Brain Fog and Blue Moods: How to Detox Your Body to Boost Your Brain Function

Nayan Patel PharmD





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 Hallmarks for aging

 Genomic

 Instability

 Telonere

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 Extension

 Primary hallmarks

 Causes of damage

 Secondariant

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 Antagonistic hallmarks

 Cellular

 Senescence

 Senescence</





















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Physical effects of a sudden stressor

- Increased blood pressure Increased heart rate Increased heart contraction Increased blood flow to active muscles Decreased blood flow to areas not needed for rapid activity such as kidneys and intestines Dilated pupils Dilated bronchial tubes Increased muscular strength Release of glucose from liver Increase mental activity Increased metabolic rate





Technique to reduce stress

- Exercise
 Meditation
 Yoga
 Sleep
 Deep breathing

 Progressive muscle relaxation/Massage
 Aromatherapy
 Mindfulness-based stress reduction

- Healthy diet
 Guided imagery/Visualization
 Acupuncture
 Psychotherapy
 Walking
 Constitute behavioral behavioral
- Cognitive behavioral therapy
 Music therapy
 Tai chi
 Hydrotherapy







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Toxins – Heavy metals, biotoxins

- Heavy metals such as copper and mercury.Biotoxins mainly mycotoxins due to mold.
- Body produces β -amyloid to protect neurons from heavy metals, mycotoxins, etc...



Signs and Symptoms of Brain Fog

- Difficulty concentrating
- · Difficulty multitasking
- Forgetfulness
- Short term and long term memory loss
- · Cognitive impairment
- Feeling spacy or confused
 Word-finding difficulties
- Mental exhaustion or fatigue



Common Reasons For Brain Fog

- Prescriptions medications
- Leaky gut and or nutrient deficiencies
- Food sensitivities or allergy Sleep and sleep disordered breathing
- Mold and heavy metal toxicity
- Post viral syndrome
- Menopause or andropause



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Common Reasons For Brain Fog

- Prescription medications can cause decreased cognition

 Sedatives, sleep medications, pain medications, antihistamines, bladder control medications, and others often come with the side effect of dizziness or sleepiness.

 Leaky Gut and/or poor diet

 If you have poor diet may lead to GI symptoms such as excess gas, bloating, fullness after eating, constipation or diarrhea, and food intolerances

 - bloating, fullness after eating, constipation of drames, and root intolerances. Your stomach lining may not be intact. May lead to poor absorption and coupled that with poor quality food, high in simple carbohydrates, trans fats loaded with artificial food additives, causes inflammation in the body. This inflammation can cause brain fog symptoms due to lack in particularly vitamin D and B vitamins, are associated with brain fog.

Common Reasons For Brain Fog Food Sensitivities or allergies Brain fog is a commy motor for people with celiac disease and non-celiac gluten sensitivity. While the link between gluten and brain fog is not fully understood, it is a well-documented symptom of people with gluten sensitivity. Steep Obsordered Breating is a more common occurrence than previously thought as of 2018, affects upwards of 100 million people would be used by the sensitivity of the sensitivity. Steep Obsordered Breating is a more common occurrence than previously thought as of 2018, affects upwards of 100 million people wouldwide. Obstructive sleep apnea remains the leading type of sleep-disordered breathing and affects up to 100 grid by the sensitivity. The body and brain complete a self-cleaning cycle of removing toxins during sleep. When this is unable to occur due to lack of quality sleep, it can result in brain fog.

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Common Reasons For Brain Fog

Menopause & Perimenopause

Brain fog is a common complaint for women going through perimenopause and menopause. Fluctuating hormone levels, particularly <u>estrogen</u> shifts, during this time not only affect energy levels but can cause symptoms such as forgetfulness, difficulty concentrating and brain fog.

Oxidative stress in Alzheimer's disease

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Oxidative stress plays a significant role in the pathogenesis of Alzheimer's disease (AD), a devastating disease of the elderly. The **brain** is more vulnerable than other organs to oxidative stress, and most of the components of neurons (lipids, proteins, and nucleic acids) can be oxidated in AD due to **mitochondnal dystanction**, increased metal levels, inflammation, and (B-amyloid (AB) peotdes. Oxidative stress participates in the development of AD by promoting AB deposition, tau hyperphosphorylation, and the subsequent loss of synapses and neurons. The relationship between oxidative stress and AD suggests that oxidative stress is an essential part of the pathological process, and antioxidants may be useful for AD treatment.

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Healthy young male and female subjects have higher amount of GSH in the parietal cortical region and a specific GSH distribution pattern (parietal cortex>frontal cortex>hippocampus ~ cerebellum) has been found.

Overall mean GSH content is higher in healthy young female compared to healthy young male subjects Brain oxidative stress: detection and mapping of anti-oxidant marker 'Glutathione' in different brain regions of healthy male/female, MCI and Alzheimer patients using non-invasive magnetic resonance spectroscopy

Pravat K Nandal ⁹, Margari Tripathi, Scondavi Sugaran Affiliations + expand IMBD, 22120628 DOI: 10.1016/j.56m.2011.11.D47

Abstract

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BRAIN COMMUNICATIONS

Hippocampal glutathione depletion with enhanced iron level in patients with mild cognitive impairment and Alzheimer's disease compared with healthy elderly participants

Pravat K. Mandal,^{1,3} (Anshika Goti,¹ Ashley I. Bush,^{2,3,4} Khushboo Punjabi,¹ Shallu joon,¹ @Ritwick Hichra,¹ Haojant Pripathi,¹ Arun Garg,⁴ Hatasha K. Kumar,⁴ Pooja Sharma,¹ Dengika Shuka, ¹ Societi Jonathan Aprin,^{2,3,4} Amir Fazilabi,¹ Joseph C. Marcon,¹ Dirya Dwivedi,¹ Avantika Samikaria,⁴ Kanika Sandal,¹ Kanu Megha¹ and Sandhya Shandiira¹

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chemical Research (2022) 47:1183–1201 Vdoi.org/10.1007/s11064-022-08588-8 REVIEW

In Vivo ¹³C Magnetic Resonance Spectroscopy for Assessing Brain **Biochemistry in Health and Disease**

Pravat K. Mandal^{1,1} · Rimil Guha Roy¹ · Avantika Samkaria¹ · Joseph C. Maroon³ · Yashika Arora¹

Received: 9 August 2021 / Revised: 15 January 2022 / Accepted: 19 January 2022 / Published online: 28 January 2022 © The Author(s), under exclusive licence to Springer Science +Business Media, LLC, part of Springer Nature 2022

Abstract

Abstract Magnets reasonance spectroscopy (MRS) is a non-invasive technique that contributes to the chacidation of brain bacdeminity, ¹⁰C ARS snables the detection of specific neurochemicists and their neuronengrite correlation with neuronal function. The synergritic accurace of ¹¹C MRS and the functions of ¹¹C-tabled subtracts provide an understanding of neuronearballois and the rote of glazanate/agumm-animeheutyric aid (GRBA) neurotransmission in diseases, such as Alchiemer's disease, schizophrenia, nactor development of the function of ¹¹C-tabled subtracts provide an understanding of neuronearballois and the rote of glazanate/agumm-animeheutyric aid (GRBA) neurotransmission in diseases, such as Alchiemer's disease, schizophrenia, nactor development of the glazanate/glazanineGABA cycle, in beath and in various diseases. Nadby, the metabolic flax area of the TCA cycle of ends corrases in neuroAgenerative diseases. Additionally, ¹⁰C MRS can be used to investigate serveral psychiatric and neurological disorders as it directly reflects the real-time production and alterations of the prina mathelities. This review aims to highlight the chronology, the technological advacements, and the applications of ¹¹C MRS in various brain diseases.

364-022-23538-8

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STUDY STARTED IN MARCH 2020 AND PUBLISHED AS A MANUSCRIPT SINCE THESE ARE THEIR FINDINGS WHILE WORKING AT THE UNIVERSITY CAMPUS

Reference

ORIGINAL RESEARCH The COVID-19 Illness: Addressing the Current Treatment Limitations and Care Gaps with a Novel Alternative and Complementary Agent— the Glutathione-Cyclodextrin Complex

Ray Yutani, DO, PharmD, MS, FACOFP; Viswanath Venker aman, PhD

ABSTRACT			
We are approachi	ing the fourth year of the COVID-19	evidence of the utility of a novel -	complementary
pandemic. Althou	pandemic. Although great progress has been made in therapeutic agent, the glutathione-cyclodextr		
addressing the SAI	RS-CoV-2 infection, there are significant	that will likely address those limitations	and close those
treatment limitati	ions and care gaps that need to be	gaps. If confirmed by rigorous clinical tri	ils, the complex
addressed in ord	ler to more effectively treat patients	will have a significant impact on the ti	eatment of the
critically ill with 0	COVID-19 and the large population of	entire spectrum of COVID-19 illness an	d contribute to
patients with post	t-COVID symptoms. We highlight the	the control or resolution of the COVII	3-19 pandemic.
significanceoning	evention or modulation of the	CSS with GSH_Evidence has	mint. J)
process of Co P		an an antantially (1) and	
00	en presenteu that the comp	lex can potentially, (1) avoid	
Ray Yutani, D ho	ospitalization if administered	l early, (2) decrease hospital	pendent RNA-
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1 st IRB approved human clinical trial on healthy subjects	Article Topical Absorption of Glutathione-Cyclodextrin Nanoparticle Complex in Healthy Human Subjects Improves Immune Response against Mycobacterium avium Infection Super Instantis" (Minka Harris") All Interface Strategies Strategies (Minka Interface Strategies Strategies (Minka Harris") (Minka Harris") (Minka Harris") Interface Strategies (Minka Harris") (Minka Harris") (Minka Harris") Interface Strategies (Minka Harris") (Minka Harris") Minka Harris" (Minka Harris") (Minka Harris") Minka Harris" (Minka Harris") (Minka Harris") Minka Harris") Minka Harris" (Minka Harris") Minka Harris") Minka Harris" Minka Harris") Minka Harris" Minka Harris") Minka Harris" Minka Harris" Minka Harris" Minka Harris") Minka Harris" Minka Hari		
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5. Conclusions		niversity of California Riverside, Riverside, CA 92521, USA;	
The topical application of the glutathione-cyc non-invasive route of administration for GSH deliv	lodextrin nanoparticle complex is a very with no reported side effects in	enced, CA 91711, USA; schlamadhstuderts pitzeræðu 1. Uzivensity ef Healdh Sciences, Pomena, CA 91716, USA; 1. orða (C.O.) da; Tel.: +1-909-706-3736	
healthy patients. GSH-CD treatment may enhance reduction in the burden of <i>M. avium</i> in vitro. Improve increased rGSH levels, reduced oxidized stress, and IL-12p70, IL-2, and TNF-α after GSH-CD treatment (- retractor-Bular antioxidant supportible for neutralizing y previously demonstrated that the oral administration against mycobacterium inductions in budge patients betw. We aim to dominize it the optical application amples. (CSH-CI) confers a therapeutic effect against hy participants neoview distret regularia (CSH-CD) in = 15) in participants.		
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Reference	Andresis Taline Eta Cortesi blood monomorchoar cells (PEMCs) and red Reviewl 30 Areil 2021 post-freeziment. An increase in plasma IL-	blood cells and decrease MDA levels in PBMCs 72 h 2, IFN-y, IL-12p70, and TNF-a was observed at 72 h	
https://www.mdpi.com/2076-3921/12/7/1375	Research V(see 2023 post-tepical CSH-CD treatment. Enhance Assepted 30 per 2023 72 h post-topical CSH-CD treatment. Or Published 23(s) 2023 improved immune function against M. arc	d mycobacterium clearance was observed at 4 h and enill, topical GSH-CD treatment was associated with iaw infection. The findings of this pilot study suggest	











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Glutathione Pharmacokinetics

- Following IV therapy of 2gm GSH increase plasma level (not RBC)
- 300 fold increase in urine within 23.3 mins max.

 High-dose intravenous olutathione in man. Pharmacokinetic effects on costieline in plasma and urine Aebi S, Assereto R, Lauterburg BH.
 Eur J Clin Invest. 1991 Feb;21(1):103-10 Bard Claimed: Nor Federal Works and With State St

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 Hope!!!
 Delivering Crocetin across the Blood-Brain Barrier by Using γ-Cyclodextrin to Treat Alzheimer's Disease

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Xiaoyu Chen², Abiging Lu^{2, A} & Zhijun Yang^{2,4,4} Coordin (2071) such harm markut convergencies their effects such as antisoidizet as taking and the stabilities of ampleid 3 files of formation, and thus is spate-risk 10 formations can off due for A shahmer's disease (JA). Hence, yoor water southies and block by gate the mary contraction in formulated development and planmascutical appleciations of CHT. In this study, a new leader shahe CHT- γ opticalestrian induction complex usables for intravenue injection was developed. This inclusion complex was noticable to mark the study of intravenue injection was developed. This inclusion complex and the study of the end lead of amplexial in TRA and the study of the study of the study of the study of the disordial billing of CHT and the states of CHT consisting the block block hains with the study of the study of the short. Billing of CHT and the states of CHT consisting the block block hains with the states in CHT billing the study of the short ability of CHT and the states CHT consisting the block block hains with the states of CHT billing the study of the states of the states that the states of the short block hains with the states of the short block hains the states of the states the states. This data the short and states of CHT and the states CHT consisting the block block and the states of the next block and the short of block and the states of the next block of the states the states. This data the short all and states of CHT and the states of the next block of the states the states the states the states of the short block of the states the states of the next block of the states the states of the one states and the short of block of the states the states of the next block of the states the states of the next block of the states the states of the next block of the states the states the states of the next block of the states the states of the next block of the next block of the states the states of the next bl



Patented technology to improve your Whole blood levels of Glutathione within 1 hr.



Topical Glutathione

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My dear friend Dr. Nayan Patel is at the forefront of the latest GSH research, and an expert on how to raise your glutathione levels to help revitalize your body and transform your health. He holds the patent for the transdermal Glutathione spray, Glutaryl, and is the author of his new book, The Glutathione Revolution. His book is a wealth of information and has been a gamechanger in my personal health and wellness journey."

- Tony Robbins

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