



Reduce Anxiety Through Exercise, Sleep, Diet, Mindfulness, and other Stress Relieving Measures!



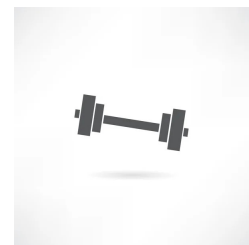
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## **Comorbidity**

Individuals with OCD often have other psychopathology. Many adults with the disorder have a lifetime diagnosis of an anxiety disorder (76%; e.g., panic disorder, social anxiety disorder, generalized anxiety disorder, specific phobia) or a depressive or bipolar disorder (63% for any depressive or bipolar disorder, with the most common being major depressive disorder [41%]). Onset of OCD is usually later than for most comorbid anxiety disorders (with the exception of separation anxiety disorder) and PTSD but often precedes that of depressive disorders. Comorbid obsessive-compulsive personality disorder is also common in individuals with OCD (e.g., ranging from 23% to 32%).





# The **Stress** Bucket

**Stress** drips or pours into the bucket

If the tap doesn't work, **stress** can't be relieved, which leads to overflow

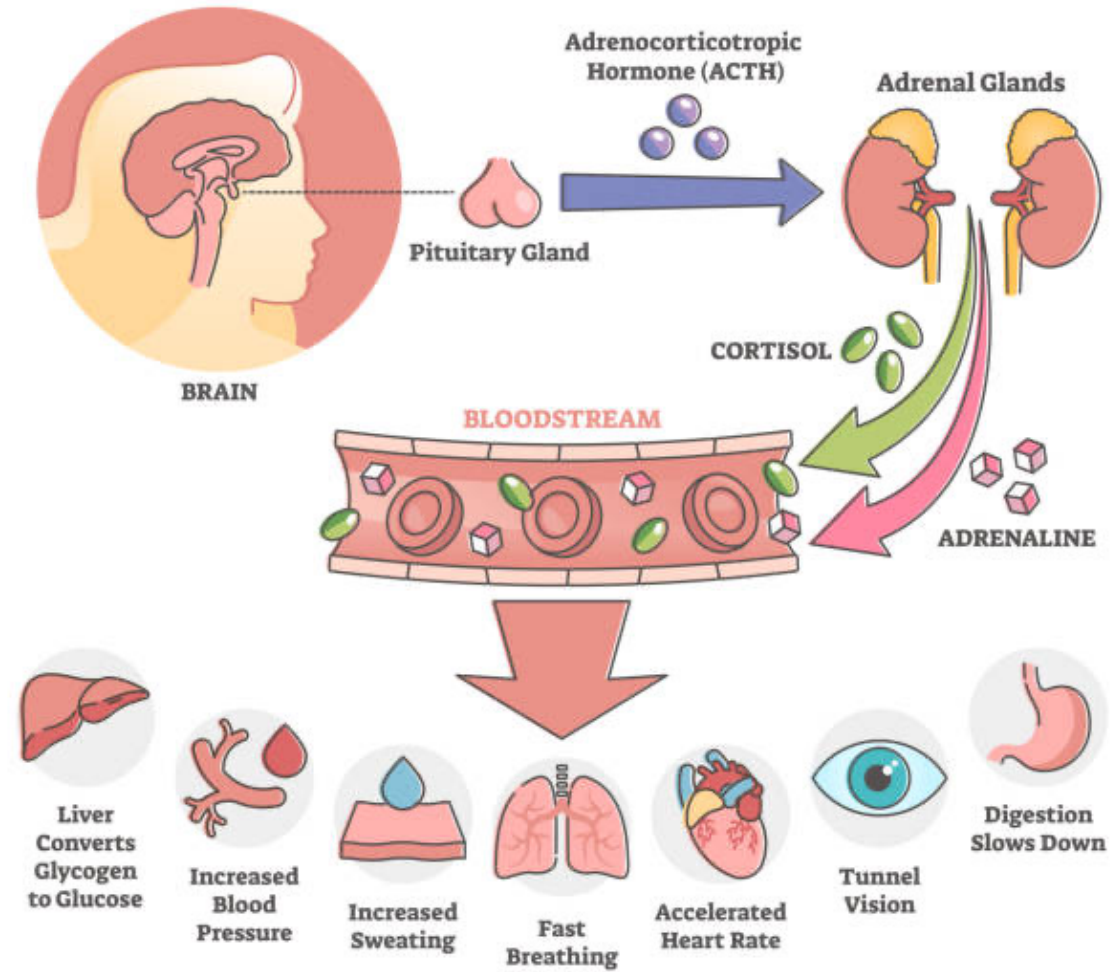


If **stress** overflows **symptoms** of stress & anxiety can present themselves



# Adrenaline, Cortisol, Norepinephrine: The Three Major Stress Hormones

# STRESS RESPONSE



# Physical Indications of Fight or Flight Response



dilated pupils

pale or flushed skin



rapid heart beat and breathing

trembling




## Adrenaline

**What It Is:** Commonly known as the **fight or flight** hormone, it is produced by the adrenal glands after receiving a message from the brain that a stressful situation has presented itself

**What It Does:** Adrenaline is largely responsible for the *immediate* reactions we feel when stressed. Your muscles are tense, you're breathing faster, you may start sweating. That's adrenaline

Along with the increase in heart rate, adrenaline also gives you a **surge in energy**-- which you might need to run away from a dangerous situation -- and also focuses your attention.








## Norepinephrine

**What It Is:** A hormone similar to adrenaline, released from the adrenal glands and also from the brain

**What It Does:** The primary role of norepinephrine, like adrenaline, is **arousal**. When you are stressed, you become more **aware, awake, focused**. It also helps to shift blood flow away from areas where it might not be so crucial, like the skin, and toward more essential areas at the time, like the muscles, so you can flee the stressful scene

Depending on the long-term impact of whatever's stressing you out -- and how you personally handle stress -- it could take anywhere from half an hour to a couple of days to return to your normal resting state



## Cortisol

**What It Is:** A steroid hormone, commonly known as the **stress hormone**, produced by the adrenal glands.

**What It Does:** It takes a little more time -- minutes, rather than seconds -- for you to feel the effects of cortisol in the face of stress because the release of this hormone takes a multi-step process involving two additional minor hormones.

First, the part of the brain called the amygdala has to recognize a threat, which tells the adrenal glands to produce cortisol.

In survival mode, the *optimal* amounts of cortisol can be life saving. It helps to maintain fluid balance and blood pressure, while regulating some body functions that aren't crucial in the moment, like reproductive drive, immunity, digestion and growth

But when you **stew on a problem**, as in **OCD**, the body *continuously* releases cortisol, and **chronic, elevated levels can lead to serious issues**. Too much cortisol can suppress the immune system, increase blood pressure and sugar, decrease libido, produce skin rashes, contribute to obesity and more.

# Symptoms of HIGH CORTISOL LEVELS



**WEIGHT GAIN  
(ESPECIALLY AROUND THE  
ABDOMEN/STOMACH)**



**HIGHER  
SUSCEPTIBILITY  
TO INFECTIONS**



**A PUFFY,  
FLUSHED FACE**



**HIGH BLOOD  
PRESSURE**



**MOOD SWINGS**



**ACNE OR OTHER  
CHANGES IN THE SKIN**



**INCREASED  
ANXIETY**



**HIGHER RISK FOR  
BONE FRACTURES &  
OSTEOPOROSIS**



**FATIGUE/POOR SLEEP  
(INCLUDING FEELING  
"TIRED BUT WIRED")**



**MUSCLE ACHES  
AND PAINS**



**INCREASED URINATION**



**CHANGES IN LIBIDO**



**IRREGULAR PERIODS &  
FERTILITY PROBLEMS**



**EXCESSIVE THIRST**

# HOW **STRESS** AFFECTS THE BODY

## **BRAIN**

Difficulty concentrating, anxiety, depression, irritability, mood, mind fog

## **CARDIOVASCULAR**

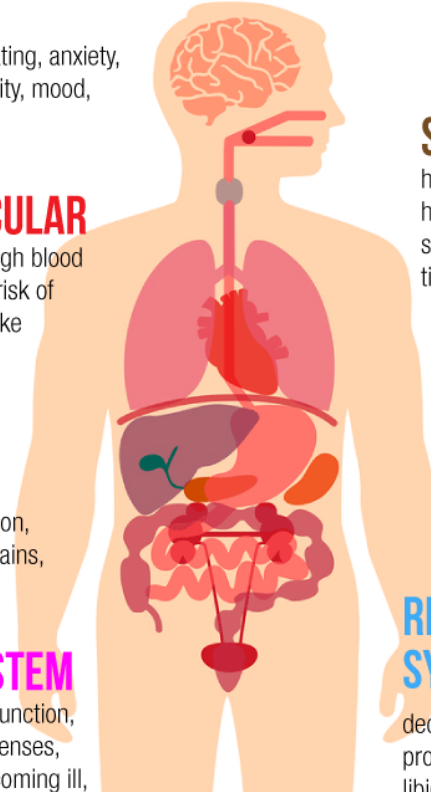
higher cholesterol, high blood pressure, increased risk of heart attack and stroke

## **JOINTS AND MUSCLES**

increased inflammation, tension, aches and pains, muscle tightness

## **IMMUNE SYSTEM**

decreased immune function, lowered immune defenses, increased risk of becoming ill, increase in recovery time



## **SKIN**

hair loss, dull/brittle hair, brittle nails, dry skin, acne, delayed tissue repair

## **GUT**

nutrient absorption, diarrhea, constipation, indigestion, bloating, pain and discomfort

## **REPRODUCTIVE SYSTEM**

decreased hormone production, decrease in libido, increase in PMS symptoms




# MINDFULNESS & MENTAL HEALTH

By: Krista Reed, LCSW



# What we'll talk about today:

1. A little about my journey and my “why” for being here today.
  2. Benefits of having mindfulness practices in your recovery.
  3. Examples of mindfulness practices that you can incorporate into your daily life.
  4. You're invited to join me in a brief mindfulness practice.
- 

A little about me and my journey...



MINDFULNESS DOES NOT REQUIRE PERFECTION FROM US. IN FACT,  
IT ASKS THAT WE GIVE OURSELVES PERMISSION TO BE IMPERFECT  
AND TO STILL SHOW UP ANYWAYS.

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OCD IS A MASTER AT PULLING OUR ATTENTION TO THE  
PAST, TO THE FUTURE, AND TO THE LAND OF  
HYPOTHETICALS BECAUSE IT LOSES POWER IN THE  
PRESENT MOMENT.





# BENEFITS OF HAVING A MINDFULNESS PRACTICE:

Reduces Rumination & Anxiety

Less reactivity to thoughts & emotions

Stress Reduction

Relationship Satisfaction

Improves Focus & Cognitive Functioning by getting us out of flight-or-fight.

Improved Sleep





# BENEFITS OF HAVING A MINDFULNESS PRACTICE:

Cultivates Self-Awareness as well as empathy, and compassion for self and others.

Decreases Blood Pressure

Promotes overall better emotional health.

You can practice anywhere!



# EXAMPLES OF MINDFULNESS PRACTICES:



Mindful Breathing  
Meditation



Walking  
Meditation



Body Scan  
Meditation



**LET'S PRACTICE TOGETHER...**



# DIET AND MENTAL HEALTH

Liz Trondsen, RD



# AGENDA

- Relationship Between Diet and Mental Health
- How to Get Started
- Probiotics
- Omega-3 Fatty Acids
- Gluten-free Diet
- Keto Diet
- Caffeine and Sugar
- OCD Supplements



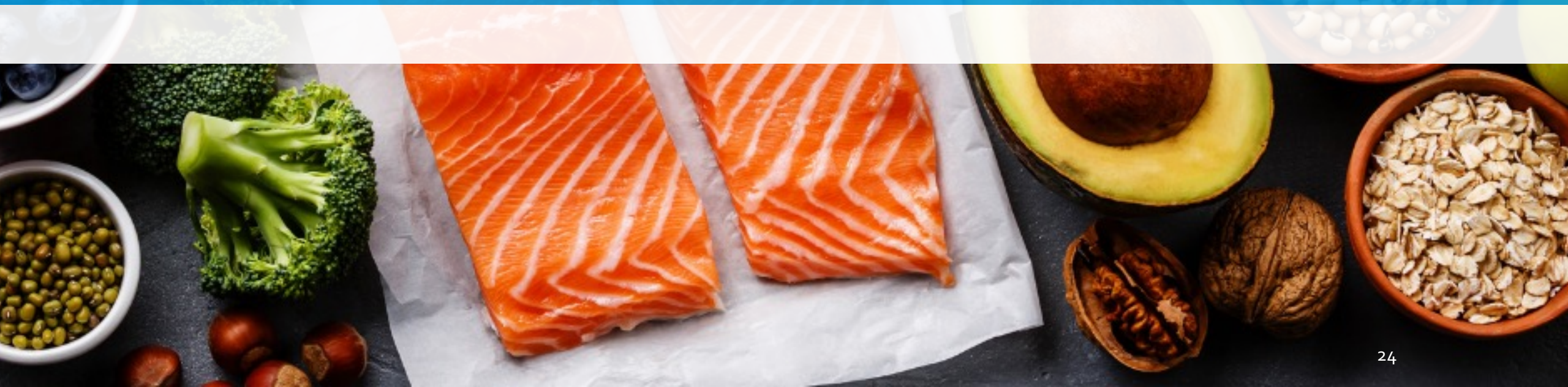
# WHAT IS THE CONNECTION BETWEEN DIET AND MENTAL HEALTH?

- 🍏 **There is a growing base of evidence that shows a strong association between a healthy diet and reduced risk or symptoms of anxiety and depression. See references for study results.**
- 🍏 **Inflammation:** our immune system protects us against infection. However, if our immune system does not turn off, we can exist in a state of **chronic, low-grade inflammation**. This leads to cell damage, and it is thought to be involved in the development of chronic conditions, such as diabetes, cardiovascular disease, cancer, Alzheimer's disease, autism, anxiety and depression. Conclusions from many trials suggest an "anti-inflammatory diet" or a diet that is believed to reduce inflammation and the risk of chronic disease may also help reduce symptoms of depression.
- 🍏 **Oxidative Stress:** during the normal course of the day, we form free radicals as we exercise, eat or interact with environmental substances. **These free radicals can destroy our healthy cells.** Our brains are highly susceptible to oxidative stress. To reduce the number of free radicals, our bodies need antioxidants.
- 🍏 **Gut Microbiome:** the gut is physically connected to the brain through millions of nerve cells. The brain and the gut are in constant communication through the Gut-Brain Axis. The composition of the microbes in the gut affects the health of the brain. Approximately 90% of our serotonin is produced in the gut. **The key is diversity! This is exciting new science in both nutrition and psychology and expect to hear a lot more about this in the near future.**
- 🍏 **"Although useful, the expansive body of research does not uncover the causality of the observed relationships. Therefore, the evidence for which lifestyle factors should be addressed when aiming to prevent the onset of mental illness, or reduce symptoms in those with established conditions, is currently very limited."**

*Marx W, et al. Diet and depression: exploring the biological mechanisms of action. Mol Psychiatry. 2021 Jan;26(1):134-150.*



# ANTI-INFLAMMATORY EATING





# BASICS OF AN ANTI-INFLAMMATORY MEAL PLAN

- **Fresh vegetables** (all kinds) – Aim for a variety of types and colors; include dark green leafy vegetables
- **Whole pieces of fruit** (not juice) – be sure to include berries and cherries
- **Fatty fish** – such as salmon, trout, sardines, mackerel & tuna
- **Chicken and turkey**; consume less red meat. Include eggs
- **Herbs & spices** -turmeric, ginger, basil, oregano, thyme, cinnamon, saffron
- **Healthy fats** – extra virgin olive oil is the best option, avocado oil and the fats found in seeds, nuts, fish
- **Nuts/seeds** – such as walnuts, cashews, almonds, pistachios, pine nuts, chia, hemp, flax seeds
- **Whole grains** – brown rice, amaranth, buckwheat, and quinoa
- **Legumes/beans** – especially black beans, black-eyed peas, chickpeas, lentils, red kidney
- **Fermented Dairy** – yogurt and cheese
- **Drinks** – water, green tea and coffee and wine in moderation
- **In recent years, scientists have moved away from studying individual food components and have started to evaluate dietary patterns. People don't eat nutrients, we eat food.**



Can Delay Cognitive Decline



Blue Zones



5 Years Voted #1 Diet



# EXCELLENT SOURCES OF ANTIOXIDANTS AND PHYTONUTRIENTS



**Antioxidants are substances that help protect cells from damage from unstable molecules known as “free radicals”.**

**Phytonutrients are naturally occurring plant chemicals that can have protective qualities for human health. More than 5000 phytonutrients have been identified. Phytonutrients work synergistically with the other compounds in the food.**

- 🍏 **Berries** contain antioxidants called anthocyanins.
- 🍏 **Fatty fish** are a great source of EPA and DHA fatty acids.
- 🍏 **Green Leafy Vegetables** contain carotenoids and lutein, as well as Vitamins A, C and K.
- 🍏 **Avocados** are a good source of potassium and MUFA.
- 🍏 **Green Tea** contains flavonoids and has antioxidant and anti-inflammatory properties.
- 🍏 **Peppers** are loaded with Vitamin C and the antioxidant quercetin.
- 🍏 **Mushrooms** are rich in selenium, the B vitamins, potassium and antioxidants. They may contain Vitamin D.
- 🍏 **Grapes** contain resveratrol.
- 🍏 **Turmeric** contains curcumin, an anti-inflammatory substance. Consuming turmeric with black pepper can help increase curcumin absorption.
- 🍏 **Dark chocolate and cocoa** contain flavanols with anti-inflammatory properties.



EAT THE RAINBOW

## TO SUMMARIZE...

- 🍏 Many trials have been conducted to study the relationship between dietary patterns and depression. Many trials have concluded that there is a **strong correlation between a “healthy diet” and a reduction in symptoms of depression.**
- 🍏 **The purpose of these studies are to determine if dietary interventions could support mental health treatment; no respected scientist has claimed that dietary intervention will prevent or cure OCD, depression or anxiety.** However, most agree or are beginning to accept that **eating well will support better mental health.**
- 🍏 While no one knows what the “perfect diet” is, most people studying dietary patterns and mental health agree that an anti-inflammatory diet, high in omega-3, whole grains, fatty fish, olive oil, leafy green vegetables, fresh fruits and vegetables, anti-oxidants and high in fiber will benefit the human body and brain and that diets high in refined sugar, refined breads and pastas, fried foods, saturated fats and ultra-processed foods will not benefit one’s mental health.

## How Do You Get Started?

# WHAT CAN YOU DO RIGHT NOW?



- 🍏 **Figure out your “WHY”**
- 🍏 **Change SLOWLY! Avoid flashy diets!**
- 🍏 **Choose one thing you would like to change about your diet right now**
- 🍏 **Choose only 1-2 things to start that change in the next week**
- 🍏 **Make gradual changes so you can incorporate the changes into your life**
- 🍏 **HAVE FUN!**

# PICK ONE THING TO START WITH – FOR EXAMPLE, WHAT IF YOU WANTED TO INCREASE THE AMOUNT OF FIBER IN YOUR DIET?



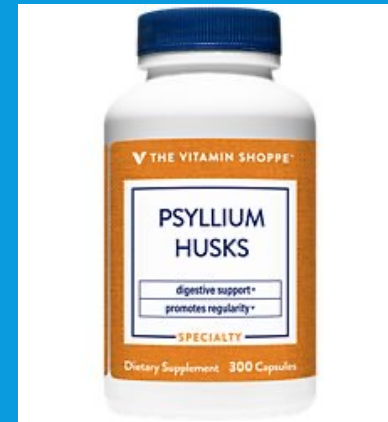
Is My Bread  
100% Whole  
Wheat?



Does My Cereal  
Have Enough  
Fiber?



How Do I Use  
Chia Seeds to my  
Benefit?



Should I  
Consider a Fiber  
Supplement?



What Does  
Whole Wheat  
Pasta Taste Like?



## FIND WAYS TO INCREASE YOUR INTAKE OF FRUITS AND VEGETABLES

- 🍏 Try something new- find a recipe and cook a new meal
- 🍏 Buy pre-made salads with healthy dark green vegetables
- 🍏 Add vegetables to smoothies
- 🍏 Buy frozen vegetables that will be available whenever you are cooking
- 🍏 Include vegetables with eggs in the morning
- 🍏 Don't try to go from zero vegetables a day to seven!



# MEDITERRANEAN WEBSITES

Have You Looked For A Mediterranean “Fast Food” Restaurant?

<https://thedomesticdietitian.com>



<https://www.olivetomato.com>

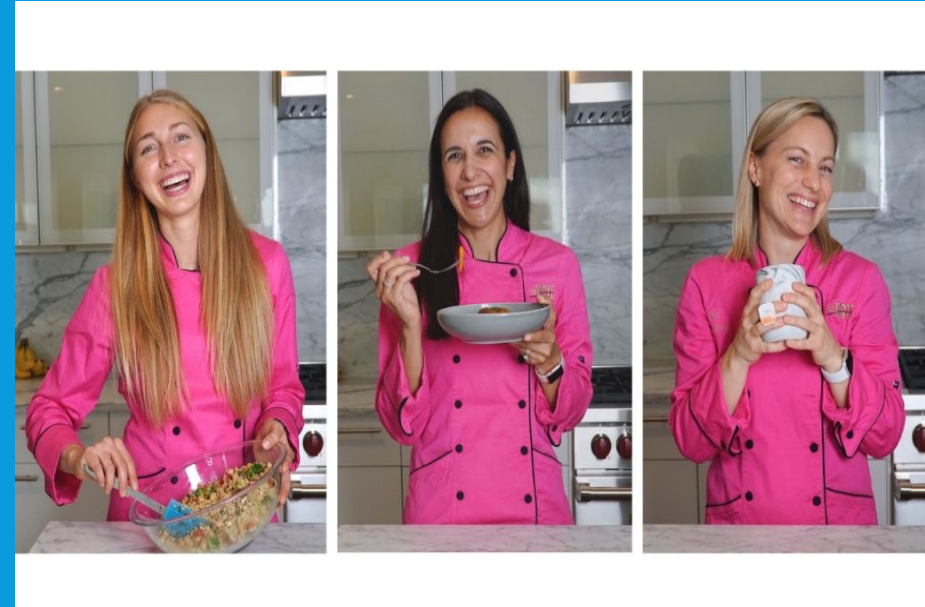


# PLANT-BASED OR PLANT-FORWARD WEBSITES

<https://sharonpalmer.com>



<https://totaste.com>



Also Conducts Online Cooking Classes



# PROBIOTICS

# THE GUT, DIVERSITY AND PROBIOTICS

- 🍏 Live microorganisms, which, when administered in adequate amounts, confer a health benefit on the host. (*World Health Organization, 2014*). **“Friendly Bacteria.”**
- 🍏 **Although probiotics do not stay in your gut,** there is clinical evidence that they provide benefits. For ongoing benefits, we must consume probiotics regularly.
- 🍏 In general, probiotics are known to support the immune system during infections and inflammation, help with GI issues such as diarrhea and bloating and help provide a barrier against pathogens trying to enter the GI tract.
- 🍏 **Probiotics stimulate the growth of beneficial bacteria and inhibit the growth of harmful bacteria in the gut.**





# Probiotics- Are They all the Same?

- 🍏 Probiotics are not generic; each probiotic has a specific purpose and supports specific conditions
- 🍏 For reliable consumer information:  
<https://isappscience.org>



[Watch the ISAPP video on how to choose a probiotic at https://www.youtube.com/watch?v=7MZWJCia8wA](https://www.youtube.com/watch?v=7MZWJCia8wA)

# PROBIOTIC SUPPLEMENTS

- 🍏 What is your problem? Is it constipation, diarrhea, general gut health, antibiotic-associated diarrhea?
- 🍏 Research – what strains of probiotics will help relieve your symptoms? Visit ISAPP.
- 🍏 A higher dose and greater number of strains is not necessarily better. The recommendation is to use products that have been tested in **human studies** with positive outcomes for the benefit you are interested in.
- 🍏 The bacteria must remain alive and active until the expiration date, not the date of manufacture. Freeze-dried organisms can “come alive” from their inactive form.
- 🍏 The sugar present in some products (such as yogurt) does not destroy the probiotic effects.
- 🍏 Companies are not required to have their product tested by an outside company, but it is a good sign if they do. The FDA is not involved in testing or approval of probiotic supplements. Three well-known third-party testing companies are Consumerlab.com, NSF International, and US Pharmacopeial Convention.





# PSYCHOBIOLOGICS

**“Psychobiotics” are defined as microbiota-targeted interventions such as probiotics and prebiotics that influence bacteria-brain relationships”. (Cryan 2013)**

- 🍏 Studies have found that people with depression have significantly different gut bacteria compared to others. Scientists are beginning to identify specific types of bacteria that may influence the severity of depression.
- 🍏 Studies conducted on mice since 2006 have shown beneficial effects of probiotics on stress reduction, reductions in cortisol levels (↑cortisol → ↑ inflammation), the HPA axis, the intestinal barrier, the reduction of cytokine production, the increased production of SCFA, and reductions in symptoms of anxiety and depression.
- 🍏 Several human trials have shown a significant reduction in the level of cortisol, the severity of depression and the increase of serotonin. Positive results have been seen when probiotics are given in conjunction with antidepressants.
- 🍏 **Current theory:** Introducing probiotics to support treatment has had positive results in numerous studies. There have been positive effects on the stress response system, the immune system and the gut microbiome.
- 🍏 Expect many more studies! Many studies have shown a reduction in symptoms of depression after the consistent consumption of fermented and probiotic foods.



OMEGA-3

# IS FISH OIL THE ANSWER?

- 🍏 Omega-3 fatty acids are polyunsaturated fats important in brain development and health. Much attention has been focused on the fatty acids EPA and DHA. These two fatty acids are components of cell membranes, important for brain development and growth and have powerful anti-inflammatory functions within the body.
- 🍏 In the human diet, EPA and DHA are found in fatty fish and fish oil.
- 🍏 Vegan sources of DHA and EPA are krill or algae. Fish that are rich in omega-3 fatty acids get their fatty acids from krill or algae themselves.
- 🍏 The body can make EPA and DHA out of alpha-linolenic acid (ALA). ALA is another omega-3 found in several food sources, such as walnuts, flaxseeds, chia seeds, canola oil, soybeans and soybean oil. However, it is estimated that less than 10% of ALA we eat is converted into EPA or DHA. This is why many people who don't eat fish take supplements.
- 🍏 There have been many studies conducted on omega-3 supplementation and anxiety and/or depression. While most trials show a correlation, and many conclude that omega-3 supplementation may reduce the symptoms of depression and/or anxiety, the overall results and conclusions have been varied. At this time, there are no official recommendations regarding how much omega-3s from fish oil you need to take to see benefits in mental health. Given all the known benefits of omega-3 FA and the low risk of supplements, it is reasonable to supplement omega-3 in the diet (if a person does not eat fish).

Larrieu T, Layé S. Food for Mood: Relevance of Nutritional Omega-3 Fatty Acids for Depression and Anxiety. *Front Physiol.* 2018 Aug 6;9:1047.





Su K, et al. Association of Use of Omega-3 Polyunsaturated Fatty Acids With Changes in Severity of Anxiety Symptoms: A Systematic Review and Meta-analysis. *JAMA Netw Open.* 2018;1(5):e182327.

Liu JJ, et al. Omega-3 polyunsaturated fatty acid (PUFA) status in major depressive disorder with comorbid anxiety disorders. *J Clin Psychiatry.* 2013 Jul;74(7):732-8.

SALMON  
 ALBACORE TUNA  
 BLUEFISH  
 RAINBOW TROUT  
 ATLANTIC AND  
 PACIFIC (NOT  
 KING) MACKEREL  
 HERRING  
 SARDINES  
 ANCHOVIES

## OMEGA-3 FATTY FISH

@functional.foods

Sockeye Salmon	Herring	Mackerel (N. Atlantic)	Sardines
			
200 cals	230 cals	240 cals	200 cals
24g protein	23g protein	28g protein	24g protein
1.3g omega-3	1.7g omega-3	2.6g omega-3	1.4g omega-3
Mercury: 0.039 ppm	0.078 ppm	0.05 ppm	0.013 ppm

(Nutrition facts per 4 oz)

King Mackerel is high in mercury

# HOW TO CHOOSE A FISH OIL SUPPLEMENT

- 🍏 **International guidelines:** minimum intake of 650 mg EPA and DHA (at least 220 mg from each).
- 🍏 **American Heart Association (AHA):** For **healthy adults** with no history of heart disease, the American Heart Association recommends eating fish at least twice weekly. They do not recommend supplements.
- 🍏 **AHA** recommends 1000 mg DHA + EPA daily for people with **known heart disease**.
- 🍏 **AHA** recommends 2000-4000 mg DHA + EPA for people who need to lower **triglyceride levels**.
- 🍏 **Caution:** The U.S. Food and Drug Administration (FDA) considers up to 3000 mg DHA + EPA to be safe. However, *anyone taking more than 3000 mg DHA + EPA should only do so under the direct supervision of a physician*. It can lead to GI disturbances and bleeding.
- 🍏 Fatty acids naturally found in fish are in the form of triglycerides (TG). TG are easily absorbed by the human body. Ethyl Esters (EE) are formed through a manufacturing distillation process. The distilled fish oil can be converted back to the triglyceride form, but it is expensive, so many companies choose to sell their product in the ester form. Studies have shown that it is harder for the body to absorb EE, and therefore, less omega-3 is absorbed in the EE form.
- 🍏 Capsules can be taken at any time; best tolerated with meals. Dose can be divided.
- 🍏 Keep products away from heat and light; most people refrigerate capsules (do not freeze).



**TIP**

## How to read a Fish Oil Nutrition Label

**Note 1000 mg fish oil on front of label**



Directions: Take two (2) to four (4) chewable softgels daily, or as directed by a health care professional.

STORE IN A COOL, DRY, DARK PLACE. KEEP AWAY FROM DIRECT SUNLIGHT. SOME CLUMPING AND STICKING TOGETHER OF CHEWABLE SOFTGELS IS NORMAL AND EXPECTED.

Other Ingredients: Kosher Gelatin, Vegetable Glycerin, Purified Water, Fructose, Natural Fruit Punch Flavor, Citric Acid.

Supplement Facts	
Serving Size 2 Softgels	
Servings Per Container 60	
Amount per Serving	%DV
Calories	12
Calories from Fat	10
Total Fat	1g
Purified Omega 3 Fish Oil	1000 mg
EPA	180 mg
DHA	120 mg
Vitamin E (Natural D-Alpha Tocopherol)	10 IU 32%

\*Percentage Daily value based on 2,000 calorie diet  
† Daily Value not established

**Always check the exact amount of EPA & DHA listed in the Supplement Facts**

This shows 1000 mg of Fish Oil but it only gives you 180+120 = 300 mg of vital EPA & DHA Omega 3s the other 700 mg is simply FISH FAT!



**GLUTEN FREE DIET**

# DOES GLUTEN CAUSE DEPRESSION?

- 🍏 Gluten: proteins naturally found in grains, especially wheat, barley, rye and contaminated oats. Gluten gives food that soft, chewy texture. Most people do not have problems digesting gluten. However, people with a sensitivity to gluten are not able to fully digest gluten and find relief from feelings of bloating, abdominal pain, diarrhea or constipation when they eliminate gluten from their diet.
- 🍏 Busby (2018) reviewed three randomized-controlled trials and 10 longitudinal studies (1139 participants) that looked at gluten elimination as a treatment strategy for mood disorders in individuals with gluten-related disorders. A gluten-free diet (GFD) significantly improved depression symptoms in GFD-treated patients. The authors concluded that the review “supports the association between mood disorders and gluten intake in susceptible individuals. The effects of a GFD on mood in subjects without gluten-related disorders should be considered in future research”.
- 🍏 For most people, gluten does not cause inflammation and there is no need to avoid it. Foods with gluten provide needed vitamins and minerals to the diet. Gluten alternatives often do not provide the same amount of fiber, vitamins or minerals found in gluten-containing foods. It is important to remember that a “gluten-free” label does not make the product healthy.

Busby E, et al. Mood Disorders and Gluten: It's Not All in Your Mind! A Systematic Review with Meta-Analysis. *Nutrients*. 2018 Nov 8;10(11):1708.

Niland B, Cash BD. Health Benefits and Adverse Effects of a Gluten-Free Diet in Non-Celiac Disease Patients. *Gastroenterol Hepatol (N Y)*. 2018 Feb;14(2):82-91 48



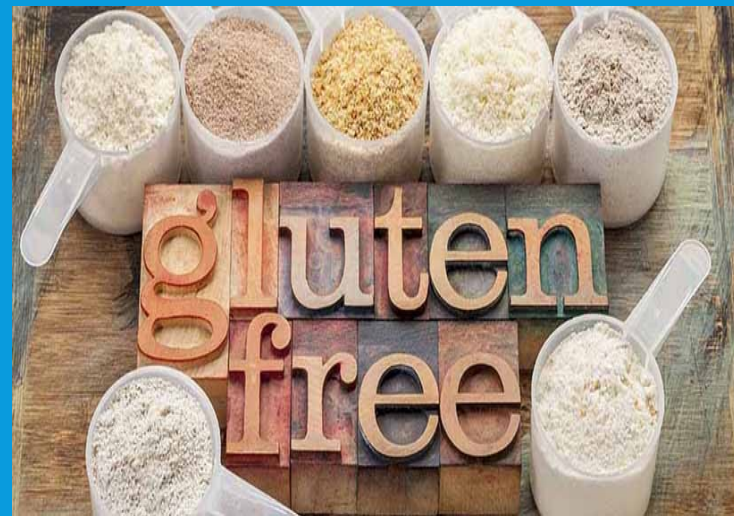
# GLUTEN FREE WEBSITES



<https://celiac.org/gluten-free-living/>

<https://www.glutenfreeliving.com>

<https://shellycase.com>



**Gluten-Free Diet**

**SHELLEY CASE, BSC, RD**  
Website. Gluten-Free Diet  
Blog & Podcast. Gluten-Free Diet  
Facebook. Shelley Case  
LinkedIn. Shelley Case  
Twitter. @shellycase

The Canadian Celiac Association's motto "Together We're Better" is a worthy ideal. I look forward to working together and continuing on this challenging gluten-free journey.

Awarded the Queen Elizabeth Golden Jubilee Medal for her contributions and dedication to the celiac community.

You should feel a difference in a few weeks



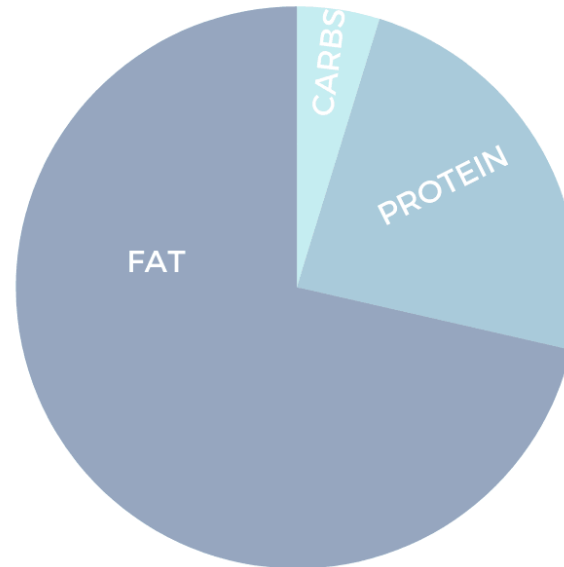
# KETO DIET

# WHAT ABOUT A KETO DIET?

- 🍏 Many people try to follow a keto diet to lose weight. There are claims that a keto diet reduces hunger, helps to stabilize blood sugars and reduces brain fog. In recent years, there has been interest in a Keto Diet for mental health.
- 🍏 A keto diet is very low in carbohydrates, very high in fat, and consists of a moderate amount of protein. The lack of carbohydrates to produce glucose forces the liver to use fatty acids to create ketone bodies for fuel; the brain can use this fuel if glucose is not available. The increased ketone body levels in the blood create a nutritional ketosis.
- 🍏 The majority of studies on keto diets and mental health have been conducted on rats and mice; results from animal trials do not automatically predict what will happen in the human body. The few human studies were not well-done: small sample size, lack of placebo, varied methods of measuring ketones in the body and different levels of compliance with the diet makes it difficult to draw solid conclusions.
- 🍏 “While these animal studies are placing research into KD on a firm footing and identifying some promising leads, on balance the evidence in humans is insufficient to form an opinion as to the efficacy or lack thereof of this intervention in the mental disorders reported”. *Włodarczyk A, et al. Ketogenic Diet: A Dietary Modification as an Anxiolytic Approach? Nutrients. 2020 Dec 14;12(12):3822.*
- 🍏 “LCHF diets, in some anxiety disorders, may provide a rewarding outcome, but more research is needed before this regimen can be recommended to patients on a daily basis”. *Bostock EC, et al. The Current Status of the Ketogenic Diet in Psychiatry. Front Psychiatry. 2017 Mar 20;8:43.*

# POSSIBLE DANGERS OF KETO DIET

- Not recommended for people with renal and liver disease, congestive heart failure, anorexia nervosa, those on specific diabetic medications.
- The keto diet can dangerously affect medications taken for diabetes and blood pressure; medications should be adjusted by a physician.
- Keto diets are low in fiber which may affect gut health and bowel movements and the diet can lead to nutritional deficiencies. If saturated fats are chosen most often, the diet can lead to an increased risk of cardiovascular disease.
- Following a keto diet may impact your social and emotional life.



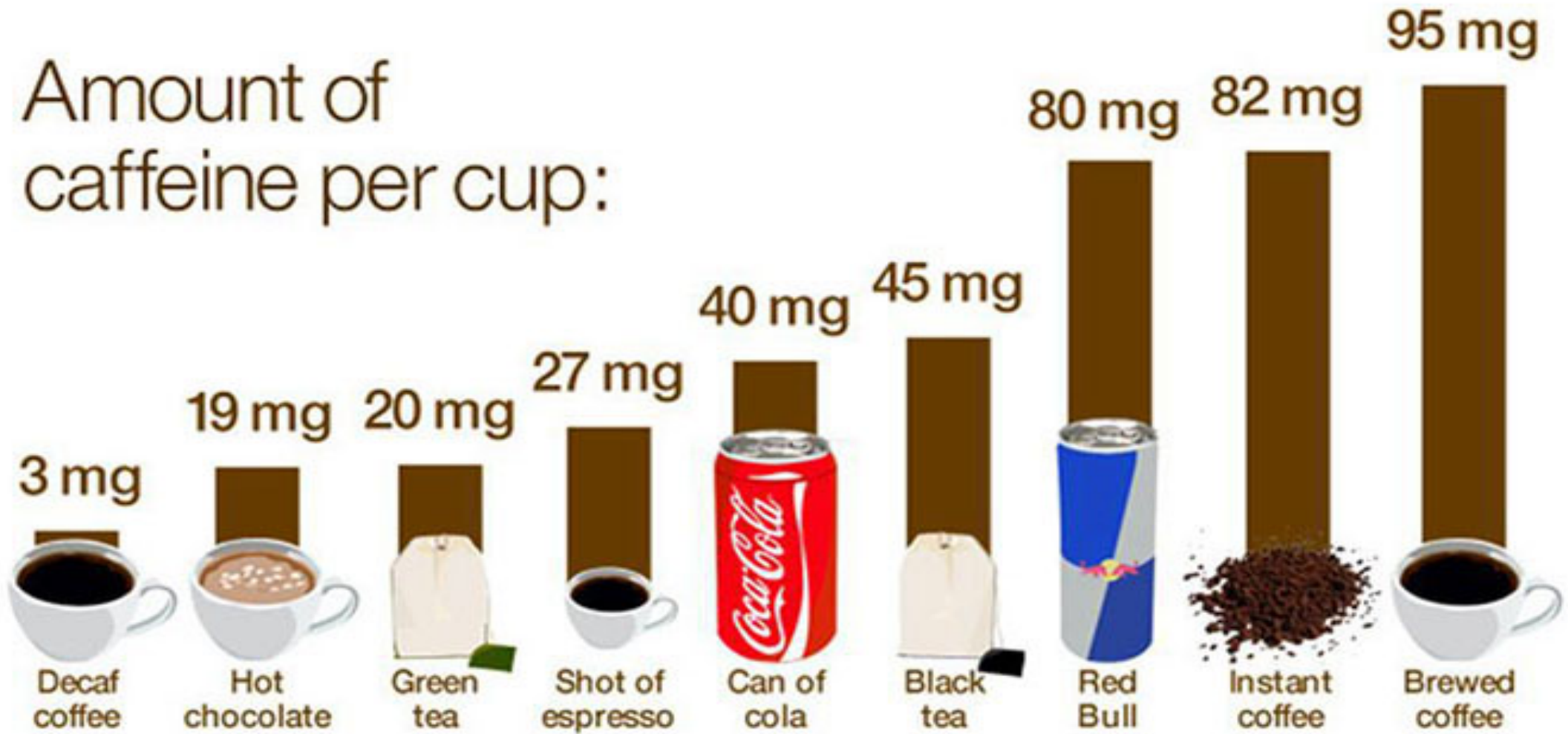


# CAFFEINE

# WILL CAFFEINE MAKE MY ANXIETY WORSE?

- 🍏 Adenosine is a naturally occurring substance that binds to adenosine receptors in the brain and causes drowsiness. Caffeine blocks these receptors and causes increases in dopamine and adrenaline.
- 🍏 While a person may feel more alert and energetic after a cup of coffee, too much coffee can lead to an increase in blood pressure, heart rate, and blood levels of stress hormones. The side effects of too much caffeine are very similar to symptoms of anxiety. For those who already have an anxiety condition, caffeine can definitely make symptoms worse.
- 🍏 Caffeine can also effect sleep (which affects anxiety levels) and can affect the efficacy of anti-anxiety medications.
- 🍏 *For healthy adults, the FDA has cited 400 milligrams per day of caffeine as an amount not generally associated with dangerous, negative effects.* This translates into 4-5 cups of coffee a day. We all metabolize caffeine at different rates. It is necessary to self-regulate consumption. We all need to become aware of how much caffeine we can consume daily without negative effects and remember to count energy drinks and sodas!
- 🍏 Scientists are also now identifying many components in coffee with potential healthful benefit, such as antioxidants.

# Amount of caffeine per cup:





**SUGAR**

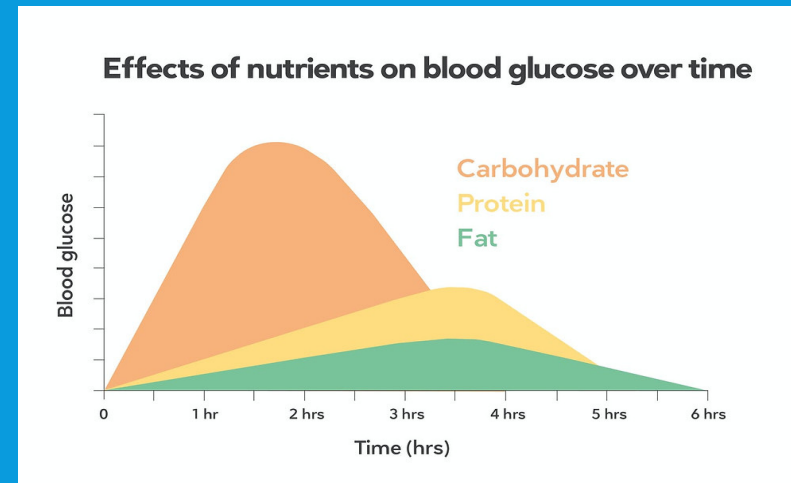
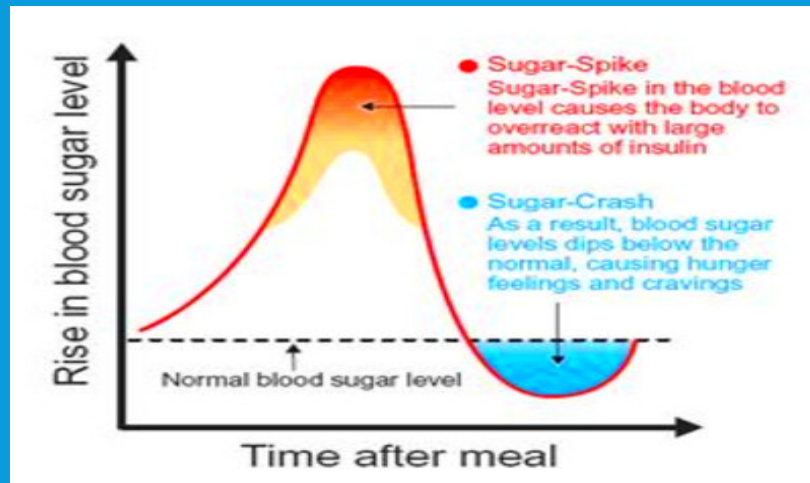


# SUGAR AND ANXIETY

Refined CHO are rapidly digested and induce a sharp post-meal rise in blood glucose.

↑ Sugar Intake → ↑ Blood Sugar → ↑ insulin → ↑ **inflammation** and a sugar crash → anxiety and irritability and symptoms similar to anxiety → Sugar Intake to feel better

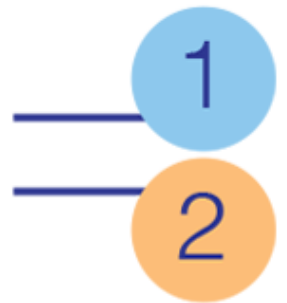
Anxiety is not the result of eating sugar. However, high intakes of sugar will affect the body and will make anxiety symptoms worse or may trigger an anxiety attack.



# UNDERSTANDING SUGARS ON THE FOOD LABEL

- 🍏 The food label contains both Total Sugars and Added Sugars. Added Sugars include any sugars that are added to the food during processing, sugars from syrups, honey, concentrated fruit or vegetable juices. Total Sugars include both the added sugars and the sugars found naturally in the food (such as sugar in dairy and fruit products).
- 🍏 It is recommended that no more than 25 -38 g of added sugars be consumed in one day. This equals 6 tsp/day for women and 9 tsp/day for men.

Amount per serving	
<b>Calories</b>	<b>110</b>
% Daily Value*	
<b>Total Fat</b> 0g	<b>0%</b>
Saturated Fat 0g	<b>0%</b>
<i>Trans</i> Fat 0g	
<b>Cholesterol</b> 0mg	<b>0%</b>
<b>Sodium</b> 5mg	<b>0%</b>
<b>Total Carbohydrate</b> 27g	<b>10%</b>
Dietary Fiber 0g	<b>0%</b>
Total Sugars 25g	
Includes 23g Added Sugars	<b>46%</b>
<b>Protein</b> 0g	
Vitamin D 0mcg	0%



# A COUPLE OF QUESTIONS ABOUT SUGAR

I heard fruit is bad for me because it has sugar

- 🍏 When we eat an apple, we get sugar (fructose), but we also get fiber, vitamins and antioxidants. These added substances slow down the digestion of the apple and allow the body to use the sugar slowly. On the other hand, eating sugar in a candy bar has no nutritional value and will be digested very quickly by the body. We feel a surge of energy, the body releases insulin to deal with the rise in blood sugar, excess glucose is converted into fat, and we feel hungry again.

What about Artificial Sweeteners? I heard they are bad for me

- 🍏 Some of the artificial sweeteners that have been approved by the FDA are aspartame (Equal, NutraSweet), sucralose (Splenda) and saccharine (Sweet’N Low). They are sweeter than sugar and have zero calories. The World Health Organization just came out with a comprehensive study of artificial sweeteners. They concluded that use of non-sugar sweeteners “does not confer any long-term benefit in reducing body fat in adults or children.” They recommended moderation, not elimination of artificial sweeteners.
- 🍏 One of the current theories is that artificial sweeteners can alter the gut microbiome, thereby affecting many aspects of our health. Studies are inconclusive – and ongoing.

## WHAT IF I REPLACED TABLE SUGAR WITH A NATURAL SWEETENER?

- 🍏 **Stevia** is a natural sweetener derived from a South American plant. It is up to 450 times sweeter than sugar. It has no effect on blood sugar, has no calories and is considered safe to use.
- 🍏 **Sugar alcohols (polyols)** are found in fruits and vegetables. These include erythritol, sorbitol, xylitol and maltitol. Requires minimal insulin to process. Large amounts can cause GI upset and may result in diarrhea.
- 🍏 **Monk fruit** sweetener comes from a plant and is 300 times sweeter than sugar. Monk fruit has no calories, does not affect blood sugar levels and is FDA approved as a sugar substitute.
- 🍏 **Yacon syrup**, from the yacon plant, is thick and sweet and acts like a prebiotic in the body. Large amounts will lead to gas, diarrhea and stomach pain.
- 🍏 **Honey** contains anti-inflammatory and antioxidant benefits and is less processed than sugar.
- 🍏 **Maple syrup** contains a small amount of minerals and has anti-inflammatory and antioxidant effects. It is very high in sugar.
- 🍏 **Molasses** is made from boiling sugar cane or sugar beet juice. It also has vitamins and minerals and acts as an antioxidant.
- 🍏 **Agave** is a sweetener obtained from a plant. Agave nectar is highly refined, 85% fructose and has lost its nutritional benefits through the manufacturing process.

## OCD SUPPLEMENTS

### N-acetylcysteine (N-AC)

- 🍏 In the brain NAC, an antioxidant, affects the neurotransmitter glutamate. Because glutamate imbalance may contribute to OCD, there has been hope that NAC may help with OCD treatment. Study results have been inconsistent and inconclusive.
- 🍏 Trials of NAC from 2013 - 2017 have shown inconsistent results with some trials showing a reduction in Y-BOCS score compared to a placebo, and others showing no difference. One trial showed some reduction in symptoms of anxiety.
- 🍏 **Sarris J, et al. N-acetyl cysteine (NAC) augmentation in the treatment of obsessive-compulsive disorder: A phase III, 20-week, double-blind, randomized, placebo-controlled trial. Progress in Neuro-Psychopharmacology and Biological Psychiatry, 2022 Jul** This study was conducted to determine if NAC would be of benefit in OCD treatment. The authors concluded that there was no evidence to support the use of NAC in OCD, depression, or anxiety.

### Tryptophan and 5-HTP

- 🍏 Tryptophan is a naturally occurring amino acid and is a precursor of the neurotransmitter serotonin. It seems reasonable that an increase in dietary tryptophan would increase serotonin levels in the brain, but there is currently no evidence to support tryptophan supplementation in OCD. Tryptophan must be converted to 5-HTP; it is possible to take 5-HTP supplements. However, while this may increase serotonin, it may affect other neurotransmitters; neurotransmitters work together and supplementing one will create an imbalance in the system. However, there is not currently enough evidence to recommend tryptophan and 5-HTP as treatments for OCD.

## OCD SUPPLEMENTS

### Myo-inositol (MI)

- 🍏 Myo-inositol (MI) may help with the reuptake of serotonin. There are few studies with small samples that investigate the efficacy of high-dose MI (18 g/d) in OCD treatment.
- 🍏 One study had positive results when patients were treated with MI and no SSRI while another study found no benefit when treatment consisted of MI and SSRI.

### Borage and milk thistle

- 🍏 Borage is an herb that has been used by some individuals to reduce anxiety; borage extract affects serotonin activity in the brain. In a small study, participants were given either a borage extract or a placebo. A higher reduction of OCD and anxiety symptoms was reported after 6 weeks in the group that received borage.
- 🍏 Milk thistle (MT) has been used traditionally for gastrointestinal issues and cancer. A single study of 35 people with OCD has compared it to fluoxetine (Prozac®). There were no significant differences in OCD symptoms between the groups, but there were significant side effects.
- 🍏 Both are considered unproven at this time.

## OCD SUPPLEMENTS

### St. John's Wort (SJW)

- Many trials have been conducted to test the use of SJW to treat depression. Results are mixed, but there is some indication that SJW can be of benefit for depression.
- An uncontrolled study of SJW as the sole treatment for OCD resulted in a significant drop in OCD symptoms. However, when the authors conducted a second, high-quality study, they found no benefit from SJW.

### Kava

- There have been no studies examining the benefits of kava in OCD. Its ability to moderate anxiety in other conditions suggests that it may be helpful in some cases. However, side effects are of concern. There have been multiple reports of potentially severe liver toxicity in kava users. It can also cause movement abnormalities, skin discoloration, and drowsiness.
- **IOCDF Conclusion:** “these compounds are generally quite well tolerated. They also tend to be relatively affordable. This being the case, it may often be reasonable to use one of them, alone or together with more standard treatment, in particular cases. This is always best done in consultation with a psychiatrist”.

# SUMMARY



- 🍏 No magic bullet or magic food-DIVERSITY is the key
- 🍏 Focus on whole foods, antioxidants, protein, fiber, omega-3, leafy green vegetables, etc.
- 🍏 Limit: refined sugar, processed foods, saturated fats
- 🍏 Focus on a dietary pattern, not on “superfoods” and supplements
- 🍏 Remember: start with small goals and change your diet slowly



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## *Benefits of Exercise on Mental Health*

# About Me

- Founder/Owner of Smalley Strength and Performance ([www.smalleystrength.com](http://www.smalleystrength.com))
- Received Masters of Science in Exercise and Sports Science with a concentration in Strength and Conditioning from Merrimack College in North Andover, MA.
- Certified Strength and Conditioning Specialist through the National Strength and Conditioning Association.
- Holds a USAW Level 1 Weightlifting Coaching certification and a Level 1 Coaching certification from Precision Nutrition.
- Diagnosed with OCD in 2014 at the age of 16
- Lead Advocate of the International OCD Foundation, and
- Co-created the Anxiety in Athletes ([www.anxietyinathletes.org](http://www.anxietyinathletes.org))– a task force and online resource center with the help of the IOCDF.
- Smalley has a strong passion for weightlifting and began competing in 2021, 8 years after his mental health forced him to put a halt to his athletic career.

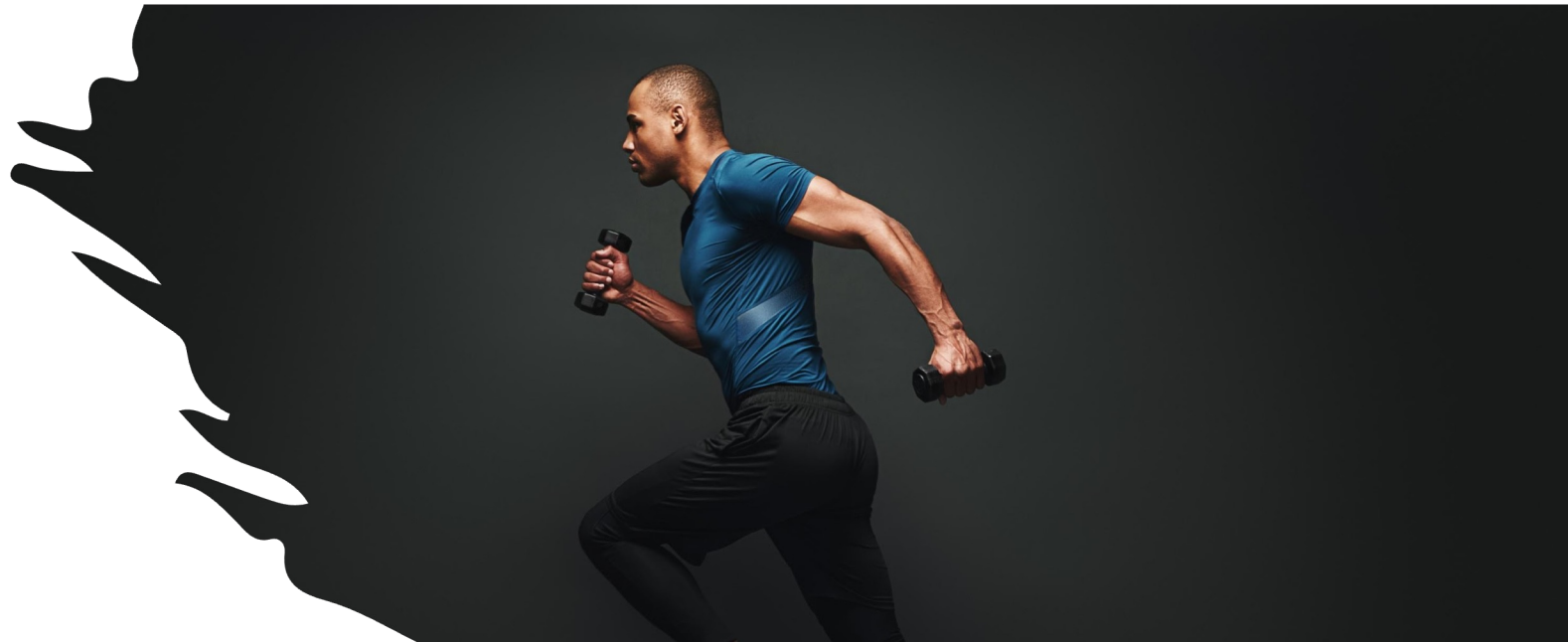
# What Does Research Say?

- Results display that the antidepressant effect of exercise begins as early as the first workout session and continues beyond the conclusion of the exercise program
- Exercise has shown to have an increased benefit when sessions are consistent, and when the training program is longer than 8 weeks
- Factors such as: Duration, intensity, type of activity can all have an influence on how effective exercise and physical activity is on mental health and wellness



# How Does it Happen?

- Movement decreases muscle tension throughout the body
- Physical activity activates the frontal cortex of the brain which contains the amygdala (the part responsible for controlling our reaction system)
- Aerobic exercise that increases heart rate will allow brain chemistry to evolve and increase availability of important anti-anxiety neurochemicals





# How To Get Started



Choose something you enjoy!



Exercise with a friend if you like company



There is no one size fits all when it comes to a training program or choosing the type of physical activity you engage in



Try to find some time to exercise outside for increased benefits

# Different Types of Exercise/Physical Activity

- Playing Sports Recreationally (Basketball, Soccer, Tennis, etc.)
- Aerobic Exercise (Running/Jogging, Walking, Rowing, Biking, High Intensity Interval Training)
- Strength Training
- Yoga/Pilates
- Martial Arts
- Hiking



# Need Assistance?

- If you don't know how to put a training program together, see a professional (that's what we're here for!)
- Don't be afraid to ask for help!
- Seek out Certified Professionals in your area



# Ten Ways to Reduce Stress Today

We're living in stressful times, and some of the usual ways we de-stress are off limits. But there's plenty we can do!





# The Connection Between Sleep and Stress

Info You Should Know!





## Fact 1

Sleep is an essential for your mental health. However, many with OCD avoid sleep due to intrusive thoughts or night time rituals, often falling asleep at extremely late hours.



## Fact 2

The average adult needs 7-9 hours of sleep per night to function optimally. However, not all sleep is the same. The earlier to bed, the better.



HOW MUCH  
SLEEP  
DO WE  
NEED

# AS WE AGE?



From newborn  
through toddler

**12-17**  
HOURS

**9-11**  
HOURS

School age  
children



Teens

**8-10**  
HOURS

**7-9**  
HOURS

Young adults  
through  
middle age



Older adults

**7-8**  
HOURS





### Fact 3

Lack of sleep can lead to a variety of mental health problems, including the release of stress hormones causing heightened morning anxiety and fatigue.



## Fact 4

The quality of sleep is also important. A deep, restful sleep provides mental rejuvenation. Often, previous day's obsessions are forgotten with restful sleep. Sleep location is important as well and can be impacted by OCD.





## Fact 5

The sleep cycle consists of four stages, with the deepest stage of sleep occurring in the final stage. During this stage, the body repairs and regenerates tissues, and the brain consolidates memories. A full sleep cycle is needed for this process.





## Fact 6

The hormone melatonin is produced by the brain's pineal gland and helps regulate sleep-wake cycles. Darkness stimulates the production of melatonin, while light suppresses it. Consult with your doctor but melatonin supplements can aid in sleep.





## Fact 7

Exposure to screens, including TVs, laptops, and smartphones, can disrupt the body's natural sleep-wake cycle and make it harder to fall asleep. Restrict blue light exposure :30 to 2 hours prior to sleep.



# Sleep Hygiene Guidelines

**AVOID  
STIMULANTS  
AT LEAST 6  
HOURS  
BEFORE  
BEDTIME**



**SWITCH OFF  
DEVICES**



**AVOID OBSESSIVE  
CLOCK WATCHING**



**AVOID  
EXCESSIVE  
FOOD &  
LIQUID AT  
NIGHT**



**USE BEDS FOR  
SLEEP - IF YOU  
CAN'T SLEEP  
GET OUT OF  
BED FOR A  
WHILE**



**KEEP BEDROOM  
COOL, DARK AND  
COMFORTABLE**



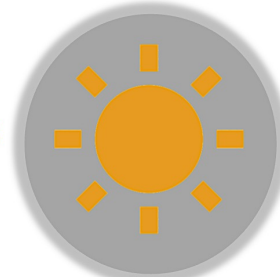
**MAINTAIN  
REGULAR  
SLEEP  
SCHEDULE**



**AVOID SLEEP  
NAPS IF NOT  
ABLE TO FALL  
ASLEEP AT NIGHT**



**SEEK OUT BRIGHT  
LIGHT IN MORNINGS  
BUT AVOID IN  
EVENING**





## Fact 8

A consistent sleep schedule, especially for the first 1-3 months, a comfortable sleep environment, and relaxation techniques can all help improve sleep quality. Restrict naps to 30 minutes and utilize CBTI for insomnia.



<https://www.aan.com>

## Sleep Hygiene

## Stimulus Control

## Sleep Restriction

## Relaxation

## Cognitive

## Wrap-Up



appropriate  
bedroom environment



avoiding  
screen-based devices  
before bedtime



avoiding coffee or  
alcohol consumption



using bedroom  
only to sleep



leaving bedroom-  
when cannot fall  
asleep



restricting sleep  
times



increasing in-bed  
sleep times



taking short and  
long relaxations  
during the day

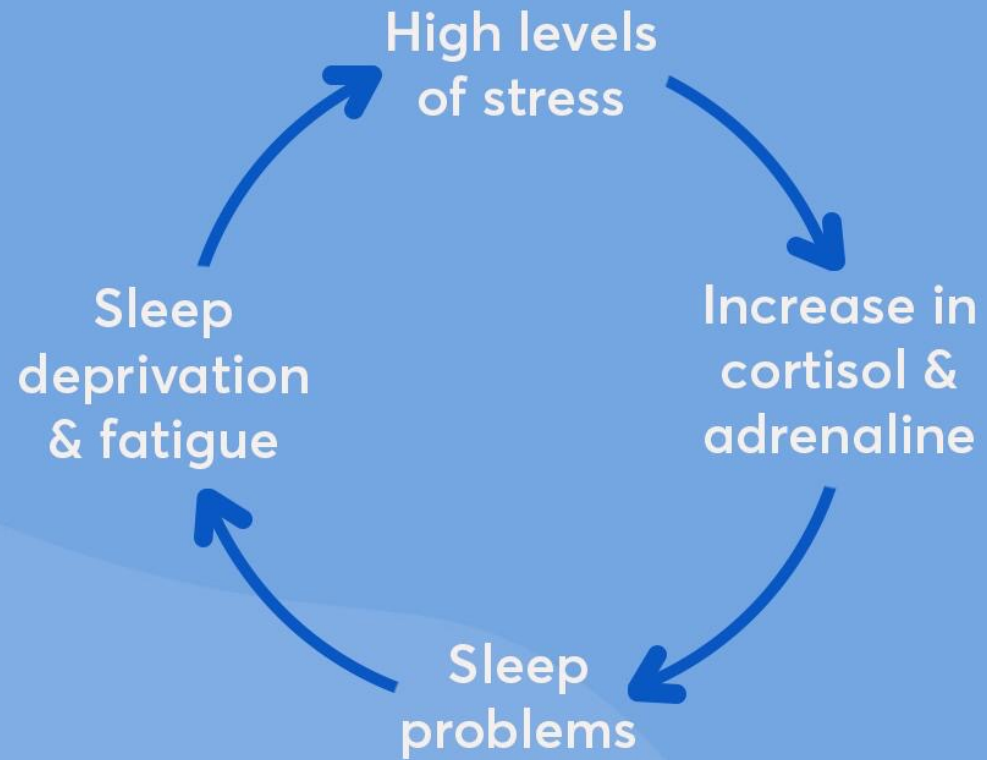


restructuring  
undesired thinking  
patterns

going over each  
component to  
prevent the relapse  
of insomnia



# The Sleep - Stress Cycle





## Fact 9

Sleep disorders, such as insomnia, narcolepsy, and obstructive sleep apnea can disrupt sleep and negatively impact mental health. A professional sleep study is available to help diagnose these conditions.



## Socialization

Adequate amounts of social support are associated with increases in levels of a hormone called oxytocin, which functions to decrease anxiety levels and stimulate the parasympathetic nervous system calming down responses

**Oxytocin** also stimulates our desire to seek out social contact and increases our sense of attachment to people who are important to us

Stressed people who have adequate levels of social support receive an **oxytocin boost which helps them feel less anxious**, more confident in their ability to cope, and more drawn to other people (thus perpetuating the positive cycle of social support)





## STRESS RELIEVING Journaling Prompts

- 1.** How do I feel in my body right now? If I was talking to a five-year-old, how would I describe how I was feeling?
- 2.** Even though I'm stressed or upset, I can't help but smile when ...
- 3.** What thoughts, actions or emotions am I avoiding? What am I afraid of if I face them?
- 4.** What do I need to feel safe, secure, heard, and held during this time of stress? How can I give that to myself?
- 5.** What can I learn from the situation I am facing?
- 6.** What is useful about the things that I am thinking and feeling? What is not? Am I willing to let go of what is not useful?



**No Smoking**



**No alcohol**



**No drugs**



## Nature

20 – 30 minutes lowers stress levels,  
including cortisol

Google implemented real greenery and  
plants in office, found elevation in mood

Can incorporate exercise such as hiking



## Health Benefits of Laughter



Eases physical pain



Boosts heart health



Increases immunity



Lowers stress levels



Improves memory



Enhances social connections



1. **Provides distraction:** When you laugh, you aren't thinking about that assignment that is overdue or the big final you have coming up next week. Laughter provides your brain with a break from the worrying thoughts that cause stress
2. **Improves your mood:** Nothing squashes a bad mood quite like a good laugh. Laughing produces a general sense of well-being and can diffuse the anger and depression you were once feeling
3. **Reduces stress hormones:** Cortisol is our primary stress hormone that circulates throughout the body when you're feeling stressed. Laughter can decrease cortisol levels by increasing your intake of oxygen and stimulating circulation throughout the body
4. **Increases endorphins:** Endorphins are those "feel-good" chemicals produced by your brain that help boost happiness levels. Laughing increases the number of endorphins released in your body, fighting off stress and promoting a positive mood
5. **Strengthens relationships:** A shared laugh with friends, family or a coworker can help you feel more connected to that person and form a strong and lasting bond. Humor is also a powerful way to heal past disagreements or resentments



**91%**

**OF 16-24 YEAR OLDS  
USE THE INTERNET  
FOR SOCIAL  
NETWORKING.**

**RATES OF ANXIETY  
& DEPRESSION HAVE  
INCREASED.....**

**70%**

**IN THE PAST 25  
YEARS.**

**SOCIAL  
MEDIA**

**IS LINKED WITH  
INCREASED RATES  
OF ANXIETY,  
DEPRESSION AND  
POOR SLEEP.**

HOW TO

# Set Boundaries For Media

- Set **intentional time** for media consumption, limit scrolling
- Filter feeds to **positive content**, limiting posts that may cause stress
- Read stories from **trusted sources** and be cautious of misinformation on social
- Avoid the news right **before bedtime**
- **Turn off notifications** and avoid reading comments as needed



American  
Foundation  
for Suicide  
Prevention

# Focus on your senses



**5 things  
you can  
SEE**



**4 things  
you can  
FEEL**



**3 things  
you can  
HEAR**



**2 things  
you can  
SMELL**

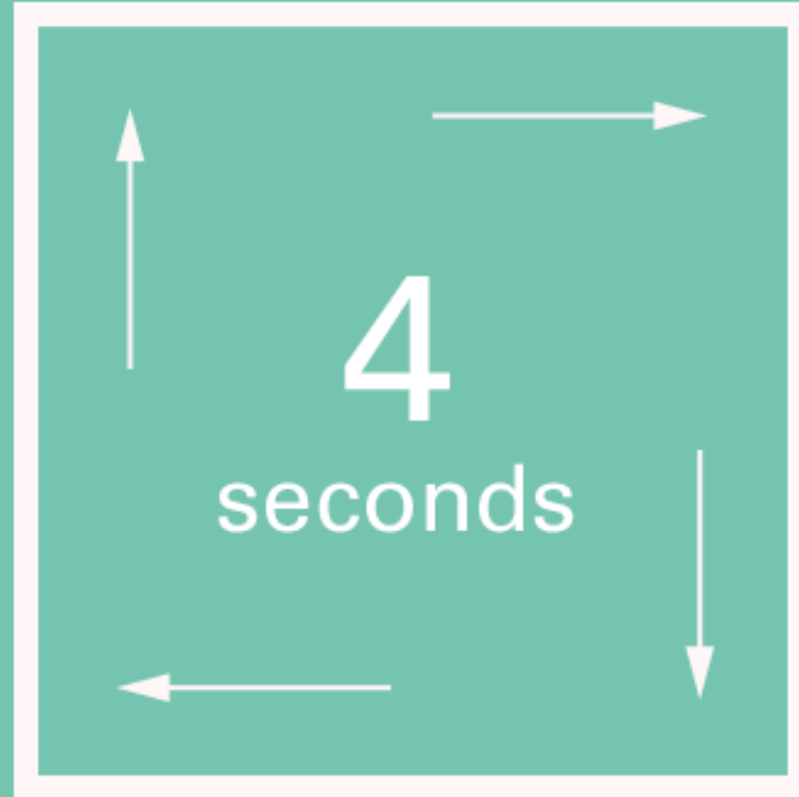


**1 thing  
you can  
TASTE**



Breathe In

Hold

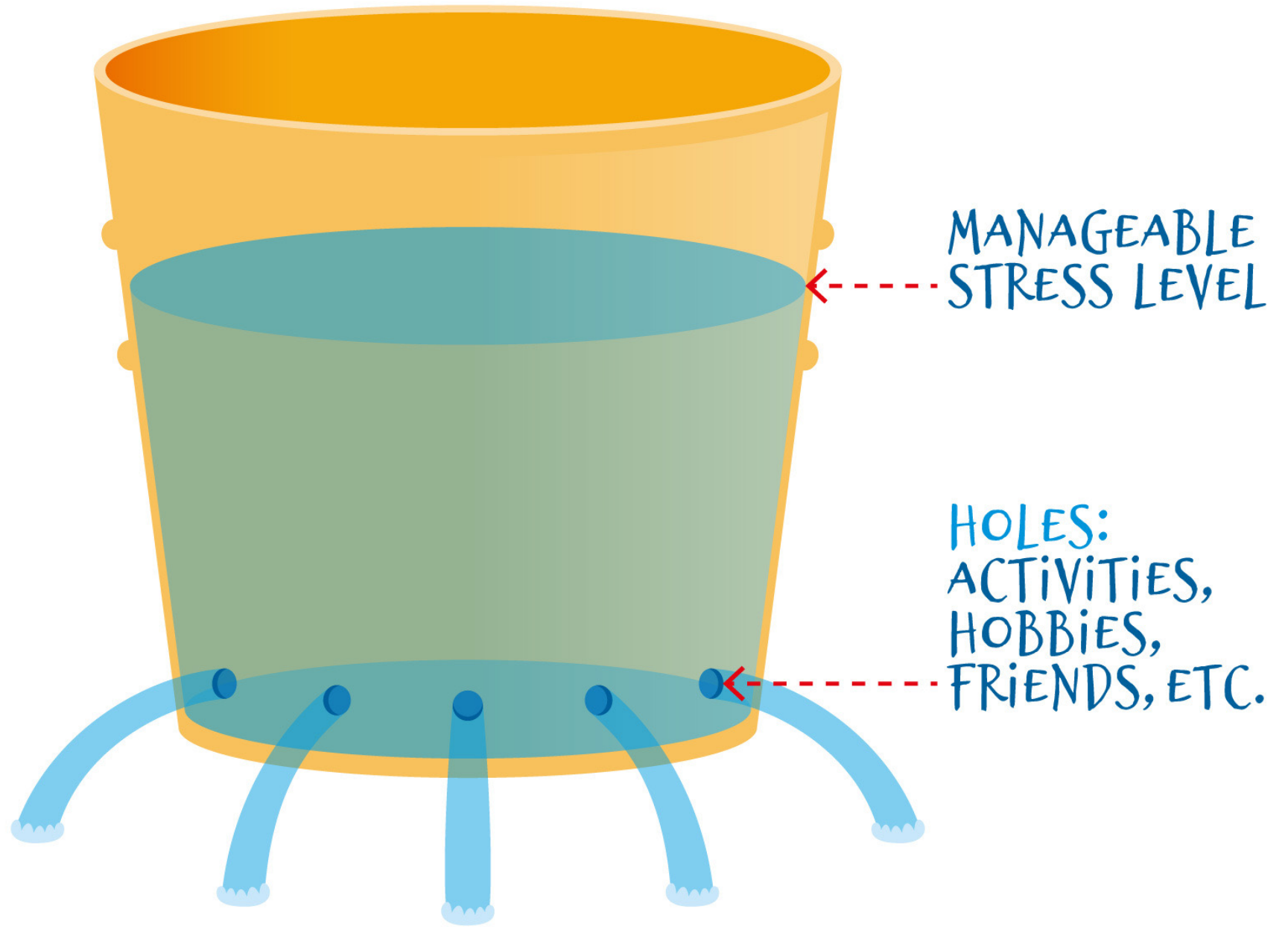


Hold

Breathe Out

SMALL  
STEPS  
EVERY  
DAY

# THE STRESS BUCKET





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