Brighten Up Syllabus

Wellness Practice and Mental Wellness Research

Dr. Ed Bauman

International peer reviewed research documents the substantial value of wellness practices to control mental health issues, most notably anxiety, depression and insomnia. Below are abstracts showing how the absence of any of the 5 key wellness practices can contribute to poor mental health. The addition of any, and preferably all of these health promoting behaviors, can have great value when sustained across time. This is a tortoise and the hare race. Slow and steady wellness practice is a long term winning strategy, and a vital adjunct to conventional medical and psychological treatment.

Wellness Practice 1 - Understanding nutrition, depression and mental illnesses

Sathyanarayana Rao, Asha, ,K. S. Jagannatha Rao[2] Indian J Psychiatry. 2008 Apr-Jun; 50(2): 77–82.

Nutrition can play a key role in the onset as well as severity and duration of depression. Many of the easily noticeable food patterns that precede depression are the same as those that occur during depression. These may include poor appetite, skipping meals, and a dominant desire for sweet foods. Nutritional neuroscience is an emerging discipline shedding light on the fact that nutritional factors are intertwined with human cognition, behavior, and emotions.

The most common mental disorders that are currently prevalent in numerous countries are depression, bipolar disorder, schizophrenia, and obsessive-compulsive disorder (OCD). The dietary intake pattern of the general population in many Asian and American countries reflects that they are often deficient in many nutrients, especially essential vitamins, minerals, and omega-3 fatty acids. A notable feature of the diets of patients suffering from mental disorders is the severity of deficiency in these nutrients. Studies have indicated that daily supplements of vital nutrients are often effective in reducing patients' symptoms. Supplements containing amino acids have been found to reduce symptoms, as they are converted to neurotransmitters which in turn alleviate depression and other mental health problems.

Wellness Practice 2 - Balanced Lifestyle

a. Regular exercise, anxiety, depression and personality

De Moor, Beem, , Stubbe, Boomsma, https://doi.org/10.1016/j.ypmed.2005.12.002

The overall prevalence of exercise participation (with a minimum of 60 min weekly at 4 METs (Metabolic Energy Expenditure Index)) in our sample was 51.4%. Exercise participation strongly declined with age from about 70% in young adolescents to 30% in older adults. Among adolescents, males exercised more, whereas, among older adults, females exercised more**. Exercisers were on average less anxious (−0.18 SD), depressed (−0.29 SD) and neurotic (−0.14 SD), more extraverted (+0.32 SD).** This study corroborates and extends previous findings: regular exercise is cross-sectionally associated with lower neuroticism, anxiety and depression and higher extraversion. .

b. Anxiety & depression are associated with unhealthy lifestyle in patients at risk of cardiovascular disease

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https://doi.org/10.1016/j.atherosclerosis.2004.08.035Get rights and content

Both anxiety and depression were significantly associated with physical inactivity in both sexes and with an unhealthy diet in men but not in women. Anxiety and depression were both significantly correlated to smoking habits in men whereas only depression was related to smoking in women. In both sexes, the score reflecting unhealthy lifestyles was positively associated with the degree of anxiety and depression.

c. Sleep and Depression. **Tsuno, Norifumi Besset, Alain Ritchie, Karen *J of Clinical Psychiatry, 66*(10), 1254-1269.**

Of all the psychiatric disorders associated with insomnia, depression is the most common. It has been estimated that 90% of patients with depression complain about sleep quality. Two hundred five papers provided findings indicating the remarkable relationship between sleep alterations and depression. Although the existing hypotheses are not likely to explain all aspects of the sleep alterations in depression, each may be worth being maintained for refinements of pathophysiologic models of depression as new data accumulate.

Wellness Practice 3 - Effect of mindfulness-based therapy on anxiety & depression

Hofmann, Stefan G.,Sawyer, Alice T.,Witt, Ashley A.,Oh, Diana J Consulting & Clin Psych, Vol 78(2), Apr 2010, 169-183
Our meta-analysis was based on 39 studies totaling 1,140 participants receiving mindfulness-based therapy for a range of conditions, including cancer, generalized anxiety disorder, depression, and other psychiatric or medical conditions. Results: Effect size estimates suggest that mindfulness-based therapy was moderately effective for improving anxiety) and mood symptoms from pre- to post-treatment in the overall sample. Conclusions: These results suggest that mindfulness-based therapy is a promising intervention for treating anxiety and mood problems in clinical populations.

Wellness Practice 4 - Healthy Relationships and Social Support

a. Social support mediates loneliness and depression in elderly people

Lijun Liu, Zhenggang Gou, Junnan Zuo https://doi.org/10.1177/1359105314536941

This study investigated the effect of loneliness on depression and further tested the mediating effect of social support. A total of 320 elderly persons completed the Emotional and Social Loneliness Scale, Multidimensional Scale of Perceived Social Support, and Self-Rating Depression Scale. Results revealed that **loneliness and social support significantly correlated with depression.** Structural Equation Modeling indicated that social support partially mediates loneliness and depression. This study sheds light on the concurrent effects of loneliness and social support on depression, providing evidence on how to reduce depression among the elderly.

b. Self-efficacy, social support, and depression in aging

Holahan CK, Holahan CJ. J Gerontol. 1987 Jan;42(1):65-8.

This study examined the relationship of self-efficacy and social support to adjustment in aging. Fifty-two community residents participated in an initial structured interview and a follow-up interview one year later. Measures of depression and self-efficacy relating to social support were included in the initial interview, with measures of depression and actual social support included at follow-up. Results showed that initial self-efficacy was related to social support one year later. A path analysis showed that self-efficacy functions directly as well as indirectly through its effect on social support in preventing depression

Wellness Practice 5 - Spiritual Wellness and Depression

CHARLENE E. WESTGATE **https://doi.org/10.1002/j.1556-6676.1996.tb02311.x**

With a growing appreciation for the holism of human functioning, interest in the spiritual dimension as it relates to depression has increased. In this article, I review medical wellness literature and counseling literature for insight into the nature of spirituality and propose 4 dimensions of spiritual wellness as a result of this review: a sense of meaning in life, a transcendent perspective, an intrinsic value system, and a sense of belonging to a spiritual community of shared values and support. These dimensions are examined as they relate to the clinical literature and empirical research on depression. Implications for research, counseling, and counselor education also are reviewed.

Wellness Practice Survey

Name: _____ Age: _____ Sex: _____
Date:_____ Email _____ ID# (assigned)

The purpose of this survey is to indicate areas of wellness practice and opportunity for improvement. Individual data is confidential and will be shared only with you. By completing this in monthly and quarterly intervals, goals can be set and recommendations made. Progress and challenges be noted and discussed across time. Your daily practice will influence how you feel, age and manage chronic mental and physical health issues.

Indicate the appropriate number on all questions below. Please answer all questions based on your recent experience. Excellence is defined as practicing with age appropriate skill and attentiveness

0 – little or no wellness practice
1 – wellness practice one to two times per week; low excellence
2 – wellness practice three to four times per week: moderate excellence
3 – wellness practice five to seven times per week; high excellence

YOUR WELLNESS PRACTICES – 30 items

A. Eating for Health – 6 items

1. Eat as much organic food as you can afford **0 1 2 3**
2. Eat as much seasonal, local food as you can find **0 1 2 3**
3. Purchase and prepare the food you eat **0 1 2 3**
4. Avoid sugar or artificially sweetened beverages **0 1 2 3**
5. Read labels and ask about food ingredients when eating out **0 1 2 3**
6. Pay attention to the quality and quantity of the food I eat **0 1 2 3** **Category Subtotal _____**

B. Balanced Lifestyle – 6 items

1. Work enough, but not too much for your age and abilities **0 1 2 3**
2. Take the time you need for self-care and relaxation **0 1 2 3**
3. Engage in age appropriate physical activity **0 1 2 3**
4. Enjoy restful sleep. Wake up refreshed. **0 1 2 3**
5. Express yourself creatively and artistically **0 1 2 3**
6. Manage your finances efficiently. **0 1 2 3** **Category Subtotal _____**

C. Mindfulness – 6 items

1. Take time to meditate, practice yoga or conscious movement **0 1 2 3**
2. When stress comes, take time to reflect on how it is affecting you **0 1 2 3**
3. Watch your thoughts, words and judgments **0 1 2 3**
4. Strive to respond thoughtfully, rather than react emotionally to stress **0 1 2 3**
5. Notice your own and others insensitive words and actions **0 1 2 3**
6. Aim to promote peace and harmony within and around you **0 1 2 3** **Category Subtotal _____**

D. Healing Relationship – 6 items

1. Work on loving and accepting yourself, unconditionally **0 1 2 3**
2. Initiate positive communication with your family **0 1 2 3**
3. Choose friends who share your values **0 1 2 3**
4. Minimize contact with toxic friends and family members **0 1 2 3**
5. Express yourself clearly and listen attentively to others, especially when stressed **0 1 2 3**
6. Communicate deeply with a mentor or significant other **0 1 2 3 Category Subtotal _____**

E. Soulful Service – 6 items

1. Feel a connection to nature and source however you define it **0 1 2 3**
2. Hold yourself to an elevated moral and ethical standard **0 1 2 3**
3. Stay humble, treat others as you wish to be treated **0 1 2 3**
4. Offer heartfelt blessings and prayers for family, friends and others **0 1 2 3**
5. Willing to help others in need as best you can **0 1 2 3**
6. Initiate random acts of kindness **0 1 2 3** **Category Subtotal _____**

F. Complete Assessment Total _____

G. Wellness Practice Areas to Strengthen	**Commitment for the Next Month**
1. _____	**1. _____**
2. _____	**2. _____**
3. _____	**3. _____**

H. Interest in pursuing an going Bauman Optimal Wellness program

1. Low
2. Medium
3. High

Scoring Key and Follow Up

0-30: Comprehensive personalized program recommended; Reassess in 1 month

31 – 60: Moderate personalized program recommended: Reassess in 2 months

60+: Minor tune up recommended: Reassess in 3 months

Eating for Mental Wellness on a Budget

Dr. Ed Bauman Bauman

Nutrition is the care and feeding of an organism. Eating well is a skill that improves with education, support and maturity. Food quality is a key to satiety and wellness. Eating to 90% satiety, in peaceful surroundings, with pure water, or tea enables the body to be more efficient in digesting and assimilating the food in comparison to emotional or stress driven eating, when the brain is signaling flight, flight or freeze, shutting down digestive secretions. Eating in peace is a key to feeling love and gratitude for life, friends, family and healing food. Eating is a time to slow down, turn off the TV, phone, and electronic devices and attend to the meal, eating it slowly and mindfully. Life can be either a 24 hour all you can eat buffet, or a well time occasion to meditate on self-care, self-love and self-healing by making a sober choice of what to eat and drink and how much.

Traditional Food is your best Medicine

Research indicates that traditional diets from the Mediterranean, Scandinavia and Japan help preserve and restore psychological and cognitive well being. These diets feature fish, and sea vegetables, rich sources of omega 3 fatty acids that play a vital role in neuronal health. Evidence links stereotypical Western diets, heavy in processed, fatty. sugar laden foods, high in calories but low in micro-nutrients (vitamins and minerals) and phyto-nutrients (protective plant antioxidants) to the onset and progression of neuropsychiatric disorders by increasing inflammation.

A Diet for Mental Well Being

The healthiest diets focus on vegetables, both raw and cooked to make up 50% or more of a main meal plate. Vegetables are rich fiber, B vitamins, minerals and antioxidants). Meat, complex carbohydrates and uncooked fat such as avocado, olives, nuts, seeds and their oils can make up the remainder of the plate of food. This follows the Eating for Health approach developed by Dr. Ed Bauman as an alternative to the USDA MyPlate model, and various unbalanced dietary systems, which are difficult to maintain, and plateau in term of efficacy over time. The key to Eating for Health is for each person to make discerning choices of what to eat based upon how well their body metabolizes a food or meal. People with mood disorders are extremely sensitive to food quantity, quality and stimulus. As such, they may react to the most commonly over processed and over consumed foods, such as wheat, cow dairy products, sugar and artificial sweeteners, GMO corn, soy and canola oil, peanuts, nightshade vegetables (tomatoes, potatoes, peppers). Eating a gluten free, dairy and sugar free food plan has help many people suffering from auto-immunity, pain and mood disorders regain comfort and balance.

Eat Well When Time and Money is Tight

In the Paleolithic era, humanity was largely hunters and gatherers. Our modern equivalent is being a skillful shopper, and finding the best foods at the best price. To eat for health on a budget, it is helpful to purchase seasonal, organic (as much as is affordable), unprocessed and local food. Packaged, processed, fast food has its cost, to the environment, to the detriment of local farmers and to the eater's body. When eating well, the amount of food consumed is significantly less as the nutrition density of so much higher that commercial food. Shopping for, preparing and eating whole food at home is far more cost effective that eating out. A good rule of thumb is to prepare food for two or even three meals when cooking, packing it up in your own containers and having it ready to bring with you for a day at school, work, or play. Nuts, seeds, coconut, dark chocolate, yogurt and fruit make excellent snacks, as does salsa, guacamole, humus and vegetables. Have a fermented food a day to support your gut microrbiome (10 trillion organisms and 50,000 neurotransmitter senders and receptors in your digestive tract). This can be raw sauerkraut, kimchi, pickles, yogurt, kefir, kombucha, and/or apple cider vinegar.

Spice it Up for Mental Wellness

Culinary and medicinal spices such as turmeric, ginger, garlic, chili, basil, thyme, dill, cinnamon, nutmeg and cardamom add zest to simple food, and send positive signals from the gut to the brain to increase clarity and focus. While coffee is a terrific pick- me- up, it is also a stimulant that lets you down, and triggers a net hydration and nutrient loss due to increased urination. Drinking pure water, herbal and/or green tea or mate, with a twist of lemon, calm and focus the mind by cooling inflammation.

Affordable Nutrition

Eating well is possible, albeit difficult when there is limited finances. Attend to protein and fat needs with eggs, sardines, canned tuna or salmon, Trader Joe's goat cheese, nuts, seeds, coconut and olive oil. Onions, carrots, cucumbers, squash and beans are often well priced, especially in season, Organic corn tortillas or brown rice crackers are a better value than bread, crackers, cookies and chips. Stay away from fast food, cheap microwaved meals that are overheated due to the 1400 degrees in a microwave oven that damage the fats and protein in the food.

Food for Thought

What you eat provides immediate information and nourishment for your body, mind and spirit. Eating well is a practice that improves with time. Keeping a food, mood and situation journal will enable you to see how you're responding to stress by waiting to eat or drink until the feelings settled down, or whether you are using food to stuff uncomfortable feelings and numb out. Cut way down or eliminate alcohol, pot, Tylenol and other self-medicating substances. They cloud your mind, and distract your body from self-healing. Eat during a 10 hour window (8 am to 6 pm) to allow for a 14 hour fasting period each day. This is called intermittent fasting. Eating low to moderate carbohydrate meals will provide satiety, burn body fat and provide steady fuel for the brain and nervous system.

Overeating is a hard habit to break, but mindfulness allows you a way to see yourself and take time to process what is eating you rather than stuffing and numbing yourself with to poor quality, food or mood altering beverages. Discernment, not moderation is the key to Eating for Health and supporting physical, mental and spiritual well being. Sharing food and love with family and friends is a simple act that with a large ripple of peace. Thank you for raising the level of your game and our human family's collective consciousness by eating and living well. Your cells thank you for affirming life with every bite.

Food-Mood Research

Nutritionally Bankrupt Food: A Medically Ignored Cause of Skyrocketing Disease Rates

The food grown by our grandparents was *TWICE as nutritious* as today's crops.

A landmark study proves this. In the study, researcher Donald Davis tracked the nutrient content of 43 different fruits and vegetables from 1950 to 1999. (Davis D, et al. *J Am Coll Nutr.* 2004;23(6):669-682). What he found should shock every person on the planet: Food sold on modern supermarket shelves is nutritionally **bankrupt.**

You would need to eat at least 10 servings of vegetables today to equal just one serving from 50 years ago!

Take a look at the USDA nutritional values for produce today compared to then:

- Apples: Vitamin A is **down 41%**
- Sweet peppers: Vitamin C is **down 31%**
- Watercress: Iron is **down 88%**
- Broccoli: Calcium and Vitamin A are **down 50%**
- Cauliflower: Vitamin C is **down 45%;** Vitamin B1 is **down 48%;** and Vitamin B2 is **down 47%**
- Collard greens: Vitamin A is **down 45%;** Potassium is **down 60%;** and Magnesium is **down 85%**

You see, unlike farmers of our grandparents' generation, Big Agra isn't focused on nutrition or the well-being of our society. Their main goal is to make a profit. And in the process of producing as much food as they can in the shortest time possible, they've stripped our native soil of its lifesaving nutrients. Because of these profit-driven modern farming techniques, 30% of

the world's cropland is now unproductive. What's left is virtually useless in terms of producing crops with the phytonutrients necessary for our survival.

This lack of nutritious foods is causing a health crisis in the U.S. and worldwide. Modern diseases that never affected our ancestors, chronic conditions like diabetes, heart disease, cancer and dementia are directly linked to low nutrient levels.

A 2017 study found that more than 30% of Americans are at risk of at least one vitamin deficiency. ***And a staggering 67,000,000 fail to meet their most basic nutritional needs.*** (Bird JK, et al. *Nutrients*. 2017;9(7):655)

Get More Nutrients from Your Produce in 3 Easy Steps

When it comes to getting the most nutrients out of your fruits and vegetables, this is what I do for myself and my family — and what I recommend for my patients:

1. **Pick locally grown organic produce from a family farm.** Food that's grown close by has more nutrients than foods that have to be transported long distances. Local produce is allowed to ripen naturally, while food that travels long distances is picked before it's ripe.

   Big Agra's mega farms harvest their crops before they've ripened. But allowing produce to ripen naturally — while it's still in the dirt — allows more nutrients to develop. And further studies have shown that vitamins, phytochemicals, antioxidants and many other important nutrients decrease as fresh food ages.

   Today, it's easier than ever to get food fresh from a small farm delivered right to your door — within hours of being picked. Farmers' markets continue to grow in popularity and numbers, making it easier than ever to find and purchase locally grown foods. If there's none nearby, look for Community Supported Agriculture (CSA) programs in your area.

   Add healthy fats. If you don't add a little healthy fat to your salad or side of broccoli, your body can't absorb all the nutrients it would otherwise.

   Researchers at Iowa State University proved this point... They had students eat greens and tomatoes with low-fat dressing, fat-free dressing or olive oil. Blood samples were taken before and after each meal. The blood work revealed that people who ate the fat-free or low-fat dressings didn't absorb the beneficial carotenoids from the salad. Only when they had eaten the oil-based dressing did they get the nutrients.[3] In addition to olive oil, I recommend coconut oil, walnut oil and grape seed oil.

2. **Don't overcook — or undercook — your veggies.** It's a myth that eating raw vegetables is always healthier. It depends on the food. Some produce is most nutritious uncooked, while other kinds need heat to bring out their nutrients. For example, to release the antioxidant lycopene, tomatoes need to be heated. But steaming and boiling destroys vitamins B and C in foods like collard greens and kale.

   Vegetables that are best cooked include asparagus, carrots, mushrooms, spinach and tomatoes. Those best eaten raw include onions, spinach and red peppers.

References

1. Davis D, et al. Changes in USDA food composition data for 43 garden crops, 1950 to 1999. *J Am Coll Nutr.* 2004;23(6):669-682.
2. Bird JK, et al. Risk of deficiency in multiple concurrent micronutrients in children and adults in the United States. *Nutrients*. 2017;9(7):655.
3. Iowa State University. Researcher finds further evidence that fats and oils help to unlock full nutritional benefits of veggies. https://www.news.iastate.edu/news/2017/10/09/saladvegetablesandoil. Accessed on December 13, 2018.

Ten Thousand Chemicals in Food and Food Packaging: What Are These Substances Doing to Our Children?

World Mercury Project Team www.worldmercuryproject.org

http://www.greenmedinfo.com/blog/ten-thousand-chemicals-food-and-food-packaging-what-are-these-substances-doing-ou

The majority of additives in U.S. foods have undergone either inadequate or zero regulatory oversight. American Academy of Pediatrics (AAP) just issued a policy statement about the risks to children's health of the more than 10,000 chemicals directly or indirectly added to food and "food contact materials" in the U.S. with three primary aims: (1) to review and highlight the significant health concerns associated with the chemicals in foods; (2) to formulate recommendations that pediatricians can share with families; and (3) to propose "urgently needed reforms" pertaining to regulation of food additives by the U.S. Food and Drug Administration (FDA).

Public health challenges related to the foods that American children eat are a not-infrequent topic of national conversation. With 38% of children either **overweight** or obese, the **childhood obesity epidemic** tends to top the list of concerns, along with related issues such as children's **fast food consumption** and the damaging effects of junk food **advertising**.

According to a recent nationally representative survey, about 60% of the calories consumed by Americans come from **"ultra-processed"** foods and beverages—defined as products resulting from "several sequences of industrial processes" and including additives "used to imitate sensory properties of foods or to disguise unpalatable aspects of the final product." Alarmingly, the survey showed that adolescents (10- to 19-year-olds) were among the biggest consumers of ultra-processed foods and that their intake of these foods increased from 2007 to 2012, rising to over two-thirds (68%) of total calories consumed.

Given that teens are relying on additive-filled processed foods for the bulk of their calories, it is noteworthy that the American Academy of Pediatrics (AAP) just issued a policy statement about the risks to children's health of the more than 10,000 chemicals directly or indirectly added to food and "food contact materials" in the U.S. Published in **July 2018** in *Pediatrics*, the AAP commentary has three primary aims: (1) to review and highlight the significant health concerns associated with the **chemicals** in foods; (2) to formulate recommendations that pediatricians can share with families; and (3) to propose "urgently needed reforms" pertaining to regulation of food additives by the U.S. Food and Drug Administration (FDA). The majority of additives in U.S. foods have undergone either inadequate or zero regulatory oversight.

Produce was the only food category free of artificial coloring.

Children and chemical exposures

The AAP authors focus on a subset of the many additives and chemicals that populate and contaminate the foods eaten by children. **Artificial food colors** (AFCs) are one of the three categories of chemicals added *directly* to foods that the researchers consider (along with nitrates and nitrites). AFCs are "**synthesized** from raw materials obtained from coal tar or petroleum by-products," and some (called "lakes") are bound to **aluminum**, a metal with known neurotoxic properties. A 2016 **analysis** of 810 products in a single grocery store highlighted the pervasive presence of AFCs in products marketed to children, finding AFCs in 43% of the products overall and in at least nine in ten candies, fruit-flavored snacks and drink mixes or powders. Produce was the only food category free of artificial coloring.

Numerous studies have linked AFCs to attention-deficit/hyperactivity disorder (**ADHD**), although investigators also have determined that AFCs "seem to affect children **regardless** of whether or not they have ADHD." Other reactions documented in association with AFCs include **immune reactivity** and **behavioral symptoms** such as irritability, sleep problems, restlessness and aggression. Researchers have pointed out that AFCs can have an **"aggregated" effect** in settings such as classrooms where most of the children present are experiencing AFC-related "behavioral decrements." Unfortunately, the daily intake of AFCs certified as acceptable by the FDA has increased **more than five-fold** since 1950,

and the current FDA-endorsed daily amount (68 milligrams per person per day) is well in excess of the level (50 mg/person/day) shown to be associated with stronger negative effects.

The endocrine-disrupting effects of the additives found in food are of particular concern in early life, when developmental programming of organ systems is susceptible to permanent and lifelong disruption.

The AAP authors also seek to raise awareness about the many chemicals *indirectly* added to food, namely the "adhesives, dyes, coatings, paper, paperboard, plastic, and other polymers, which may contaminate food as part of packaging or manufacturing equipment." Specifically, they discuss the bisphenols that line metal cans; phthalates used in the manufacturing process as adhesives, lubricants and plasticizers; and packaging chemicals such as perfluoroalkyl chemicals (PFCs) and perchlorate. As a group, these chemicals have been associated with endocrine, neurodevelopmental and thyroid disruption; **carcinogenicity**; cardiotoxicity; immunosuppression; **oxidative stress**; and low birthweight.

The endocrine-disrupting effects of the additives found in food are of particular concern in early life, "when developmental programming of organ systems is susceptible to permanent and lifelong disruption." Postnatally, infants and children are more vulnerable than adults because:

[Infants and children] have higher relative exposures… (because of greater dietary intake per pound), their metabolic (i.e., detoxification) systems are still developing, and key organ systems are undergoing substantial changes and maturation that are vulnerable to disruptions.

As if the chemicals listed in the commentary were not bad enough, the authors note in passing that a number of other substances not included in their analysis also "inadvertently enter the food and water supply" and can affect children's health in significant ways. These include **aflatoxins** and other mycotoxins (implicated in growth impairment), **dioxins** (linked to **low birthweight**), polychlorinated biphenyls or **PCBs** (linked to **obesity**), **mercury** and other metal neurotoxins and **pesticides**. (The authors do not tackle the thorny issue of genetically modified foods "because they involve a separate set of regulatory and biomedical issues.")

Lax regulation and conflicts of interest

The AAP statement highlights a number of "critical weaknesses" in the FDA-led regulatory system that is supposed to be overseeing food additives. Examples of regulatory weaknesses include:

- FDA reliance on guidelines that are inadequately protective for children, "given that they may receive higher relative doses than adults"
- Inadequate FDA authority "to acquire data on chemicals on the market or reassess their safety for human health"
- FDA failure to consider cumulative and synergistic effects of food additives in the context of other chemical exposures "despite their legal requirement to do so"
- Short-sighted toxicological testing that fails to account for the influence of even low-dose exposures on "behavioral or other end points that may be more likely to be impaired by early life exposures"

The result of these regulatory loopholes is that there are substances in the food supply that are unknown to the FDA.

The AAP authors also observe that requirements for a designation of "generally recognized as safe" (GRAS) "do not contain sufficient protections against conflict of interest." The **GRAS designation** is governed by the 1938 Federal Food, Drug, and Cosmetic Act (amended in 1958), which states that substances defined as food additives are subject to FDA approval "*unless the substance is generally recognized, among qualified experts, as having been adequately shown to be safe* under the conditions of its intended use" [emphasis added]. In addition, as explained in a 2013 article **titled** "Secret ingredients: who knows what's in your food?," companies "have the authority to make their own GRAS determinations using a panel of qualified experts" and then have "the option—but not the requirement—of notifying the FDA…." The result of these **regulatory loopholes** is that "there are substances in the food supply that are unknown to the FDA."

The AAP authors describe an evaluation of over 450 GRAS evaluations submitted to the FDA, all of which were carried out by experts affiliated with or beholden to the manufacturer, meaning that none were made by a neutral third party. Another analyst has reported that, in the manner of the fox guarding the henhouse, over **2,600** flavoring substances

have been given GRAS status not by the FDA but by a trade organization (the Flavor and Extract Manufacturers Association).

A precautionary approach needed

Coming full circle back to the problem of adolescent overweight and obesity, it is important to note that some of the chemicals described in the AAP policy statement, such as **phthalates**, have confirmed **biochemical links** to obesity. Thus, there are many reasons to be concerned about teens' overconsumption of highly processed and packaged foods.

Outside of the U.S., other countries are taking "a more **precautionary approach**," such as in the European Union, which requires warning labels for food dyes. The AAP authors suggest that it is time to "come together" in the same way as other countries "to advocate for the protection of children's health." It is also past time to reform the regulatory process governing food additives. Without firm measures, the authors suggest that there will be little to inspire public confidence in food safety.

The World Mercury Project Team is devoted to the health of people and our planet. Our mission is to work aggressively to reduce exposure to all sources of mercury, hold those accountable who failed to protect our planet and people from unnecessary exposure, restore health to those who have been harmed, and make sure this tragedy never happens again.

Some "Healthy" Foods are Poisoning Us

Disturbing Toxin Test Results in American Children and Food Samples

Surprising Impact for Gluten Free, Vegan, Vegetarian and Organic Consumer

May 5, 2017 Mission Viejo, CA- Moms Across America releases their report on their recent findings of toxins in 36 American children, tested at Great Plains Lab, along with results from the Canadian Food Inspection Agency(CFIA). The results are disturbing and have an important message for Gluten Free, Vegan and Vegetarian American consumers and food manufacturers.

"100% of all the children tested positive for serious toxins. 79% of the children tested had ADHD or autism symptoms, 21% did not. Over 50% tested positive levels of 3X higher than the average. We expected the children who ate organic to have lower levels of toxins than the children who did not. This was not the case for the majority of the children. Upon the release of the CFIA glyphosate data we realized why, and we hope consumer and food manufacturers take note of these important findings." - Zen Honeycutt of Moms Across America.

Honeycutt focused primarily on glyphosate because scientists report that glyphosate increases the harmful impact of other environmental toxins, making the presence of the other 166 chemicals tested for, even more detrimental.

The CFIA glyphosate testing data, compiled in the book "Poisoned Foods of North America" by Tony Mitra, showed that non-organic gluten free foods and non-organic foods which largely make up vegan and vegetarian foods such as wheat, garbanzo, white and black beans were very high in glyphosate, the world's most widely used herbicide, up to 12,699 ppb. Health conscious parents who try to feed their children organic are much more likely to feed their children gluten-free, vegan and vegetarian foods whether or not they are also organic, thus unintentionally poisoning their children with higher levels of glyphosate. This shows that health-conscious consumers who are eating gluten-free, vegan and vegetarian foods must be sure those foods are also organic in order to avoid this toxic herbicide.

However, some foods are contaminated whether they are organic or not. Particularly alarming was the finding that even organic garbanzo beans, organic chickpeas, and some organic lentils were highly contaminated with glyphosate. These foods should be avoided completely from North America if one wants to avoid consuming glyphosate herbicides.

Claims that glyphosate-based herbicides are safe are widely believed, as Roundup and other GBH brands have been used for 40 years. In the past ten years, there has been a significant increase of the use of glyphosate directly on nonorganic food as a drying agent in addition to GMO crops. Honeycutt and her organization assert this is unsafe, and a major contributing factor to the skyrocketing childhood illnesses in America today.

“Proponents of GMO and chemical farming claim glyphosate-based herbicides are safe, according to the EPA. But the EPA policy is to require safety studies on one declared active chemical ingredient, not the final formulation of the herbicide. They have admitted to not having any long-term animal studies on the final formulation of Roundup. Therefore, any claims that Roundup and glyphosate-based herbicides (GBH) are safe are completely unfounded. We call on farmers to stop using harmful chemicals on all of our food and feed crops immediately. We must reduce the toxic burden on our children and protect the future of our country, “ says Honeycutt.

Probiotics could help millions of patients suffering from bipolar disorder

> About 3 million people in the US are diagnosed every year with bipolar disorder, a psychiatric condition characterized by dramatic shifts in mood from depression to mania. Currently, the standard treatment includes a combination of psychotherapy and prescription medications such as mood stabilizers and antipsychotics.

About 3 million people in the US are diagnosed every year with bipolar disorder, a psychiatric condition characterized by dramatic shifts in mood from depression to mania. Currently, the standard treatment includes a combination of psychotherapy and prescription medications such as mood stabilizers and antipsychotics.

However, an emerging field of research is exploring the use of probiotics -- often thought of as "good bacteria" -- as a potential new avenue for treatment of bipolar and other psychiatric mood disorders. And a new study from Baltimore's Sheppard Pratt Health System, conducted by a research team led by Faith Dickerson, finds that a probiotic supplement may reduce inflammation of the gut, which is known to exacerbate bipolar disorder. Probiotic organisms are non-pathogenic bacteria that, when present in the gut flora, are known to improve the overall health of the host.

In recent years, research has demonstrated a strong link between the gastrointestinal tract and the central nervous system. This connection, named the "gut-brain axis" (GBA), allows for crosstalk between the endocrine, immune, and autonomic nervous systems. The GI tract is also home to the intestinal microbiome, a complex population of roughly 100 trillion microorganisms (more than ten times the number of cells that make up the human body) that interacts with the mucosal lining of the GI tract. Studies have shown that the intimate association between the gut microbiome and GI tissue has a significant effect on the GBA.

There is also mounting evidence linking imbalances in the microbial species that make up the gut microbiome to a number of health problems including allergies, autoimmune disorders, and psychiatric mood disorders.

In the case of bipolar disorder and the GBA, previous studies have shown that inflammation, or overstimulation of the body's immune system, is a contributing factor in the disease. With this in mind, researchers developed a probiotic supplement aimed at reducing inflammation caused by microbial imbalances in the gut.

A group of patients recently hospitalized for mania participated in a 6-month study to track the effects of probiotic treatment on both their mood and the status of their immune system.

The patients were randomly selected to receive either the probiotic supplement or a placebo in addition to their usual medications. The results showed that the group receiving the probiotic supplement, on average, didn't return to the hospital as quickly and required less in-patient treatment time compared to the placebo group. The beneficial effects were most pronounced in those patients who exhibited abnormally high levels of inflammation at the beginning of the study.

Overall, these results indicate that changes in intestinal inflammation can alter the trajectory of psychiatric mood disorders and that modulating the intestinal microbiota may be a new avenue of treatment for patients suffering from these diseases.

Story Source: American College of Neuropsychopharmacology. "Probiotics could help millions of patients suffering from bipolar disorder." ScienceDaily. ScienceDaily, 13 December 2018. <www.sciencedaily.com/releases/2018/12/181213083653.htm>.

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Four Ways to Bust Through Anxiety

Aviva Romm, MD https://avivaromm.com/anxiety-anticipation/

For over a decade I was plagued by the feeling that if something really great happened in my life, like I received a new book contract with a nice advance, for example, there was going to be some kind of cosmic counterbalance in the form of something really bad happening in my life. That feeling got worse when I became a mom, because the stakes suddenly got a lot higher – something could happen to my partner or dread on dread – my kids. The hidden belief that if something good happened, something “bad” was going to happen, was subtly driving my life and keeping me from enjoying success and experiencing unencumbered happiness. I had what I call happiness anxiety, or I sometimes refer to as success anxiety. If you have it, you know it’s a real thing and can be a serious impediment in your life, keeping you from taking chances on relationships, opportunities, growth – and even just freaking enjoying your life in a big way.

Choosing Freedom

As my work became more successful, this thought pattern became too obvious an obstacle – and a burden – for me to ignore any longer. I either had to say no to all the good things coming my way, say yes and live with the fear, or get over it. I decided the latter was the wisest. So I started to intentionally explore it. At first I thought maybe I was inherently a doubting, negative person and that's all there was to it. But I don't truly believe too many people are inherently that way – and overall I'm way to much of an optimist, so I ditched that theory. Then I semi-seriously entertained the possibility that this was some form of inherited Jewish worry thing. However, speaking with thousands of women around the country in my travels as a national speaker led me to discover that I was not alone in this stressful belief, nor was it only Jewish women feeling it. In fact, I met thousands of women from a wide variety of backgrounds who shared this experience, and it was keeping some of them from living fully, boldly, and happily. Instead of welcoming and celebrating their wins and successes, many were always waiting for the other shoe to drop.

So what was it then? It was a deep dive into the field psychoneuroimmunology – the science that studies the impact of our Stress Response System on how our brains are wired, and as a result, how our thinking and emotions are shaped – that gave me my answer, and the solution. I discovered that I had a form of high functioning anxiety – and it was creating unpleasant background noise in my life, hampering my happiness, and holding me back.

Today I'm going to show you, step-by-step, how you can overcome this symptom 100% just as I did many years ago so that now it's just a memory of a time that I lived very differently than I do now – with a worry and fear that I know you can overcome, because I did it, too.

But first, why do I call anxiety a symptom? Because it's a symptom that your brain is stuck in survival mode – and usually it's a for a very real reason.

The Anxious Mind Is Wired to Survive

Human survival drive is incredibly powerful. In fact, it's so strong that we are hardwired to survive even at the expense of our comfort and happiness. Survival mode starts in two small organs called the amygdala (which means almond-shaped) in your brain, one on either side. The amygdala functions quite similarly to a surveillance system; its entire job to scan for, recognize, and record signs of danger in your environment, as well as responding to inner danger signals.

Like surveillance cameras mounted on a building, the amygdala is constantly scanning the perimeter, using your senses of sight, hearing, and smell, to pick up signs of anything that can pose a threat to you. Your amygdala also recognizes potentially threatening facial expressions on others, vocal pitches, behaviors, gestures, and physical movements as possibly hazards to your safety. It then catalogs these as memories in a part of your brain called the hippocampus, and when anything happens that in any way resembles that threat, your brain goes into fast action, triggering your survival mode to kick in.

How Survival Mode Kicks In

So let's say, for example, a parent, relative, or adult in your life left you feeling vulnerable or was a threat in any way when you were a small child. That person's facial expressions, mannerisms, movements or behaviors, even their perfume or cologne – anything that signaled danger – were likely imprinted as a sign of danger in your brain. Fast forward to now and you're hanging out with a friend, on a date, in a business meeting or job interview, or talking with your spouse, and the person you're interacting with makes a facial expression, gesture, physical movement – even if it has absolutely nothing to do with you – but that is reminiscent of that facial expression in your brain's catalog of threats. Your internal survival response system goes into high alert – even if you're not really in danger. A relay message is immediately sent to your hypothalamic pituitary adrenal (HPA) axis – or the stress axis.

When this gets kicked in, you start to pump out chemicals and hormones such as adrenaline and cortisol that lead to physiological, emotional, and mental reactions that allow you to combat the danger. Your breathing changes, you become hyper-vigilant – super-aware of everything going on in your environment. You go into what we commonly call 'fight or flight' mode. It's a lot like the feeling you get if you've watched a scary movie and it's really quiet in your house and you're in the height of that moment in a scary movie and all of a sudden you hear a thud or something dropping or

clinking in your house, and you go into super high alert. Or the feeling we all know of being on a dark street, heading to our car alone, and we hear footsteps, or we're in a parking garage at night. It's that feeling.

How Anxiety Takes Hold: What's Wired Together, Fires Together

So why do some of us get wired to associate good things with bad things happening? In neurobiology there's an expression – "What's wired together gets fired together." For many of us, grief, loss, fear, intense anxiety, insecurity, instability, or other painful or vulnerable feelings at some time got mixed up with happy, good, or positive experiences, or moments of reveling in success – all of which were cross-catalogued together in your survival memory bank. Positive experiences and feelings can become locked in or bound to a sense of dread over something bad happening.

This particular type of anxiety is a really common experience for women who have had a critical parent. You come from school with a 92 on your math final, and your parent says, "Why didn't you get a hundred?" You win 3rd place in the state tennis tournament, and your parent expresses disappointment that you didn't make it to nationals. This is also common in women who have had a dysfunctional family or mentally unwell relative who always turned a good experience into a nightmare – your 12th birthday was a great day until your mom and dad had the fight of the century and told you they were getting divorced, and that's now locked into the birthday memory for you, the parent who didn't show up or showed up inebriated. Or the holiday event where something more serious happened – the uncle that everyone knows shouldn't be around the young girls in the family, who corners you and makes you feel uncomfortable, threatened, or worse. Or the happy event at which news arrived that there had been an accident or family tragedy…

Your Mind's "Warning System"

At some point, you might even being to dread happiness or success – because subconsciously, it's bound up with some form or misery – or a very serious danger to your safety. In her beautiful attempt to keep you safe, your brain sets up a warning system and not only catalogs all of this but goes a step further and connects the categories: happy and "bad" events get wired together in an associated neural firing pattern.

It didn't take long for me to understand why I was always waiting for the other shoe to drop. My parents divorced when I was four, and it wasn't pretty – culminating in my uncle putting my dad in the hospital. I saw the whole thing. My mom picked up all the pieces, and raised me and my baby brother on her own. On occasion, I'd have a weekend visit with my dad – and his next wife – who was part of the whole divorce equation. She was young, fun, pretty, and an artist – and we had fun together. When I'd arrive back home on Sunday evenings, my mom would ask if I had a good time, and I'd quickly rattle off all the things we'd done that were fun. But wow – understandably – this pushed my mom's buttons and I quickly learned having fun brought serious disapproval. So I began to say what a horrible time I had whenever I returned from my dad's (which was rare anyway), but I extended this to any social event because I started to feel guilty that I was having fun when my mom wasn't. I learned early on I paid an emotion price for pleasure and actually began to have anxiety when anything felt too good, easy, or enjoyable.

We're not irrational, neurotic, or negative thinkers for having these associated patterns – it's how our survival wiring works to keep us safe. Many of us, without even realizing it, are subtly living with this stress all the time because of past trauma triggered us to get mildly stuck in survival mode. When we're otherwise overwhelmed, tired, or stressed, this survival pattern gets easily activated or stuck in the on position, or is triggered too easily. And when we have kids, for example, our sense of vulnerability is automatically increased, so that can exacerbate this pattern as it did for me and does for so many women.

In order to get out of it, and stop it from firing over and over each time we're in a similar situation, we have to consciously do some thought re-patterning.

Overcoming Anxiety: How To Rewire to Thrive

A beautiful and amazing thing about our brains – and our lives – is that we not only have this deep drive to survive, but the ability to change, and not to just survive, but thrive. It's what drives us to want wholeness, happiness, and healing.

The ability to change our brains, and with it our thoughts, emotional responses, and as a result the choices we feel confident making and thus ultimately how we live, is called neuroplasticity. It means that your neural hard-wiring can actually be reshaped and reconnected. Because the emotional responses are tied to the biochemical reactions once our brains get activated, disrupting the thought patterns will naturally begin to shift the physical and emotional aspects of the reaction – for example, the anxiety you experience. Our brain is working on the basis of millions of fast-firing, electrical impulses and chemical exchanges that are happening a zillion times in milliseconds in our brain. What's really beautiful is that, unlike electrical and telephone wires which are literally fixed into their route, the electrical pathways in our brains can be rerouted.

Here are the four steps that take less than five minutes, but that can gradually but certainly shift your brain into creating new and healthy patterns that don't prevent you from going into survival response mode when you actually need to and will allow you to begin to welcome the wonderful back into your life, without fear of a payback.

Step 1: Name the Thoughts and Feelings

The first and most important key in making the shift out of the pattern that is binding your happiness to pain is to recognize the feelings of being in survival mode – they are feelings of fear, overwhelm, and anxiety. You may notice that your breathing is shallow or restricted, your back, neck, or shoulders feel tight, you feel tension in your stomach or abdomen, or you develop physical symptoms – like a headache, dizziness, or nausea. When you become conscious of the actual feelings that you're having in your body, and the fearful thoughts that accompany these feelings, you can give a name to it – Survival Mode. Or, if you will, anxiety.

Step 2: Breathe

When you're in survival mode, a part of your nervous system, called your sympathetic nervous system (SNS) is activated and creates the very specific feelings and thoughts associated with the fight, flight, or freeze response – you're usually breathing shallowly, sometimes you're even holding your breath because you're listening for sounds and you're breathing a lot faster, and that keeps you in sympathetic overdrive which generates the same feelings associated with anxiety. The antidote that brings yourself more back into a deeper place in yourself that's calm, relaxed and feels safe, is deep breathing.

All you have to do is inhale to the count of four and exhale to the count of six to shift you into what's called parasympathetic mode, the antidote to the 'fight or flight' mode. I personally like to accompany the inhalation with the thought that "I am" and the exhalation with "At Peace" so it looks like this: Inhale to a count of four saying to yourself "I am," and exhale to the count of six saying to yourself, "At peace." Repeat four or more times.

Sending a different word form to your brain also helps to rewire the whole trigger response all the way from that external surveillance system all the way down to your adrenals and is really powerful. You can do that anytime – in a conversation with someone that's getting heated and you don't want to go down a fight road, which is a great thing at holiday time if you have stress with your family. Just do that quickie. You can do it without anybody knowing you're doing it. Just in-breath, out-breath, and in your mind you're saying, "I am at peace."

Step 3: De-escalate with Perspective

Now that you're calmer, take a step back and remember – fears and feelings don't actually mean anything horrible is about to happen; the worries aren't prophetic. They are just echoes of fear and loss from the past, from things that may have happened that you don't even remember, that got imprinted – but aren't happening to you now. They're just overlaying themselves in your current context. Rather than letting that emotion or that thought run away like a chariot of horses without a rider, recognize these are just thoughts and these are just emotions, but they're not true. Right now in this minute you're not in danger. Disrupt the pattern by of saying to yourself, "This is a thought. This is an emotion. This is not a reality right now."

Step 4: Thank the Fear, Yes, I know that's Weird – But Try It

Here's the surprising step you need to create an actual cognitive disruption that breaks the grip of your thoughts and emotions and transforms them from fear to love – the big game changer here. Thank the fear and release it by

intentionally giving it permission to leave. Every time the anxieties or fears bubble up, literally take a few second to say: "Thank you, thoughts. Thank you, emotions, Thank you fear. At some point in my life, you protected me. You kept me safe, but I am safe now, and I don't need you anymore, so you can go." This is an act of radical self-love for those patterns that may have literally saved your life or sanity at some point in your past. Just doing that every time you catch yourself in that anxiety mode can start to shape your new pathway. Remember, what's wired together fires together – healthy patterns, too.

Getting Over Anxiety: Blaze a New Trail for Yourself

Imagine you're walking on a well-worn trail. It's really easy to walk on a path you've walked down a million times before. Your feet just know the way. You don't have to have a machete to cut through brambles and branches. You don't have to clear out underbrush. The emotional and thought patterns that you habitually go down are similar to that well-worn path. It's really easy to go down that path – you've been walking on it for much of your life. Your brain and your emotions will go down that path without any effort, even if you don't love the scenery.

If you practice this four-step sequence, before long, even within a few short months or less, you can literally rewire your brain. Over time your brain will re-catalogue itself so that the positive and negative experiences can have their own pathways. Further, it will become becomes second nature to recognize the difference between old stories and reactions, and the now. Due to a phenomenon called neuroplasticity, you really can change your brain's patterns.

Blazing a new trail takes some work and persistence. Sometimes it takes a machete to clear a new path! But over time, as you choose to walk it instead of the path of habit, it becomes the new well-worn path that's easy to travel down.

Even With Anxiety, Life Can Be Different

I really want to reinforce that you can have wonderful things in your life happen without anything horrible happening. About eight years ago now, I really got it. For me, I suddenly became aware of the discrepancy in my life between the thoughts and the emotions that every time something good was about to happen, something bad happened. I actually took inventory of my adult life and said, "Wow, this good thing happened and nothing bad happened, and that good thing happened and nothing bad happened, and that good thing happened and nothing bad happened." Even for you, if something good happened and then something bad did happen, there is no evidence that is going to happen again and again and again.

When I actually looked at the evidence of my life, and when I look at the evidence of most of our lives, so many wonderful and good things happen to us without something bad happening. I now know that good things don't always get followed by bad things. In fact, most of the time they don't. Also, the good thing isn't going to stop the bad thing from happening, so how do I really want to live my life? In constant worry? Playing small? Not celebrating the wins? Use journaling or working with someone to help you understand where your patterns come from.

You have an incredible new path ahead of you. One that allows wonderful things to happen in your life, and I want to honor that and thank you for being here today, and honor that you are ready, and that you're at the head of that new path and ready to do the work that it takes to reflect, to shift, and to go onto the rest of your life knowing that the universe has your back. Know that you deserve wonderful things to happen, and knowing that wonderful things can happen, and nothing has to happen with it except the wonderful thing.

5 Keys to Eating for Better Brain Health

https://www.drperlmutter.com/5-keys-eating-better-brain-healthp/

Although many people may see the value in the grain- and gluten-free diet proposed by Grain Brain, getting them to take the final step, to actually make a nutritional change in their life, can often prove difficult. That's understandable, because the first few days and weeks of making any lifestyle change are challenging. In this case, those who have trouble cite an inability to find gluten-free recipes, uncertainty over conflicting gluten-

free food lists, reliance on dining out, or any other of a multitude of issues. So, I decided to write this blog post. Eating to prevent brain disease and Alzheimer's is, of course, my goal for all of us, but the below tips expand well beyond my objectives and speak to overall ways we can improve our diet.

1. **Set aside cook time:** What ruins many grain- and gluten-free diets is the on-the-go moment, when it's easier to reach for a cereal, a granola bar, or a PB&J sandwich, instead of a hard-boiled egg, vegetables & hummus, or other Grain Brain-friendly snack. When we're in a rush, we have little to no time to prepare a meal, and it's often those grain-based foodstuffs that are easily accessible and available as we're walking out the door. How can we prevent this? Set aside a few hours on Saturday or Sunday and use that time to cook all your meals and snacks for the week. Grill seven chicken breasts, hard-boil 12 eggs, sauté a few servings of vegetables, or whatever else your stomach desires. If you do this, you'll have all of your meals and snacks prepared for the week, not only saving you time (consider you only have to clean up once!), but also saving you from making poor dietary choices.

2. **If it can go bad, it's good for you. If it stays good, it's bad for you:** This is one of my favorite sayings about the food we eat. I think we all have seen the famous image of the fourteen-year-old McDonald's meal that hadn't aged a day. Upon seeing that, I think we all intuitively know that there's something wrong with food that doesn't "expire." When at the supermarket, remember this adage when making the choices of what to stock your kitchen with.

3. **The Anti-Alzheimer's Trio:** It's become one of my staples of conversation, and it should become one of the staples of your diet. When it comes to eating "memory food" there is no better trio of items to fight Alzheimer's and dementia than grass-fed beef, avocados, and coconut oil. This group of high-fat, brain-smart foods are a staple of the Grain Brain diet, and should work their way into your weekly meal plan as well.

4. **It's all about a cup of joe:** I'm a big fan of coffee, and super thankful that it's not only savory, but brain-healthy as well. Not only does coffee activate our Nrf2 pathways, helping to fight off oxidative stress and protect against neurodegenerative diseases, but recent studies have found that high levels of coffee consumption can be associated with up to a 65% reduction in risk for dementia. Drink up!

5. **Make sure you get enough DHA:** Your body is only minimally able to make DHA, a critical fatty acid for brain health. So supplementation is key. I recommend a total daily dosage of DHA of around 1000mg. This can come from eating wild fish or better, take either a fish oil supplement or a DHA supplement derived from algae.

How parents protect children from the long-term effects of stress

Effects of strong parental relationships

> *When young children experience violence or poverty, the effect can last well into adulthood. But new research suggests that a strong parental relationship could override some of these effects, by changing how children perceive the environmental cues that help them distinguish between what's safe or dangerous.*

When young children experience violence or poverty, the effect can last well into adulthood. But new research from the Emory School of Medicine suggests that a strong parental relationship could override some of these

effects, by changing how children perceive the environmental cues that help them distinguish between what's safe or dangerous.

To study the impact of the caregiver relationship, a research team led by Jennifer Stevens and Tanja Jovanovic used functional magnetic resonance imaging (fMRI) to observe activity in the amygdala, a key area of the brain that processes fear and emotion. The researchers showed children aged 8-13 a series of photos of adult faces that were either neutral or expressing fear. The amygdalae of children who had experienced violence in their lives grew more active in response to both types of faces, which suggests that these children may engage emotional, fight-or-flight responses even for social cues that are not particularly threatening. This may be an adaptive response to growing up in an unpredictable or dangerous environment. In children who hadn't experienced violence, amygdalae were more only active in response to the fearful faces.

In another part of the experiment, the researchers had children and their mothers collaborate on a challenging Etch-a-Sketch task and rated the mothers' expressions during the interaction. Then they had the children look at photos of faces. When the mothers had been more positive towards their children, the amygdalae of the younger children, aged 8-10, showed a decrease over time in response to the fearful faces . This suggests that in young children, the relationship with a mother affects the brain's response to potential environmental threats. The same effect wasn't observed in older children.

The findings build on earlier research by the same team, which established that the physical distance between young children and their mothers can influence how the children assess danger. In the previous study, young children who were physically nearer to their mothers were better able to differentiate between safe and threatening stimuli. Once again, older children didn't show the same effect.

The findings indicate that even if a child grows up in a stressful environment, parental relationships can protect them, says Stevens. "Interventions such as parent training designed to help parents respond positively to young children, might be especially important in situations that are really challenging or where there are low resources," she says.

Source: https://www.sciencedaily.com/releases/2018/12/181213083647.htm

Fasting: A Long-Neglected Facet of the Human Condition

The GMI Research Group (GMIRG) http://www.greenmedinfo.com/blog/fasting-heal-autoimmune-disease?

For millennia, **fasting** has been one of the anchoring rituals in a variety of spiritual denominations. For example, all the major world religions, including Hinduism, Buddhism, Islam, Christianity, and Judaism espouse religious doctrines that prescribe fasting on designated calendar days (1). In addition, fasting is a practice rooted in evolutionary biology, since throughout evolutionary history, human bodies have adapted to periods of feast and famine. Matron and colleagues articulate this with, “Because animals, including humans, evolved in environments where food was relatively scarce, they developed numerous adaptations that enabled them to function at a high level, both physically and cognitively, when in a food-deprived/fasted state” (2).

In contrast, contemporary human populations fall victim to the erroneous socioculturally constructed notion that three square meals a day begets health. However, ad libitum eating patterns and food overconsumption predictably lead to metabolic derangements such as **insulin resistance**, visceral adiposity, and endothelial dysfunction, especially when coupled to a sedentary lifestyle (2). These metabolic morbidities are the precursor to many of the long latency, degenerative diseases of modern society, such as cardiovascular disease, diabetes, and autoimmune disorders.

Benefits of Fasting for Aging and Disease

On the other hand, **caloric restriction** (CR) has been shown to enhance longevity and mitigate disease, as, “The cellular and molecular mechanisms responsible for the protective effects of CR have likely evolved billions of years earlier in prokaryotes

attempting to survive in an environment largely or completely devoid of energy sources while avoiding age-dependent damage that could compromise fitness" (1, p.2). These pathways are conserved from lower to higher life forms.

For instance, when *Escherichia coli* (*E. coli*) are switched from a nutrient-rich broth to a calorie-free medium, their chronological lifespans are extended by a factor of four (3). Similarly, transitioning cells of *Saccharomyces cerevisiae (S. cerevisiae)*, or common brewer's yeast, from a standard growth culture to water consistently multiplies their lifespan two-fold and leads to dramatic increases in their resistance to stress (4, 5). By the same token, food dilution or food reduction reliably extends lifespan of *Drosophila melanogaster*, the common fruit fly (6). Further, subjecting the nematode *Caenorhabditis elegans* (*C. elegans*) to food deprivation likewise results in a major increase in lifespan (7, 8).

As discussed by Longo and Mattson (2014), "Notably, when switched to food deprivation conditions, both bacteria and yeast enter a hypometabolic mode that allows them to minimize the use of reserve carbon sources and can also accumulate high levels of the ketone body-like acetic acid, analogously to mammals" (1, p. 2). Studies of animal models and humans have illuminated that different fasting models, including intermittent fasting (IF), fasting mimicking diets (FMD), time-restricted feeding (TRF), and periodic fasting (PF), favorably influence various parameters of health, and can elicit positive disease outcomes in Alzheimer's disease, Parkinson's disease, cerebrovascular disease, diabetes, coronary heart disease, cancer, and an array of other chronic illnesses (2).

Evidentiary Support for Fasting in Autoimmunity

With respect to autoimmune disease in particular, fasting has been shown to reduce pathologic paracellular intestinal permeability, the precursor to all autoimmune disorders (9). Along with genetic predisposition and an environmental trigger, compromised gut barrier integrity is a prerequisite for autoimmune disease development (9). The violation of tight junction architecture is pivotal for loss of oral tolerance, since intestinal hyper-permeability enables the translocation of undigested food antigens, toxicants, and microbes across the mucosal barrier, eliciting an immune response from the gut-associated lymphoid tissue (GALT), which can manifest as autoimmune disease (9). In this respect, fasting holds incredible promise, since, "The autoimmune process can be arrested if the interplay between genes and environmental triggers is prevented by re-establishing intestinal barrier function" (10).

In particular, pooling of data from four controlled studies elucidated that fasting followed by a **vegetarian diet** ameliorates disease symptomatology and produces significant long-term clinical benefit in rheumatoid arthritis (11). Another study likewise demonstrated that prolonged fasting for seven to ten days leads to significant clinical improvement in **rheumatoid arthritis**, although improvements were lost when normal dietary habits were resumed, suggesting that cycles of fasting and re-feeding may be needed (12). Similarly, another study highlighted that fasting led to a decline in disease activity, as measured by a clinical six-joint score, in rheumatoid arthritis patients, accompanied by decreases in intestinal and extra-intestinal permeability (13). Moreover, in a remarkable case study that included patients with rheumatoid arthritis, fibromyalgia, and mixed connective tissue disease, prolonged fasting followed by a vegan diet allowed tapering of medications and led to patients being symptom-free or having minimal symptoms at follow-up (14).

There is also empirical support for a fasting mimicking diet (FMD) in multiple sclerosis. Impressively, FMDs have been shown to induce regeneration of oligodendrocyte precursor cells and remyelinate axons in experimental autoimmune encephalomyelitis (EAE), the mouse model of multiple sclerosis (15). In fact, "A FMD administered every week was effective in ameliorating EAE symptoms in all mice and completely reversed disease progression in a portion of animals after the onset of EAE signs" (15, p. 2143). In this study, reductions in pro-inflammatory cytokines, pathogenic Th1 and Th17 cell populations, and numbers of antigen-presenting cells occurred, while regulatory T cells, the subset of lymphocytes responsible for Th1-Th2-Th17 balance and attenuation of autoimmune responses, expanded (15). Suppression of autoimmunity also occurred by both induction of lymphocyte apoptosis and increases in corticosterone levels (15).

In addition, in a randomized, parallel-group, three-armed pilot trial, a single cycle of a FMD for seven days followed by a six month Mediterranean diet significantly improved quality of life compared to both a ketogenic diet (KD) and the control group in patients with relapsing-remitting multiple sclerosis (RRMS) (15). Both the KD and FMD also led to a mild reduction in expanded disability status scale (EDSS) scores, which were inversely correlated with health-related quality of life (HRQOL) scores (15). In both the FMD and KD groups, slight reductions in white blood cell and lymphocyte counts were observed, along with increases in plasma beta-hydroxybutyrate, a ketone body indicative of induction of therapeutic ketosis (15). Moreover, at day eight of fasting, the FMD produced over a 20% decline in total lymphocyte count in 72% of patients, which the authors suggest may ameliorate MS symptoms via reductions in auto-reactive lymphocytes (15). However, levels of autoimmune

lymphocytes returned to baseline levels at month three after patients were transitioned to a Mediterranean diet, again suggesting that continued fasting cycles are required to maintain clinical benefits (15).

Molecular Mechanisms for Benefits Conferred Via Fasting

Mechanistically, fasting may trigger synthesis of glucocorticoids, the endogenous equivalent of steroids that are administered to **autoimmune** patients to reduce inflammation (15). Likewise, fasting attenuates oxidative stress, confers cytoprotection, optimizes energy metabolism, and bolsters stress resistance by increasing parasympathetic tone (1). The enhanced parasympathetic activity may improve the brain-gut axis, the bidirectional means of communication between the central nervous system and immune system, leading to better intestinal motility, blood flow, and gastric secretions, reduced heart rate and blood pressure, and increased heart rate variability, the last of which engenders improved autonomic balance (2, 16). Better regulation of the gut-brain axis enables the brain to stimulate efferent vagal fibers that innervate nicotinic cholinergic receptors on immune cells, thereby modulating the peripheral immune system in an anti-inflammatory direction (17, 18, 19). Further, enhanced cholinergic anti-inflammatory neurotransmission through the vagal nerve inhibits release of cytokines from glial cells, leukocytes, and macrophages, such that these pro-inflammatory intercellular signaling molecules implicated in autoimmune pathogenesis are suppressed (20).

DNA based repair mechanisms, stem cell-based regeneration, and autophagy of dead cells, debris, and amyloid beta plaques and tau protein, both of which are implicated in neurodegenerative diseases, are also promoted by fasting (2). Autophagy, the process of protein degradation and turnover of other cell constituents, is instrumental in maintenance of homeostasis. At the level of the brain, fasting enhances executive function and cognition, synaptic plasticity, neurogenesis, mitochondrial biogenesis, synthesis of neurotrophic factors, and ameliorates inflammation (1, 2).

In addition, fasting may mediate an anti-inflammatory effect via modulation of mechanistic target of rapamycin (mTORC) or adenosine monophosphate-activated protein kinase (AMPK), intracellular sensors which integrate environmental cues and detect accessibility of nutrients in order to dictate cell fate (21). In particular, mTORC1 is considered a critical positive determinant and rheostat of the immunosuppressive actions of Tregs, which couples immune signals and metabolic programming in establishing functional competency of Treg populations (22). The notion that fasting relieves autoimmunity via these molecular mechanisms is supported by studies showing that the AMPK agonist, metformin, or the mTORC1 inhibitor, rapamycin, alleviates EAE by diminishing effector T cells, enhancing Treg cells, and prohibiting central nervous system infiltration by mononuclear cells (23, 24). Thus, fasting may be efficacious in preventing recruitment of immune cells at sites of autoimmune lesions (15).

Furthermore, fasting leads to significant reductions in levels of leptin, a pro-inflammatory adipokine that is elevated in rheumatoid arthritis, **systemic lupus erythematosus**, type 1 diabetes, autoimmune hepatitis, multiple sclerosis, Behcet's disease, psoriasis, and ulcerative colitis (25, 26). This has the effect of up-regulating CD4+ CD25+ Foxp3+ regulatory T cells, the subset of immune cells which induce peripheral immune tolerance, are depleted in autoimmune disease, and are inhibited by leptin (26). Fasting also improves ketone production, insulin sensitivity, hepatic glycogenolysis, adipose tissue lipolysis, and anabolic activity in muscle, all of which promote metabolic correction (1, 2). A review of the literature also reveals that fasting improves many other metabolic biomarkers, such as glucose, lipids, leptin, and adiponectin (Patterson et al., 2015). Increases in adiponectin, which occur with fasting, are favorable since levels of this anti-inflammatory fat tissue-derived adipokine are compromised in multiple sclerosis, psoriasis, and Sjogren's (25).

Fasting for Sleep, Detoxification, and Circadian Rhythm Management

Fasting may also produce cardiometabolic improvements by leveraging and synchronizing circadian rhythm biology. According to Patterson and colleagues (2015), "It is hypothesized that some fasting regimens and time-restricted feeding impose a diurnal rhythm in food intake, resulting in improved oscillations in circadian clock gene expression that reprogram molecular mechanisms of energy metabolism and body weight regulation" (27, p.7). In addition, fasting may shift microbiota populations towards a healthier composition, such that they harvest less energy from the diet and favorably affect energy expenditure and storage (27). This effect may also be mediated through the circadian rhythm, since perturbed microbiota diurnal fluctuations and dysbiosis has been linked to glucose intolerance and obesity (28).

Fasting regimens may modify energy intake by restricting hours available for eating and by altering levels of appetite-regulating hormones such as leptin, ghrelin, and xenin, reducing obesity risk (Patterson et al, 2015). Finally, fasting may improve sleep quality, mitigating risk of obesity, diabetes, cardiovascular disease, and cancer, since, "Eating meals at

abnormal circadian times (i.e., late at night) is hypothesized to lead to circadian desynchronization and subsequent disruption of normal sleep patterns" (27, p. 8).

The improvement in **sleep** alone may warrant fasting strategies, since sleep can facilitate excretion of toxicants implicated in autoimmunity. After all, "...sleep at the behavioral level is a process of neuronal restitution and detoxification at the cellular level" (29, p. 91). Restorative sleep and a normalized circadian rhythm enhance the convective exchange of cerebrospinal fluid with interstitial fluid, which in turn increases clearance of β- amyloid plaques and other neurotoxic waste products that accumulate in the central nervous system via the recently discovered lymphatic system of the brain (30, 31). Furthermore, it has been demonstrated that the enzymes of the three hepatic phases of detoxification, as well as drug-responsive nuclear receptors, function on a circadian rhythm, so a perturbed biological clock, which appears in autoimmunity, can lead to toxicant-induced pathology and altered drug metabolism (29).

Finally, fasting represents the ultimate reduction in antigenic load. In other words, fasting provides the body with a hiatus from the energetically intensive demands of digestive processes, and temporarily reduces exposure of the digestive tract to dietary food proteins that may be contributing to inflammation via allergenicity or other immune-mediated food reactions. Therefore, given its safety, efficacy, and the host of health benefits it imparts, fasting may be a viable option for inclusion in a holistic, food-as-medicine regimen for autoimmune wellness.

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25 Natural Remedies & Supplements to Keep in Your Cabinet

CreatingBalancedHealth.com

With so many different natural remedies out there, and with so many different uses that each one has, it can be challenging (and stressful) figuring out which are the best to have on hand. Once you have a solid base of natural remedies in your home, you can then begin to build from there. Basic remedies to have

in your home include herbs, essential oils, homeopathy, nutritional supplements, and items you may already have in your fridge or on your countertop. Here is a basic list of remedies to have on hand. And remember, you can always build upon this list.

Essential Oils

tea tree: antimicrobial, ear infections, influenza, immune support, inflammation
frankincense: coughs, immune support, inflammation, antimicrobial
lavender: anxiety, stress, gas, inflammation, insomnia, mood swings, bruises
peppermint: headaches, fatigue, fainting, influenza, nausea

Nutritional Supplements

fish oil: brain health, cardiovascular health, inflammation, mood
vitamin C: fights illnesses, adrenal support, liver flushing
vitamin D3: immune support, aches and pains
zinc: immune support, fights illnesses, hormone balancer
probiotic: digestive health, immune support, inflammation, skin health

Herbs

garlic: fights illness, circulatory support, heavy metal cleanser
oregano oil: antimicrobial, urinary irritations
elderberry syrup: fights viruses, influenza, sore throats
echinacea: immune support, fights compromising microbes
olive leaf: antimicrobial, circulatory support

Homeopathy

arnica: bruises, fractures, bleeding, back pain
oscillococcinum: influenza, headaches, body aches, chills, fever
chamomilla: colic, ear infections, insomnia, cramps, teething
belladonna: motion sickness, nausea, vomiting
sabadilla: common cold, fever, sore throat, sneezing

Others

lemon: immune support, heart health, skin health, cleansing

aloe vera: sunburns, skin health, digestive health, immune support
apple cider vinegar: blood sugar, skin health, cholesterol, acid reflux, digestive health, fights fungus
Manuka honey: wounds, burns, skin issues, acid reflux
colloidal silver: antimicrobial
bone broth: immune support, digestive health, joint health, skin health
activated charcoal: gas, bloating, digestive cleanse, whitens teeth
epsom salt: cleansing, reduce stress, inflammation

The Hidden Reason Why Your Body Is Falling Apart

https://www.advancedbionutritionals.com/Liver-Support-Supplements/Why-Your-Body-Is-Falling-Apart

It can cause everything from fatigue to memory problems to age spots - yet doctors rarely check for it. Here's how to rebuild your body and get rid of your health problems.

If you often feel tired and sluggish... if your memory and vision are not as sharp as they used to be... or if you can't lose weight no matter how hard you try... then here's something you need to know:

The most overlooked cause of problems like these is a fatigued liver. That's right, a fatigued liver.

You see, your liver is the hardest working organ in your body. Every day, it has to perform over 500 essential functions. These include:

- Producing more than 13,000 crucial chemicals... and regulating over 50,000 vital enzymes.
- Balancing sex hormones, including testosterone and estrogen.
- Filtering nearly 100 gallons of blood that pass through it every day.
- Producing a full quart of bile daily to break down fat and help with food digestion.
- Maintaining healthy cholesterol, blood sugar, and amino acids.
- Converting glucose into energy your body can use.
- Storing essential nutrients, such as vitamins A, B, D, and K.
- Detoxifying waste products and pollutants, so your body can get rid of them. (If your liver stopped detoxifying, you would be dead within a few hours!)
- And so much more.

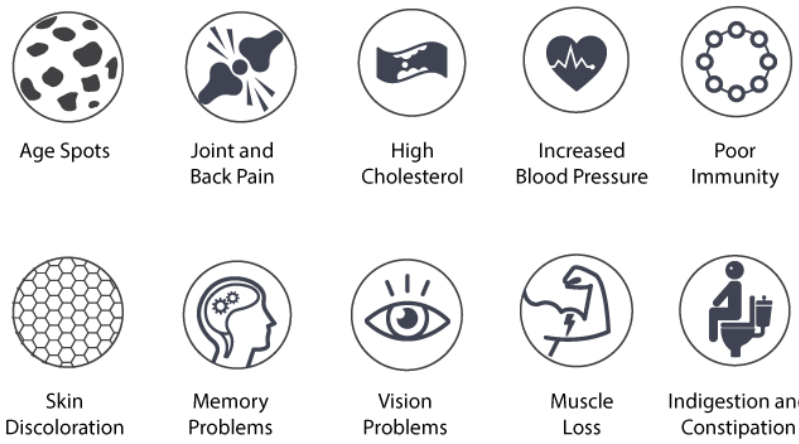
That's a heck of a lot of work for one organ!

When you are young, your liver can carry out all these functions efficiently. But as you get older, your liver becomes less efficient. On top of that, decades of exposure to pesticides, heavy metals, chemicals, and air pollution also cause your liver to age faster. It can't keep up with its heavy workload. It can't heal itself and regenerate as well. It starts to deteriorate and shrink.

Even worse, it starts to develop shorter telomeres at a faster rate. Telomeres are the caps at the end of each strand of DNA. When your telomeres get shorter, you age at an escalating rate.

As a result, you may feel tired all the time, as your liver can't convert glucose to energy quickly. You may keep piling on the pounds around the waistline, and get more cellulite, as your liver is clogged with fat deposits. And you may suffer from sex hormone imbalances and poor sex drive.

In addition, a fatigued liver can also lead to many other symptoms. Including:



The good news is, I'm going to show you how you can rejuvenate your liver and help it heal itself. When you do that, you'll feel healthier and younger.

Hi, my name is Dr. Frank Shallenberger. I've been a practicing M.D. for over 35 years. I've published many scientific research papers, and written two books: **Bursting With Energy** and **The Type 2 Diabetes Breakthrough**. I've also invented several natural therapies, such as Prolozone™ and CheZone™. And I've trained over 700 doctors in the use of these therapies.

But today, I'm not going to talk about any of those things. Instead, I'm going to tell you what may be the most important health secret of all: how to have a healthy liver.

If you're well-read in health topics, you probably know that you can support a healthy liver by taking milk thistle. But here's what you may not know…

Why Taking Milk Thistle is Not Enough

As good as milk thistle is, it is not enough to give your liver the protection it needs. Why? For two reasons:

First, the liver needs a wide variety of nutrients to perform all its functions; milk thistle doesn't have all the nutrition your liver needs to cope with its heavy workload.

Second, milk thistle benefits mostly your liver. But that is not enough, because…

Your Liver Does NOT Function in Isolation

Its performance depends on the support it gets from other systems of your body, especially your **adrenal glands**. When your adrenal glands aren't working properly, your liver struggles, too. In fact, scientists have found that up to 65% of patients with weakened livers also have sluggish adrenals.

Here's a case in point. A recent issue of the journal, Endocrinology reported how a woman was rushed to the emergency room due to a liver problem. Her doctor couldn't find anything wrong, except that her adrenals were underperforming. When her doctor treated her adrenals, her liver function was restored.

That shows you how your liver and adrenal glands are interdependent on one another. So for your liver to work optimally, you need to boost your adrenals, too. And one of the best ways to boost your adrenals is with **licorice root**.

Licorice is rich in a compound called glycyrrhizin (pronounce "glee-cir-rye-zin"). Glycyrrhizin slows the breakdown of adrenal hormones like cortisol, progesterone, and aldosterone. This takes a lot of stress off your adrenal glands.

And licorice root doesn't only support your adrenals. It supports your liver, too. Studies show it enhances liver function... defends against liver inflammation and injury... and prevents drug toxicity.

In a double-blind study, scientists took a group of patients with clogged livers, and tested their livers for injury. They then gave half the group licorice root, and the other half a placebo.

After 2 months, the licorice group saw their liver markers significantly improve. Which means their livers were recovering from injuries. What's more, they also reduced their body fat, while the placebo group had an increase in body fat.

In another study, scientists gave 100 patients with chronic liver problems glycyrrhizin, the major compound in licorice root. Four weeks later, the patients saw an amazing 88% improvement in their liver function tests...plus an 86% decrease in their symptoms!

And in yet another study, patients with inflamed livers were given glycyrrhizin twice a day. In just 3 months, their livers had no signs of inflammation. That's remarkable.

So by taking licorice root, you support both your liver and adrenal glands. But even that may not be enough. Why? Because how your liver performs also depends on your immune system…

Safeguard Your Liver by Boosting Your Immune System

Most people know the liver is responsible for detoxification. But what many people don't know is, your liver is also part of your immune system. It's loaded with immune cells, like macrophages, natural killer cells, T-cells, B-cells, and more.

If your immune system is sluggish, your liver suffers, too. So you also need to strengthen your immune system.

One of the best ways to do that is to take a medicinal mushroom called **Royal Agaricus(Agaricus blazei)**. Agaricus has the highest known levels of Beta-1,3-glucans of any mushroom. Beta-glucans help stimulate the immune system. They also help you fight off viruses, bacteria, and other dangerous pathogens.

But agaricus does more than boost your immune system. Studies now show it also protects your liver from toxins.

In one study, scientists injected a group of mice with carbon tetrachloride, one of the most toxic substances there is to the liver. They then gave the mice agaricus or a placebo. Result? The agaricus group almost completely blocked the toxin!

In another study, scientists pre-treated the rats with agaricus or a placebo. They then injected the rats with a deadly poison called DEN. After the injection, the livers of the control group quickly deteriorated. But the agaricus group's livers remained healthy, and functioned like normal!

Other studies also show that agaricus blocks inflammation in the liver ... protects liver and immune cells from toxicity... and even guards the liver from a chemo drug.

Pretty amazing, right? Well let me tell you about a third nutrient...

The Brain Nutrient That Can Unclog Your Liver and Undo Damage Caused by Alcohol

Your brain uses this nutrient to produce "messenger chemicals". You need these messenger chemicals, so you can remember what you walked into a room to get... find your misplaced car keys... or learn someone's name and recall it later.

What is this brain nutrient? It's called **Phosphatidylcholine**, or PC for short.

PC is more than just a nutrient for your brain and memory. It is also vital for liver health. Studies show it helps remove fat deposits in the liver. Without PC, fat and cholesterol build up in your liver.

In addition, PC also reduces liver damage caused by alcohol, viruses and toxins. Not only that, it can even help a damaged liver regenerate. That's right, it can help the liver grow new cells.

In a study, scientists took a group of rats and surgically removed part of their livers. They then injected PC into the rats. Within 30 hours, their damaged livers began to regenerate. That's incredible!

As you can see, you can do wonders for your health by taking PC (phosphatidylcholine), royal agaricus, and licorice root. And here's great news: you can now get all these nutrients, plus more, in one single formula…

A Super Antioxidant for Your Liver

Scientists have found that a bioflavonoid called **quercetin** protects your liver from free radical attacks and DNA damage. Even more amazing, it can delay aging and help prolong life. In laboratory tests, scientists found it extended the lifespan of cells by up to 60%!

But that's not all. Studies show quercetin also guards the liver against inflammatory damage... prevents fat accumulation in the liver... and even reduces abdominal fat.

Plus, it improves your cholesterol. In a study, patients taking quercetin saw an 18% reduction in total cholesterol... a 27% reduction in (bad) LDL... and a whopping 33% increase in (good) HDL cholesterol.

Boosts Your Body's "Master Detoxifier"

In addition to quercetin, I also added N-Acetyl-L-Cysteine (NAC) to Advanced Liver Support. NAC is a precursor to glutathione, one of the most powerful antioxidants on earth. Glutathione neutralizes free radicals, and protects your body from oxidative damage.

Not only that, glutathione is also your body's "master detoxifier." Your liver needs it to detox. Without it, your liver simply cannot function. By taking NAC, you can increase your glutathione levels, and help your liver get rid of heavy metals and other harmful toxins.

But the benefits of NAC don't stop there. It is also a "vasodilator" of the liver. That means it boosts blood flow to your liver, delivering vital nutrients to your liver. That's another reason why NAC is critical for a healthy liver.

Now if Advanced Liver Support had only the 5 nutrients I've told you about, it would be one of the best supplements for liver support. But to make Advanced Liver Support THE best supplement in the category, I also included these 3 nutrients:

Alpha-lipoic acid (ALA): As you may know, ALA is another antioxidant powerhouse. Not only does it fend off harmful free radicals, but it also helps recharge vitamins C and E. That means ALA doubles the effectiveness of these vitamins.

What's more, ALA is both fat- and water-soluble. This allows it to bind with free radicals in a liver that's clogged with fat deposits. Plus it prevents triglyceride build-ups in the liver... protects the liver from damage caused by a fatty meal... and even helps with weight control.

Selenium: This trace mineral is crucial for liver health. First, it helps produce an enzyme called glutathione peroxidase. This enzyme protects your liver against oxidative injury.

Second, selenium helps preserve your liver tissues and keep them elastic. This is important, because hardened liver tissues can lead to severe liver problems. But resilient liver tissues promote healthy blood circulation in the liver.

On top of that, selenium also grabs hold of heavy metals like mercury, lead, cadmium and arsenic... and prevents them from damaging cells and tissues inside your body.

Milk thistle: No liver formula would be complete without milk thistle. Hundreds of studies have confirmed it protects the liver from alcohol, drugs, and toxins. It blocks inflammation and prevents liver damage. And it even helps the liver repair itself by growing new liver cells.

On top of that, studies show it also helps regulate cholesterol... improves blood sugar... neutralizes harmful free radicals... and much more.

When you combine milk thistle, alpha-lipoic acid, and selenium, you can even prevent deadly toxins from poisoning your liver. This 3-nutrient combination was first discovered by Dr. Burt Berkson over a decade ago.

Dr. Berkson found that the combination protected livers from a deadly fungus called Amanita Phalloides. Normally, this fungus will destroy a liver 100% of the time. But if you take milk thistle, alpha lipoic acid, and selenium, it will stop that from happening.

So there you have it. Altogether, you get 8 vital nutrients in Advanced Liver Support, giving you complete protection for your liver.

What a Healthy Liver Means to You

When your liver is healthy, you will have more energy. That's because your liver can efficiently convert glucose into energy. Plus, it can better digest food, and convert nutrients into bio-available forms that your body can absorb.

When your liver is healthy, you will be able to lose weight and slim your waistline. That's because your liver can efficiently burn fat. Plus it can prevent fat build-ups in the liver and your waistline.

When your liver is healthy, you will feel stronger, healthier, and happier. That's because your liver can effectively get rid of toxins in your body. It can help your body fight off inflammation and infections. Plus it can strengthen your immune system.

So why not start protecting and boosting your liver today? All you need to do is take one single supplement: Advanced Liver Support.

Topical Black Seed Oil Beats Tylenol For Pain Relief in Osteoarthritis

Written By: Sayer Ji, Founder August 26th 2018

The tiny black seed strikes again! Even orally administered Tylenol can't compete with the topical application of this potent healing oil to reduce symptoms of one of the most common health complaints of our time.

Recently, over-the-counter "pain killing" drugs like **ibuprofen** and **Tylenol** have been found to have a battery of serious adverse side effects, some even life-threatening. Even aspirin, commonly believed to be a life-saving cardioprotective agent, has come under scrutiny as perhaps **doing far more harm than good**. Even more astounding is the recent discovery that some of these **drugs have soul-numbing properties** not unlike psychotropic medications.

Due to the growing concern about both the physical and psychological harms of these pharmaceutical agents, interest in natural, evidence-based alternatives has been exploding. In order to satisfy the demand for scientifically validated alternatives to drugs GreenMedInfo has accumulated hundreds of abstracts on the topic, which can be viewed on our various related database pages, such as **Pain**, **Aspirin Alternatives**, and **Ibuprofen Alternatives**.

Why is Everyone Using NSAIDs and Tylenol?

The reality is that because millions suffer from pain and inflammation on a daily basis, the promise of popping a pill to relieve discomfort is an ever-present temptation. It doesn't help that the US is one of three countries that permit drug companies and pharmacies are allowed to advertise these medications directly to the consumer through television and other mainstream media channels.

But is it logical to expect a potent chemical to positively alter symptoms that aren't caused by a lack of that chemical? If poor diet, lifestyle, chemical exposures, and a suboptimal mindset are the basis of most chronic health issues, then shouldn't the focus be on addressing and reversing these underlying variables instead? This would be the goal of so-called "**root cause resolution**" medicine. Instead, palliative medicine -- where the goal is to suppress symptoms -- is the default approach; but it's not sustainable and the collateral damage to one's health is often not worth the risk of the intervention.

When Food (Applied Topically) Is *More* Powerful Than Pharmaceutical Medicine

A recent clinical trial entitled, "**Effect of Topical Application of Nigella Sativa Oil and Oral Acetaminophen on Pain in Elderly with Knee Osteoarthritis: A Crossover Clinical Trial**," compared topical black seed oil with oral Tylenol on pain in elderly osteoarthritis patients.

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Effect of Topical Application of Nigella Sativa Oil and Oral Acetaminophen on Pain in Elderly with Knee Osteoarthritis: A Crossover Clinical Trial

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Type of article: Original

Abstract

Background: Limited evidence supports Nigella sativa's role as an effective complementary and alternative medicine and the anti-inflammatory effects of Nigella sativa on patients with allergic rhinitis.
Objective: The aim of this study was to investigate the effect of topical application of Nigella sativa oil and oral acetaminophen on pain in the elderly with knee osteoarthritis residing in a parents' home in Sabzevar.
Methods: This study is done as a crossover clinical trial. After obtaining written consent of elderly patients with osteoarthritis of the knee, they were randomly divided into two groups. In step 1, in group 1, 1 cc of Nigella sativa oil was applied on the knee joint every 8 hours for 3 weeks; for the second group, every 8 hours for 3 weeks, patients were given 1 tablet of 325 mg acetaminophen. After a period of 1 month without medication to wash out each group, in step 2, each treatment group received the drug interaction in the same way as above. Pain was determined using a visual scale (VAS) before and after the first and second stages. Treatment response was defined as a decrease in pain scores over 1.5. Data analysis was performed with an R software mixed model.
Results: This study was done on 40 elderly patients: 18 (45%) men and 22 (55%) women. Their mean year and weight were 75.66±8.9 years and 69.67±14.33 kg, respectively. Study results showed that topical application of Nigella sativa oil and oral acetaminophen reduced pain in elderly with knee osteoarthritis; after using Nigella sativa oil, the reduction of pain was higher (p=0.01).
Conclusion: The results of this study showed that topical application of Nigella sativa oil was effective in reducing pain in patients with knee osteoarthritis; therefore, it is recommended as a safe supplement for these elderly.
Trial registration: The trial was registered at TCTR (http://www.clinicaltrials.in.th/) with the ID: TCTR20160125003.
Funding: This study was approved and supported by the Sabzevar University of Medical Sciences.
Keywords: Elderly; Nigella sativa oil; Pain; Osteoarthritis

Study participants were divided into two groups of 10:

1. One group received 1 milliliter of black seed oil applied on the knee joint 3 times a day every 8 hours for 3 weeks.
2. One group was given 1 tablet of 325 mg acetaminophen also 3 times a day every 8 hours for 3 weeks.

This study was performed on 40 elderly patients, average age 77, 18 (45%) men and 22 (55%) women.

The criteria for inclusion in the study included the following common symptoms related to knee osteoarthritis:

"Age over 65 years diagnosis of knee osteoarthritis, according to American College Rheumatology diagnostic criteria, included 1) knee pain on most days of the last month; 2) crepitus (joint sound in active motion); 3) morning stiffness less than 30 minutes; and 4) inflation in the examination of the knee bone, respectively (15)."

The promising results of the intervention were reported as follows:

"Study results showed that topical application of Nigella sativa oil and oral acetaminophen reduced pain in elderly with knee osteoarthritis; **after using Nigella sativa oil, the reduction of pain was higher**(p=0.01)." [emphasis added]

The researchers concluded:

"This study showed that topical use of **Nigella sativa oil can be more effective in reducing knee pain in elderly patients than acetaminophen**, which is typically used as a safe supplement for the elderly." [emphasis added]

What Gives Black Seed Its Remarkable Power?

Unlike pharmaceutical agents which are comprised of either singular chemicals or simple combinations of them, black seed is a complex food which contains a wide range of nutritional and phytochemical components. These all act in concert to produce complex physiological responses in the human body. The study described some of the known constituents of black seed as follows:

"Nigella sativa oil is composed of 30% by weight of p-cymene, which is the most original composition, and 61.48% of the weight is composed of the volatile oil. Nigella sativa seeds contain fat, vitamins, minerals, proteins, essential amino acids, and carbohydrates (8). Nigella sativa seed is a rich source of essential fatty and unsaturated acids. The main unsaturated fatty acids are linoleic acid and oleic acid. There are also other compounds in seeds, such as phospholipids, carotene, calcium, iron, and potassium (9)."

One of the reasons why the pharmaceutical industry and mainstream medicine will not invest in food-based solutions for preventing and treating disease is because these common foods and spices **do not lend themselves to being easily understandable, nor patentable**. We may never know exactly why the relatively infinitely more complex concentrate of a food like black seed oil produces superior effects when compared to drugs like Tylenol. But knowing how something works should be of secondary importance to the fact that **it does work, shouldn't it?**

"Mother Nature's formulas are proprietary, but she does not grant patents." ~ Sayer Ji

The primary reason why we will never see conventional physicians prescribing food as medicine is because the FDA defines anything that "prevents, cures, diagnoses or cures disease" as a "drug," and FDA drug approval can cost up to 11 billion dollars per drug. Can you imagine a walnut company investing that much money in order to prove the obvious: namely, that its product has health benefits? Chemicals, on the other hand, are ideal for this kind of commercialization, even if they almost invariably carry debilitating and deadly side effects.

Closing Comments

This study illustrates the power of natural, food-based alternatives for reducing symptoms in a way that does not produce the risks associated with drug-based interventions. In fact, given that pain killers such as Tylenol actually **increase the risk of serious diseases such as asthma**, and **black seed oil has been shown to reduce asthma**, the superiority of black seed oil over conventional drugs like Tylenol may be far more profound than overtly discussed in this study.

For more information on the "side benefits" of black seed oil, please visit our Black Seed database which contains research on over **100 health conditions** that it has been studied to have potential therapeutic application in improving. Also, please use our extensive **Osteoarthritis database** to learn more about natural and/or integrative approaches to treating the condition.

It should also be noted the **highly therapeutic ritual of massaging** the oil into the knee may have played a significant role in producing the observed positive outcome. Here is the specific method used:

"In the first stage, for the first group about 1 ml Nigella sativa oil was applied on the knee joint three times a day every 8 hours for 1 week. The massaging method was done with the entire palm in a way that continued for 5 minutes, massaged in a clockwise direction at the front and sides of the knee joint. It should be noted that the Nigella sativa oil used was owned by Barij-e-Kashan; for all subjects, it was maintained away from sunlight and at ambient temperature."

Consider also that 1 millimeter is only about 1 gram. That's a very small amount of oil. One teaspoon would have about 5 grams, or 5 servings worth of black seed oil.

Black seed oil is clearly a perfect example of an ancient healing substance which has undergone a modern day Renaissance of scientific validation. As the old world drug-based paradigm of symptom suppression continues to be proven inadequate, especially outside of the emergency setting (where drugs can sometimes have life-saving applications), interest is growing in evidence-based natural alternatives like black seed. Black seed is only the tip of a massive iceberg of thousands of science-backed natural compounds that could be used to alleviate human suffering. Please use the **GreenMedInfo.com Research Dashboard** to search over 10,000 health topics and share your findings with friends, family, and practitioners who may be interested in this topic.

Why Milk Isn't Necessary for Strong Bones or Weight Loss — But Is Linked to Disease and Other Health Issues

By Neal Barnard, MD • A version of this article was originally published in *Good Medicine*, a magazine from the Physicians Committee for Responsible Medicine.

The 2012 report published in the *Archives of Pediatric and Adolescent Medicine* must have rattled the dairy industry. Authored by Kendrin Sonneville from Harvard University, the study tracked fracture rates in 6,712 adolescents. The results showed that **active children who consumed the largest quantities of milk actually had more bone fractures than those who consumed less**.

In other words, *milk doesn't actually build strong bones*.

Previous studies have shown similar findings. Studies of young women published in the journals *Bone* and *Pediatrics* show that **bone density was bolstered by physical activity but that increased calcium intake made no difference**.

Evidence suggests that milk is similarly unhelpful at the other end of the lifespan when osteoporosis and bone breaks are particularly common.

The Harvard Nurses' Health Study, which followed more than 72,000 women for 18 years, showed **no protective effect of increased milk consumption on fracture risk**. Those women who consumed the most milk were as likely to suffer a hip fracture as those who avoided milk.

The Dairy Industry's Faltering Credibility

The milk-builds-strong-bones claim was not the first to collapse under scrutiny. In 2005, the Physicians Committee for Responsible Medicine (PCRM) petitioned the Federal Trade Commission (FTC) to examine industry advertising claiming that milk could cause weight loss.

A multimillion-dollar, celebrity-filled ad campaign was based on the findings of a single Tennessee researcher who reported that, in small numbers of people, dieters who included milk in their low-calorie diet plans lost more weight than dieters who left milk out. Other researchers were not able to replicate the finding.

In response to PCRM's petition, the FTC's Division of Advertising Practices met with U.S. Department of Agriculture staff who oversaw the campaign and representatives of the National Fluid Milk Processor Promotion Board and the National Dairy Promotion and Research Board who **agreed to discontinue all advertising and other marketing activities involving weight-loss claims**.

The decision also applied to Dairy Management Inc., which was created to increase demand for U.S.-produced dairy products on behalf of America's dairy product producers.

The Truth About Milk: More Troubling Findings About Dairy

The studies disproving milk's benefits for bones or weight loss turned out to be the tip of a scientific iceberg.

A Harvard study of 20,885 men published in 2001 showed that **men having 2 1/2 servings of dairy products daily had a 34% increased risk of prostate cancer**, compared with men consuming little or no dairy products.

A separate Harvard study, this one including 47,871 men, had shown much the same thing — **men having two or more milk servings each day had a 60% increased risk of prostate cancer.**

The scientific issue of most concern to public health officials is the load of **fat in dairy**products. The 2010 Dietary Guidelines for Americans described the sources of saturated fat — the "bad" fat that leads to heart disease and other health problems — in the American diet. **Dairy products turned out to be the biggest source.**

Typical cheeses are about 70% fat, much of which is saturated fat. Skimming the fat from milk leaves a drink loaded with sugar. Lactose sugar contributes more than 55% of skim milk's calories, giving it a calorie load similar to soda.

Cow's milk consumption by infants and toddlers is linked to type 1 diabetes and to anemia. As children reach their teen years, many experience cramps and diarrhea due to lactose intolerance. This is especially true for those of African, Asian, Hispanic, Native American, or Mediterranean heritage.

***Editor's note**: As infants, our bodies produce a digestive enzyme called lactase, which breaks down lactose from mother's milk. But as we grow up, many of us lose the abilityto do that, experiencing significant digestive problems when drinking cow's milk. By adulthood, about three-quarters of the world's population is unable to break down lactose. The only ethnic group on the planet that can usually digest lactose is Caucasians.Most people of African, Asian, Arab, and Indigenous ancestries cannot.*

The Ethical and Environmental Impacts of Dairy

A cow on a modern farm may produce more than 20,000 pounds of milk per year. To maintain maximal milk production, farmers impregnate cows annually, inserting one arm into the cow's rectum while using the other to insert a long metal rod holding semen into the cow's vagina.

Male calves born through this process cannot join the dairy herd and are placed in crates to be raised as veal. The female calves are often dehorned, typically without anesthesia.

The 60,000 dairy farms in the United States also contribute methane — the product of ruminant digestion — a greenhouse gas that is **25 times more potent than carbon dioxide**. The production of dairy products generates the third highest level of greenhouse gas emissions of commonly consumed foods.

***Editor's note:** The world's top five meat and dairy corporations are now responsible for more annual greenhouse gas emissions than ExxonMobil, Shell, or BP.*

Healthy, Plant-Powered Calcium Sources

Calcium is an essential nutrient. But non-dairy sources of calcium such as **beans, tofu, broccoli, kale, collard greens, bread, cereals, and non-dairy, calcium-fortified beverages** provide adequate calcium without any of the health, ethical, or environmental detriments associated with milk consumption.