

## Life is Your Best Medicine



### Tieraona Low Dog, MD

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Clinical Assoc. Professor of Medicine  
University of Arizona (retired)

Guiding Teacher: NY Zen Center Fellowship in  
Contemplative Medicine

National Geographic's  
*Life Is Your Best Medicine*  
*Healthy At Home*  
*Fortify Your Life*  
*Guide to Medicinal Herbs*

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“When we are born, we are set upon a path and that path is our medicine road.

All the choices we make along the way affect our thoughts, our relationships, our health, and the world around us.”

*Grandma Jo*



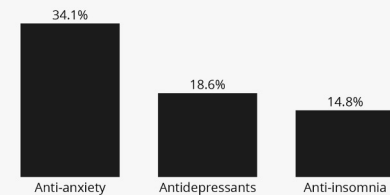
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### Mental Health Prescriptions Spike Amid Pandemic Fears

Increase in weekly prescriptions for anti-anxiety, anti-insomnia and antidepressant medications in the U.S.\*



\* Figures show the increase in prescriptions for the week ended March 16 over the week ended February 15, 2020. Based on an analysis of prescription claims among a sample of more than 31.5 million commercially insured individuals.  
Source: Express Scripts



statista

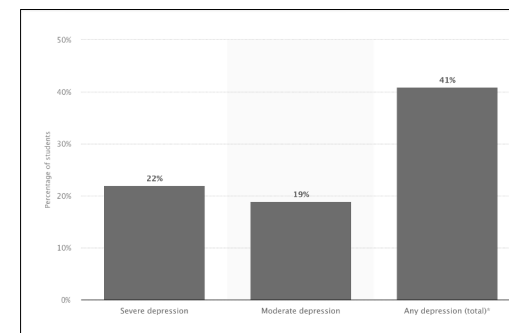
During this pandemic, increased use of anxiolytics, antidepressants, and sleeping agents started early and has shown little signs of slowing.

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### Percent of College Students with Depression, 2021

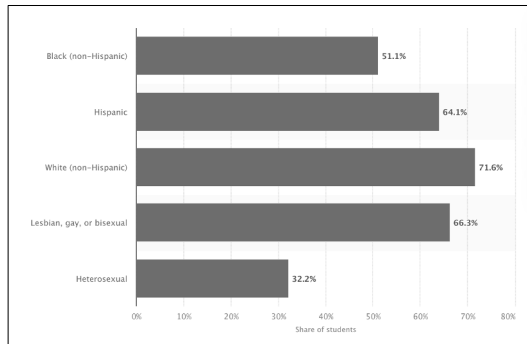


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Percent of US High School Students Who Felt Sad or Hopeless in 2019



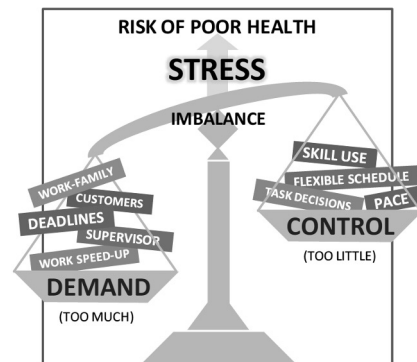
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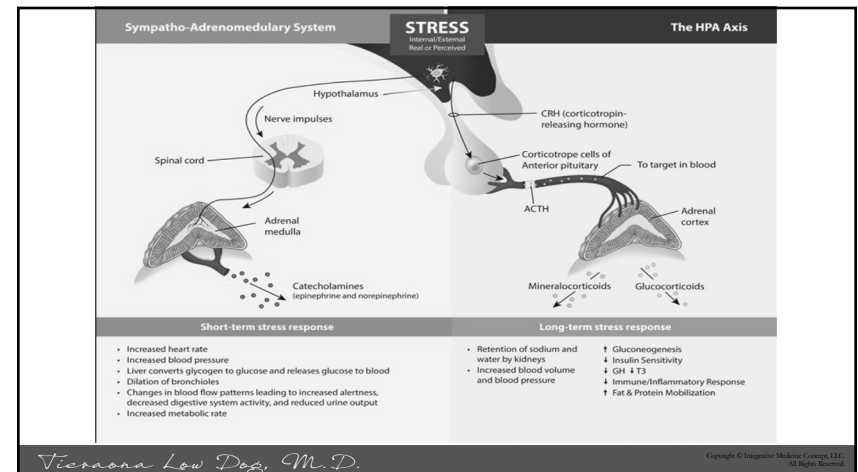
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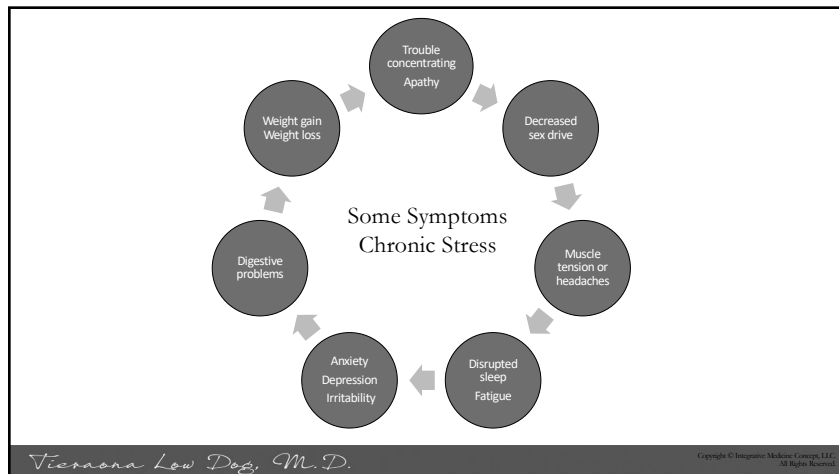
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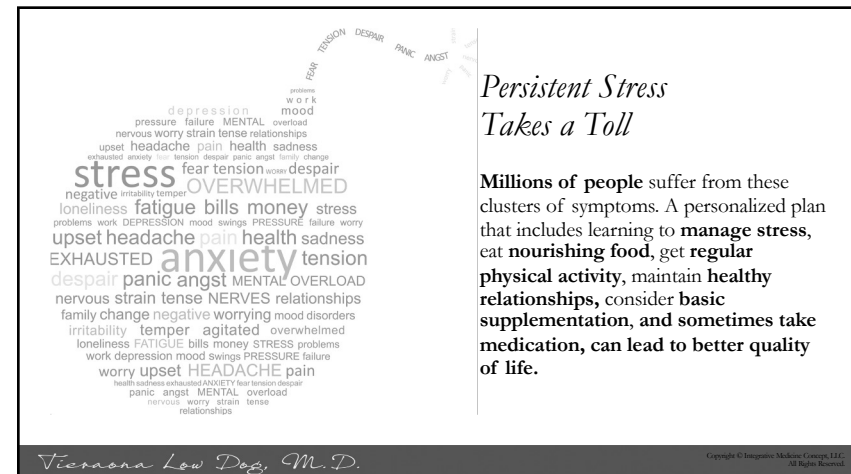
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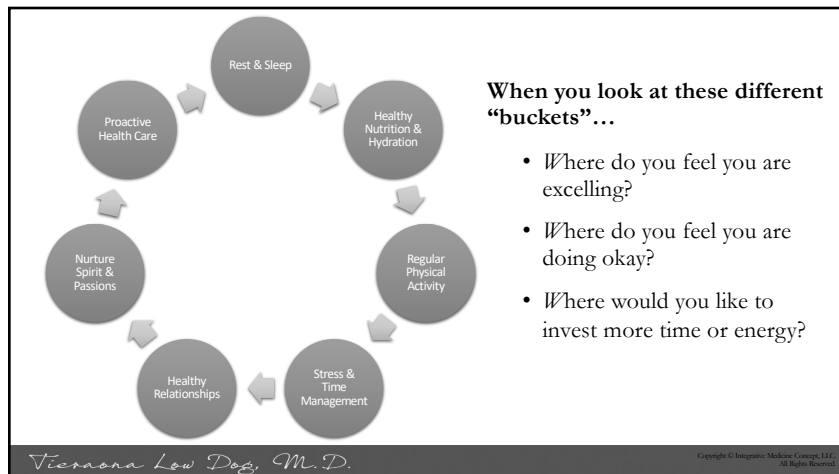
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by The King

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### *Mood Effects Food Choice and Vice Versa*

- How we feel affects what we eat and what we eat affects the way we feel.
- Drinking **sweetened beverages** and eating **more refined foods** associated with an **increased risk of depression** in longitudinal studies.
- Women's Health Initiative (n = 87,618 women): Women with a higher intake of **dairy products, fiber, fruit** (not juice), and **vegetables** had significantly **LOWER odds of depression**; women with higher **refined grain** consumption had **INCREASED odds of depression**.



Gangwisch JE, et al. High Glycemic Index Diet as a Risk Factor for Depression: Analyses From the Women's Health Initiative. *Am J Clin Nutr* 2015 Aug;102(2):454-63.  
 Alkumari WA, et al. Food and Mood: the Correspondence Effect *Curr Nutr Rep* 2020 Sep;9(3):296-308.

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### *Glycemic Load & Mood*

- 82 healthy weight or healthy overweight or obese, adults enrolled in 28 day randomized, crossover-controlled feeding study.
- Compared to low GL diet, a **high GL diet** resulted in:
  - 38% higher score for **depressive symptoms** (P = 0.002)
  - 55% higher score for **total mood disorder** (P = 0.05)
  - 26% higher score for **fatigue/inertia** (P = 0.04)



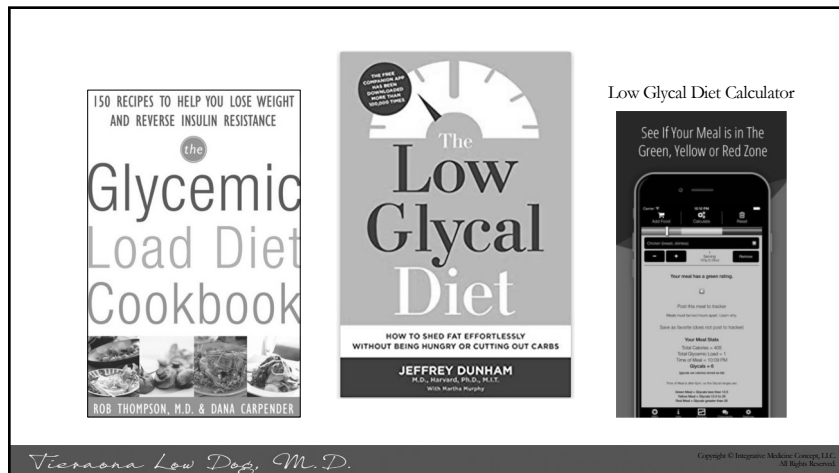
Breymeyer KL, et al. *Appetite* 2016; Dec 1;107:253-259.

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## Human Microbiome Project

- **Massive NIH research initiative** cataloging microorganisms living in and on our body starting in 2007.
- Led to *rapidly growing appreciation* for **incredible and diverse impact** these organisms have **on our health and well-being**.
- Gut bacteria produce **vitamins**, break down food; their presence or absence linked to **obesity, inflammatory bowel disease, IBS, anxiety, depression, food allergies, neuroinflammation, GI infections, HTN, diabetes, metabolic syndrome, and more**.
- **Our resiliency**, our ability to **RECOVER QUICKLY FROM STRESSORS**, may be a function of which *bacteria inhabit or don't inhabit our gut*.

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## Enteric Nervous System: *The Second Brain*

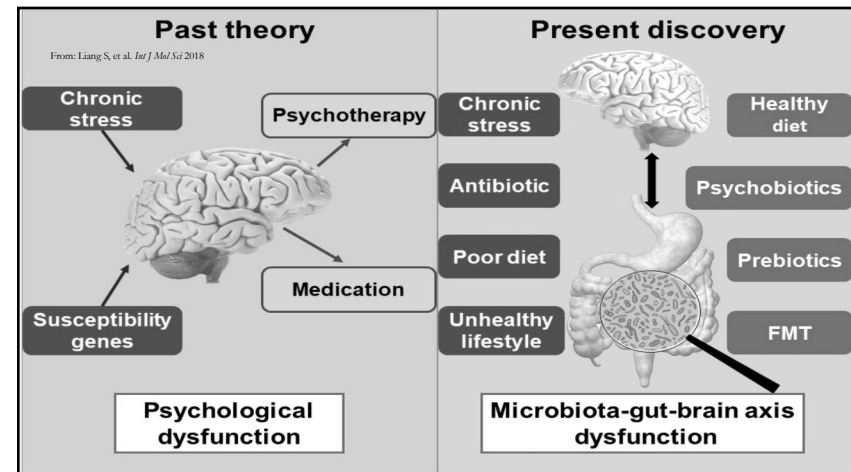
The image shows the cover of the journal "monitor on psychology" with the headline "THE MIND-GUT CONNECTION". The cover text includes: "Does Cannabis Have Mental Health Benefits?", "Can Psychologists Treat Patients While Traveling?", "Meet the Citizen Psychologists", and "Working With Older Adults". The subtitle reads: "Evidence is mounting that microorganisms in the gut affect mental health."

- **100 million nerve cells** from esophagus to rectum: **controls digestion** and propulsion through GI tract.
- Gut bacteria produce neurotransmitters: **dopamine, serotonin, norepinephrine, GABA, acetylcholine, melatonin**; critical for mood, sleep, anxiety, concentration, reward, and motivation.
- Serotonin is associated with **depression and happiness**—*90% is made in GI tract*, not the brain.
- Gut microbiota can **change how** our brains react to events/stressors.

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## Two Bugs Noticeably Absent

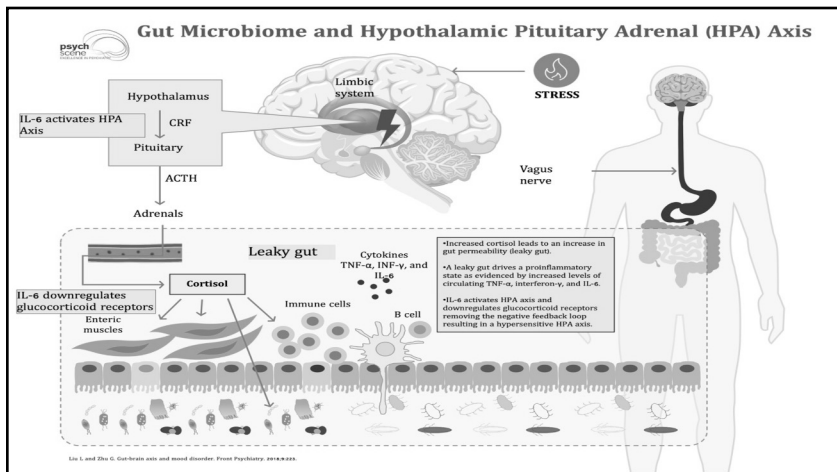
- **Flemish Gut Flora Project (1054 healthy adults):** 173 diagnosed with depression or poor quality-of-life intake; research team compared their microbiomes with those other participants.
- **Two kinds of microbes, *Coprococcus* and *Dialister*, missing from microbiomes of depressed subjects,** but not those with a high quality of life. Findings true, even after age, sex, or antidepressant use, all of which influence the microbiome, were accounted for.
- **1064 Dutch people:** researchers found **same two species missing** among those who were **depressed** but not in those with high quality of life.
- **Intriguing...**

Valles-Colomer M, et al. The neuroactive potential of the human gut microbiota in quality of life and depression. *Nature Microbiology* 2019; 4: 625–632

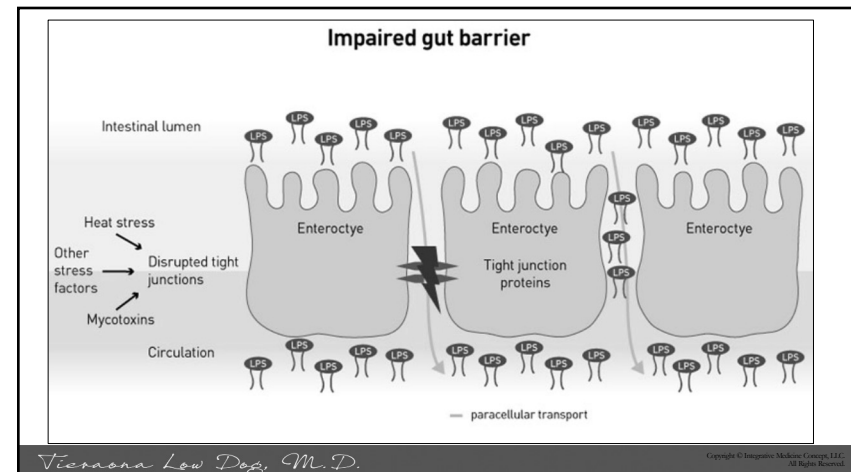
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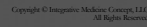
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## Eat MORE fiber, Eat LESS sugar



Bibbo S, et al. *Eur Rev Med Pharmacol Sci* 2016; Nov;20(22):4742-4749.  
Wigh CAM, et al. *Expert Rev Gastroenterol Hepatol*. 2017 Nov;31(11):1031-1045.  
Young RP, et al. *Am J Respir Cell Mol Biol* 2016;54:161-169.  
Kranz S, et al. *Adv Nutr* 2012; 3(1): 47-53.

- Low fiber, high sugar diets *reduce Bifidobacterium* and **degrade barrier function**, key part of *innate immunity*.
- Loss of barrier function increases **inflammation, neuroinflammation, depression and anxiety.**
- Adequate Intake Fiber:  
• 38 g/d men, 26 g/d women

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Fruits	Serving size	Total fiber (grams)*
Raspberries	1 cup	8.0
Pear	1 medium	5.5
Apple, with skin	1 medium	4.5
Banana	1 medium	3.0
Orange	1 medium	3.0
Strawberries	1 cup	3.0

Vegetables	Serving size	Total fiber (grams)*
Green peas, boiled	1 cup	9.0
Broccoli, boiled	1 cup chopped	5.0
Turnip greens, boiled	1 cup	5.0
Brussels sprouts, boiled	1 cup	4.0
Potato, with skin, baked	1 medium	4.0
Sweet corn, boiled	1 cup	3.5
Cauliflower, raw	1 cup chopped	2.0
Carrot, raw	1 medium	1.5

<https://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/in-depth/high-fiber-foods/art-20050948>

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Grains	Serving size	Total fiber (grams)*
Spaghetti, whole-wheat, cooked	1 cup	6.0
Barley, pearled, cooked	1 cup	6.0
Bran flakes	3/4 cup	5.5
Quinoa, cooked	1 cup	5.0
Oat bran muffin	1 medium	5.0
Oatmeal, instant, cooked	1 cup	5.0
Popcorn, air-popped	3 cups	3.5
Brown rice, cooked	1 cup	3.5
Bread, whole-wheat	1 slice	2.0

<https://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/in-depth/high-fiber-foods/art-20050948>

Legumes, nuts and seeds	Serving size	Total fiber (grams)*
Split peas, boiled	1 cup	16.0
Lentils, boiled	1 cup	15.5
Black beans, boiled	1 cup	15.0
Baked beans, canned	1 cup	10.0
Chia seeds	1 ounce	10.0
Almonds	1 ounce (23 nuts)	3.5
Pistachios	1 ounce (49 nuts)	3.0
Sunflower kernels	1 ounce	3.0

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## Beverages

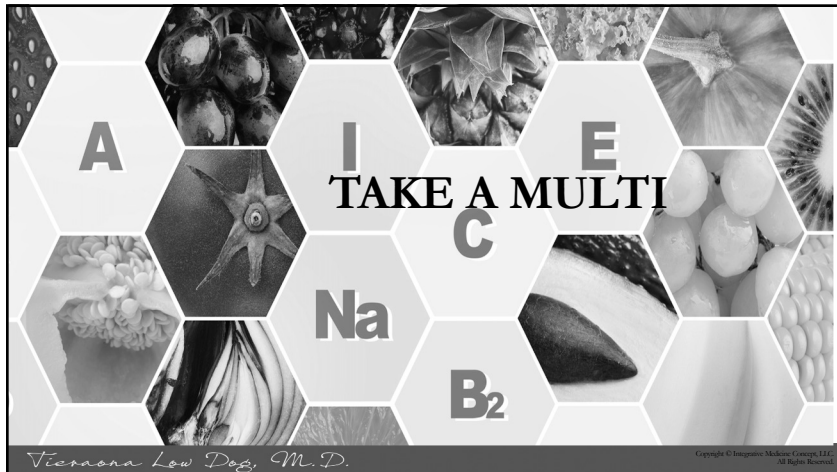
- Your primary beverage of HYDRATION should be **water**.
  - Add fruit, cucumbers, mint leaves
  - Make your own “bubbly”
- **Coffee and tea** are fine (3-4 cups/d). Watch caffeine if *sensitive* to its effects.
- **Herbal tisanes** lovely addition for an afternoon or evening beverage
  - *Traditional Medicinals* and *Yogi* have many excellent offerings
- **Alcohol:** limit 1 serving/d if you drink



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### *Real State of Our Nutrition*

- **90 million** Americans are **vitamin D** deficient (using the Endocrine Society guidelines  $< 20\text{ng/mL}$ )
- **30 million** are **deficient in vitamin B6**
- **18 million** people have **B12 deficiency**
- **16 million** have **scurvy** (by serum levels)
- 13% of Latinas and 16% of African American women (ages 12–49) are **iron deficient**
- **Women 25–39** overall have **borderline iodine insufficiency**



CDC: 2<sup>nd</sup> National Report on the Biochemical Indicators of Diet and Nutrition in the U.S. population


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### Exercise & Health

- **80 million** Americans 6 years and older are **entirely inactive**.
- Relationship between physical activity and **cardiovascular, metabolic, neurological, immunological, and bone health** well-established.
- **Shown to reduce the harmful effects of stressors** when performed at moderate intensities.
- Meta-analysis of **398 studies** consistently shows exercise benefits **mood, depression and anxiety**.



Deslandes, et al. *Neuropsychobiology* 2009; 59(4):191-8  
Rebar AL, et al. *Health Psychol Rev* 2015; Mar 5:1-78

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### *To Sleep is to Heal*



1. Make your bedroom **dark, quiet, and cool**. Invest in **good mattress and pillows**.
2. Turn off TV, computers, tablets, and smart phones 1 hour before bedtime.
3. **Avoid caffeine** after 12:00 PM (e.g., coffee, tea, soda, chocolate).
4. **Limit alcohol** intake and **don't drink** within 2–3 hours of bedtime.
5. **Try not to exercise** within 2 hours of bedtime.
6. Consider a hot bath 1–2 hours before bedtime.
7. **Try to not to eat right before bed**. A glass of warm milk, bowl of cereal okay.
8. **Keep same sleep schedule** 7 days a week.
9. Get **sleep evaluation** if sleep disruption and/or daytime fatigue continues.

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## Cognitive Behavioral Therapy for Insomnia

- American College of Physicians officially endorsed what multiple meta-analyses have found: **CBT for insomnia**, or CBT-I, is best treatment for chronic insomnia and should be **first line of treatment**.
- Sleepio*, *Somfy*, *Calm Sleep School*, provide in-person/on-line.
- There are purely digital programs if therapist not available.
- To find trained sleep specialist:  
<https://behavioralsleep.org/index.php/directory/north-america/united-states>



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## Essential Oils for Relaxation & Sleep

- Dilute **1–2 drops essential oil in 1 teaspoon carrier oil** (almond, olive, coconut) before using on your skin.
- Put **12 drops essential oil in ½ ounce water and ½ ounce vodka and put in mister**. Mist onto pillowcase/bedding before bed. Mist into room to reduce tension.
- Diffusers** are great way to deliver aromatherapy into your room (love Urpower).
- My favorites for relaxation and sleep are:
  - Lavender
  - Rose
  - Jasmine
  - Ylang-ylang
  - Neroli
  - Chamomile



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## Oral Lavender Essential Oil (*Lavendula angustifolia*)

**Meta-analysis** randomized, double-blind, placebo-controlled trials show **Silexan, essential oil from lavender** licensed in 14 countries worldwide, has **pronounced anxiolytic effect and beneficial effect on sleep**. Adverse events similar to placebo.

Moller HJ, et al. Efficacy of Silexan in subthreshold anxiety: meta-analysis of randomised, placebo-controlled trials. *Eur Arch Psychiatry Clin Neurosci* (2017). <https://doi.org/10.1007/s00406-017-0852-4>

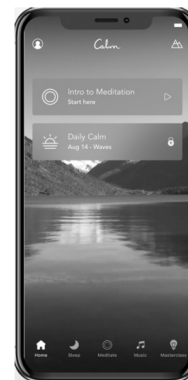


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### Calm App



### Pzizz App



Luik AI, et al. Digital cognitive behavioral therapy for insomnia: a state of the science review. *Curr Sleep Med Rep* 2017; 3(2): 48–56

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## Reflection



- What type of physical activity/exercise do you enjoy the most? How often do you do it? What is getting in your way?
- Do you feel rested when you wake up in the morning? Do you lay awake at night? Wake up early? What have you tried? What could you do to improve your sleep and ensure adequate rest?

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## The World Today

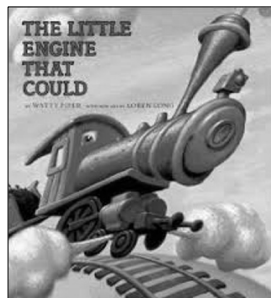
- We strongly emphasize **biological explanation** for depression and anxiety, as evidenced by **extensive use of antidepressants and anxiolytics**.
- There remains **little focus on physiological, nutritional, societal, communal, familial, and spiritual** underpinnings.
- “I take my Effexor and go to a **job I hate** and then home to a house full of **kids** that are **out of control** and a husband that **barely talks to me**. Is my depression better? **Yeah, I guess.**”
- **Complex world**. We often have unrealistic expectations. **Isolation** is common, **financial** problems, **lack of purpose, meaning**, a sense of **despair**, **hopelessness**—the world has less color and texture.

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## What We Think Matters



- Is this a challenge or a threat?
- Do I have the resources to handle it?
- Are my thoughts helpful/ dysfunctional?
- What is my self-talk? Where does it come from?
- Is this what *I was taught* or *what I believe*?

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## Loneliness, Social Isolation, & Your Health

**148 studies** on the effects of social isolation on health found it is:

- Equal to **smoking 15 cigarettes** a day.
- As dangerous as being an **alcoholic**.
- As harmful as **never exercising**.
- Twice as dangerous as being **obese**.



Valtorta NK, et al Loneliness and social isolation as risk factors for coronary heart disease and stroke: systematic review and meta-analysis of longitudinal observational studies. *Heart*. 2016 Jul 1;102(13):1009-16.  
Cacioppo JT, et al. *Am NY Acad Sci* 2011; 1231:17-22

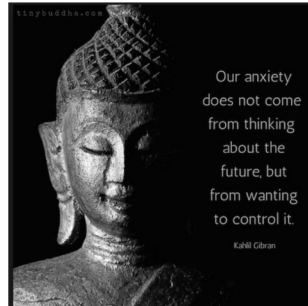
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## Self Soothing

A good way to deal with **anxiety and high stress** is to occasionally sidestep the *analytical* part of your brain by practicing **relaxation, meditation, and/or using guided imagery.**



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## Mindfulness Meditation

- Helps with **stress perception and pain intensity, elevates mood.** Quiets stream of thoughts.
- Long-time meditators have greater activation of areas responsible for **sustaining attention, processing empathy, integrating emotion and cognition.**
- Review of **47 trials** found that meditation improves:
  - Anxiety
  - Depression
  - Pain



Goyal M, et al. J-AMA Intern Med 2014; 174(3):357-68

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## Resources for Stress Reduction

- **Calm** - Great app for guided meditation, bedtime stories, breathing exercises. (free to \$60 annual subscription)
- **Insight Timer** - ~4,000 guided meditations >1,000 teachers (self-compassion, nature, stress, podcasts). Music tracks (free to \$5/mo.)
- **Headspace** - Meditation, videos, meditations music. (free basic course, \$12.99 mo., \$95/year)
- **10% Happier** - Performance enhancement. Busy people, stressed lives. (free one-week intro, then \$100 per year)
- **Buddhify** - For more advanced meditator. Can sort by location, activity and/or emotion. (small monthly fee, premium is \$30/yr.)

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*I went to the woods because I wished to live deliberately, to front only the essential facts of life, and see if I could not learn what it had to teach, and not, when I came to die, discover that I had not lived.*



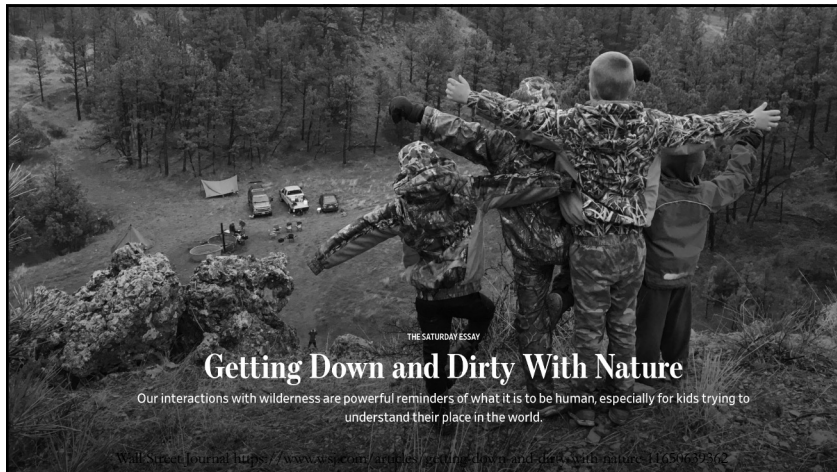
Henry David Thoreau, *Walden*

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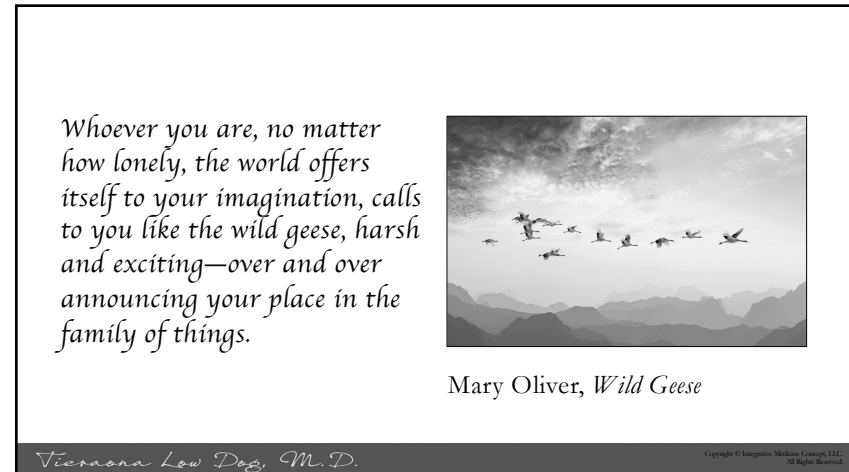
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*To see a World in a grain of sand*

*And a Heaven in a wildflower*

*Hold Infinity in the palm of your hand*

*And Eternity in an hour...*



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## Meaning & Purpose

- What truly gives a person a sense of *meaning and purpose* in life?
- How does one feel the oneness, find the *holy and sacred* in the mundane?
- “If I only had one day left to live, I’d want to \_\_\_\_\_.”

Listen.  
Are you  
breathing  
just a little  
and calling  
it a life?

~ Mary Oliver

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“You must have a **room**, or a **certain hour** or so a day, where you **don’t know** what was in the newspapers that morning, you **don’t know** who your friends are, you **don’t know** what you owe anybody, you **don’t know** what anybody owes to you. This is a place where you can **simply experience** and bring forth what you are and what you might be. This is the place of **creative incubation**. At first you may find that **nothing happens** there. But if you have a **sacred place** and use it, something eventually will happen.”

– *Joseph Campbell*

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It doesn't have to be the blue iris,  
it could be weeds in a vacant lot, or a  
few small stones;  
Just pay attention,  
then patch a few words together  
and don't try to make them elaborate,  
this isn't a contest but the doorway  
into thanks,  
and a silence in which another voice  
may speak.



Mary Oliver, *Praying*

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1. **Move more.** Whether it's the 7-minute workout, cycling, yoga, or taking long walks—one of surest ways to maintain heart, brain, bone, and muscle health is daily exercise. It's not optional. **Just do it.**
2. **Eat food.** Minimally processed, **low glycemic load**, diverse, and largely **plant-based** diet. Avoid endocrine disruptors in plastics, skin care products, pesticides. Stay hydrated. Water should be primary beverage for hydration.
3. **Meditate.** Meditation widens the gap between trigger and response, allowing you to feel a greater calm and awareness. It's a **game changer** for almost anyone.
4. **Stay connected.** Social isolation and loneliness is as dangerous as being an alcoholic or being obese. **Invest in your friends and family.**
5. **Take a multi.** Many lack when it comes to key micronutrients. **Age/gender** appropriate.
6. **Be tech smart.** Technology makes life easier and more complex. Use **blue light blocking glasses** at night, make one day each week **tech free, limit email in the evening.**
7. **Nurture spirit.** The search for meaning and purpose is a fundamental part of being human. A **richly nourished inner life** is a source of strength during hard times. **Look inward. Honor mystery.**

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*"Be patient with yourself. Self-growth is tender; it's holy ground.  
There's no greater investment."*

Stephen Covey

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