



INTEGRATIVE MEDICINE

ROOTS, FRUIT AND BRANCHES

Dana Nairn, MD, FAIHM

Integrative medicine is the practice of medicine that reaffirms the importance of the relationship between practitioner and patient, focuses on the whole person, is evidence-based, and makes use of all appropriate therapeutic approaches, healthcare professionals, and disciplines to achieve optimal health and healing.

American Board of Integrative
Medicine

and

Consortium of Academic Health
Centers for Integrative Medicine

INTEGRATIVE MEDICINE PRACTICE

- Evaluating patient is a whole person, not sum of organs
- Patient is an active participant
- Using least invasive treatments whenever possible
- Patient education as a cornerstone
- Moving from disease management to health creation

WHAT INTEGRATIVE MEDICINE IS NOT

voodoo



a religion practiced in parts of the Caribbean and the southern US, combining elements of Roman Catholic ritual with traditional African magical and religious rites, and characterized by sorcery and spirit possession.

Magical cures

Anti-aging clinics

[How I Cured My Fibromyalgia with One Simple Medicine](https://www.pinterest.com/pin)
<https://www.pinterest.com/pin>
The New Bible **Cure** for Chronic Fatigue and **Fibromyalgia**

ROOTS





ARISTOTLE (384–322)

A PERSON IS A COMBINATION OF BOTH PHYSICAL
AND SPIRITUAL PROPERTIES WITH NO SEPARATION
BETWEEN MIND AND BODY.



RENE DESCARTES (1596-1650)

“CARTESIAN SPLIT”



JOHN LOCKE (1632-1704) & DAVID HUME (1711-1776)

REDUCTIONISM



INTEGRATIVE MEDICINE IN THE US

- 1910 Flexner report
- 1993 Office of Alternative Medicine within NIH
- 1997 fellowship program in integrative medicine at the University of Arizona
- 2006 ACP report (pending collapse of primary care)
- 2013 the American Board of integrative medicine formed (ABOIM)

FRUIT



Institute for functional Medicine
(IFM)

2004: Academic Collaborative for
Integrative Health (ACIH)

1978 American Holistic Medical
Association (AHMA)



1996 American Board of Integrative
Holistic Medicine (ABIHM)



2013 Academy of Integrative Health and
Medicine (AIHM)

BRANCHES





Yoga therapy

Acupuncture and Oriental
Medicine

Environmental medicine

Nutritional medicine

Chiropractic/manipulation

Biofeedback

Ayurveda

Herbal medicine

Homeopathy

Personalized medicine (epigenetics)

Aromatherapy/essential oils

Craniosacral therapy

Massage therapy

Stress management techniques





ANXIETY

Longest differential diagnosis and all psychiatric disorders

Diagnostic criteria:

- Worry more often than not (6 months)
- Worry is difficult to control
- At least 3 other somatic symptoms (Fatigue, restlessness, insomnia, myalgia, etc.)
- Difficult to carry out day-to-day functions
- Unrelated to other medical conditions/drugs/alcohol
- Not explained by another mental or medical disorder

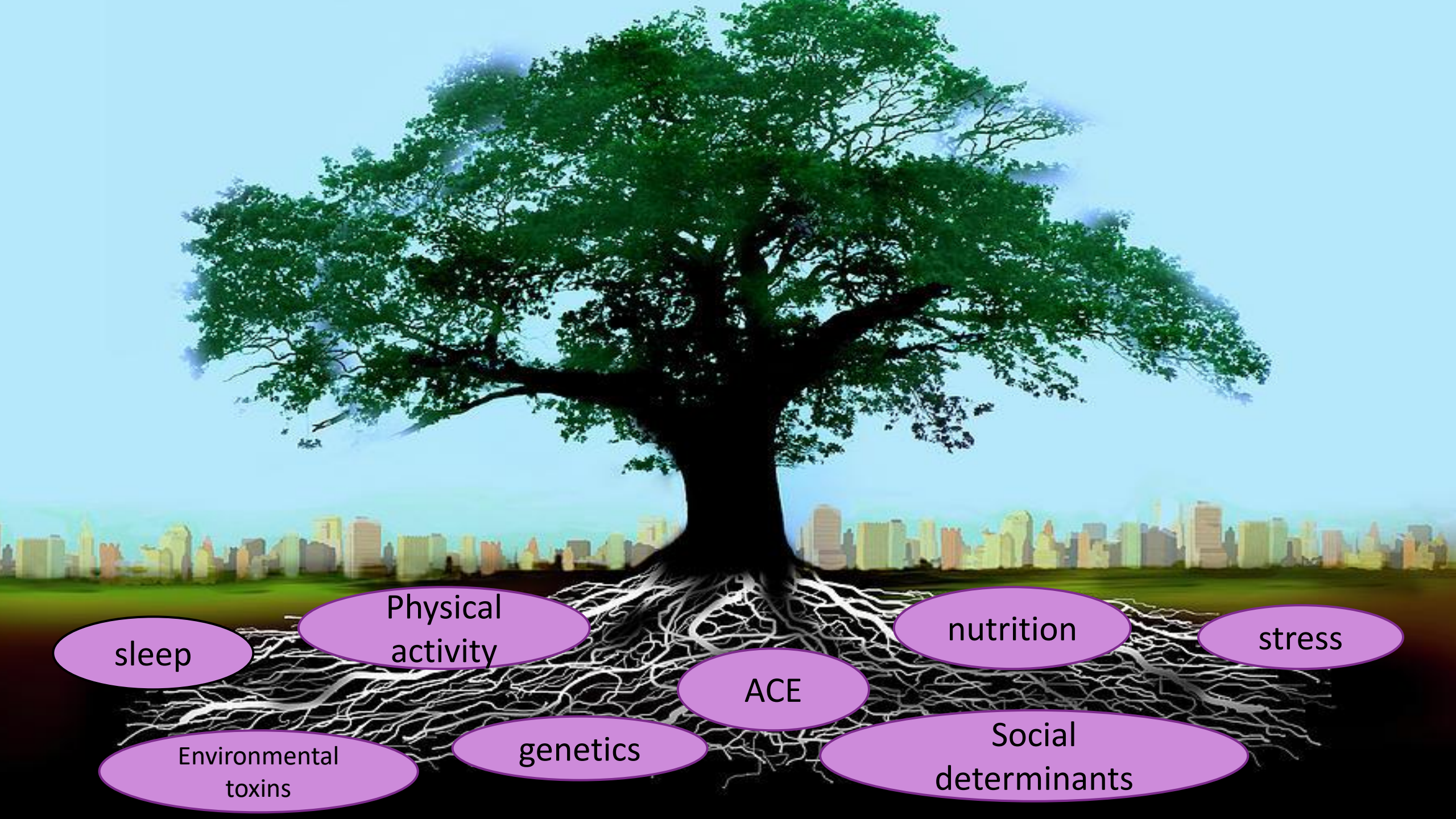
GAD-7

ANXIETY

A large, leafy green tree stands in the center of the frame. Its trunk is thick and dark. The roots are exposed and spread out across the ground in front of the tree. In the background, a city skyline with various buildings is visible under a clear blue sky. A purple oval is positioned in the upper left part of the tree's canopy.

Anxiety

ONE CONDITION—MANY CAUSES
ONE CAUSE—MANY CONDITIONS



sleep

Physical
activity

ACE

nutrition

stress

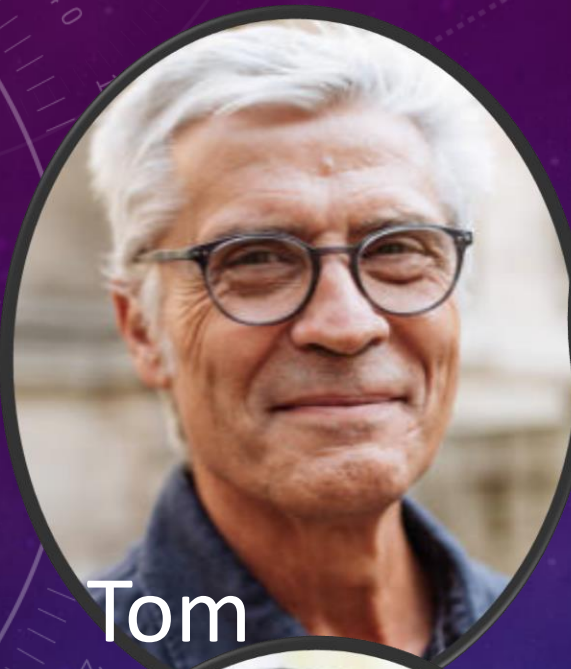
Environmental
toxins

genetics

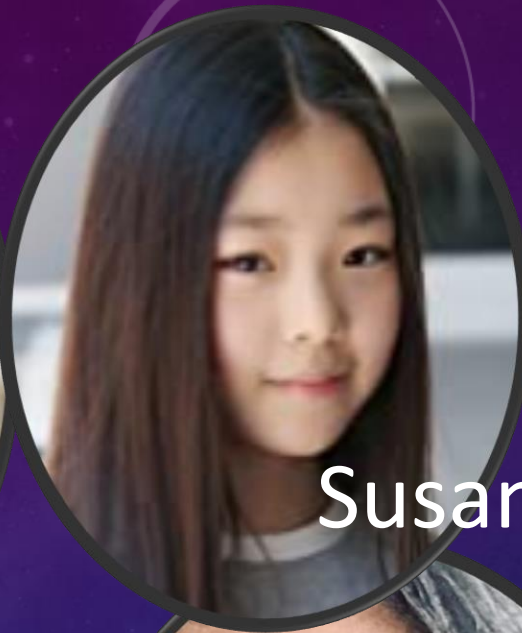
Social
determinants



Cody



Tom



Susan



Shanti



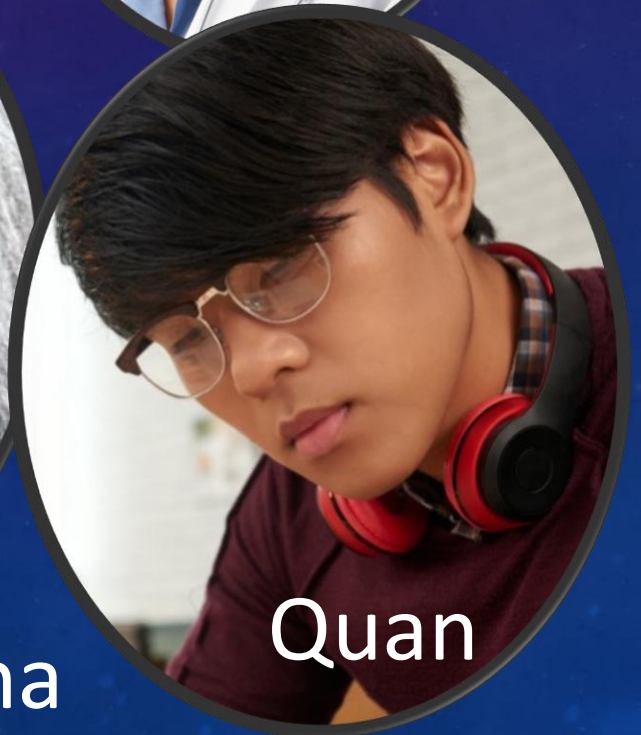
Mandy



Miguel



Tina



Quan



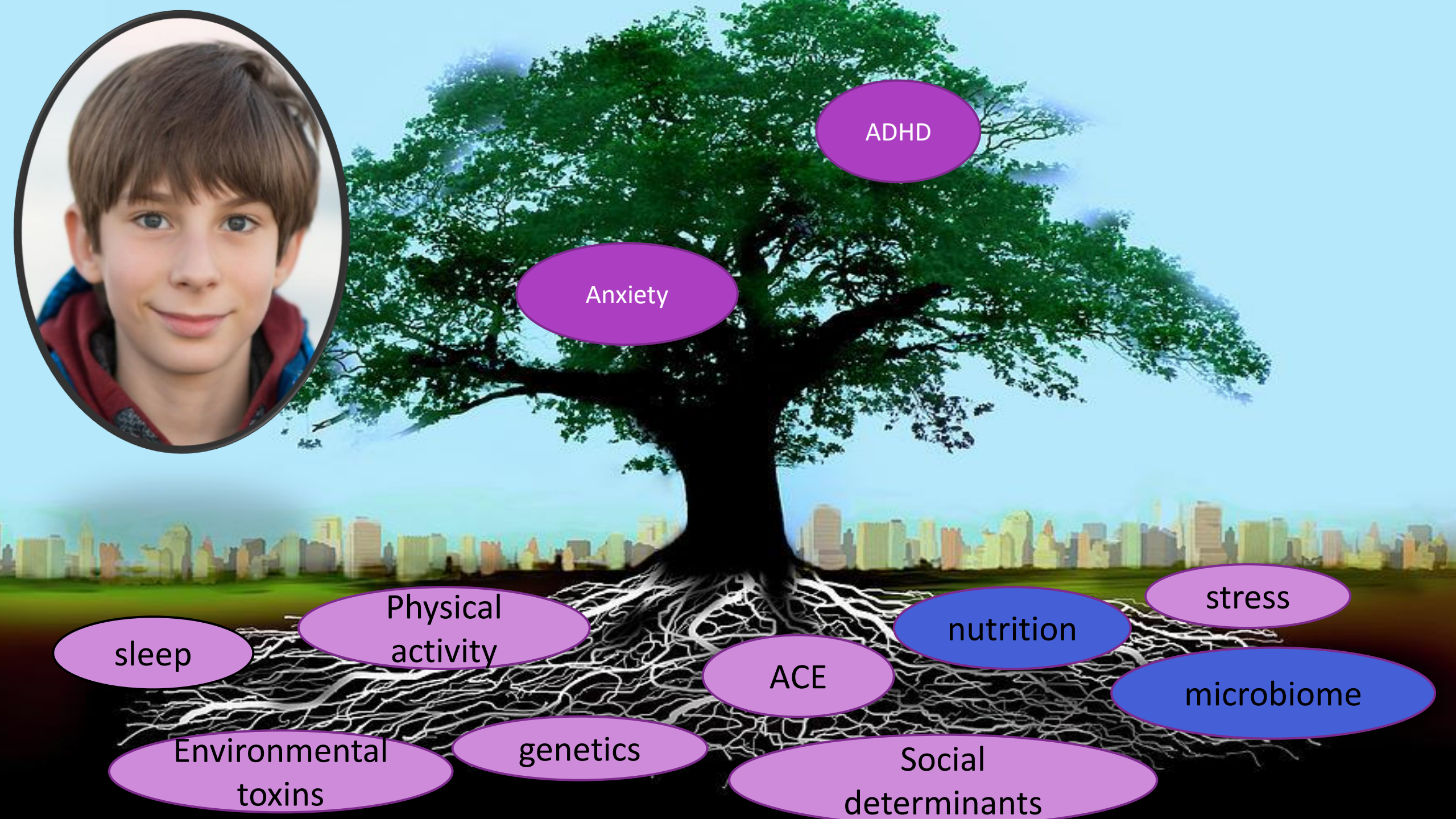
CODY

- 10-year-old white male
- Struggling with anxiety since first grade
- Extensive history of otitis media starting at age 2
- Intermittent abdominal pain and diarrhea
- Struggling at school
- Very good natured, but irritable when hungry
- Eats Standard American Diet (SAD)



CODY

- Evaluated by his pediatrician and diagnosed with GAD
- Referred for counseling
- Zoloft 50 mg daily
- Diagnosed with ADHD, intolerant of stimulants





CODY

- C-section delivery
- Formula fed
- Multiple courses of broad-spectrum antibiotics





TESTING

- Testing for food intolerances (IgG4)
- Organic Acid Test (OAT)
- 3-hour glucose tolerance test





TREATMENT PLAN

- YEAST ERADICATION
- GUT REPAIR PROTOCOL
- NUTRITION
- PHYSICAL ACTIVITY
- Transcranial magnetic stimulation
- Headspace phone app
- SUPPLEMENTS: Magnesium Threonate, CBD, L-Theanine





NUTRITION



PHYSICAL ACTIVITY



STRESS MANAGEMENT



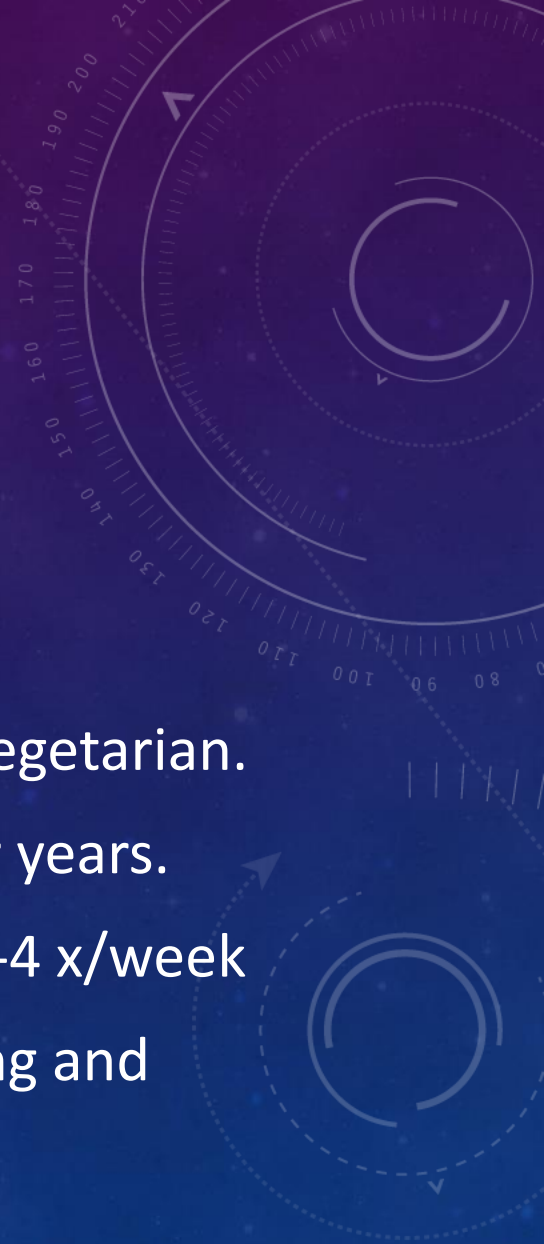
SHANTI

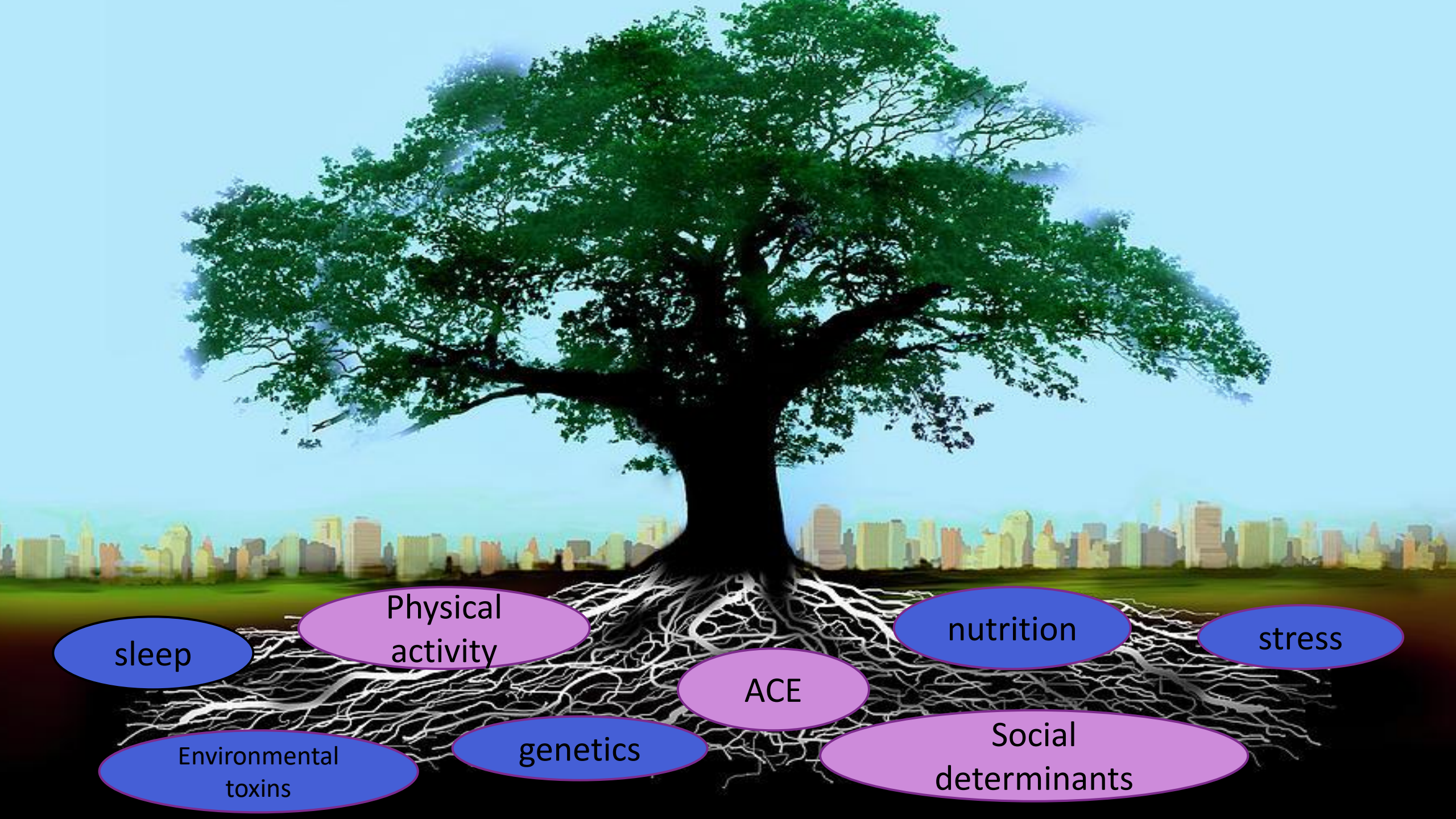
- 38-year-old female of Indian descent
- Cardiologist
- Always somewhat anxious, but progressively worsening over the past 5 years.
- Concerned about very slight cognitive issues (word finding)
- Anxiety worse after certain foods



SHANTI

- Eats healthy, well-balanced diet. Vegetarian.
- Has been practicing meditation for years.
- Has never smoked, glass of wine 3-4 x/week
- Expressed interest in genetic testing and personalized medicine.





Physical
activity

ACE

nutrition

stress

Social
determinants

genetics

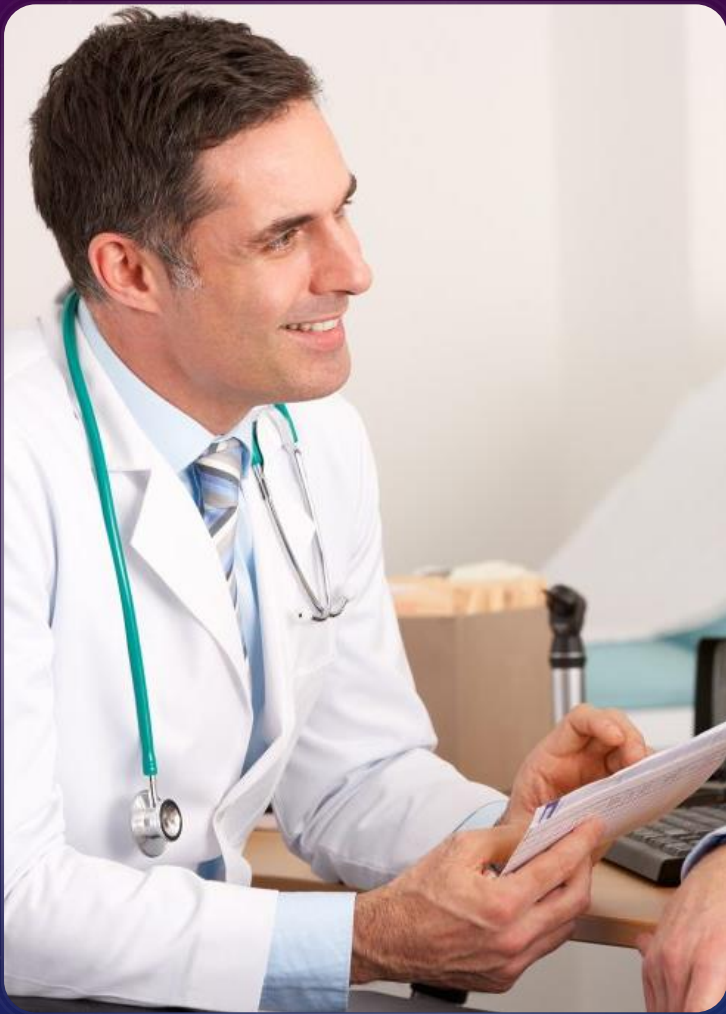
Environmental
toxins

sleep



SHANTI





PATIENT EDUCATION

- Understanding pathophysiology of histamine intolerance
- Understanding factors affecting integrity of GI mucosa
- Preventive measures
- How to handle exacerbation



NUTRITION



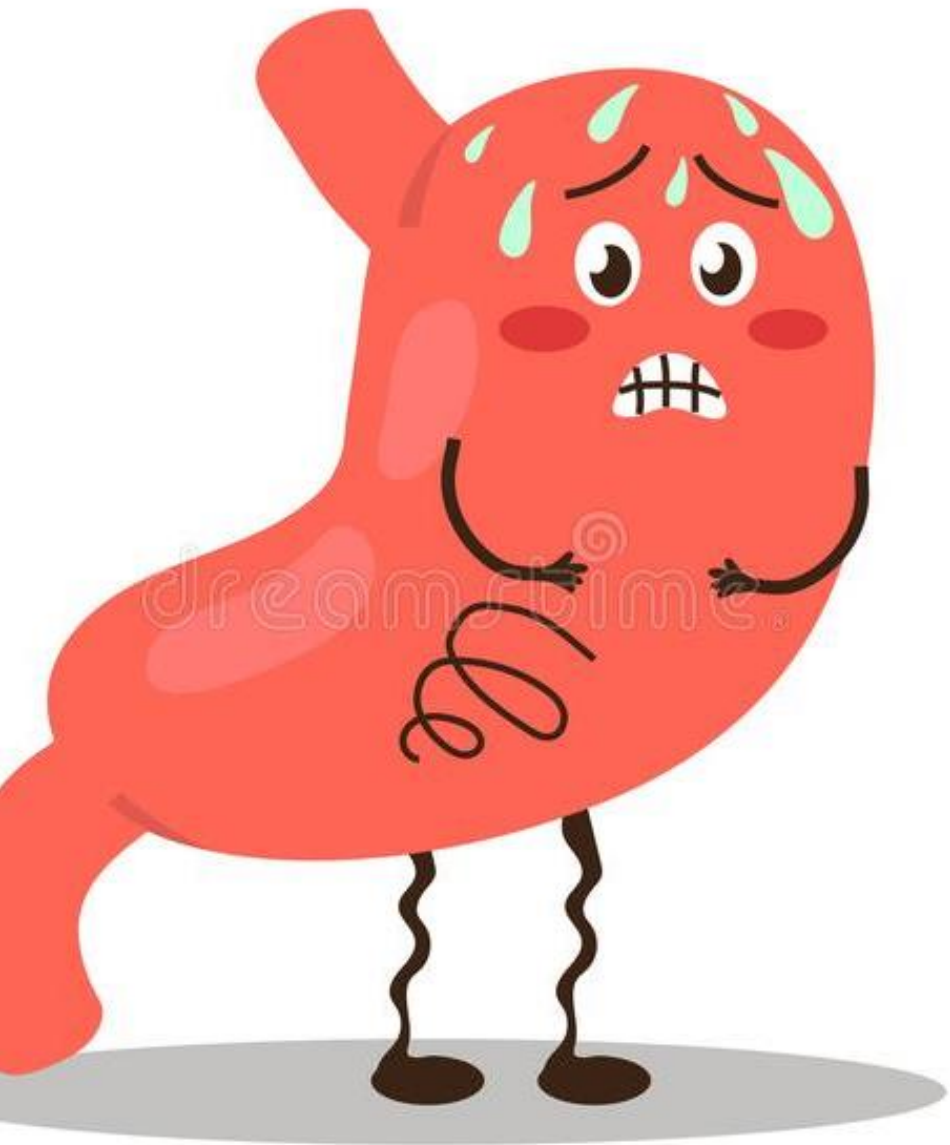
SLEEP



PHYSICAL ACTIVITY



STRESS MANAGEMENT



ABDOMINAL PAIN AND DIARRHEA



TINA

- 56-year-old African-American female
- Executive of pharmaceutical company
- Stressful work environment
- Suffering from debilitating diarrhea: Up to 10 watery BM's /day, occasionally explosive. Associated tenesmus. Intermittent. Unable to identify precipitant. Abrupt onset after family picnic. Extensive prior diagnostic evaluation.
- Can eat the same meal at the same restaurant and be asymptomatic on one occasion and severely ill on another occasion



TINA

- Testing was negative for celiac disease, Crohn's disease or ulcerative colitis.
- Random gastric and colon biopsies showing nonspecific inflammation
- Diagnosed with IBD with diarrhea
- Lomotil, Bentyl and Cymbalta



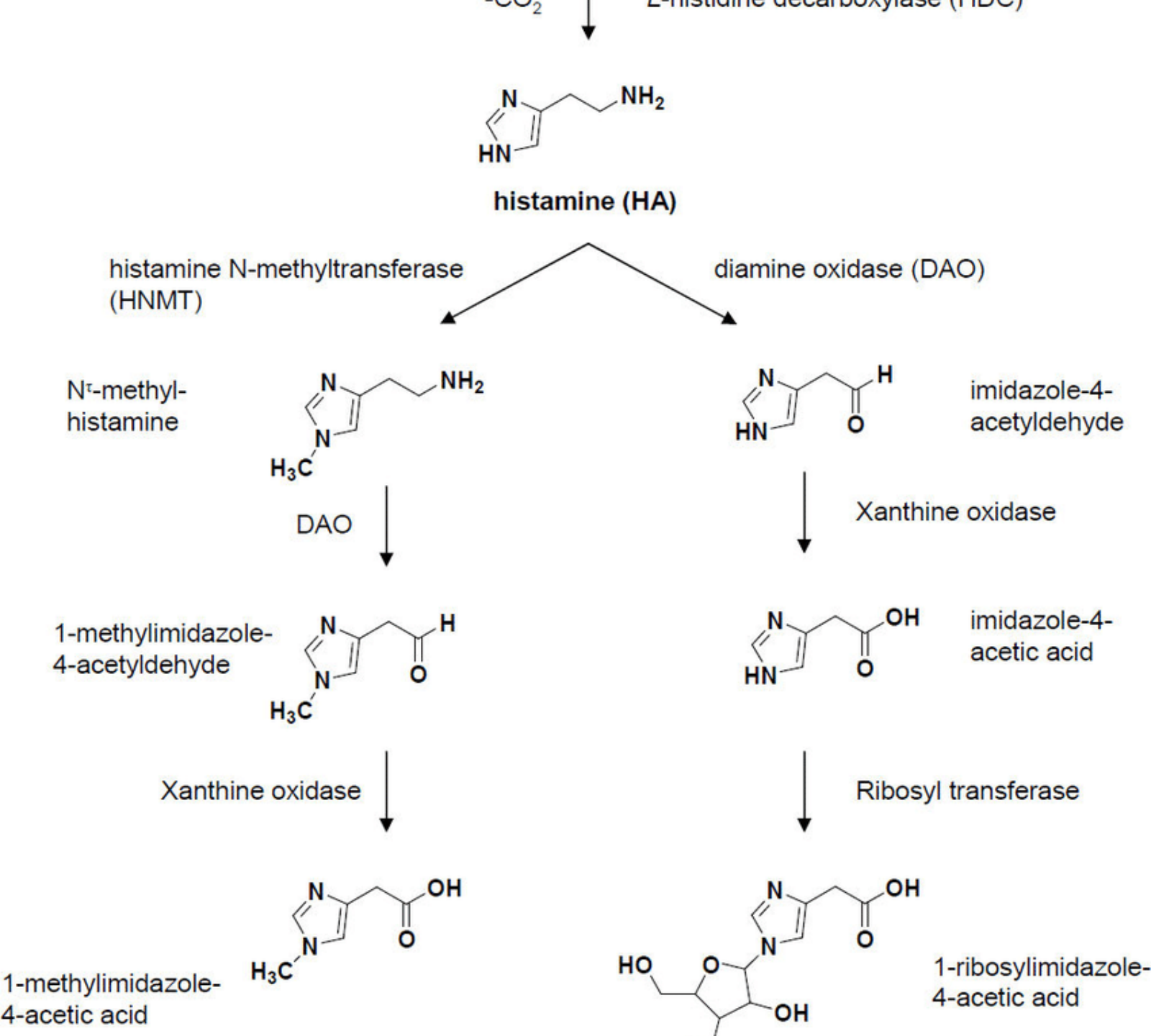
TINA

- Presented to integrative medicine clinic to explore possible further testing and treatment.
- Amongst other testing genetic evaluation completed.



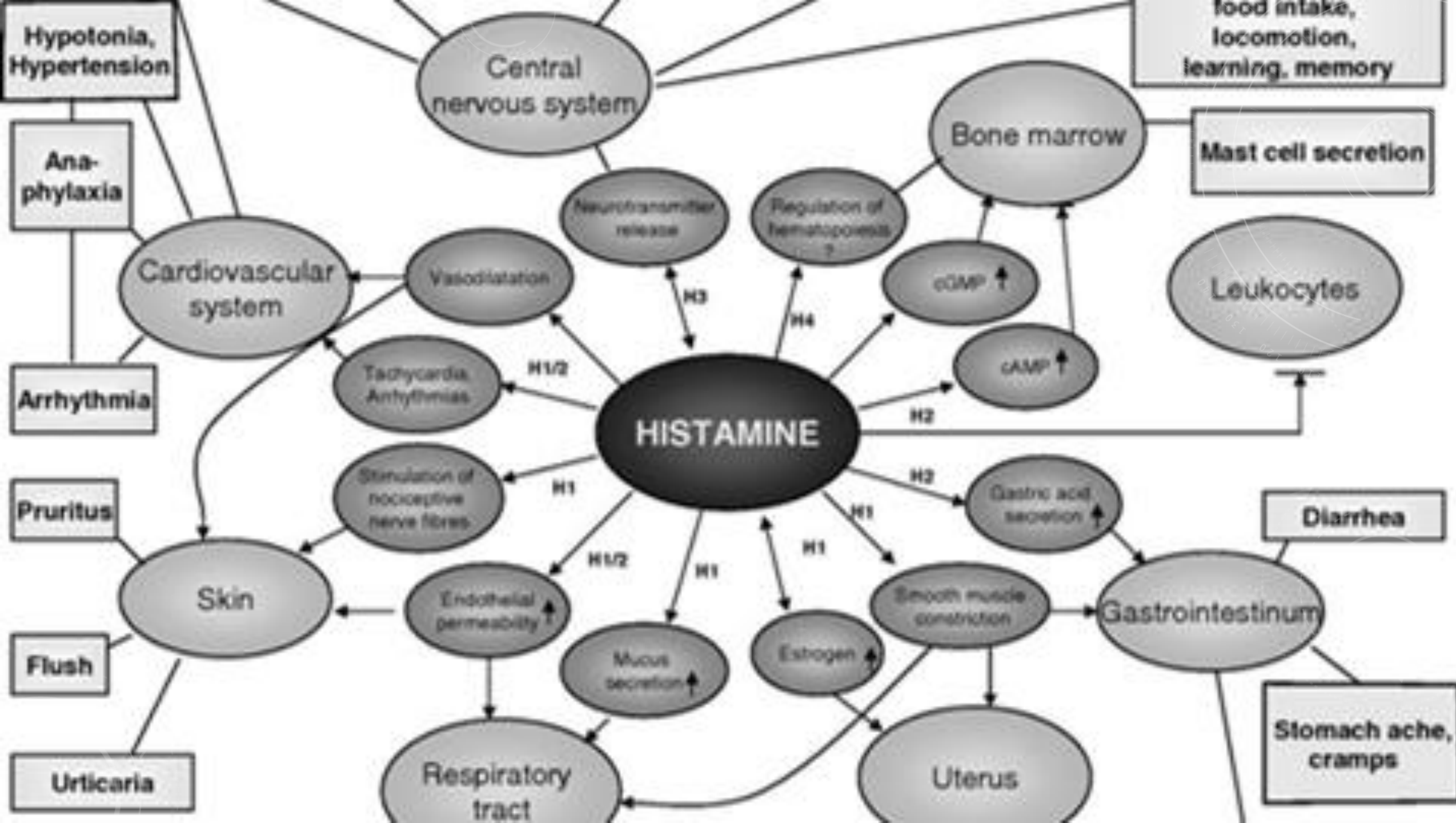
GENOMIC EVALUATION

- You can't change your DNA, but you can change DNA expression.
- Lifestyle, nutrition, habits, supplements and medications are potential interventions that can reduce risk and promote healthy gene expression.
- Your family history doesn't have to be your destiny



HISTAMINE INTOLERANCE

- **Histamine Intolerance: The Current State of the Art**
- Oriol Comas-Basté, Sònia Sánchez-Pérez, Maria Teresa Veciana-Nogués, Mariluz Latorre-Moratalla, and María del Carmen Vidal-Carou. *Biomolecules*. 2020 Aug; 10(8): 1181

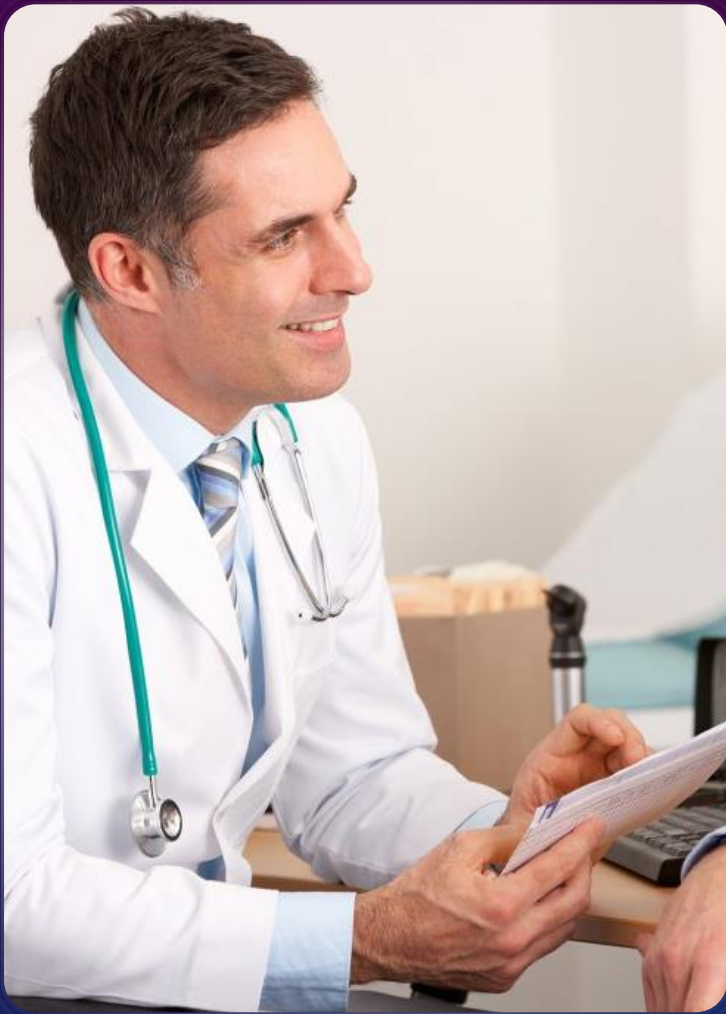




TINA'S TREATMENT PLAN

- Patient education
- Nutritional plan
- Supplements





PATIENT EDUCATION

- Understanding pathophysiology of histamine intolerance
- Understanding factors affecting integrity of GI mucosa
- Preventive measures
- How to handle exacerbation



NUTRITION

AVOID FOODS HIGH IN HISTAMINE

- Aged fish: mackerel or tuna has 600-1460 mg/kg (flash frozen has 1-20 mg/kg)
- Canned sardines/tuna: 3-2000 mg/kg
- Fermented alcoholic beverages:
 - champagne is 670 mg/L
 - red wine is 0-30 mg/L,
 - white wine 0-10 mg/L,
 - beer is 0-17 mg/L
- Sauerkraut: 229 mg/kg
- Fermented milk/milks: ripened cheeses: 2.2-2500 mg/kg
- Fermented soy products: miso, soy sauce
- Dry aged sausages: up to 357 mg/kg

LIMIT INTAKE OF HISTAMINE-RELEASING FOODS

- Chocolate/cocoa powder
- Most acidic fruits (kiwi, lemon, lime, pineapple, plums).
- Cow's milk
- Nuts
- Papaya
- Shellfish
- Beans and pulses
- Tomatoes
- Wheat germ
- Many artificial preservatives and dyes (benzoate, sulphites, nitrites, glutamate)
- Egg white – only in raw form

Kohn JB. Is There a Diet for Histamine Intolerance? Journal of the Academy of Nutrition and Dietetics. 2014;114(11):1860. doi:[10.1016/j.jand.2014.09.009](https://doi.org/10.1016/j.jand.2014.09.009)

INCREASE INTAKE OF FOODS THAT DEGRADE HISTAMINE

- Foods high in luteolin, quercetin and rutin.
- Watercress
- Pea sprouts
- Onions, leafy green vegetables and apples

PROBIOTIS

- *Lactobacillus rhamnosus*

Thomas CM, Hong T, Pijkeren JP van, et al. Histamine Derived from Probiotic *Lactobacillus reuteri* Suppresses TNF via Modulation of PKA and ERK Signaling. PLOS ONE. 2012;7(2):e31951. doi:10.1371/journal.pone.003195

- *Lactobacillus casei*
- *Lactobacillus bulgaricus*
- *Lactobacillus brevis*
- *Lactobacillus buchneri*
- *Lactobacillus fermentum*
- *Lactobacillus sp.*

DIAMINE OXIDASE REPLACEMENT

Manzotti G, Breda D, Gioacchino MD, Burastero SE. Serum diamine oxidase activity in patients with histamine intolerance. *Int J Immunopathol Pharmacol*. 2016;29(1):105-111. doi:10.1177/0394632015617170

Schnedl WJ, Schenk M, Lackner S, Enko D, Mangge H, Forster F. Diamine oxidase supplementation improves symptoms in patients with histamine intolerance. *Food Sci Biotechnol*. 2019;28(6):1779-1784. Published 2019 May 24. doi:10.1007/s10068-019-00627-3

SUPPLEMENTS/MEDICATIONS THAT DECREASE HISTAMINE RELEASE

- **Quercetin:** Directly inhibits histamine release. Usual dose: 250-1000 mg per day (in divided doses before or between meals). *Mild CYP3A4 inhibitor and mild platelet/fibrin inhibitor.*

Bromelain: Usual dose: 200 - 600 mg per day in divided doses before or between meals. *Mild platelet/fibrin inhibitor.*

Vitamin C: Usual dose: 500-2000 mg per day. Shown to increase DAO levels compared to controls.

- **Pycnogenol and Luteolin:** Inhibits the release of histamine from mast cell.
- **Cromolyn** also works on this mast cell activation pathway. *Mild platelet/fibrin inhibitor.* Typical dose 50 mg twice a day.
- **H2 blockers:** The H2 receptor antagonists cimetidine and ranitidine block the histamine receptors in the gut.

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Mlcek J, Jurikova T, Skrovankova S, Sochor J. Quercetin and Its Anti-Allergic Immune Response. *Molecules*. 2016;21(5):623. doi:10.3390/molecules21050623

Elbarbry F, Ung A, Abdelkawy K. Studying the Inhibitory Effect of Quercetin and Thymoquinone on Human Cytochrome P450 Enzyme Activities. *Pharmacogn Mag*. 2017;13(Suppl 4):S895-S899. doi:10.4103/0973-1296.224342

Horwitz RJ. Chapter 30 - The Allergic Patient. In: Rakel D, ed. *Integrative Medicine (Fourth Edition)*. Elsevier; 2018:300-309.e2. doi:10.1016/B978-0-323-35868-2.00030-X

Gläser D, Hilberg T. The influence of bromelain on platelet count and platelet activity in vitro. *Platelets*. 2006;17(1):37-41. doi:10.1080/09537100500197489

Atlee JL. *Complications in Anesthesia*. Elsevier Health Sciences; 2007.

CAUTION WITH SUPPLEMENTS/MEDICATIONS THAT CAN INCREASE HISTAMINE RELEASE:

- Supplements: Acetylcysteine (NAC) .
- Immune Modulators: Humira, Enbrel.
- Antidepressants: Doxepin, amitriptyline, mirtazapine (does not increase histamine release but blocks the reuptake of histamine leading to greater histamine levels).
- Antibiotics: Cefuroxime and Clavulanic Acid .
- BP Medications: Verapamil and Amloride.
- NSAIDS: Ibuprofen, Aspirin and Aleve.

Barrett KE, Minor JR, Metcalfe DD. Histamine secretion induced by N-acetyl cysteine. Agents Actions. 1985;16(3-4):144-146. doi:10.1007/bf01983123

Paltiel M, Gober LM, Deng A, et al. Immediate Type I Hypersensitivity Response Implicated in Worsening Injection Site Reactions to Adalimumab. Arch Dermatol. 2008;144(9):1190-1194. doi:10.1001/archderm.144.9.1190

Pham DL, Kim J-H, Trinh THK, Park H-S. What we know about nonsteroidal anti-inflammatory drug hypersensitivity. Korean J Intern Med. 2016;31(3):417-432. doi:10.3904/kjim.2016.085



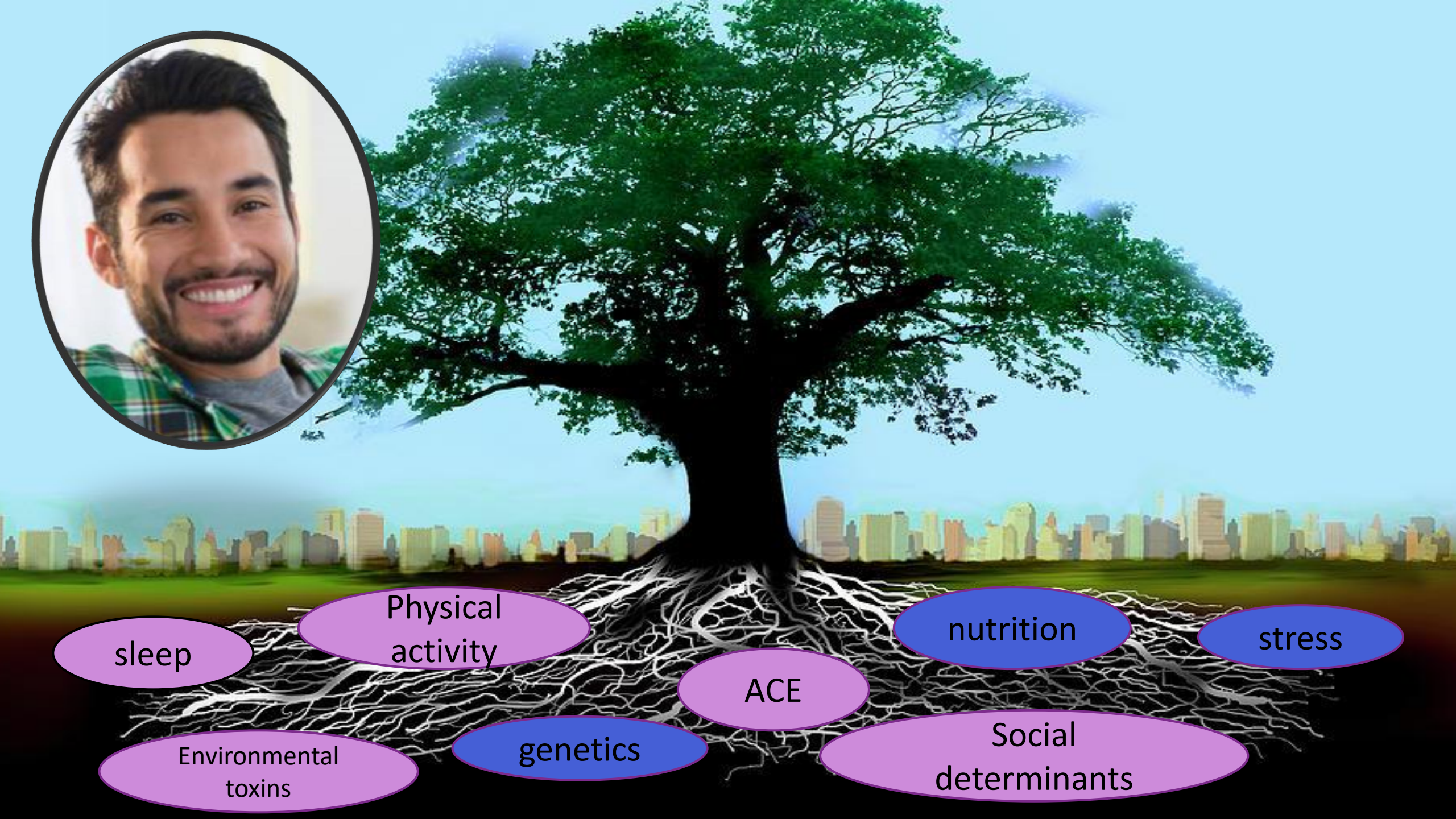
MIGUEL

- 32-year-old Hispanic male
- Small business owner
- Progressively worsening anxiety over the past 2 years
- Currently significantly affecting his ability to function
- Affecting his marriage
- Admits to occasional loose stools
- Describes himself as "laidback" prior to onset
- Does not smoke or drink alcohol



MIGUEL

- Initially evaluated by his PCP and referred to psychiatrist
- Diagnosed with General Anxiety Disorder
- Started on Cymbalta
- Mindfulness Based Stress Reduction (MBSR)
- 60% improvement in his symptoms.



sleep

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activity

ACE

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determinants



MIGUEL

