increase risk of suicide for females

Estimates are “a doctor a day” commits suicide; they have higher suicide completion rates than the general public

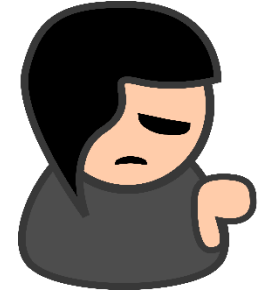
- **Males: from 1.4 to 2.3 times higher**
- **Females: from 2.5- to 4.0 times higher**



Most common diagnoses among physicians who complete suicide are affective disorders (depression** and **bipolar disease**), **alcoholism**, and **substance abuse**; most common means - lethal medication overdose and firearms**

—Louise B. Andrew, MD, JD “Physician Suicide”
8-1-18 Emedicine.Medscape.com

**Depression is the leading cause of ill health and disability worldwide—and a leading cause of divorce—
It affects more than 300 million people;
an 18% increase between 2005 and 2015**



A mood disorder that lasts two or more weeks during which there is either a depressed mood or loss of interest or pleasure (anhedonia)—plus at least four other s/s that reflect a change in functioning, such as problems with:

Sleeping, Eating, Energy, Concentrating, Self-image

—www.nimh.nih.gov/health/topics/depression/index.shtml

Even when they acknowledged their choice would make them more sad, depressed people chose to:

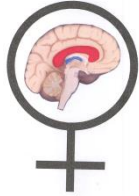


- **Look at sad pictures again instead of happy ones**
- **Listen to sad music instead of happier music**

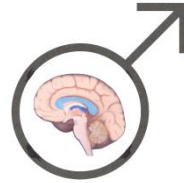
Acknowledged contributors included:

- **Sadness and depression had become their identity**
- **Liked the sympathetic rewards they received**
- **It took less energy to follow an established habit**
- **Allowed them to get out of things they wanted to avoid**
—Yale University, The Hebrew University

Symptoms of depression are more likely to show up during teens and 20s, and around menopause



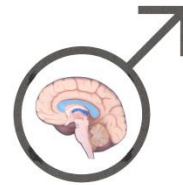
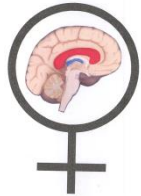
Symptoms of depression tend to show up at andropause in 40s and 50s (three-times-higher suicide rate)



Statistically it requires 10 years and 3 different health professionals to properly diagnose depression in males

Common Symptoms Differ for Males and Females

- **Feel 'blue'**
- **Turn inward**
- **Blame self**
- **Feel sad**
- **Afraid, anxious**
- **Avoid conflict**
- **Procrastinate**
- **Sleep too much**

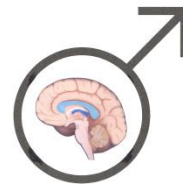


- **Are 'irritable'**
- **Act out**
- **Blame others**
- **Experience anger**
- **Suspicious, guarded**
- **Create conflict**
- **Compulsive**
- **Sleep too little**

- **Difficulty with boundaries**
- **Feel guilty (real or imagined)**
- **Self-medicate (food, alcohol)**
- **Isolate or withdraw**
- **Behaviors change dramatically**



- **May become controlling and breach boundaries**
- **Experience shame (libido and sex performance)**
 - **Self-medicate (alcohol, food, high-risk behaviors, sexual misuse)**
- **Overuse TV or Internet sites**



Up to 50% percent of depressed persons in some surveys reported at least one parent, if not both, were depressive

Identify any familial tendency for depression—forewarned is forearmed!

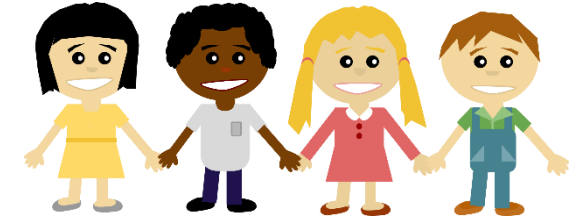
Genetic – possible genetic components (genetic effects may become more pronounced with age in females)



Epigenetic – environmental impact on genetic expression (parental depression can seriously impact children)

Depressed fathers negatively affected cognitive development of both boys' and girls' by age 2 and on; and boys' language development at age 3 (but not girls)

Chronically depressed mothers had boys with lower cognitive scores (but not girls)

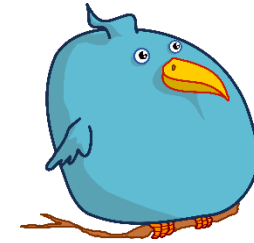


Parents mental health and stress issues influence feelings, perceptions, and responses to their children that can disrupt parent-child interactions and ultimately jeopardize cognitive, social, and verbal processes necessary for language and cognitive development

Harewood et al., Vollotton et al., 2016

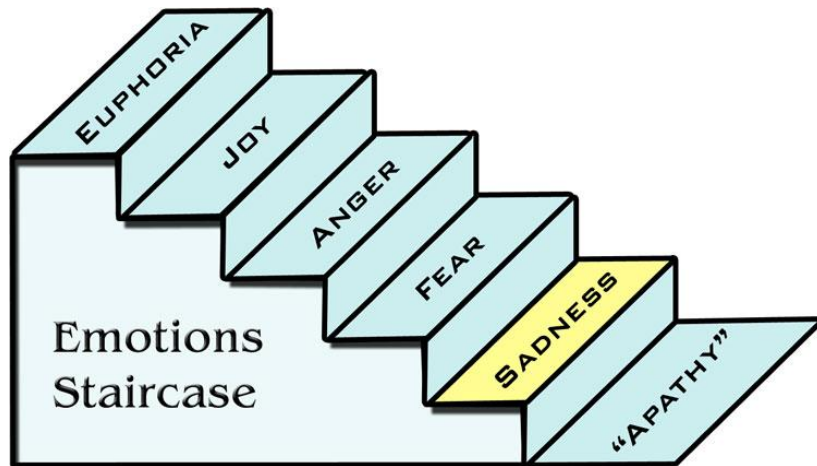
Obese people were more likely to have depression than people with healthy weights—15 long-term studies followed 58,000 participants for up to 28 years and found that people who:

- **Were obese at the start of the study had a **55%** higher risk of developing depression by the end of the follow-up period**
- **Had depression at the start of the study had a **58%** higher risk of becoming obese**



—<http://www.hsph.harvard.edu/obesity-prevention-source/obesity-consequences/health-effects/>

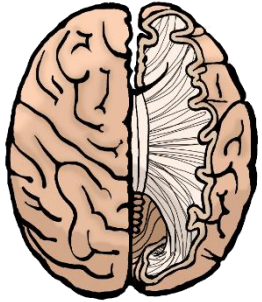
**Uterine scans have identified four core emotions that can be seen on the face of the developing fetus—depending on what is happening with and to the mother:
joy, anger, fear, and sadness**



Each emotion may be linked with a separate neuropeptide so you can only experience one core emotion at a time

Sadness provides energy to grieve loss and recover successfully (unmanaged it can turn into depression)

**When in the grip of a strong emotion, the brain is in an *altered state*, especially when the protective emotions of anger, fear, and sadness are involved —Candace B. Pert, PhD
*Molecules of Emotion; Your Body is Your Subconscious Mind***



**Suicide likely occurs only in a brain that is
in an altered state**

PET Scans have linked the core emotion of JOY with the L. hemisphere and the three protective emotions with the R. hemisphere (transmission rates of 600 mph or 966 Km)

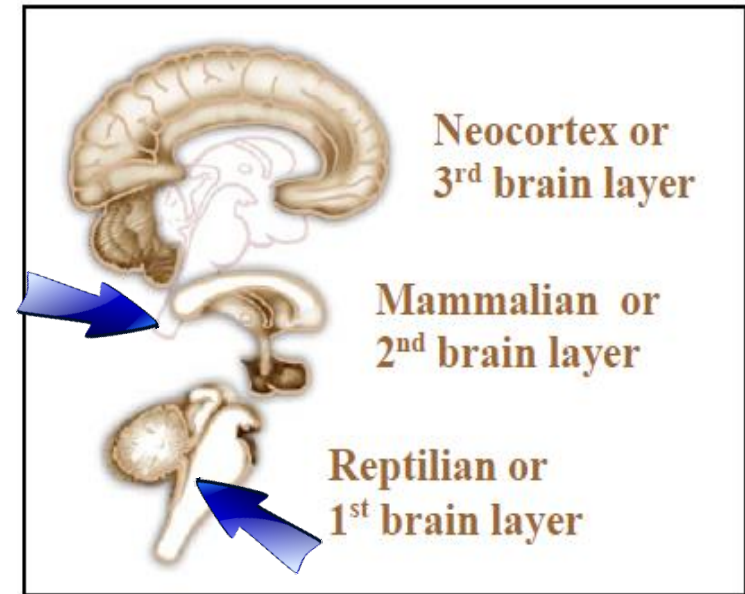
Suicide may be a unique entity, reflecting the culmination of several complex processes including:

- ✓ **Depression**
- ✓ **Impulsivity**
- ✓ **Disinhibition**
- ✓ **Anxiety**
- ✓ **Executive function dysregulation**



**—Cornelis Van Heeringen, MD, PhD
Unit for Suicide Research, University of Gent, Belgium**

When the brain perceives a stressor, the hypothalamus in the mammalian layer triggers the secretion of CRF or Corticotropin Releasing Factor—a neurotransmitter and a peptide hormone—binds to receptors in the locus ceruleus, an alarm center



—Molecular Psychiatry (report)

High levels of CRF found in the cerebrospinal fluid of those with major depression and those who committed suicide (likely related to their underlying major depression)

- **Can increase subjective anxiety**
- **Can suppress appetite - may be linked with anorexia nervosa**
- **Is linked with euphoric feelings that accompany alcoholism**
- **Triggers inflammation, a process being investigated in Multiple Sclerosis research**
- **Is linked with major depression and suicidal brains**



**CRF is
Powerful!**

Cortisol, a stress chemical, has many important functions including working with the thyroid gland and assisting with the fight-flight stress response

Elevated 24-hour urinary cortisol production was found in patients who recently attempted suicide compared with patients who did not have a history of suicidal behavior



Serotonin, a neurotransmitter, regulates mood, sleep, intestinal movements, and etc.

Neurons in the reptilian layer produce serotonin that is carried to the neocortex and the gut by long projections (10% is in the brain, 90% is in the gut)

Abnormal levels (up or down) are associated with depression, anxiety, OCD, alcoholism, and suicidal tendency—in which too little reaches the neocortex



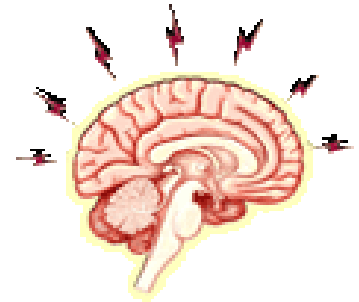
Norepinephrine, both a neurotransmitter and a hormone, mobilizes the body for action (e.g., fight-flight), and increase levels of restlessness and anxiety



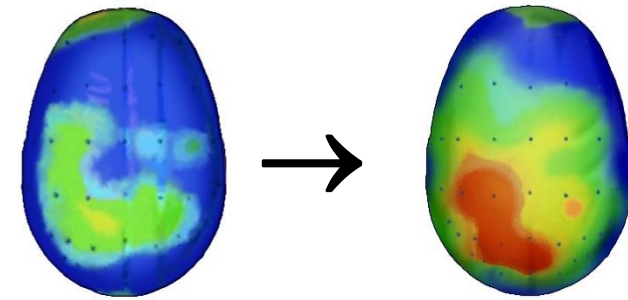
Elevated levels of norepinephrine inhibit activity in the prefrontal cortex—the part of the brain that helps regulate conscience, willpower, decision-making, feelings, planning, choosing, and behaviors—and have been linked with increased risk for suicidal behavior

Cholesterol is the precursor for the synthesis of cortisol, estrogen, progesterone, testosterone, and vitamin D, etc.; and impacts memory functions

Low levels of cholesterol can create an altered brain state and have been linked with increased suicide risk—whether due to drugs, diet, or occurring spontaneously



Good news: a brain that has been trained to live with depression can be retrained ...

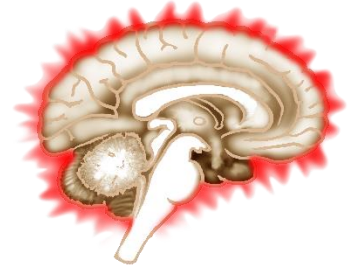


Depression makes you overly sensitive to small triggers, leading to a sense of helpless resignation. But if you act early, before you reach this stage, you have room to manage an everyday stress and the energy to carry out your decision to do so... head the depression response off at the pass

—Tanzi & Chopra, *Super Brain*

Be preventively proactive!

- **Know symptoms of depression for your gender and be aware of them in yourself; get help early!**
- **Never treat yourself or ‘you’ll have a fool for patient’**
- **Avoid meaningless controversy—arguing stress can be lethal as it suppresses your Immune system**
- **Know you cannot do everything or know everything or help everyone or even save everyone ...**



Live a balanced *Longevity Lifestyle* and take good care of yourself or you risk giving from a well of unmet needs instead of from an overflowing cup!

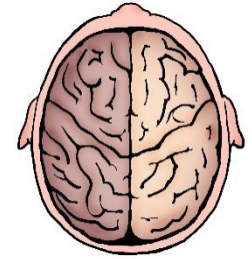


Get enough sleep—inadequate sleep is independently linked with a shortened lifespan and can lead to depression

Drink enough water each day—dehydration is now linked with brain tissue shrinkage, which is linked with dementia; it's hard to be joyful when you can't distinguish between a computer and a cauliflower

Develop a positive mindset and self-talk

Negative thinking and talking burns up serotonin!



You can't afford the luxury of a single negative thought!

—Peter McWilliams

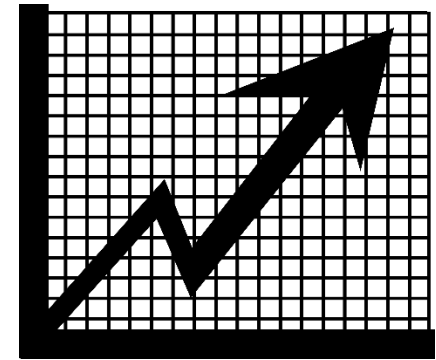
Your habitual attitudes form neural circuits in the brain—if you choose to maintain a specific attitude, the brain can literally rewire itself to facilitate that attitude

—Doc Childre and Howard Martin, *The HeartMath Solution*

Raise your level of Emotional Intelligence or EQ and learn to manage your emotions appropriately

Dump all JOT behaviors:

- **Jumping to conclusions**
- **Overreacting**
- **Taking things personally**



Stop the drama! 50% of all the problems people face are believed to be of their own making—based on the way they think

Carefully manage the time you spend on social media—it is a powerful distraction



Some studies show that those who spend large amounts of time on social media tend to compare themselves to what they read about others, which can lead to dissatisfaction with their own life and even depression

Love what you are doing (or do what you love) and give thanks for being able to make a difference on this planet!

- Article: *Recovery Pyramid*
- Mini-monograph: *Loss, Grief, and Recovery*

