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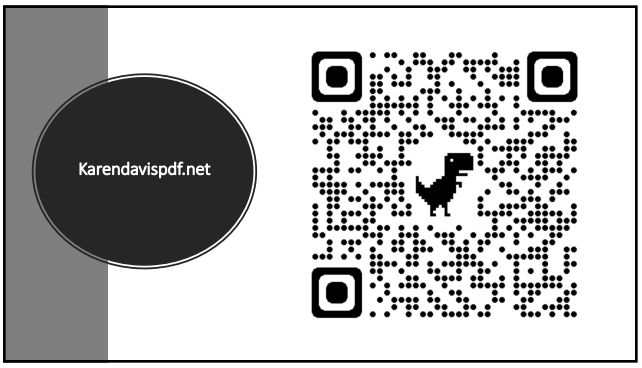

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Is there evidence
that healthful living
influences stress management,
anxiety, depression
or quality of life?

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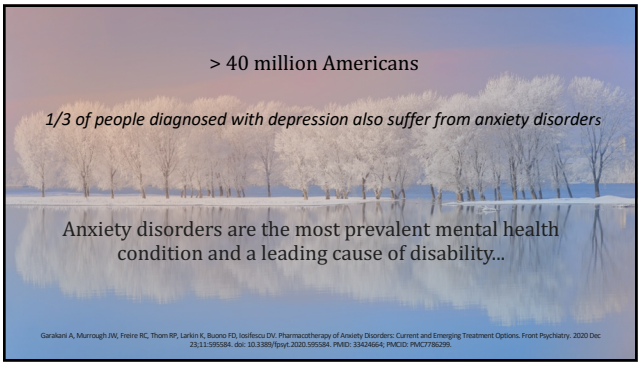

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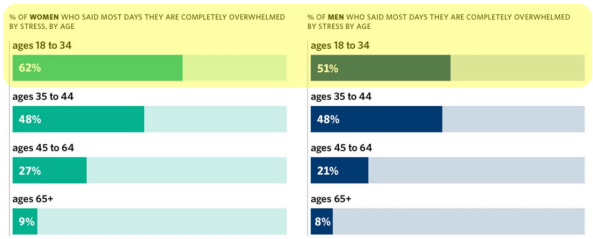
Stress in America 2022

YOUNGER ADULTS FEEL COMPLETELY OVERWHELMED BY STRESS

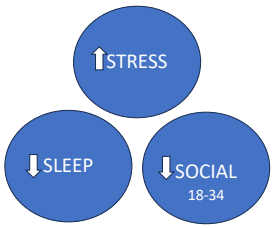


https://www.apa.org/news/press/releases/stress/2022/concerned-future-inflation

9

The American Institute of Stress

Key Findings from the 2024 APA Annual Mental Health Poll



43% MORE ANXIOUS THAN PREVIOUS YEAR

10

>1/3 of patients do not respond to medications to treat Neuropsychiatric Disorders

11

According to the 2019 America's State of Mind Report, people with an anxiety disorder are 3 to 5 times more likely to go to the doctor and 6 times more likely to be hospitalized for psychiatric disorders than those without an anxiety disorder

https://www.express-scripts.com/corporate/americas-state-of-mind-report

12

Did you know that depression is the primary reason someone dies of suicide every 11 minutes?

Almost 3 times the number of deaths due to homicide

https://www.cdc.gov/nchs/hus/data-finder.htm

13

Excess risk of chronic physical conditions associated with depression and anxiety (2014)

33,242 participants

Adults aged 22–64 years from 2007 and 2009 Medical Expenditure Panel Survey.

Depression-anxiety status was associated with greater risk of asthma, arthritis, COPD, diabetes, heart disease, hypertension, and osteoporosis...after controlling for demographic, life-style, and other important risk factors

Individuals with depression and/or anxiety are more likely to suffer from poor physical health, high rates of obesity and smoking

Bhattacharya, R., Shen, C. & Sambamoorthi, U. Excess risk of chronic physical conditions associated with depression and anxiety. *BMC Psychiatry* **14**, 10 (2014). https://doi.org/10.1186/1471-244X-14-10

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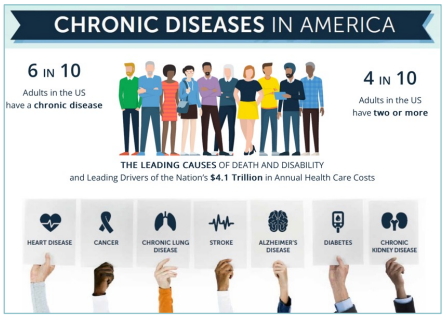

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Quality-Adjusted Life Years Due to Depression
Directly – Morbidity
Indirectly – Mortality (due to suicide)

Loss of 28.9 years QALE due to depression (assessed at age 18)

Jia H, Zack MM, Thompson WW, Crosby AE, Gottesman II. Impact of depression on quality-adjusted life expectancy (QALE) directly as well as indirectly through suicide. Soc Psychiatry Psychiatr Epidemiol. 2015 Jun;50(6):939-49. doi: 10.1007/s00127-015-1019-0. Epub 2015 Feb 7. PMID: 25660550; PMCID: PMC4590980.

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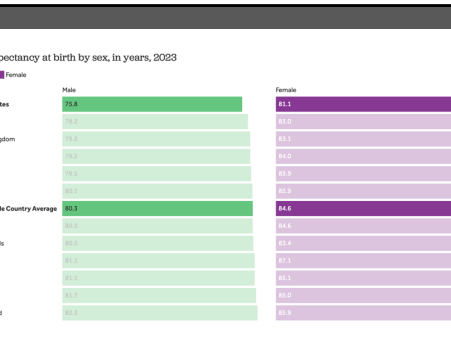

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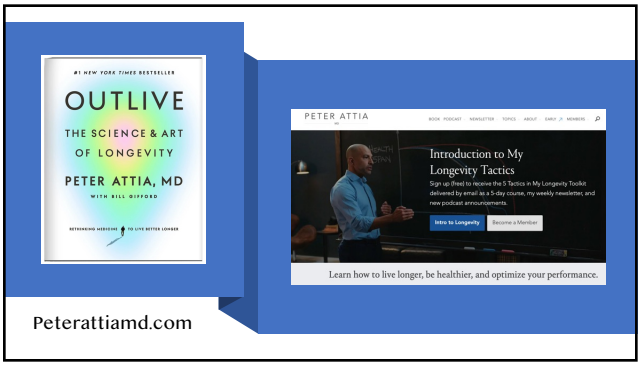

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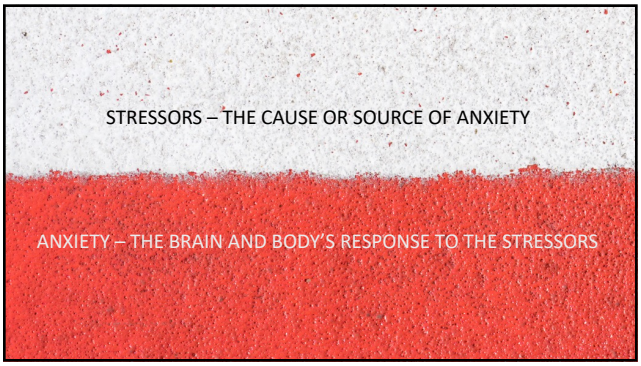

20

Increase in comfort food

Increased blood pressure

Disrupted sleep

Social isolation

Lack of exercise

GI distress

Stressed-out

Irregular eating patterns

Absence from work

Non-optimal work performance

Substance abuse

Immune system breakdown

21

332,078 Adults (UK)
Mean age 56 /
14% lifetime history of anxiety disorders

More severe anxiety/
Greater physiological abnormalities

Pulse rate and BMI higher than healthy controls

Chronic Anxiety

Mutz J, Hoppen TH, Fabbri C, Lewis CM. Anxiety disorders and age-related changes in physiology. Br J Psychiatry. 2022 Sep;221(3):528-537. doi: 10.1192/bjp.2021.189. PMID: 35048844; PMCID: PMC7613411.

22

Increased morbidity
Earlier mortality

39% increased risk
Premature death:
Suicide
Cardiovascular disease
Dementia
Accelerated biological aging

Chronic Anxiety

Meier SM, Mattheisen M, Mors O, Mortensen PB, Laursen TM, Penninx BW. Increased mortality among people with anxiety disorders: total population study. *The British Journal of Psychiatry.* 2016;209(3):216-21

Perna G, Iannone G, Alciati A, Caldirola D. Are anxiety disorders associated with accelerated aging? A focus on neuroprogression. *Neural Plasticity.* 2016;2016

23

>300,000 individuals / cross-sectional study and
>200,000 individuals / prospective cross-sectional study

Depression and anxiety disorder consistently associated with periodontal disease
Increased risk: 13% and 27%

Wang J, Wang Y, Li H, Wang W, Zhang D. Associations between oral health and depression and anxiety: A cross-sectional and prospective cohort study from the UK Biobank. J Clin Periodontol. 2024 Nov;51(11):1466-1477. doi: 10.1111/jcpe.14039. Epub 2024 Jul 1. PMID: 38952070.

24

Depression and cheek-biting were found to be significantly associated.

Fatima R, Abid K, Baig NN, Ahsan SB. Association of cheek-biting and depression. J Pak Med Assoc. 2019 Jan;69(1):49-52. PMID: 30623911.

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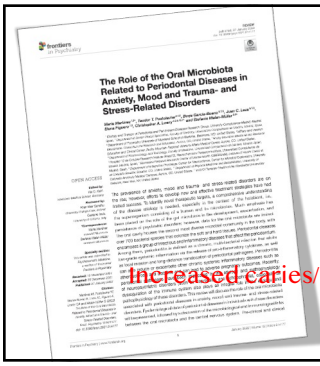

The Role of the Oral Microbiota Related to Periodontal Diseases in Anxiety, Mood and Trauma- and Stress-Related Disorders

Poor nutrition

Inadequate oral hygiene

High sugar consumption

Substance misuse

Xerostomia

Bruxism/TMD

Increased caries/periodontal diseases

Martínez M, Postolache TT, García-Bueno B, Leza JC, Figuero E, Lowry CA, Malan-Müller S. The Role of the Oral Microbiota Related to Periodontal Diseases in Anxiety, Mood and Trauma- and Stress-Related Disorders. Front Psychiatry. 2022 Jan 27;12:814177. doi: 10.3389/fpsyt.2021.814177. PMID: 35153869; PMCID: PMC8833739.

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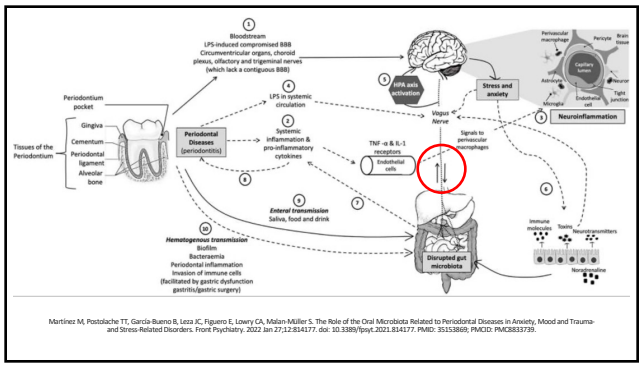

Martinez M, Postolache TT, García-Bueno B, Leza JC, Figuero E, Lowry CA, Malan-Müller S. The Role of the Oral Microbiota Related to Periodontal Diseases in Anxiety, Mood and Trauma- and Stress-Related Disorders. Front Psychiatry. 2022 Jan 27;12:814177. doi: 10.3389/fpsyt.2021.814177. PMID: 35153869; PMCID: PMC8853739.

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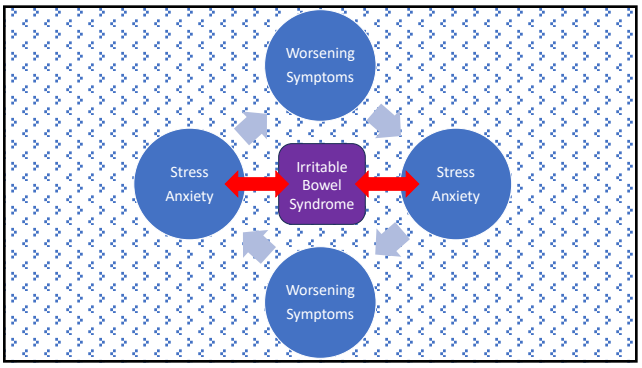

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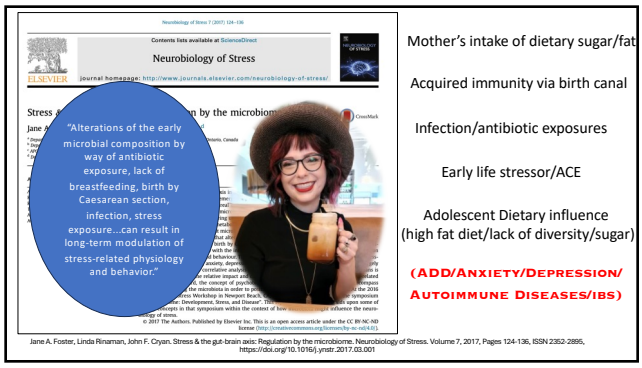

Jane A. Foster, Linda Rinaman, John F. Cryan. Stress & the gut-brain axis: Regulation by the microbiome. Neurobiology of Stress. Volume 7, 2017, Pages 124-136, ISSN 2352-2895, https://doi.org/10.1016/j.ynstr.2017.03.001

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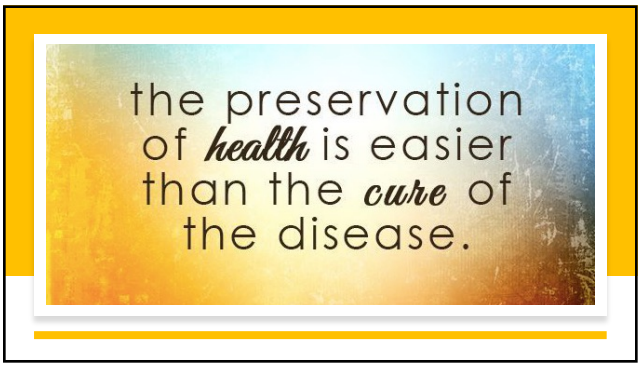

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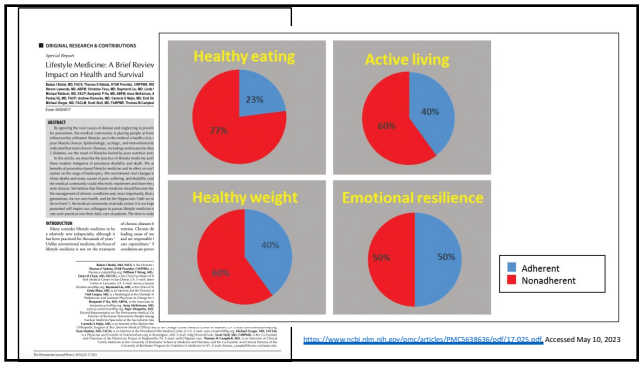

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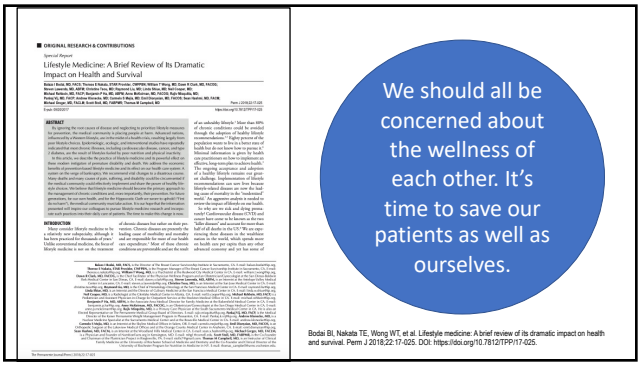


32

Let's Explore the Evidence...

Is there evidence
that healthful living
through Lifestyle Medicine
influences stress management,
anxiety, depression
or quality of life?

33

Lifestyle Medicine and Stress Management

Kaylan A. Baban, MD, MPH; Darren P. Morton, PhD

doi: 10.12788/jfp.0286

Journal of Family Practice Jan/Feb 2022

INTRODUCTION

"Stress" is ubiquitous in modern society, and it has been further exacerbated by the COVID-19 pandemic. In the report titled *Stress in America 2020: A National Mental Health Crisis*, issued by the American Psychological Association, it was concluded that the United States is in the midst of a stress-related mental health epidemic that could result in serious long-term health consequences.[1] While there are many catalysts of stress, frequently reported sources in the United States include finances, work, relationships, ill-health, and, more recently, existential concerns about the future of the nation and climate change.[1]

Stress is unequivocally linked to poor health outcomes, as detailed in this article, due to both its physiologic and behavioral effects. Accordingly, the provision of stress management techniques constitutes an integral component of leading lifestyle medicine interventions.[2,3] The American College of Lifestyle Medicine considers stress management to be

Direct physiological consequences of stress: Cardiovascular changes, gut dysbiosis, downregulation of immune function, delayed wound healing, maladaptive behaviors

Stress is best managed through a multimodal approach that incorporates a **variety of strategies** and practices (Lifestyle Medicine) and data suggests a **compounding** health benefit

34

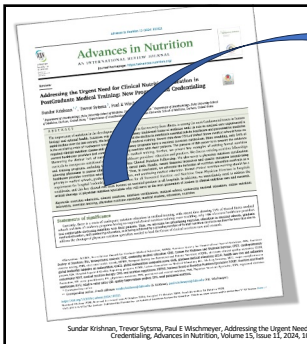
35

"The doctor of the future will give no medicine, but will instruct his patient in the care of the human frame, in diet and in the cause and prevention of disease."

Thomas Edison 1903

The Newark Advocate. "Wizard Edison." 2 January 1903 (p.1)

36



REALITY CHECK

75% U.S. Medical Schools have no required clinical nutritional classes

14% Residency programs include nutrition

Percental of current medical providers that feel comfortable discussing nutrition with their patients? 14%

Sundar Krishnan, Trevor Sytsma, Paul E Wischmeyer, Addressing the Urgent Need for Clinical Nutrition Education in PostGraduate Medical Training: New Programs and Credentialing, Advances in Nutrition, Volume 15, Issue 11, 2024, 100321, ISSN 2161-8313,https://doi.org/10.1016/j.advnut.2024.100321.

37

126,819 participants in the UK

Mean follow-up of 7.6 years

A Dietary Pattern characterized by high intakes of chocolate and confectionery, butter, high-fat cheese, added sugars, along with low intakes of fresh fruit and vegetables, is associated with a higher risk of depressive and anxiety symptoms

Chen H, Cao Z, Hou Y, Yang H, Wang X, Xu C. The associations of dietary patterns with depressive and anxiety symptoms: a prospective study. BMC Med. 2023 Aug 15;21(1):307. doi: 10.1186/s12916-023-03019-x. PMID: 37580669; PMCID: PMC10426158.

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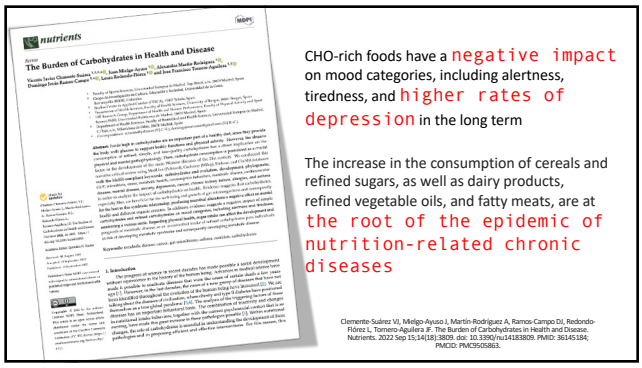


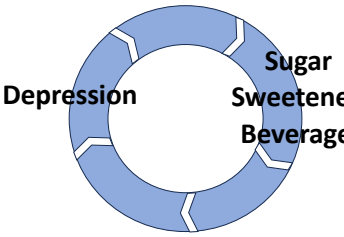
CHO-rich foods have a negative impact on mood categories, including alertness, tiredness, and higher rates of depression in the long term

The increase in the consumption of cereals and refined sugars, as well as dairy products, refined vegetable oils, and fatty meats, are at the root of the epidemic of nutrition-related chronic diseases

Clemente-Suárez VJ, Mielgo-Ayuso J, Martín-Rodríguez A, Ramos-Campo DJ, Redondo-Flórez L, Tornero-Aguilera JF. The Burden of Carbohydrates in Health and Disease. Nutrients. 2022 Sep 15;14(18):3809. doi: 10.3390/nu14183809. PMID: 36145184; PMCID: PMC9505863.

39

Vicious Cycle



What do you drink during the day?

Villalobos-Gallegos L, Trejo-García S, Toledo-Fernández A, Ochoa-Ruiz E. Anxiety, depression, perceived executive function and sugar sweetened beverages: a causal mediation analysis in Mexican young adults. Psychol Health Med. 2023 Jul-Dec;28(8):2234-2248. doi: 10.1080/13548506.2022.2162671. Epub 2023 Jan 3. PMID: 36594699.

40

"The nature and amount of dietary fat and sugars consumed can have a potent influence on metabolic and mental health"

Fulton, Stephanie et al. The menace of obesity to depression and anxiety prevalence. Trends in Endocrinology & Metabolism 2021.Volume 33, Issue 1, 18 - 35

41

"The nature and amount of dietary fat and sugars consumed can have a potent influence on metabolic and mental health"

Fulton, Stephanie et al. The menace of obesity to depression and anxiety prevalence. Trends in Endocrinology & Metabolism 2021.Volume 33, Issue 1, 18 - 35

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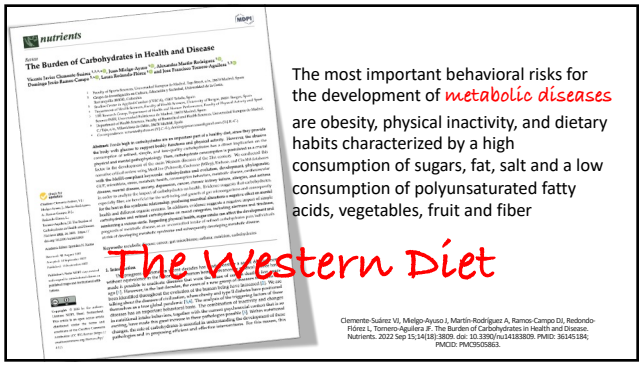

The most important behavioral risks for the development of *metabolic diseases* are obesity, physical inactivity, and dietary habits characterized by a high consumption of sugars, fat, salt and a low consumption of polyunsaturated fatty acids, vegetables, fruit and fiber

The Western Diet

Clemente-Suárez VJ, Mielgo-Ayuso J, Martín-Rodríguez A, Ramos-Campo DJ, Redondo-Flórez L, Tornero-Aguilera JF. The Burden of Carbohydrates in Health and Disease. Nutrients. 2022 Sep 15;14(18):3809. doi: 10.3390/nu14183809. PMID: 36145184; PMCID: PMC9505863.

43

"Our results show that the HFHS diet impairs spatial learning, memory, and working memory and increases anxiety-like behavior, which is associated with a decrease in neurogenesis and an increase in neuroinflammation in the hippocampus"

Mota B, Ramos M, Marques SI, Silva A, Pereira PA, Madeira MD, Mateus N, Cardoso A. Effects of High-Fat and High-Fat High-Sugar Diets in the Anxiety, Learning and Memory, and in the Hippocampus Neurogenesis and Neuroinflammation of Aged Rats. Nutrients. 2023 Mar 11;15(6):1370. doi: 10.3390/nu15061370. PMID: 36986100; PMCID: PMC10053405.

44

Experimental Group 51 healthy young adults : high saturated fat, high added sugar breakfast

Control Group 51 healthy young adults: low saturated fat, low added sugar breakfast

Experimental Group had significant reductions in Hippocampal-dependent learning (HDLM) and short-term memory along with reduced sensory of fullness compared to Control Group

Attuquayefio T, Stevenson RJ, Oaten MJ, Francis HM (2017) A four-day Western-style dietary intervention causes reductions in hippocampal-dependent learning and memory and interoceptive sensitivity. PLoS ONE 12(2): e0172645. https://doi.org/10.1371/journal.pone.0172645

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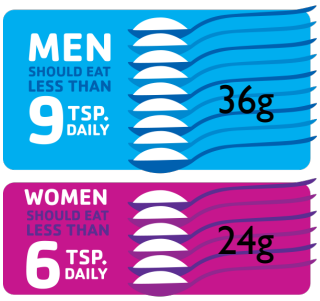


American Heart Association®

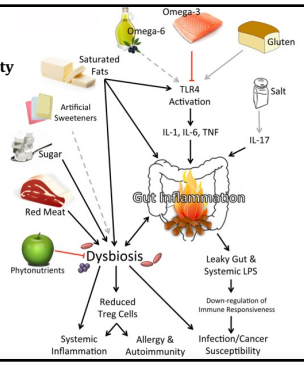
46

47

Fast Food Fever: Reviewing the Effects of the Western Diet on Immunity

"Of potentially greatest concern, our poor dietary behaviors are encoded into both our DNA scaffolding and gut microbiome, and thus these harmful immune modifications are passed to our offspring during their most critical developmental window."

Myles IA. Fast food fever: reviewing the impacts of the Western diet on immunity. Nutr J. 2014 Jun 17;13:61. doi: 10.1186/1475-2891-13-61. PMID: 24939238; PMCID: PMC4074338.



48

Added Sugars and Cardiovascular Disease Risk in Children: A Scientific Statement From the American Heart Association

Miriam B Vos, Jill L Kaar, Jean A Welsh, Linda V Van Horn, Daniel I Feig, Cheryl A M Anderson, Mahesh J Patel, Jessica Cruz Munos, Nancy F Krebs, Stavra A Xanthakos, Rachel K Johnson, American Heart Association Nutrition Committee of the Council on Lifestyle and Cardiometabolic Health; Council on Clinical Cardiology; Council on Cardiovascular Disease in the Young; Council on Cardiovascular and Stroke Nursing; Council on Epidemiology and Prevention; Council on Functional Genomics and Translational Biology; and Council on Hypertension

PMID: 27550974 PMCID: PMC5365373 DOI: 10.1161/CIR.0000000000000439
Free PMC article

Abstract

Background: Poor lifestyle behaviors are leading causes of preventable diseases globally. Added sugars contribute to a diet that is energy dense but nutrient poor and increase risk of developing obesity, cardiovascular disease, hypertension, obesity-related cancers, and dental caries.

Methods and results: For this American Heart Association scientific statement, the writing group reviewed and graded the current scientific evidence for studies examining the cardiovascular health effects of added sugars on children. The available literature was subdivided into 5 broad subareas: effects on blood pressure, lipids, insulin resistance and diabetes mellitus, nonalcoholic fatty liver disease, and obesity.

Conclusions: Associations between added sugars and increased cardiovascular disease risk factors among US children are present at levels far below current consumption levels. Strong evidence supports the association of added sugars with increased cardiovascular disease risk in children through increased energy intake, increased adiposity, and dyslipidemia. The committee found that it is reasonable to recommend that children consume ≤25 g (100 cal or ≈6 teaspoons) of added sugars per day and to avoid added sugars for children <2 years of age. Although added sugars most likely can be safely consumed in low amounts as part of a healthy diet, few children achieve such levels, making this an important public health target.

"Strong evidence supports the association of added sugars with increased cardiovascular disease risk in children through increased energy intake, increased adiposity and dyslipidemia."

AVOID added sugars < 2 years of age

Vos MB, Kaar JL, Welsh JA, et al. Added sugars and cardiovascular disease risk in children. A scientific statement from the American Heart Association. Circulation. 2017; 135(19):e1017-e1034. Published online 2016 Aug 22. doi: [illegible] Accessed: August 3, 2020

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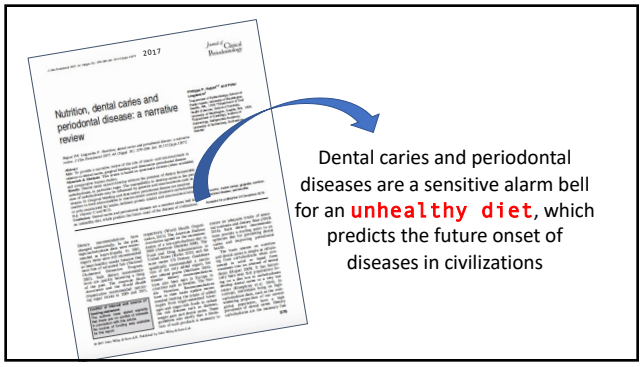

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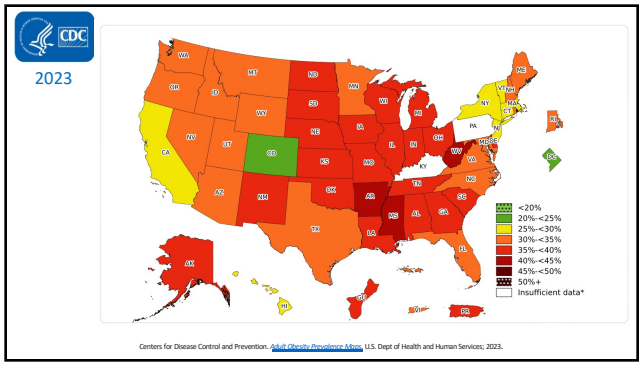

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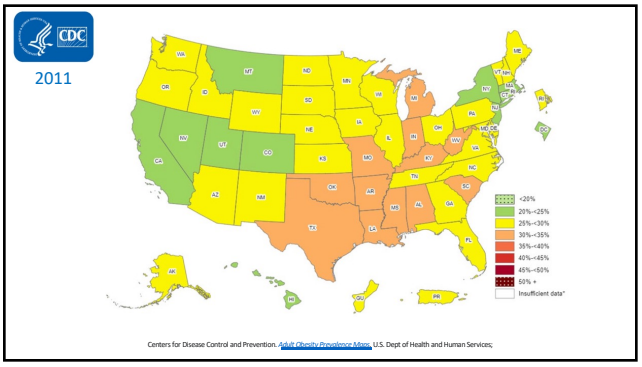

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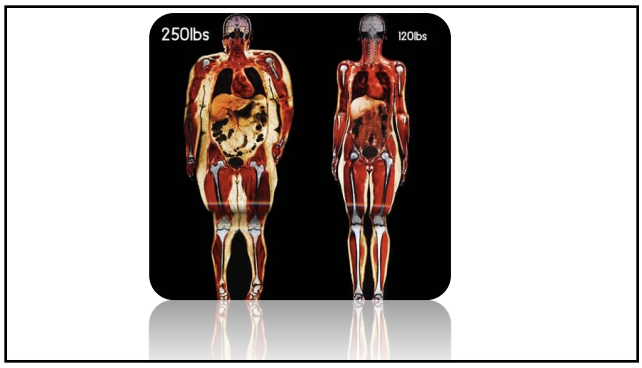

57

Worldwide burden of cancer attributable to diabetes and high body-mass index: a comparative risk assessment

Jonathan Pearson-Stuttard, Bin Zhou, Vasilis Kontis, James Bentham, Marc J Gunter, Majid Ezzati

Summary

Background Diabetes a… ers, and are increasing in prevalen… d high BMI as individual risk facto…

Methods We estimated… in 2012. We defined high BMI as … estimates of diabetes and BMI cate… d incidence of cancer, combined w… d high BMI to site-specific cancers… rio in which we assumed full over… nce data to estimate the number o… ancer cases in 2012 that were attrib… All analyses were done at individu…

5-6% All Cancers: Diabetes + High BMI
By 2035 if trends continue:
30% Increase for women
20% Increase for men

Findings We estimated that 5·6% of all incident cancers in 2012 were attributable to the combined effects of diabetes and high BMI as independent risk factors, corresponding to 792 600 new cases. 187 600 (24·5%) of 766 000 cases of liver cancer and 121 700 (38·4%) of 317 000 cases of endometrial cancer were attributable to these risk factors. In the conservative scenario, about 4·5% (626 900 new cases) of all incident cancers assessed were attributable to diabetes

Lancet Diabetes Endocrinol 2018; 6: 95-104
Published Online November 28, 2017 http://dx.doi.org/10.1016/S2213-8587(17)30366-2
See Comment page 82
School of Public Health, MRC-PHE Centre for Environment and Health (J Pearson-Stuttard BMBCh, B Zhou MSc, V Kontis PhD, J Bentham PhD, Prof M Ezzati FMed Sci), Department of Epidemiology and Biostatistics, School of Public Health (J Pearson-Stuttard, B Zhou, V Kontis, J Bentham, Prof M Ezzati), and WHO Collaborating Centre on NCD

Pearson-Stuttard J, Zhou B, Kontis V, Bentham J, Gunter MJ, Ezzati M. Worldwide burden of cancer attributable to diabetes and high body-mass index: a comparative risk assessment. Lancet Diabetes Endocrinol. 2018 Jun;6(6):e6-e15. doi: 10.1016/S2213-8587(18)30150-5. PMID: 29803268; PMCID: PMC5982644.

58

The associations of anxiety and depression symptoms with weight change and incident obesity: The HUNT Study

Prospective cohort study using the Norwegian Nord-Trøndelag Health Study (HUNT).

25,180 men and women, 19–55 years of age

Weight change was determined for the study period of an average 11 years.

Symptoms of anxiety and depression were associated with larger weight change and an increased cumulative incidence of obesity in men and women

Brumpton, B., Langhammer, A., Romundstad, P. *et al.* The associations of anxiety and depression symptoms with weight change and incident obesity: The HUNT Study. *Int J Obes* **37**, 1268–1274 (2013). https://doi.org/10.1038/ijo.2012.204

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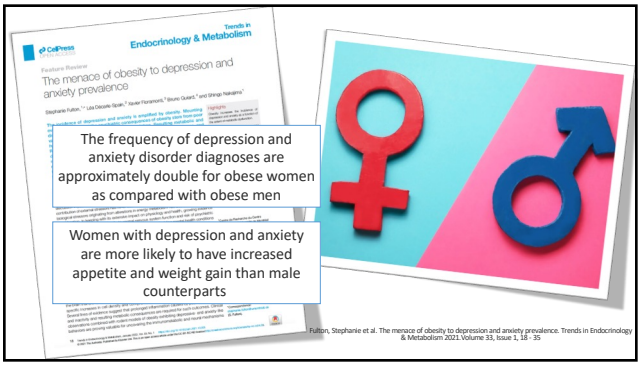

The frequency of depression and anxiety disorder diagnoses are approximately double for obese women as compared with obese men

Women with depression and anxiety are more likely to have increased appetite and weight gain than male counterparts

Fulton, Stephanie et al. The menace of obesity to depression and anxiety prevalence. Trends in Endocrinology & Metabolism 2021.Volume 33, Issue 1, 18 - 35

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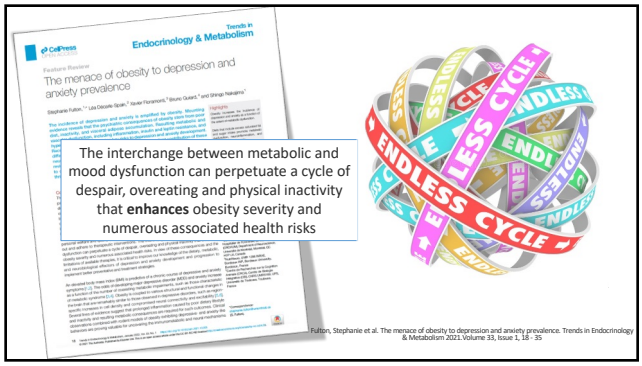
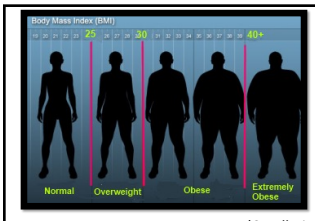


The interchange between metabolic and mood dysfunction can perpetuate a cycle of despair, overeating and physical inactivity that **enhances** obesity severity and numerous associated health risks

Fulton, Stephanie et al. The menace of obesity to depression and anxiety prevalence. Trends in Endocrinology & Metabolism 2021.Volume 33, Issue 1, 18 - 35

61



(Corollaries of Obesity)
Metabolic & Vascular Dysfunction, Inflammation, Leptin and insulin Resistance, Hypertension impact neural circuits controlling mood and emotional states and have emerged as key risks to depression and anxiety development.

Fulton S, Décarie-Spain L, Fioramonti X, Guiard B, Nakajima S. The menace of obesity to depression and anxiety prevalence. Trends Endocrinol Metab. 2022 Jan;33(1):18-35. doi: 10.1016/j.tem.2021.10.005. Epub 2021 Nov 5. PMID: 34750064.

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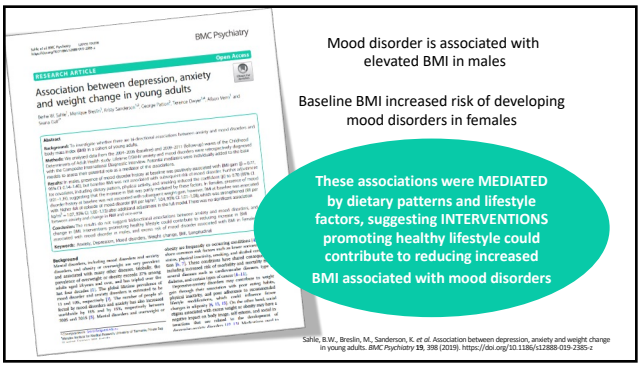

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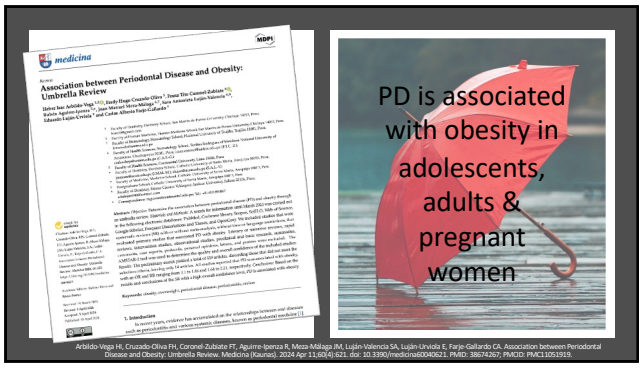

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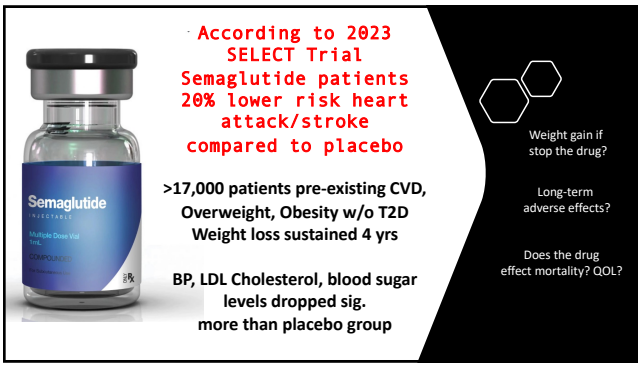

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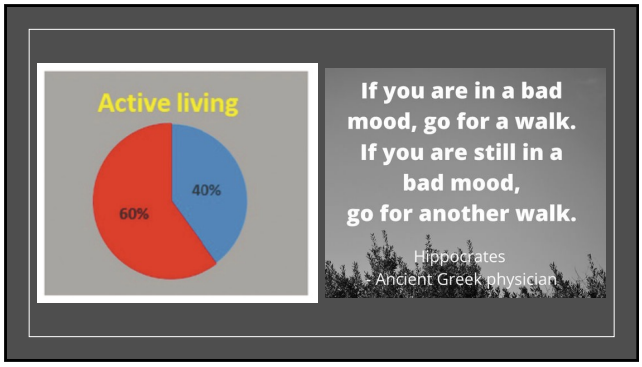

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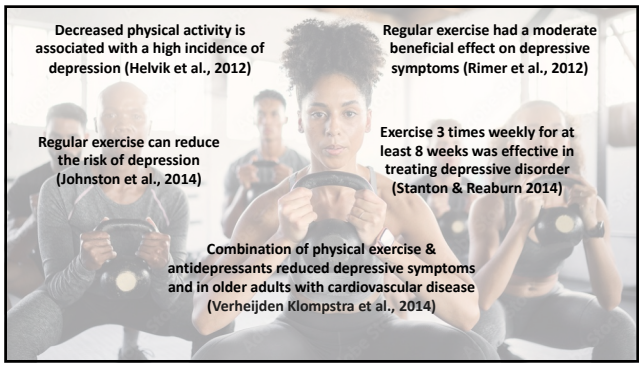

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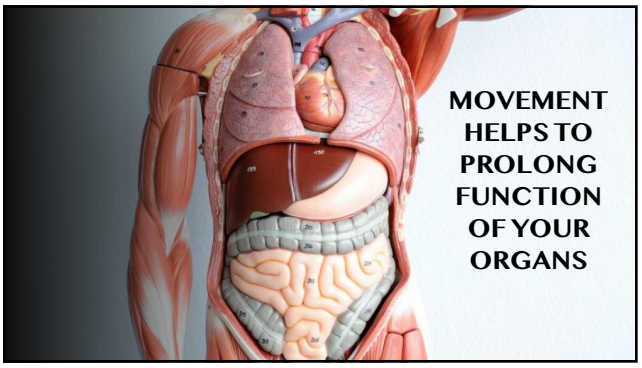

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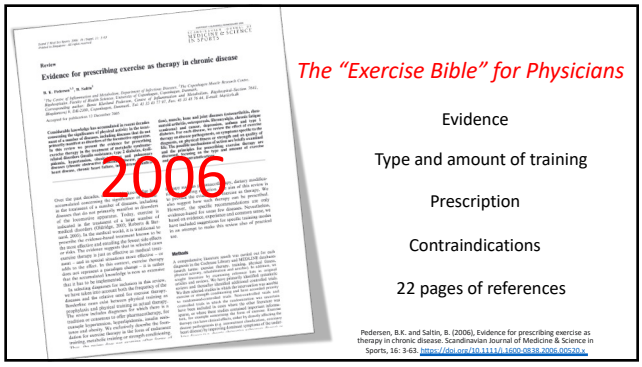

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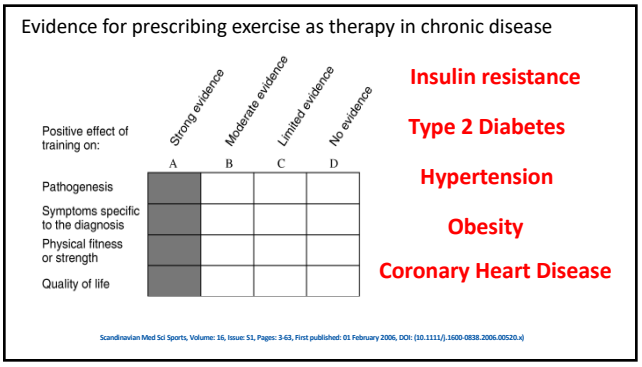

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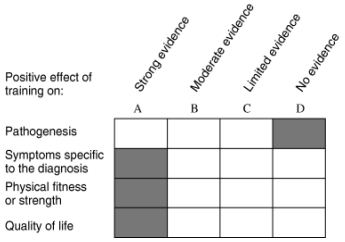
Evidence for prescribing exercise as therapy in chronic disease



Depression

Osteoarthritis

Cancer

Scandinavian Med Sci Sports, Volume: 16, Issue: S1, Pages: 3-63, First published: 01 February 2006, DOI: (10.1111/j.1600-0838.2006.00520.x)

75

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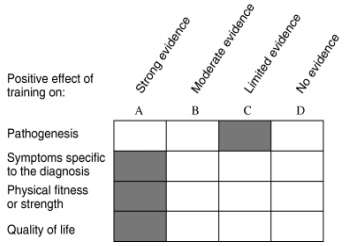

Fibromyalgia

Scandinavian Med Sci Sports, Volume: 16, Issue: S1, Pages: 3-63, First published: 01 February 2006, DOI: (10.1111/j.1600-0838.2006.00520.x)

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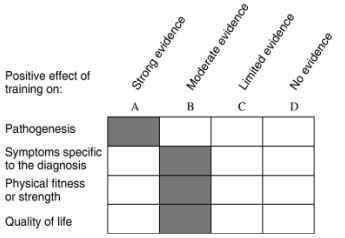

Osteoporosis

Scandinavian Med Sci Sports, Volume: 16, Issue: S1, Pages: 3-63, First published: 01 February 2006, DOI: (10.1111/j.1600-0838.2006.00520.x)

77

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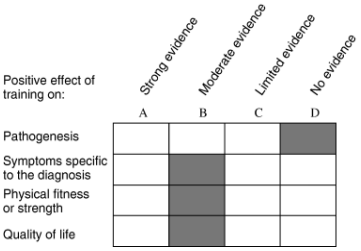

Cancer

Scandinavian Med Sci Sports, Volume: 16, Issue: S1, Pages: 3-63, First published: 01 February 2006, DOI: (10.1111/j.1600-0838.2006.00520.x)

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79


Depression and Anxiety Disorders: Benefits of Exercise, Yoga, and Meditation

"Meta-analyses and systematic reviews have shown that these interventions can improve symptoms of depression and anxiety disorders. As an adjunctive treatment, exercise seems most helpful for treatment-resistant depression and posttraumatic stress disorder."

Saeed SA, Cunningham K, Bloch RM. Depression and Anxiety Disorders: Benefits of Exercise, Yoga, and Meditation. Am Fam Physician. 2019 May 15;99(10):620-627. PMID: 31083878

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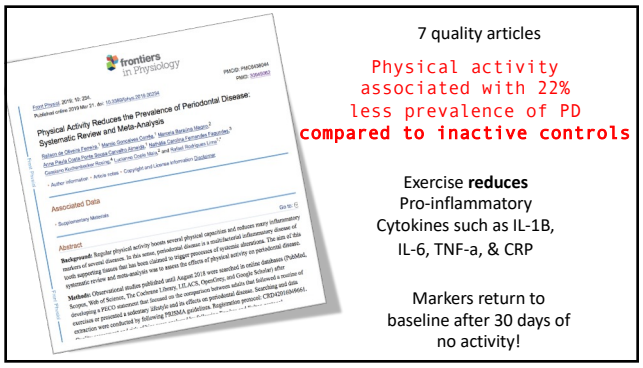

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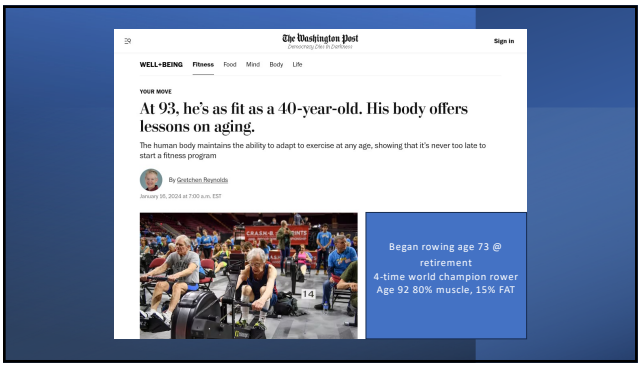

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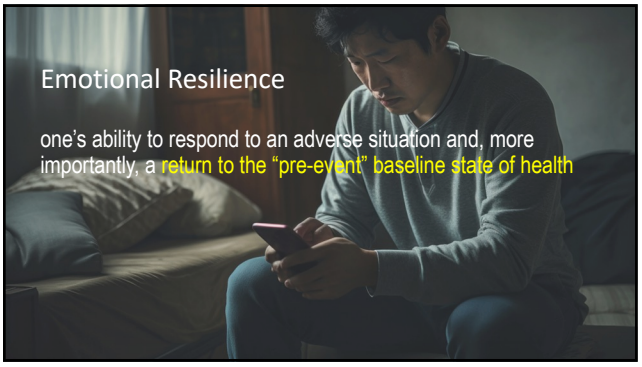

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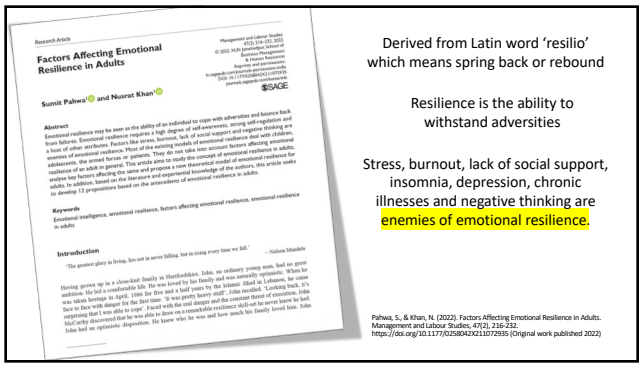

Derived from Latin word 'resilio' which means spring back or rebound

Resilience is the ability to withstand adversities

Stress, burnout, lack of social support, insomnia, depression, chronic illnesses and negative thinking are enemies of emotional resilience.

Pahwa, S., & Khan, N. (2022). Factors Affecting Emotional Resilience in Adults. Management and Labour Studies, 47(2), 216-232. https://doi.org/10.1177/0258042X211072935 (Original work published 2022)

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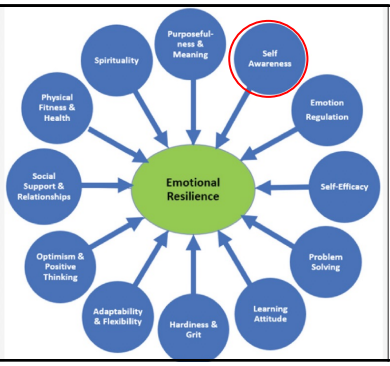

People with self-awareness and mindfulness, who engage in self-reflection, seek feedback and are authentic, are emotionally resilient.

Pahwa, S., & Khan, N. (2022). Factors Affecting Emotional Resilience in Adults. Management and Labour Studies, 47(2), 216-232. https://doi.org/10.1177/0258042X211072935 (Original work published 2022)

88

Factors/Mechanisms of Resilience Across a Lifespan

Individual Level	Social Level	Environmental Level	Neurobiological Level
- Parental monitoring - Attachment - Adaptive coping (problem-solving) - Appraising a situation positively - Emotional regulation - Positive thinking - A sense of self-efficacy - Self-esteem - Optimism/hope - Hardiness - Creativity - Life management skills - Perceived social support	- Social support - Trusting relationships - Belonging - Cultural values - Religion/spirituality - Stable living conditions - Education - Academic attainment - Financial resources - Higher socioeconomic status - Housing/transportation - Learning (life skills)	- Health services - Medical care - Healthy environment - Voices and strengths of marginalized groups	- Genetics - Epigenetics - Neural circuits - Physiological processes - (stress-related responses) - Cellular and molecular adaptation processes

Majnarić LT, Bosnić Z, Guljaš S, Vučić D, Kurevija T, Volarić M, Martinović I, Wittlinger T. Low Psychological Resilience in Older Individuals: An Association with Increased Inflammation, Oxidative Stress and the Presence of Chronic Medical Conditions. Int J Mol Sci. 2021 Aug 20;22(16):8970. doi: 10.3390/ijms22168970. PMID: 34445675; PMCID: PMC8396457.

89

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90

Characteristics of psychological, social and physical resilience found to be associated with positive health-related outcomes for older individuals

Table 2. Characteristics of psychological, social, and physical resilience found to be associated with positive health-related outcomes.

Characteristics of High Psychological Resilience	Characteristics of High Social Resilience	Characteristics of High Physical Resilience
- Adaptive (problem-solving) coping styles - Positive emotions - Satisfaction with life - Optimism and hopefulness	- Close ties with family and friends - Community involvement - A sense of purpose (social role)	- Being mobile - Being independent in activities of daily living - A sense of being in a good health

Reduced risk of chronic diseases

Lower decline in physical function

Better mental health

Reduced rates of depression

Increased longevity

Lower mortality

Faster recovery from CVD events

Majnarić LT, Bosnić Z, Guljaš S, Vučić D, Kurevija T, Volarić M, Martinović I, Wittlinger T. Low Psychological Resilience in Older Individuals: An Association with Increased Inflammation, Oxidative Stress and the Presence of Chronic Medical Conditions. Int J Mol Sci. 2021 Aug 20;22(16):8970. doi: 10.3390/ijms22168970. PMID: 34445675; PMCID: PMC8396457.

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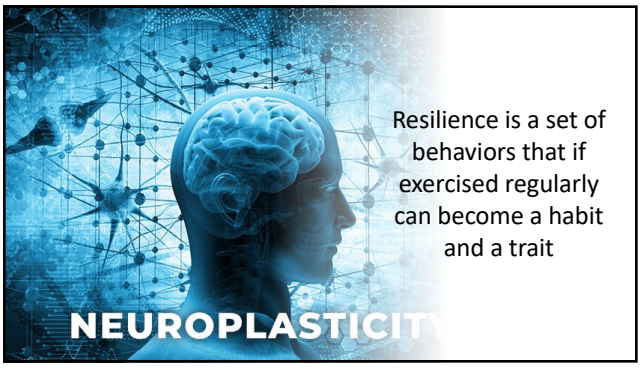

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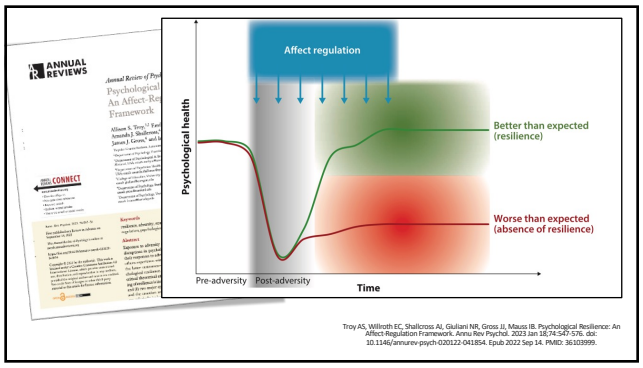

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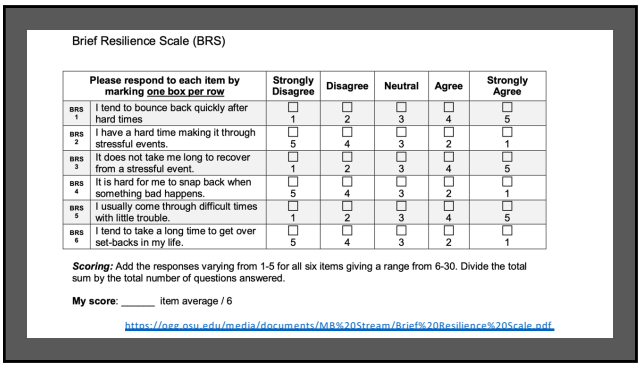


Brief Resilience Scale (BRS)

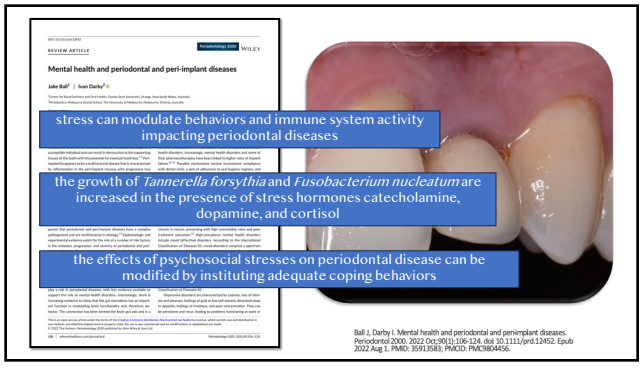
Please respond to each item by marking one box per row		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
BRS 1	I tend to bounce back quickly after hard times	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
BRS 2	I have a hard time making it through stressful events.	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1
BRS 3	It does not take me long to recover from a stressful event.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
BRS 4	It is hard for me to snap back when something bad happens.	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1
BRS 5	I usually come through difficult times with little trouble.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
BRS 6	I tend to take a long time to get over set-backs in my life.	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1

Scoring: Add the responses varying from 1-5 for all six items giving a range from 6-30. Divide the total sum by the total number of questions answered.

My score: _____ item average / 6

https://oge.psu.edu/media/documents/MB%20Stream/Brief%20Resilience%20Scale.pdf.

96



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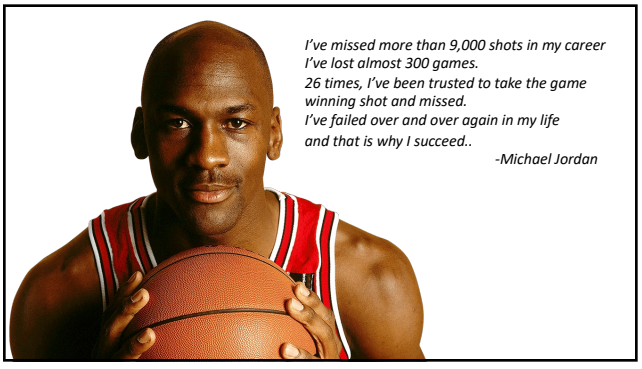
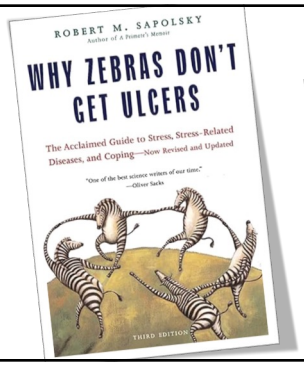


I've missed more than 9,000 shots in my career
I've lost almost 300 games.
26 times, I've been trusted to take the game winning shot and missed.
I've failed over and over again in my life
and that is why I succeed..

-Michael Jordan

98



What are chronic stressors, or even anticipation of stressors doing to our minds and our bodies?

How can we manage stressors better?

99

Karen's "Lifestyle Medicine" For the Mouth

Early Intervention	Professional Biofilm Management
Daily Disease Control	Individualized Education

100

J Periodontol • July 2011

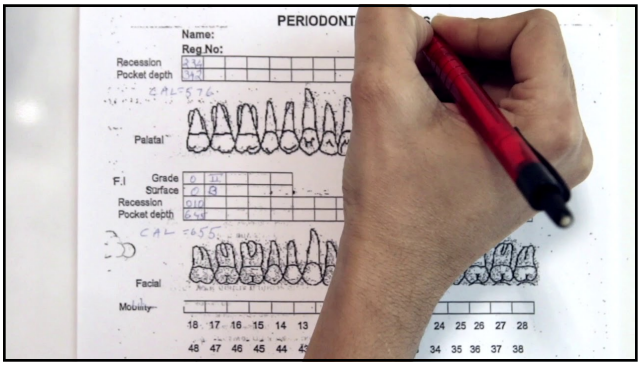
Comprehensive Periodontal Therapy: A Statement by the American Academy of Periodontology*

Patients should receive a comprehensive periodontal evaluation and their risk factors should be identified at least on an annual basis.

tics is essential to determine the periodontal diagnosis and prognosis of the dentition and/or the suitability of dental implants. Patients should receive a comprehensive periodontal evaluation and their risk factors should be identified at least on an annual basis. Such an evaluation includes discussion with the patient regarding his/her chief complaint, medical and dental history review, clinical examination, and radiographic analysis. Microbiologic, genetic, biochemical, or other diagnostic tests may also be useful, on an individual basis, for assessing the periodontal status of selected individuals or sites. The following procedures should be included in a comprehensive periodontal evaluation:

1. Extra- and intraoral examination to detect non-periodontal oral diseases or conditions.

101



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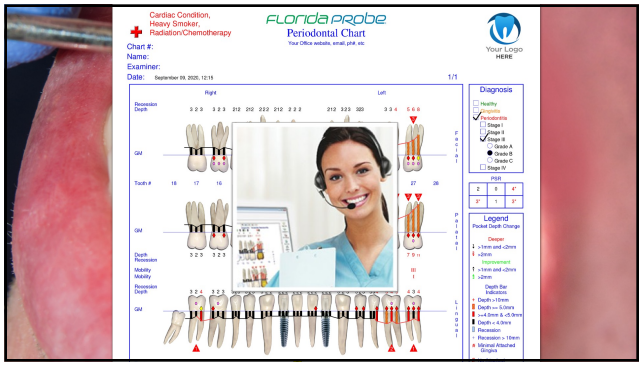

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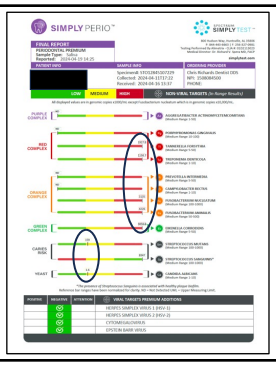
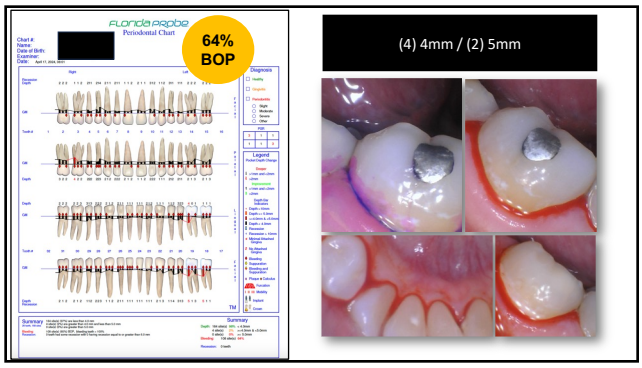


When does the shift in oral microbiome take place?

(6) 4mm pockets
(1) 5 mm pocket

104



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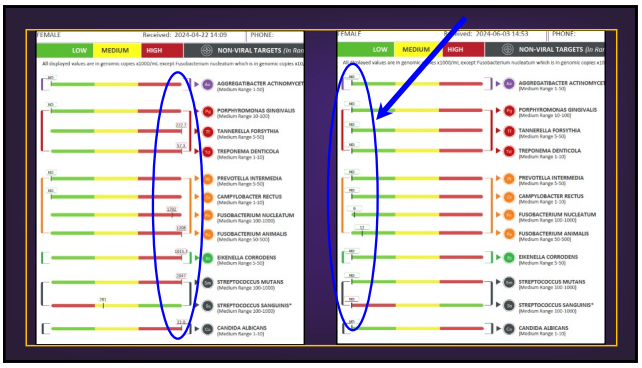

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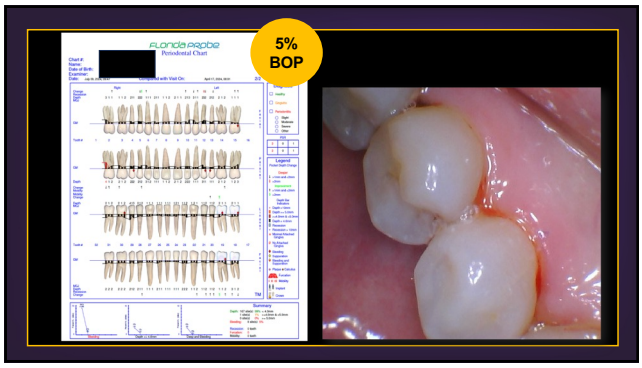


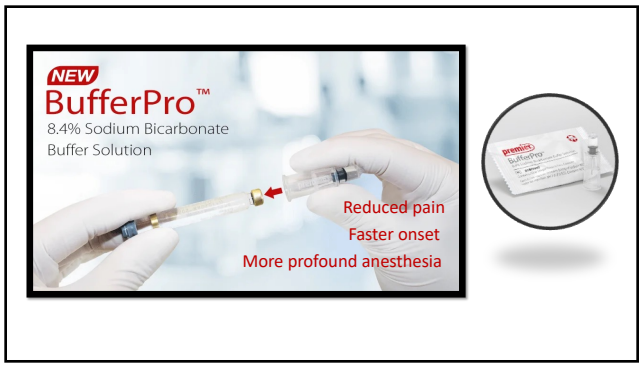
107

DycloPro

Dyclonine Hydrochloride Topical Solution 0.5%

- ✓Was marketed by Astra Zenca as Dyclone until 2001
- ✓Ketone based, not amide or ester-based
- ✓Applied: Mouth rinse or syringe
- ✓Onset ~2 to 5 min.
- ✓Duration 30 min.

108



109

Reducing the Burn of Injections

Adding 8.4% sodium bicarbonate raises all anesthetic solutions to a pH of 6.8 – 7.0

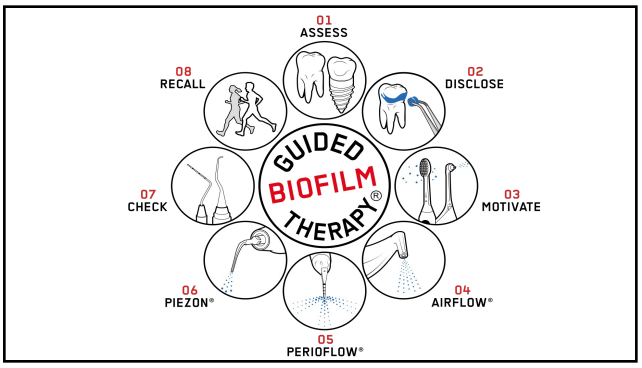
Vasoconstrictors with epinephrine are acidic

Lidocaine ~3.5 pH
Bupivacaine – 3.0 to 4.5 pH
Citanest – 3.5 to 5.2pH
Articaine 4.0 to 5.5 pH
Mepivacaine Plain - 5.5 to 6.0 pH

Lower pH = Longer onset/greater burn

110

112



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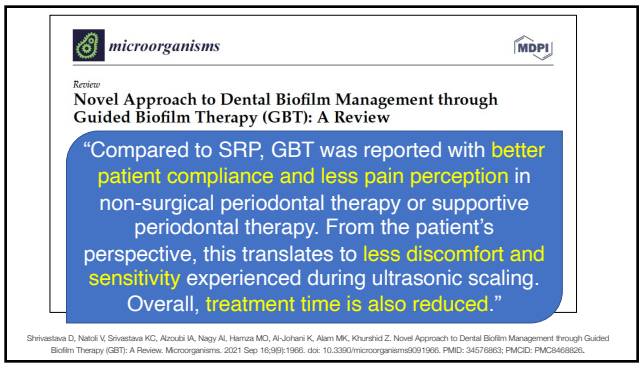

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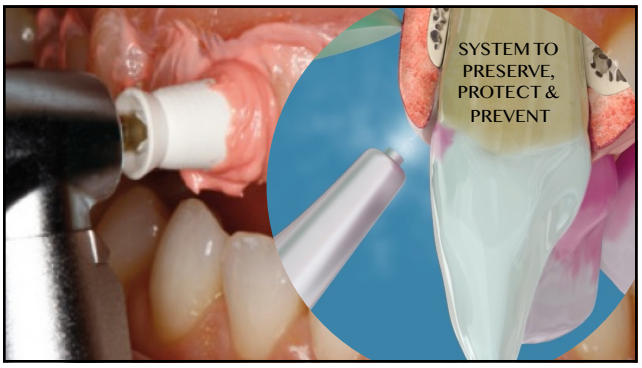

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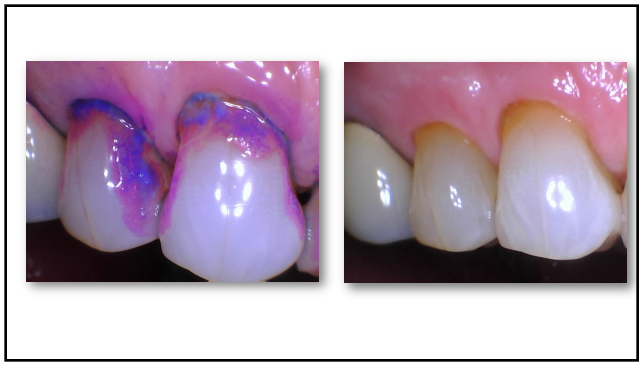

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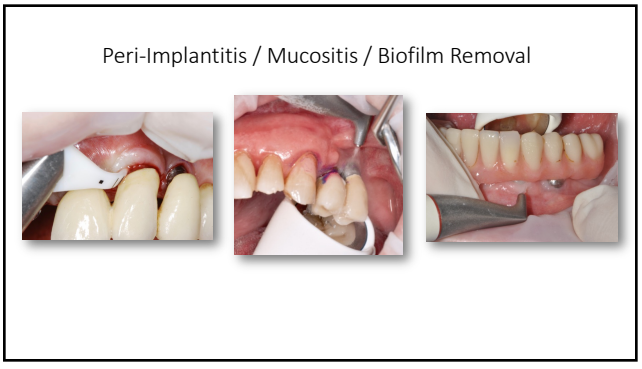

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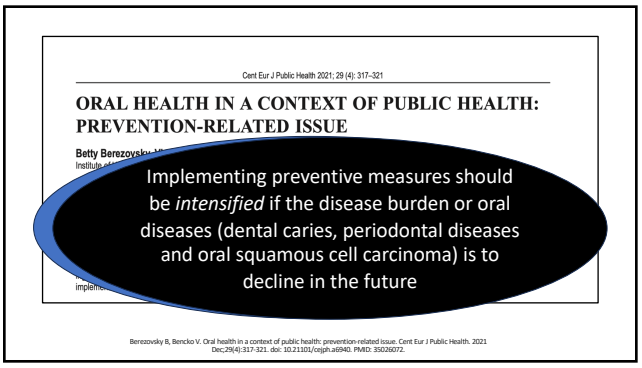

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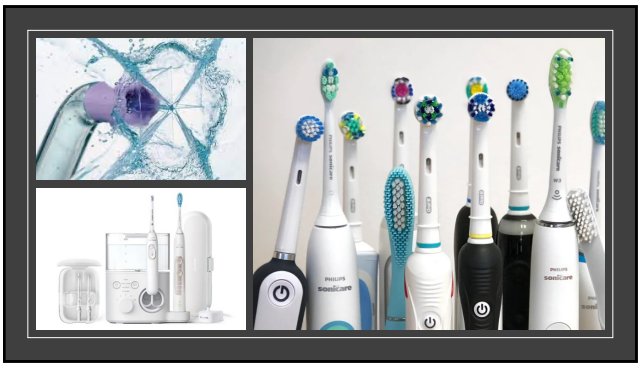


125

The Journal of Clinical Dentistry®

The Philips Sonicare DiamondClean Smart powered toothbrush was superior to use of [redacted] powered tooth- brush in its ability to reduce gingival inflammation, gingival bleeding, and surface plaque after a home use period of 42 days

(J Clin Dent 2019;30(Spec Iss A)A9–15)

126

127

260 Adults Randomized 4 Groups for 6 weeks

Modified Gingival Index (MGI), Least Square Means (SE), Overall

	MTB alone	MTB + Floss	MTB + Power Flosser	Sonicare PTB + Power Flosser
Baseline	2.68 (0.03)	2.65 (0.03)	2.66 (0.03)	2.66 (0.03)
Percent Reduction from Baseline				
Week 2	11.68% (1.95)	13.39% (1.93)	33.99% (1.95) *^	44.37% (1.95) *^
Week 6	14.90% (2.44)	13.16% (2.40)	33.51% (2.42) *^	49.30% (2.42) *^

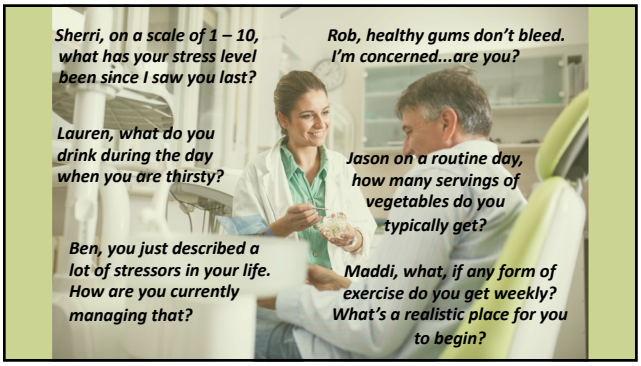
https://www.usa.philips.com/c-m-pe/dental-professionals/resources-and-education/clinical-studies/sonicare-power-flosser-effects-on-plaque-and-gingival-inflammation

128

129

Do you believe you can help preserve a life, or just a smile?

130



131


HEALTH
ABILITY TO FUNCTION PHYSICALLY & MENTALLY, AS DESIRED
FULL
ABILITY TO LIVE AN ABUNDANT LIFE

132


TURN KNOWLEDGE INTO ACTION

133


Karen@karendavis.net
Thank you!

134