

Emotional Well-Being



Tieraona Low Dog, MD

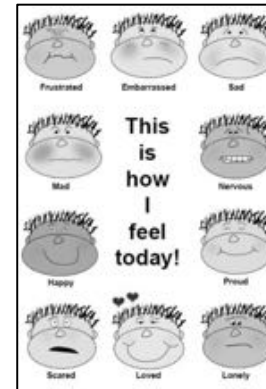
Founding Director
Foundations in Herbal Medicine
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Author of National Geographic's
"Fortify Your Life"
"Healthy At Home"
"Life Is Your Best Medicine"

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Emotion



- A conscious mental reaction (such as anger or fear) subjectively experienced as strong feeling usually directed toward a specific object and typically accompanied by *physiological and behavioral changes in the body*.

Merriam Webster Dictionary

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What is Your Body Telling You?

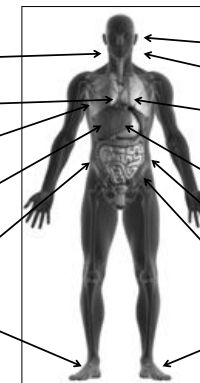


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Parasympathetic

- Stimulates flow of saliva
- Slows heartbeat
- Lowers blood pressure
- Stimulate release of bile and aids in digestion and elimination
- Inhibits release of stress hormones
- Increases blood flow to extremities



Sympathetic

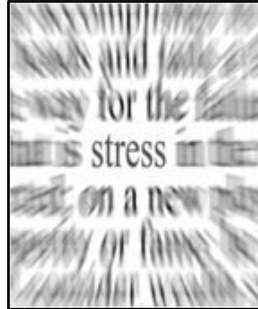
- Pupils dilate
- Salivation inhibited
- Heart rate and blood pressure go up
- Mobilize fats and glucose; make more glucose
- Inhibit digestion and elimination
- Secrete "stress" hormones and cortisol
- Reduce blood flow to fingers and toes

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- High cortisol levels are linked to high blood pressure, high cholesterol, high blood sugar, insulin resistance, insomnia, weight gain, headaches, mood swings, depression, and increased risk of infections.

Scientists believe prolonged elevation of stress hormones may shorten our lifespan by 15 years.



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Complexity of the Unhealthy Lifestyle

- Poor diet, nutrient deficiencies
- Sedentary, high stress lifestyles
- Poor sleep, too much screen time
- Inadequate social support
- Strong emphasis on “knowing” and “having”

Much of what is making us sick cannot be fixed with more and more pills.....

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It All Starts With.... YOU

- Unlike many medical problems, when it comes to emotional and mental health..... **there are no x-rays or lab tests** that can give you a diagnosis.
- It all comes down to the story, to ***your story***. Your dreams for the future, how and what you are eating, how well you are sleeping, your level of happiness, your ability to focus, your relationships, and more.
- If you are given enough information - you can **find your path to wholeness and well-being**.

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Seek Help When Needed

- Depression can make it hard to find pleasure, focus, get out of bed.
- Anxiety makes your heart race, makes it hard to concentrate.
- Mania takes you off center, makes it hard to sit still and rest.
- ADD makes it hard to focus, stay organized, accomplish tasks.
- ***Ask yourself: could I be suffering from an illness or other condition that is making it hard for me to live my life. If yes, get help. If you are taking medication and things have shifted, seek help in case your treatment needs to be adjusted.***

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Self-Care Strategies

- Nutrition
- Movement
- Sleep
- Guided Imagery, Meditation, Relaxation
- Music
- Massage
- Dietary Supplements
- Meaning and Purpose

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Wholesome Nutrition



• Fuel your body, *do not feed your emotions.....*

• Studies consistently show that a dietary pattern consisting of *minimally processed foods, rich in plants and a balance of fats, proteins and wholesome carbs results in better mood and energy.*

Low Dog, T. The role of nutrition in mental health. *Altern Ther Health Med* 2010; 16(2):42-6.

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Caffeine and Anxiety

- Randomized, double blind caffeine challenge study in 28 patients with panic disorder (PD), 25 patients with generalized social anxiety disorder (GSAD), 19 patients with performance social anxiety disorder (PSAD), and 26 control subjects.
- On two occasions 7 days apart, **480 mg of caffeine and a caffeine-free solution** were given to participants and anxiety scales administered before and after test.
- ***Panic attack was induced in 60.7% PD patients, 52.6% PSAD patients, and 16.0% GSAD patients.*** No one in control group had a panic attack after taking caffeine and none of the patients or controls had a panic attack after drinking the caffeine-free solution.

Nardi AE, et al. *Psychiatry Research* 2009;169(2):149-53

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Glycemic Load and Mood

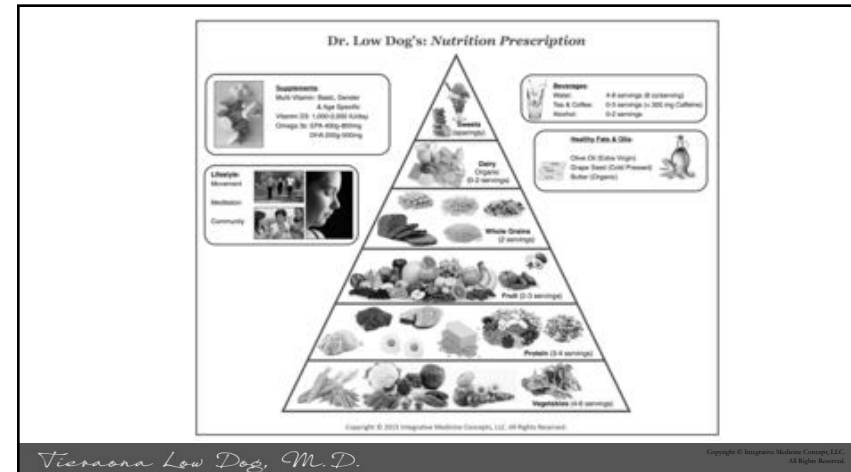
- 82 healthy weight and healthy overweight or obese, adults enrolled in randomized, crossover controlled feeding study.
- Compared to a low GL diet, consumption of **high GL diet** resulted in:
 - 38% higher score for **depressive symptoms** ($P = 0.002$)
 - 55% higher score for **total mood disorder**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



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

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*Eating alone will not keep a man well.
He must also take exercise.*

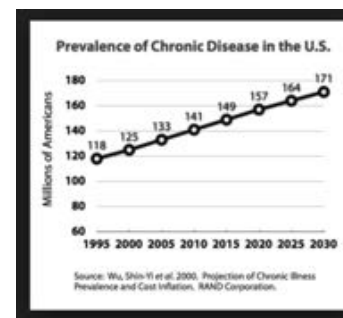


Hippocrates

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Consequences of Inactivity



- Higher risk for heart disease, type 2 diabetes, certain cancers, Alzheimer's disease and increase lower back pain, depression and anxiety.
- Half of baby boomers in the US report having **NO** exercise.
- 80 million Americans over the age of 6 years of age are entirely inactive.

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Movement: *Sound Body = Sound Mind*

- Known since ancient times, **exercise and physical activity** are keys to a long and **healthy life**.
- Movement **increases blood flow** to the brain, promoting growth of new blood vessels. It stimulates the **release of endorphins** that diminish pain, as well as **compounds that elevate mood and reduce tension**.
- Regular exercise **increases energy levels and eases fatigue**. *20 minutes three times per week of moderate exercise can improve energy levels in just four weeks!*
- **Fatigue, low energy, pain and depressed mood** all impact our emotional wellbeing. **Make movement a habit!**

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- **Meta-analysis: 92 studies** for effect of physical activity on **depression**; **306 studies on anxiety** concluded:
physical activity reduces the risk of and improves symptoms of depression and anxiety

Rebar AL, et al. *Health Psychol Rev* 2015; Mar 5:1-78.

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Yoga

- Literally, the **“union of the divine,”** yoga has been practiced in India for thousands of years.
- Incorporates **breathing exercises, postures, stretches, and meditation** in order to help one gain greater acceptance, compassion and centering.
- Studies have found yoga to help **ease stress, anxiety, and pain, while improving mood**.
- There are many forms of yoga, so find the form you like. If you are a beginner, consider **Gentle Yoga by Jane Adams**. Super soothing.



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- Use a fitness tracker – assess your baseline (normal activity 3 days) and see where you can improve.
- Use an app, join a class, grab a friend
- Make it a habit. Just *do it*.
- Do something you enjoy
- Focus on the *immediate* benefits you will feel once you start exercising regularly, as well as long-term health.

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The Need for Sleep

- Sleep is a biological requirement for human life
- Much of **sleep quality** is due to our **behaviors**, both **genetically driven** (we like to lay down to sleep, we prefer to sleep at night) and **environmentally driven** (working late at night, excessive caffeine or alcohol consumption).
- Sleep is an **abrupt shutdown of our perceptual interaction with our environment**. Perception (sight, taste, sound) dramatically diminishes but brain highly active.



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The Biological Clock



- Most important regulator of the sleep wake cycle is our biological clock.
- Responsible for 24 hour fluctuations in hormone secretion, body temperature and bodily functions.
 - Deepest sleep is generally around 2 AM
 - Lowest body temp around 4:30 AM
 - High alertness 10 AM
 - Highest blood pressure ~6:30 PM
 - Highest body temperature ~ 7 PM
 - Melatonin secretion starts ~8-9 PM

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Sleep Stages

- **Stage 1:** Lasts a few minutes, the first stage of sleep is **light and easy to wake** from. Muscle twitching common.
- **Stage 2:** Light sleep, ~20 minutes brain waves begin to slow, blood pressure and body temperature decrease.
- **Stages 3 and 4:** Move into deeper sleep that's harder to wake from. This is when **body repairs itself and boosts immune function**. Also known as "delta" sleep.
- **Rapid eye movement (REM):** Final stage in sleep cycle, brain becomes more active and dreams occur. Brain is **processing information and storing long-term memories**. Heart rate and breathing increases. Gets longer and longer through the night - can last up to one hour.
- REM suppressors: **alcohol, nicotine, blood pressure and anti-depressant meds**

This cycle repeats ~90 minutes. As sleep progresses, REM cycles increase in length.

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Consolidated vs Segmented Sleep

- Roger Ekirch of Virginia Tech published seminal paper, revealing strong historical evidence that humans used to **sleep in two distinct periods**.
- *At Day's Close: Night in Times Past* has more than 500 references to a segmented sleeping pattern - in diaries, court records, medical books and literature.
- It was well described that a **first sleep** began about **two hours after dusk**, followed by **waking period of one or two hours** and then a **second sleep**.
- For many reasons, by the 1920s, the idea of a first and second sleep disappeared from our social lives.



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Lack of Sleep



- Tremendous amount of research shows that **chronic sleep problems** can lead to **weight gain, obesity, diabetes** (33% increased risk type 2 diabetes) and **heart disease**.
- According to CDC shows that **1 in 3 Americans do not get sufficient sleep**.
- Studies show as our time asleep declines, it impairs **working memory, processing speed and executive function**. **Caffeine** can *temporarily* counteract all but executive function.
- Women report more sleep disruption than men (pregnancy, childrearing, menopause), though men have more sleep apnea.

Shan Z, et al. *Diabetes Care* 2015;38(3):529-37.

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Pain, Mood and More



- 50-80% of people with **chronic pain have sleep disturbances**. Pain can interfere with sleep and sleep disturbance can exacerbate pain.
- Depression and anxiety are higher in people with chronic pain and are also strongly correlated with self-reporting of insufficient sleep. A vicious forward feeding circle.
- Lack of exposure to sunlight and the use of bright lights at night increases the likelihood of disordered circadian clock.
- As we age, we have **more disturbed and lighter sleep**. **Melatonin secretion declines** with age, which may also impact sleep in older adults.

Cheatle MD, et al. Assessing and Managing Sleep Disturbance in Patients with Chronic Pain. *Sleep Medicine Clinics*, 2016;11(4): 531-541

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Days Can Make For Better Nights!

- Wake at same time everyday and make your bed! Exercise early.
- Start morning with **exposure to sunlight** or consider using a dawn simulating device that slowly increases intensity of light for 30 minutes before awakening.
- Landmark study in 1989 found that when participants with seasonal affective disorder were exposed to either **simulated sunrise** or **both simulated sunset and sunrise for several days** that their depression either resolved or was greatly reduced. The circadian **rise and fall of melatonin** production occurred earlier with sunrise simulation or with sunset plus sunrise simulation.
- Very good for those who have a hard time falling asleep (e.g. teenagers!)
- Pricey – Philips Wake-Up Light with Colored Sunrise Simulation is top rated.

Terman M, Schlager D, Fairhurst S, et al. Dawn and dusk simulation as a therapeutic intervention. *Biol Psychiatry*. 1989;25:966-970.

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The Bedroom

- **No alarm clocks with display lights**. Make sure there is **no blue light** emitting from the television or computers, or consider **amber blue blocking glasses**. Work **WITH** your body's normal production of melatonin, not against it.
- Turn down your thermostat to **65-68 F**. Wear socks to bed if feet get cold.
- Use **black out** blinds or curtains to eliminate external light.
- **Replace mattress every 10 years and pillows every 2 years**.
- Have **pets** sleep in their own beds.
- Make it a **sanctuary**. Nice bed linens, peaceful, a lamp and good book by the bed.
- **Journaling** can help if your mind is often preoccupied at night with "to do" lists. Gratitude journaling can also be a great way to ease into sleep.

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Apps for Sleep

Sleep Cycle



- Sleep Cycle sits under your pillow and gathers data to wake you up when you'll feel the least groggy. Easy-to-read graphs show your sleep patterns. Free.

Deep Sleep



- Deep Sleep provides step-by-step instructions to guide you into state of deep relaxation. Andrew Johnson is awesome and his CDs are truly amazing. \$2.99

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Cognitive Behavioral Therapy

- CBT has emerged as a recommended **first-line therapy for insomnia**. Digital CBT has been shown to be effective for **improving sleep, as well as mental health and well-being**.
- CBT-I typically consists of:
 - Psychoeducation about sleep and insomnia
 - Stimulus control
 - Sleep restriction
 - Sleep hygiene
 - Relaxation training
 - Cognitive therapy



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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Melatonin

- In 2005, the FDA approved ramelteon, a melatonin receptor agonist, for the treatment of sleep-onset insomnia. Both melatonin and ramelteon have been shown efficacious for **reducing sleep latency**, especially in those who have delayed sleep phases (**sleep and wake times shifted later**).
- Exposure to early morning and afternoon light important for maintaining circadian rhythm, as is limiting "blue light" at night.
- Melatonin can be taken (3 mg) 2 hours before desired bedtime for 6-8 week trial to see if sleep improves. Safety data up to 12 months good.

Cheattle MD, et al. Assessing and Managing Sleep Disturbance in Patients with Chronic Pain. *Sleep Medicine Clinics*, 2016;11(4): 531-541

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Prioritize, Prioritize, Prioritize



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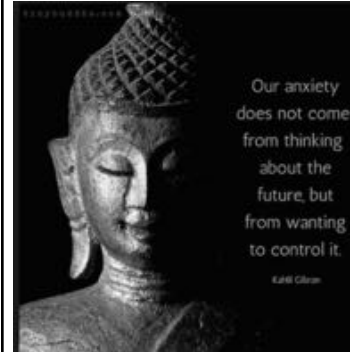
*"There are voices which we
hear in solitude ...

but they grow faint and
inaudible as we enter into the
world."*

Ralph Waldo Emerson

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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.**

*Our anxiety
does not come
from thinking
about the
future, but
from wanting
to control it.*

Kahlil Gibran

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Progressive Muscle Relaxation

- Progressive muscle relaxation is a focused exercise that has you relax, contract and relax the muscles of your body.
- There are lots of CDs and apps available to help you learn to do this.
- A great way of **releasing the tension** we hold in our muscles.



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Favorite Resources for Muscle Relaxation

- **Progressive Scan Meditation** by Unyte Health (iTunes) Free
 - Great app for doing body scan and relaxing muscles. Also has lovely meditations ranging from 6-30 minutes.
- **Autogenic Training and Progressive Muscle Relaxation**
 - Great app for deep muscle relaxation. \$2.99 one time (iTunes)
- **Relax Me** is for Android, I haven't used it but patients like it.
- **Progressive Relaxation and Autogenic Training** by Carolyn McManus
 - Audio CD or MP3, excellent for muscle relaxation

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Mindfulness Meditation

- Meditation excellent for reducing **stress perception and pain intensity, while elevating mood.**
- **Quiets** the stream of thoughts that rage in our mind.
- 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. *JAMA Intern Med* 2014; 174(3):357-68

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- Meditation interventions are being increasingly implemented among youth in school, community, and clinic based settings
- Review of **16 studies** found that meditation can be an effective intervention for **psychosocial and behavioral** problems among children and adolescents.

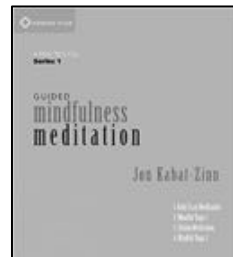
Black DS, et al. *Pediatrics* 2009; 124(3):e532-41

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Guided Mindfulness Meditation: A Complete Guided Mindfulness Meditation Program from Jon Kabat-Zinn

- Four-part home training course, this is simply one of the best ways to learn about mindfulness meditation.
- This might be a great choice if you feel anxious, are living with chronic pain, your stress is off the charts, or are interested in learning how to meditate without the spiritual overtones found in other programs.
- Pairs nicely with his book *Full Catastrophe Living*.
- This meditation program is one of the most researched in the world. You can purchase the audio CDs on Amazon for ~\$18.00



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Meditation Resources

- Obviously a local class is the very best option. But there are books, CDS and yes, there are apps.....
- **Insight Timer** - ~4,000 guided meditations from more than 1,000 teachers (self-compassion, nature, stress, podcasts and more). More than 750 meditation music tracks. Free.
- **Headspace** – very good for beginners with 10 minute meditations. Free.
- **The Mindfulness App** – nice 5 days guided meditation program to get you started. Can be personalized and integrated into other health apps. Free.
- **Aura** – multiple teachers, from 3-10 minute daily meditations. Customizable. #1 new app on Apple in 2017. \$29 for 6 months.

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Guided Imagery: *Imagine Yourself*.....

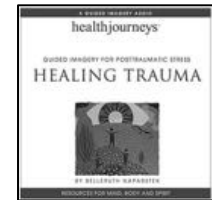
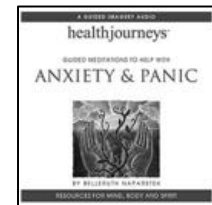
- An immersive, deeply relaxing intervention that uses calming words, soothing music and positive images to structure a healing experience.
- Like meditation, it **focuses attention** and **calms the mind**, working on those parts of the brain where the emotional self dwells.
- Imagery has been shown to **reduce stress, anxiety, and depression**; help with **sleep**; **lower blood pressure**, and help with **posttraumatic stress**.
- I have found guided imagery a fabulous tool for myself, kids and patients. Very helpful for those with ADHD, anxiety, depression, pain, insomnia.

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Belleruth Naparstek

- Love, love, love her. Something for everyone.
- She has Guided Imagery Meditations for:
 - Anxiety and Panic
 - Anger and Forgiveness
 - Depression
 - Healing Trauma
 - Ease Grief
 - Relieving Stress
 - Undergoing Surgery
 - Chemotherapy and Radiation



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Music is Good For Your Brain.....

- Enhances **neuroplasticity**, the brain's ability to adapt to change and experiences.
- Music can **improve attention, concentration, and memory**. Music training has been shown to significantly increase verbal memory in children.
- **Learning music** modifies the structure and function of the **left temporal lobe**, the area responsible for mental processing of speech.



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Music and Mood

- Researchers at McGill University used functional magnetic resonance imaging to monitor changes in the brain when study participants listened to music.
- They found the **intense pleasure experienced** in response to music is due to the **release of dopamine** from nerve cells in the part of our brain associated with **pleasure**.
- What music do YOU enjoy? Do you have a variety of playlists for different moods?



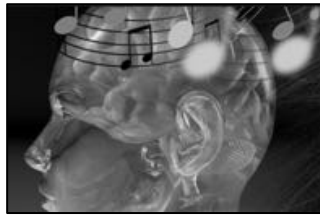
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Music and Quality of Life

- After evaluating 52 music-intervention studies, Cochrane Collaboration reviewers reported that **music reduces anxiety and pain and improves mood and quality of life in people with cancer.**

Bradt J, et al. *Cochrane Database Syst Rev* 2016 Aug 15;(8):CD006911.



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"Music can lift us out of depression or move us to tears - it is a remedy, a tonic, orange juice for the ear. But for many of my neurological patients, music is even more - it can provide access, even when no medication can, to movement, to speech, to life.

For them, music is not a luxury, but a necessity."



Oliver Sacks, MD

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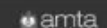
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25 REASONS TO GET A MASSAGE

1. Relieve stress
2. Relieve postoperative pain
3. Reduce anxiety
4. Manage low back pain
5. Help fibromyalgia pain
6. Reduce muscle tension
7. Enhance exercise performance
8. Relieve tension headaches
9. Sleep better
10. Ease symptoms of depression
11. Improve cardiovascular health
12. Reduce pain of osteoarthritis
13. Decrease stress in cancer patients
14. Improve balance in older adults
15. Decrease rheumatoid arthritis pain
16. Temper effects of chemotherapy
17. Promote relaxation
18. Lower blood pressure
19. Decrease symptoms of Carpal Tunnel Syndrome
20. Help chronic neck pain
21. Lower joint replacement pain
22. Increase range of motion
23. Decrease migraine frequency
24. Improve quality of life in hospice care
25. Reduce chemotherapy-related nausea

Massage is good medicine.
Find the right massage therapist for you at www.amta.org



Massage Therapy

- Massage involves kneading, rubbing, and manipulating muscles/soft tissues of the body to increase blood flow and cause muscles to relax and lengthen.
- There are many different forms of massage therapy, find the one that best suits your needs. And be "specific" about what you are looking for. Give feedback.
- The AMTA can help you find a licensed massage therapist in your area.

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State of Our Nutrition

- 90 million Americans are vitamin D deficient using Endocrine Society guidelines of <20 ng/mL
- 30 million are deficient in vitamin B6
- 18 million people have B12 deficiency
- 16 million have vitamin C deficiency
- 13% of Latinas, 16% of African American, and 6% of white women (ages 12-49) are iron deficient
- Women 25-39 borderline iodine insufficiency
- 50% Americans don't meet RDI for magnesium

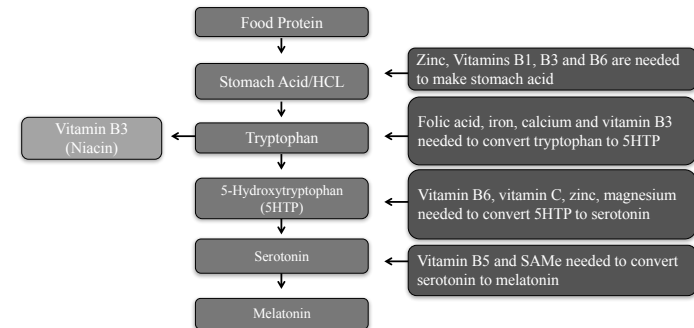


CDC: 2nd National Report on the Biochemical Indicators of Diet and Nutrition in the U.S. population

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Serotonin and Melatonin Pathways



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B-Vitamins

- The B-vitamins are important for the metabolism of carbohydrates, fats and proteins and play a vital role in the production of fuel and energy for the body. They are critical for healthy mood.
- There are eight B-vitamins that partner together, which is why you almost always want to take them together in balanced amounts.



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Two Prominent Vitamin B Deficiencies

- **30 million** Americans are deficient in **vitamin B6** (PLP < 20 nmol/L)
 - NSAIDs and oral contraceptives interfere with B6 metabolism.
 - Deficiency: depression, decreased attention, energy and sleep.
 - Need 4-6 mg of B6 (DV is 1.5 mg per day)
- **18 million** Americans deficient in **vitamin B12**.
 - Key for healthy neurologic function
 - Risk for deficiency: taking metformin, inadequate intake, poor absorption, increasing age

CDC 2nd National Report on Biochemical Indicators of Diet and Nutrition in the U.S. Population

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To Get 1.5 mg B6 in Food

- 2.5 bananas
- 12 Tbsp. roasted sunflower seeds
- 8 ounces chicken breast
- 8 ounces sockeye salmon
- 3.5 cups raw diced avocado
- 3 cups sweet potatoes
- 15 cups of milk **OR**
- 20 Tbsp. peanut butter



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Vitamin C

- Potent antioxidant, activates folate, needed to convert tryptophan to serotonin, cofactor in synthesis of carnitine, thyroxine, norepinephrine, dopamine and immune cells
- Vitamin C levels decline rapidly during emotional and physical strain, and illness.
- CDC found roughly 16 million Americans have very low levels of serum vitamin C.



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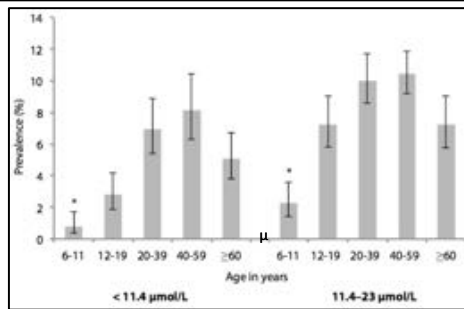


Figure H.1.f. Prevalence estimates of vitamin C deficiency (serum concentrations less than 11.4 μmol/L) and low vitamin C concentrations (11.4-23 μmol/L) in the U.S. population aged 6 years and older by age group, National Health & Nutrition Examination Survey, 2003-2006.

Error bars represent 95% of confidence intervals. *Prevalence in children is significantly lower than prevalence in persons 20 years and older ($p < 0.05$).

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Menstruation, Pregnancy and Iron

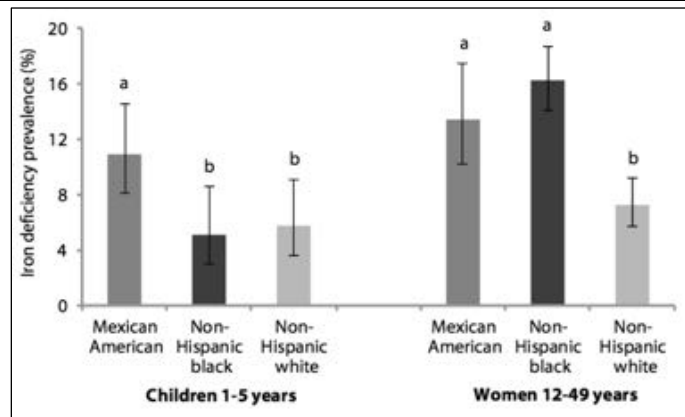
- Low iron levels *are the most common cause of anemia* in adolescent girls and can be very detrimental to **mood and cognition**, as well as **physical well-being**.
- Heavy menstrual bleeding is a significant risk for iron deficiency and is often overlooked.
- If a pregnant woman does not get enough iron, her baby is at higher risk for being *born prematurely with a low birth weight, lower IQ and poorer neurocognitive development*.
- **If menstruating or pregnant – multi with iron.**



Blitzer J, et al. *Gynecol Endocrinol* 2014;30(8):542-8.
Nelson AL, et al. *Am J Obstet Gynecol* 2015; 213(1):97.e1-6.
Cooper M, et al. *Health Rep* 2012;23(4):41-8.

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To Get 18mg of Iron in Food

- 4 cups of raisins
- 3-5 cups instant oatmeal
- 3 cups Special K cereal**
- 3 cups cooked lentils
- 2.2 cups canned white beans
- 10 ounce beef liver
- 45 ounce chicken breasts
- 15 cups broccoli **OR**
- 3 cups cooked spinach



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Take Home Message

- I believe that given the current state of our nutrition, the decline in nutrients in our soil, and the overwhelming stress that most of us live under that taking a **basic multivitamin** is vitally important for our **emotional, mental and physical wellbeing**.

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Loneliness, Social Isolation & Your Health



- **Nurture your healthy relationships!**
- **148 studies on the effects of social isolation on health found it is:**
 - As bad as **smoking 15 cigarettes** a day.
 - As dangerous as being an **alcoholic**.
 - As harmful as **never exercising**.
 - **Twice as dangerous as obesity**.

Cacioppo JT, et al. *Ann N Y Acad Sci* 2011; 1231:17-22
Holt-Lunstad J, et al. *PLoS Med* 2010; 7:e1000316

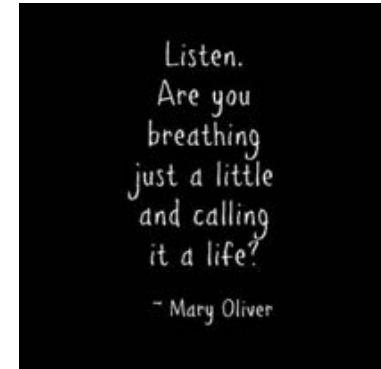
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Meaning and Purpose

- What truly gives a person a sense of *meaning and purpose* in life?
- How can one live from a “*deep place*” despite his or her pain?
- How does one feel the oneness, find the *holy and sacred* in the mundane?



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Reflection

- What did you love as a child?
- What is important to you now?
- Think back to when you had moments when you felt creative and full of drive and joy.
- What was happening in your life? Who were you with? What were you doing?



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Reflection

- Think back to when you had moments when you felt defeated, disappointed, disillusioned, overwhelmed or hopeless.
- What was happening in your life? Who were you with? What were you doing?
- How are you feeling now? Are you moving? Are you stuck?



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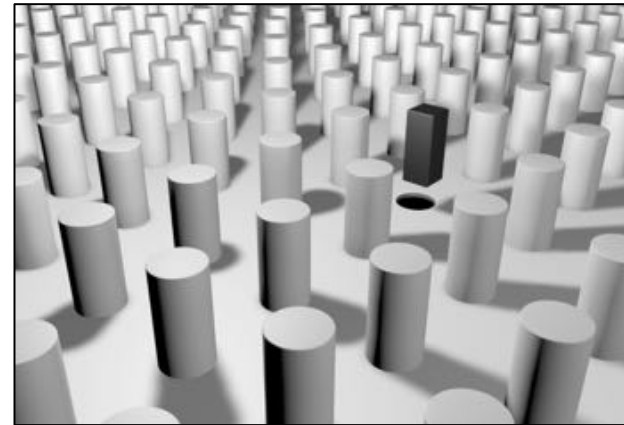
"But until a person can say deeply and honestly, 'I am what I am today because of the choices I made yesterday,' that person cannot say, 'I choose otherwise.'"

Stephen Covey



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