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Integrative Health: *Comprehensive Care for Your Mind and Body*

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October 3, 2017

What is Integrative Health?

Bringing together conventional and complementary approaches in a coordinated way

National Center for Complementary and Integrative Health (NCCIH)



Integrative Health as a Growing Trend

There is a rising interest amongst Americans to incorporate Integrative Medicine (IM) practices into their healthcare regimen.

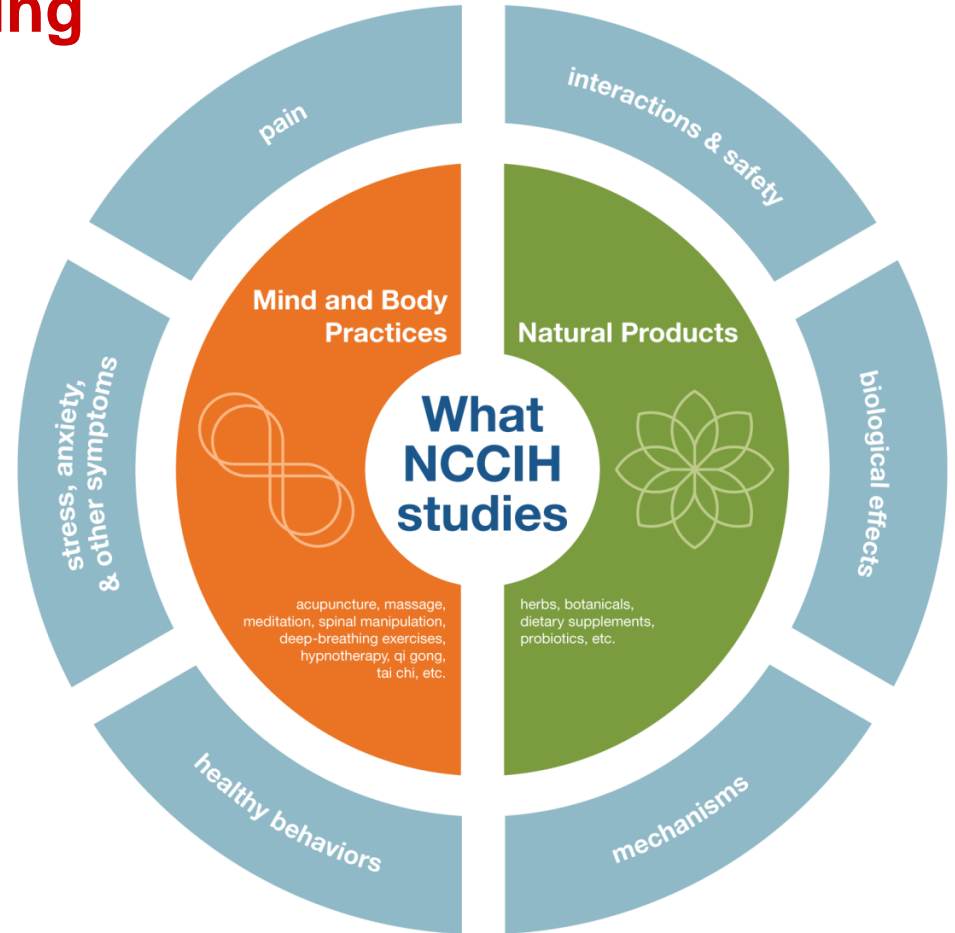
According to the National Center for Complementary and Integrative Health

(NCCIH) at the National Institute of Health (NIH), nearly **40%**

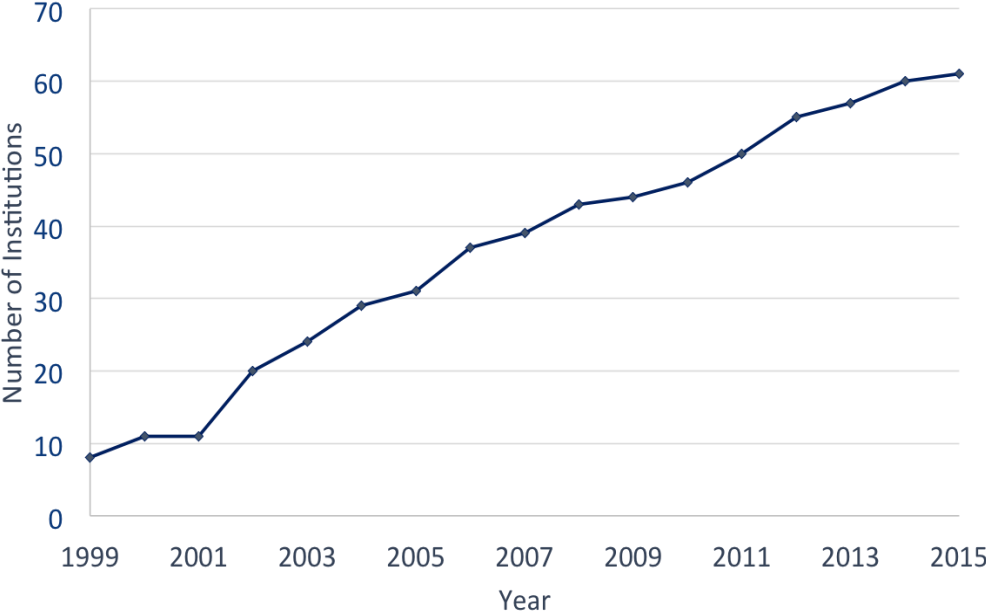
of Americans use IM.

Increased Government Funding

The National Center for Complementary and Integrative Health (NCCIH) is the Federal Government's lead agency for scientific research on complementary and integrative health approaches.



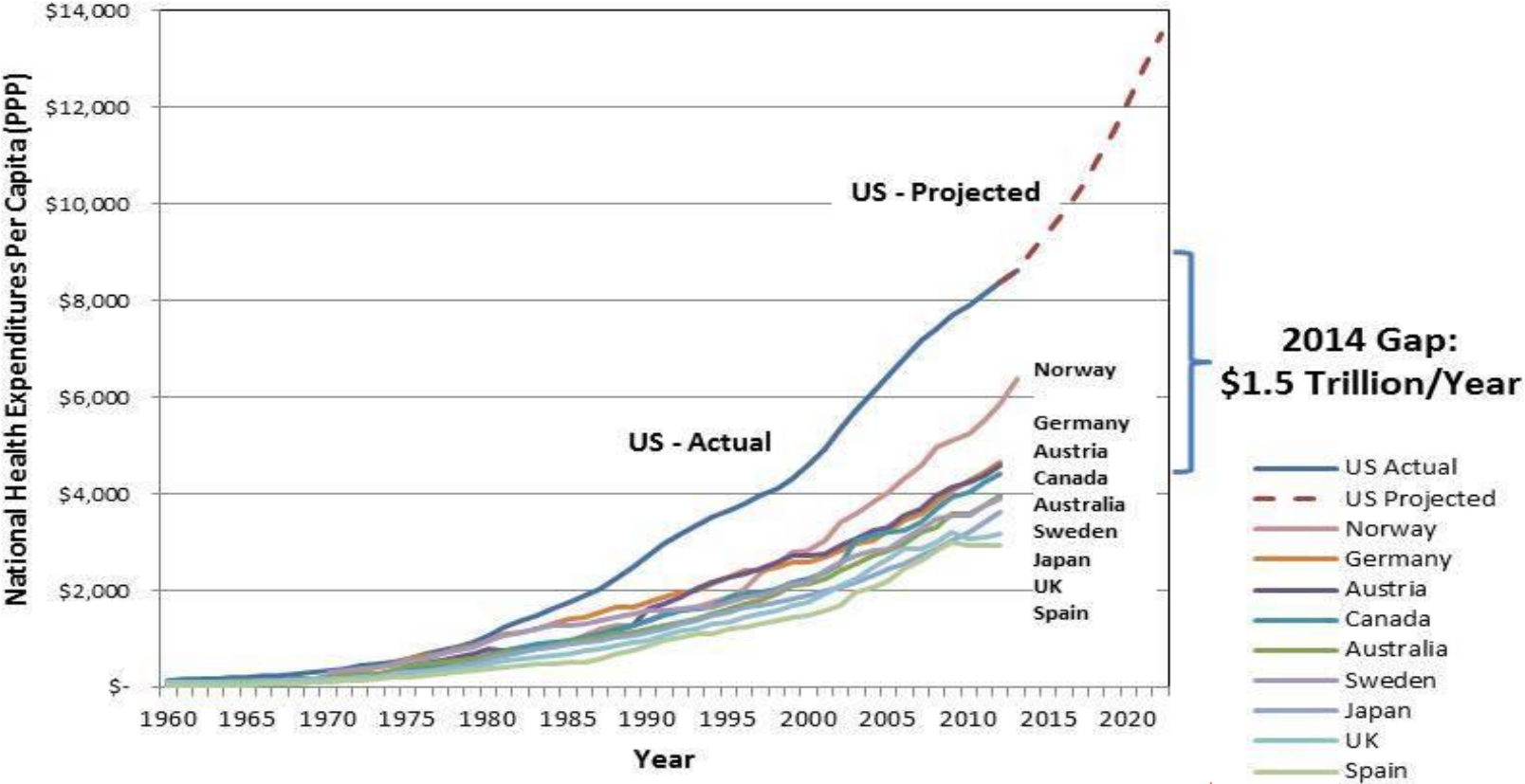
Academic Institutions Advancing Integrative Health



Members (sampling):

- Mayo Clinic
- Johns Hopkins University
- Weill Cornell Medicine
- Columbia University
- Cleveland Clinic
- Duke University
- Harvard Medical School
- MD Anderson
- Mount Sinai Medical Center
- Northwestern University
- Stanford University
- UCSF

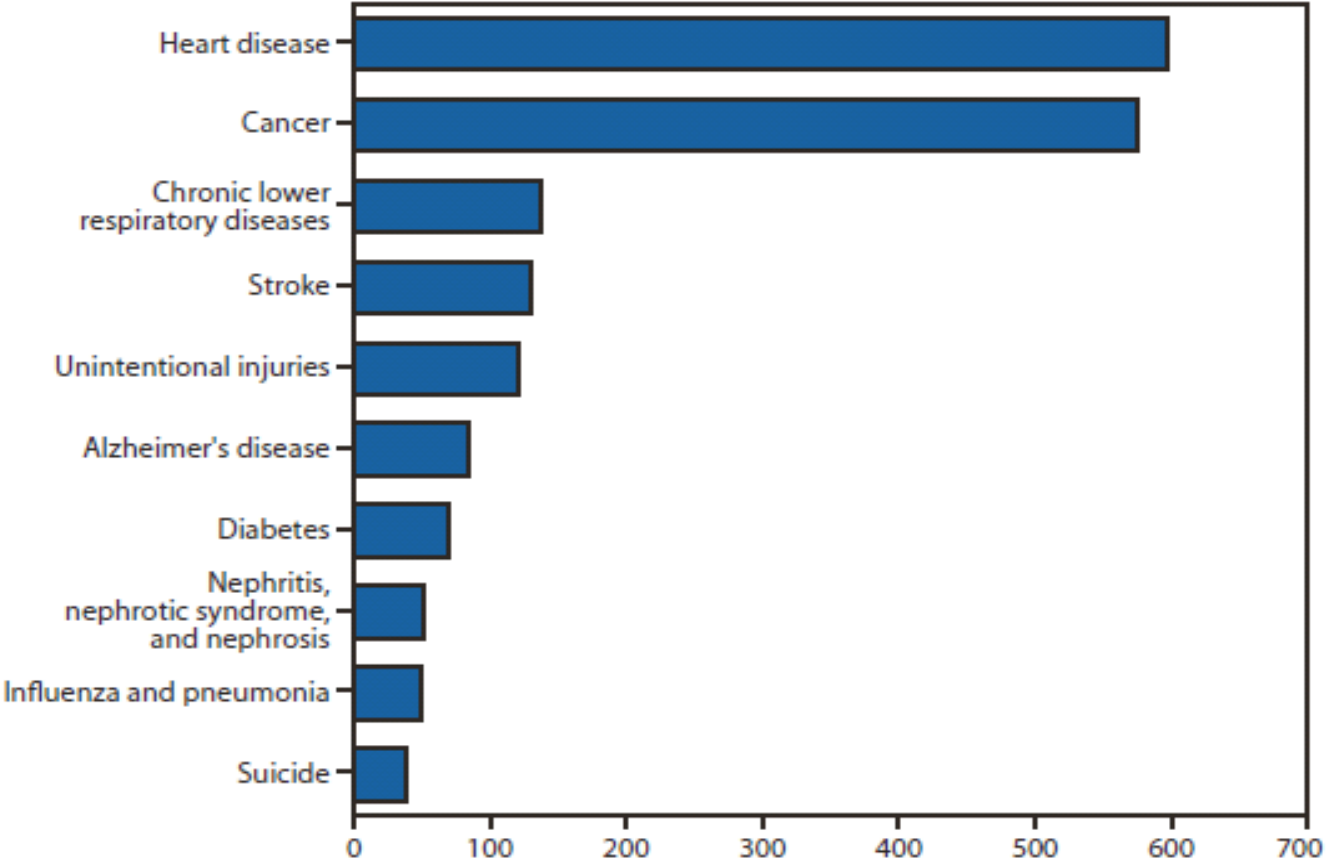
U.S. Healthcare Expenditures



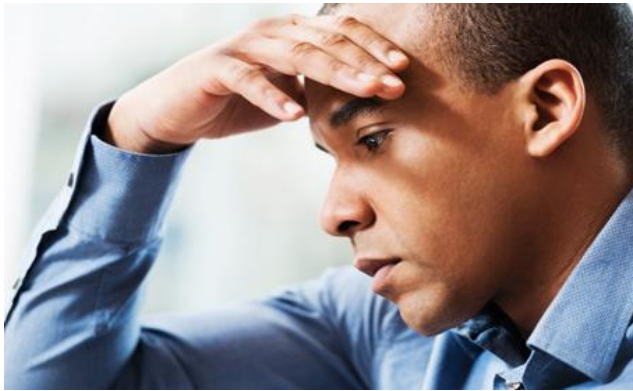
Leading Causes of Death in the U.S.



Causes of death



Current Interventions Are Not Sufficient



What is the Objective of Integrative Health and Wellbeing?

Individualized healthcare combining conventional and evidence based integrative medical treatments to promote physical, psychological, and spiritual well-being

Nutrition

Yoga

Health Coaching

Psychology

Meditation

Relaxation & Breathing
Techniques

Acupuncture

Massage Therapy

Pilates

What Should I be Eating?



What is inflammation?

- Inflammation is the mechanism in which the body protects itself from injury, irritation, or infection.



- Not all inflammation is bad
 - **Acute inflammation** is a response to tissue damage and lasts only a handful of a days. It isolates damaged areas and promotes healing.
 - **Chronic systemic inflammation** affects your entire body and negatively impacts health.

Can we put out the fire with diet?



What does the research say?

- Studies have shown that diets high in refined starches, sugars, saturated fats, and trans fats and low in fruits, vegetables, whole grains, and omega-3 fatty acids appear to turn on the inflammatory response.
- A study that looked at fruit and vegetable intake among adults found that those who had the highest consumption (>2 servings of fruit and 3 servings of vegetables per day) had significantly lower levels of inflammatory markers in the blood as well as decreased biomarkers of oxidative stress.

Giugliano D, Ceriello A, Esposito K. The effects of diet on inflammation: emphasis on the metabolic syndrome. 2006.

Root M, McGinn M, Nieman D, et al. Combined Fruit and Vegetable Intake Is Correlated with Improved Inflammatory and Oxidant Status from a Cross-Sectional Study in a Community Setting. 2012.

Mediterranean Diet

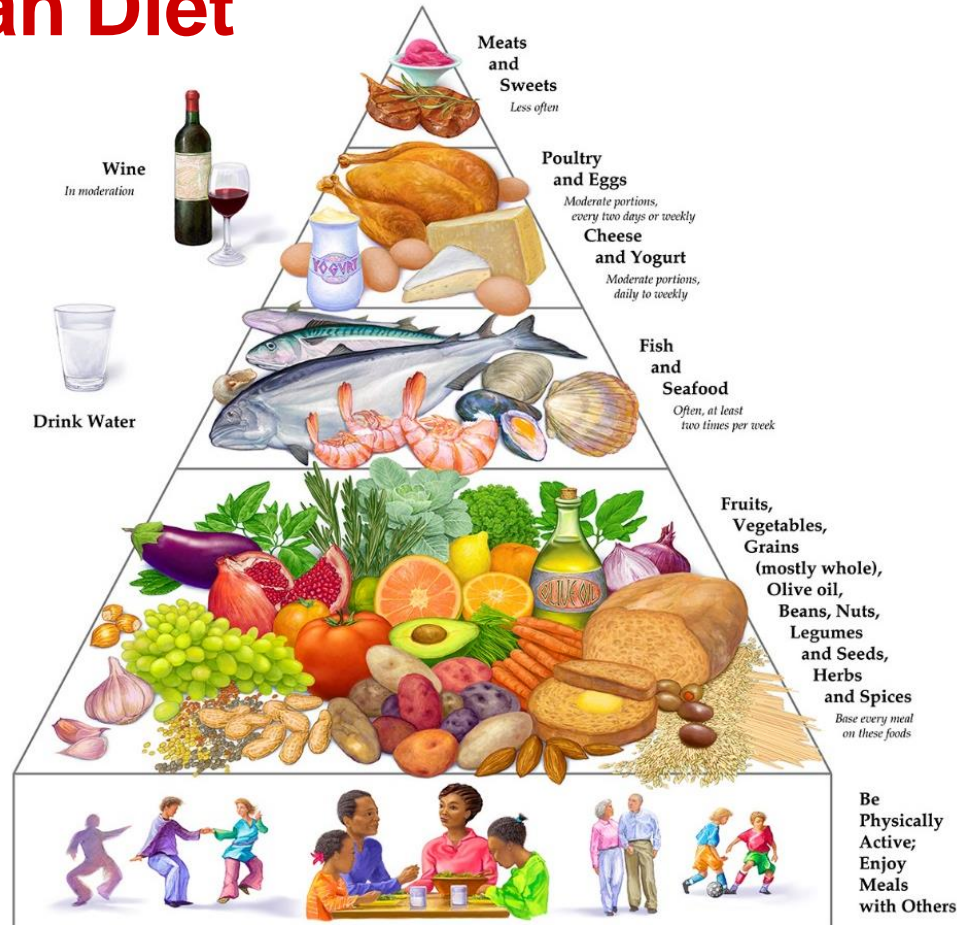
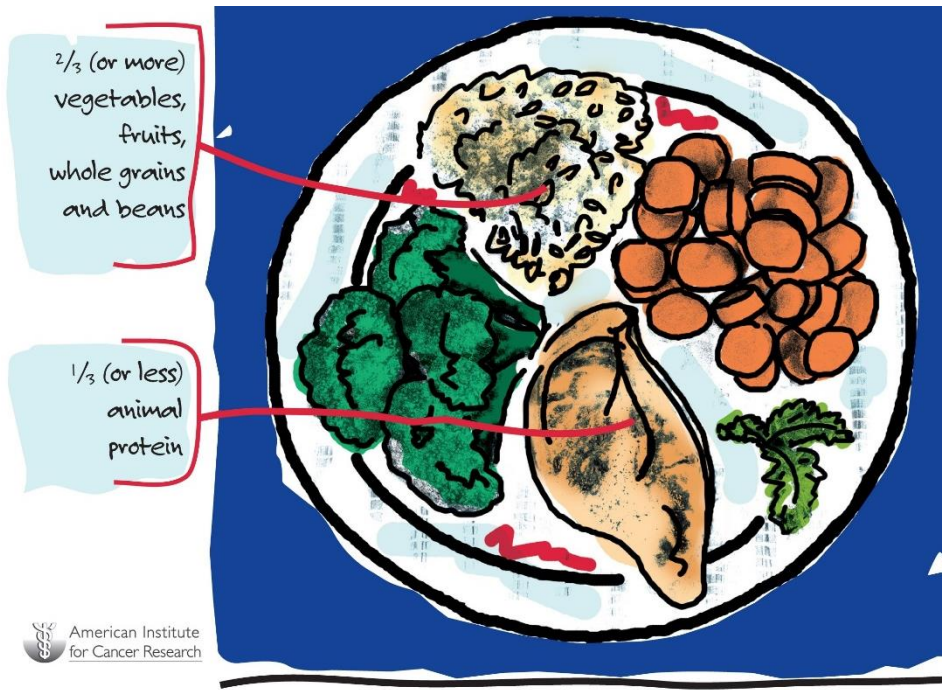


Illustration by George Middleton

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The New American Plate from AICR



Healthy Eating Plate from the Harvard School of Public Health

HEALTHY EATING PLATE

HEALTHY OILS
Use healthy oils (like olive and canola oil) for cooking, on salad, and at the table. Limit butter. Avoid trans fat.

WATER
Drink water, tea, or coffee (with little or no sugar). Limit milk/dairy (1-2 servings/day) and juice (1 small glass/day). Avoid sugary drinks.

VEGETABLES
The more veggies—and the greater the variety—the better. Potatoes and french fries don't count.

WHOLE GRAINS
Eat whole grains (like brown rice, whole-wheat bread, and whole-grain pasta). Limit refined grains (like white rice and white bread).

FRUITS
Eat plenty of fruits of all colors.

HEALTHY PROTEIN
Choose fish, poultry, beans, and nuts; limit red meat; avoid bacon, cold cuts, and other processed meats.

STAY ACTIVE!
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Harvard School of Public Health
The Nutrition Source
www.hsph.harvard.edu/nutritionsource

Harvard Medical School
Harvard Health Publications
www.health.harvard.edu



What do all these diets have in common?

- Focus on a variety of **vegetables** and **fruits**
- Have smaller amounts of protein and choose **lean** sources
- Choose **whole** grains instead of **refined** carbohydrates
- Use **healthy** fats
- Add beans, nuts, and **seeds**
- Cook with **herbs** & **spices**



Bottom line: Minimally, if at all, *processed foods*

“SAD Diet” ☹️



- Fried food
- Processed meats
- Trans fat
- Excess omega-6 fats
- Refined flour
- Sugar
- Lack of fiber



- Diabetes
- High cholesterol
- High blood pressure
- Stroke
- Cancer
- Kidney disease
- Osteoporosis
- Alzheimer’s
- Obesity
- Irritable Bowel Syndrome

“SAD Diet” versus “Health-Supportive Diet” for our gut



What is Irritable Bowel Syndrome (IBS)?

Recurrent abdominal pain or discomfort
at least
3 days/month in the last 3 months
associated with
2 or more of the following:

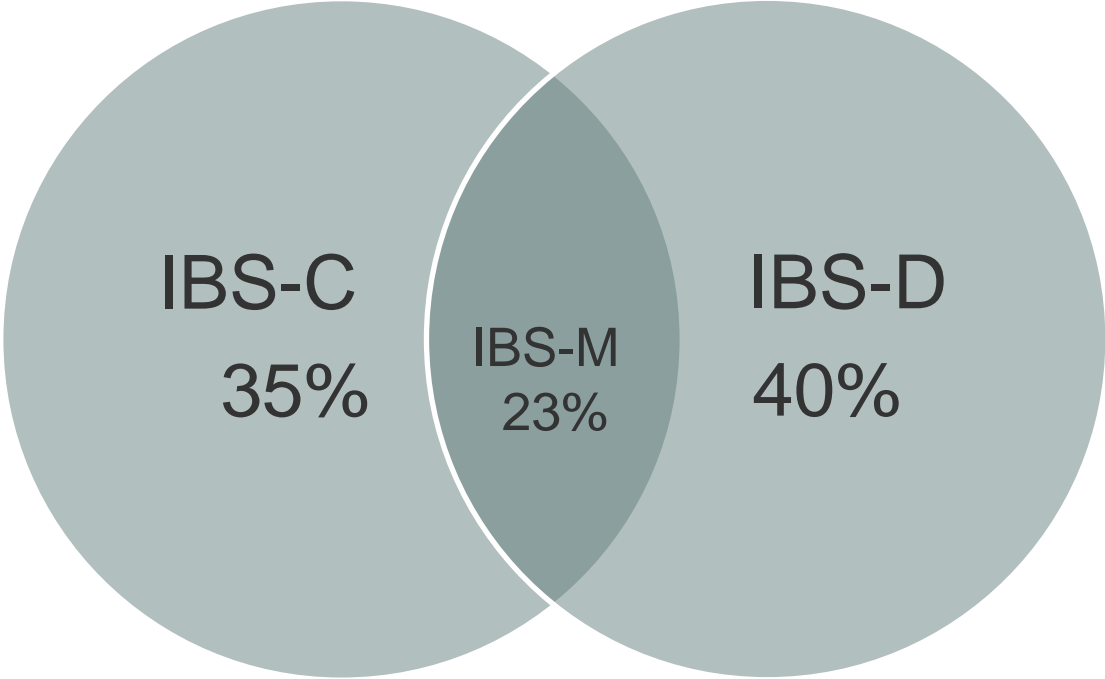
Improvement with
defecation

Onset associated
with
a change in form
of stool

Onset associated
with
a change in
frequency
of stool

And no “red flags”: weight loss, rectal bleeding, family history of cancer/IBD, unexplained abnormalities in bloodwork or physical findings

Types of IBS



What causes IBS?

- **Causes are not completely clear**, but it appears that faulty messages from the **Enteric Nervous System** which sends messages to the brain about our digestion plays a major role.
 - Either a message is sent that says “you’re still in pain” or amplifies the message incorrectly to say “I’m really really in a lot of pain”.
 - This faulty messaging can also tell the gut to **contract too often** (cramping/diarrhea) or **not to contract** as it should (bloating/constipation).
- **Small Intestine Bacterial Overgrowth**
- **Foodborne illness**
- **Stress**
- Currently there is **no cure**, but there are many new ways to keep it under control.


Prevalence of IBS

- Affects **15-20%** of the population, **but may be higher** due to patients under reporting
- **2nd** leading cause of **missed days** from work each year
- **Mostly women**; typically diagnosed between the ages of **15-40**

Multidisciplinary approach

- **Dietary changes:** fiber intake, low-FODMAP diet
- **Supplements:** herbal, probiotics, magnesium
- **Medications:** Tricyclics, SSRI, Anti-diarrheals, Laxatives, Antibiotics, Anti-spasmodics
- **Emotional support:** Mindfulness based stress reduction, Cognitive behavioral therapy, Hypnotherapy, Biofeedback, Meditation
- **Acupuncture**

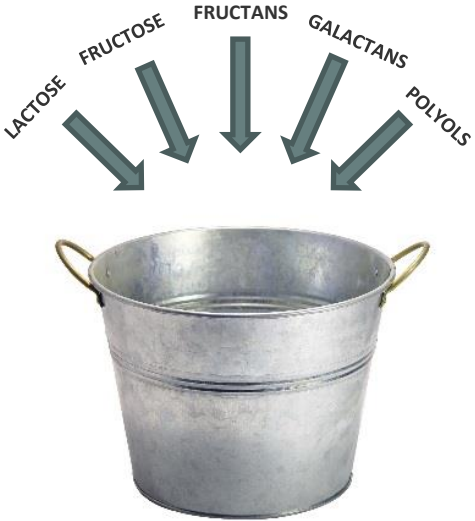
What is the Low FODMAP diet?

- Fermentable Oligo-, Di-, and Monosaccharides and Polyols
 - Short-chain carbohydrates that are:
 - **Poorly absorbed**
 - **Rapidly fermentable**
 - **Osmotically active**
 - **Bloating**
 - **Gas**
 - **Diarrhea**
 - **Constipation**
- Developed in 2005 by a team of dietitians and physicians in Australia
 - Clinically effective: **50-86%** of patients following a low-FODMAP diet feel better

High FODMAP Foods

<p>Oligosaccharides (Fructans & Galactans)</p> <ul style="list-style-type: none">• Nectarine, peach, watermelon• Artichoke, garlic, onion• Kidney beans, black beans, peas, soybeans• Cashews, pistachios• Wheat, barley, rye, chicory root	<p>Monosaccharides (Fructose)</p> <ul style="list-style-type: none">• Apple, cherry, fig, mango, pear, watermelon• Asparagus, artichoke, sugar snap peas• Agave, honey, high fructose corn syrup
<p>Disaccharides (Lactose)</p> <ul style="list-style-type: none">• Milk, evaporated milk, yogurt, ice cream, custard, ricotta, cottage cheese	<p>Polyols (Sorbitol & Mannitol)</p> <ul style="list-style-type: none">• Apple, apricot, blackberry, nectarine, plum, watermelon• Sugar-free gums and mints• Cauliflower, mushrooms, snowpeas

Cumulative effect of FODMAP intake



What is allowed on the Low-FODMAP diet

- **Fruits:** avocado*, banana, blueberries, cantaloupe, clementines, coconut*, grapes, honeydew, kiwi, lemon, lime, orange, papaya, pineapple, pomegranate*, raspberries, strawberries
- **Vegetables:** alfalfa sprouts, beets, bell peppers, bok choy, broccolini*, brussels sprouts*, butternut squash*, cabbage*, carrots, celeriac, celery, cherry tomatoes, chilis, chard greens, corn, cucumber, eggplant, endive, fennel, ginger, green beans, kale, lettuce, okra, olives, parsnips, pumpkin, radishes, scallions (green part only), seaweed, spinach, summer squash, sweet potatoes*, Swiss chard, taro, turnips, water chestnuts, white potatoes, zucchini
- **Dairy:** Almond milk, canned coconut milk, cheddar, feta, goat cheese, lactose-free cottage cheese, lactose-free milk, lactose-free yogurt, parmesan, rice milk, swiss
- **Grains:** almond flour, amaranth, oats, oat bran, polenta, popcorn, quinoa, rice, suitable gluten-free bread
- **Nuts/seeds:** almonds*, chia seeds, flax seeds, hazelnuts, hemp seeds, pecans, pumpkin seeds, sunflower seeds, walnuts
- **Protein:** beef, canned lentils*, canned chickpeas*, chicken, firm tofu, fish, lamb, pork, shellfish, tempeh, turkey
- **Fats:** all oils
- **Sweeteners:** sugar, maple syrup, stevia
- **Other flavorings:** all herbs and spices (as long as they do not contain onion/garlic), apple cider vinegar, balsamic vinegar, capers, Dijon mustard, fish sauce, jam (made from sugar and low-FODMAP fruit), marmalade, peanut butter, rice vinegar, soy sauce, vanilla extract, wasabi

FOODS!

How does the Low-FODMAP diet work?



Mindful eating strategies

- Think about how hungry you are before eating
- Consider if you are eating for emotional reasons
- Sit and eat your meal in peace
- Eat slowly & chew well
- Use your 5 senses while eating
- Stop halfway through your meal
- Know your trigger foods or situations

What is Acupuncture, and Can it Help Me?



What Is Acupuncture and Oriental Medicine?



Health care system based on natural energetic laws

Dates back thousands of years as a primary healthcare system in China and other parts of Asia

Includes various methods: Acupuncture, Herbal Medicine, Nutrition, Manual Body Work, (Tui Na), Qi Gong and Tai Chi

Article Preview

Now, About My Operation in Peking; Now, Let Me Tell You About My Appendectomy in Peking...

By JAMES RESTON Special to The New York Times ();

July 26, 1971,

, Section , Page 1, Column , words



PERMISSIONS

[DISPLAYING ABSTRACT]

PEKING, July 25 -- There is something a little absurd about a man publishing an obituary notice on his own appendix, but for the last 10 days this correspondent has had a chance to learn a little about the professional and political direction of a major Chinese hospital from the inside, and this is a report on how I got there and what I found.



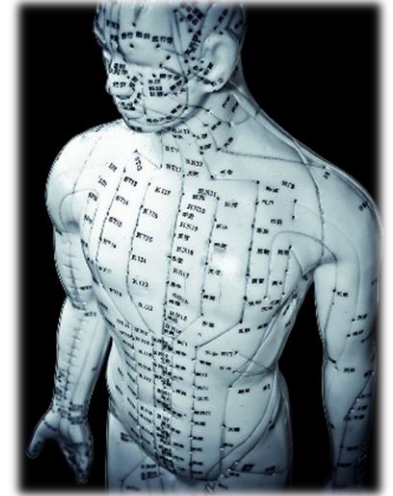
Philosophy

- Health as a balance between the opposing, yet mutually dependable forces of Yin and Yang and the flow of the vital energy force known as Qi
- In health, Qi flows freely along meridians to all parts of the body
- Disease results from excess, deficiency, or stagnation of Qi
- Strong belief that physical and emotional aspects of health care are interrelated but inseparable
- Emphasis on prevention



How Does Acupuncture Work

- Utilizes an energy system in the body that follows pathways, called meridians
- Gentle insertion and stimulation of thin, disposable, sterile needles at strategic points on the body along the meridians
- Each point provides a specific function
- Acupuncture balances and activates this energy



How Acupuncture Affects the Body

Researchers have proposed several processes to explain acupuncture's effects:

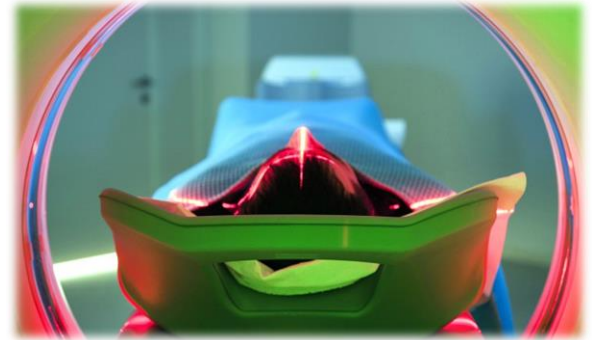
- *Conduction of electromagnetic signals*
- *Stimulation of the hypothalamus and the pituitary gland*
- *Change in the secretion of neurotransmitters and neurohormones*
- *Activation of the body's natural opioid system*



Effects of Acupuncture

Using today's technologies (fMRI, PET, EEG), researchers are able to examine effects of acupuncture on the brain and the body:

- *Acupuncture promotes blood flow*
- *Acupuncture stimulates tissue healing*
- *Acupuncture facilitates release of analgesics*
- *Acupuncture reduces both the intensity and perception of chronic pain*
- *Acupuncture relaxes muscles spasm*
- *Acupuncture reduces stress*



Conditions for which Acupuncture is helpful

There is evidence for the effectiveness of acupuncture for 117 conditions

Acupuncture is considered safe and cost-effective

- Allergic rhinitis
- Knee osteoarthritis
- Chemotherapy-induced and postoperative nausea and vomiting
- Migraine and Tension headache
- Low back pain and sciatica
- TMJ pain
- Postoperative pain
- IBS
- Insomnia



McDonald J, Janz S. The Acupuncture Evidence Project: A Comparative Literature Review (Revised Edition). Brisbane: Australian Acupuncture and Chinese Medicine Association Ltd; 2017. <http://www.acupuncture.org.au>.



Acupuncture and IBS

- Gut-Brain Axis (GBA) is the link between the central nervous system and the enteric nervous system
- Central nervous system (CNS) and the GI tract interact via neurotransmitters or electrical signals
- Acupuncture activates the enteric nervous system (ENS), which inhibits inflammatory reactions and promotes damage repair
- Needle stimulation interferes with stimuli-pain cycle



Fang Z., Luyi W., Neurobiological Mechanism of Acupuncture for Relieving Visceral Pain of Gastrointestinal Origin
Gastroenterology Research and Practice, Volume 2017, Article ID 5687496, <https://doi.org/10.1155/2017/5687496>

E. A. Mayer and K. Tillisch, "The brain-gut axis in abdominal pain syndromes," *Annual Review of Medicine*, vol. 62, pp. 381– 396, 2011.



Acupuncture and IBS

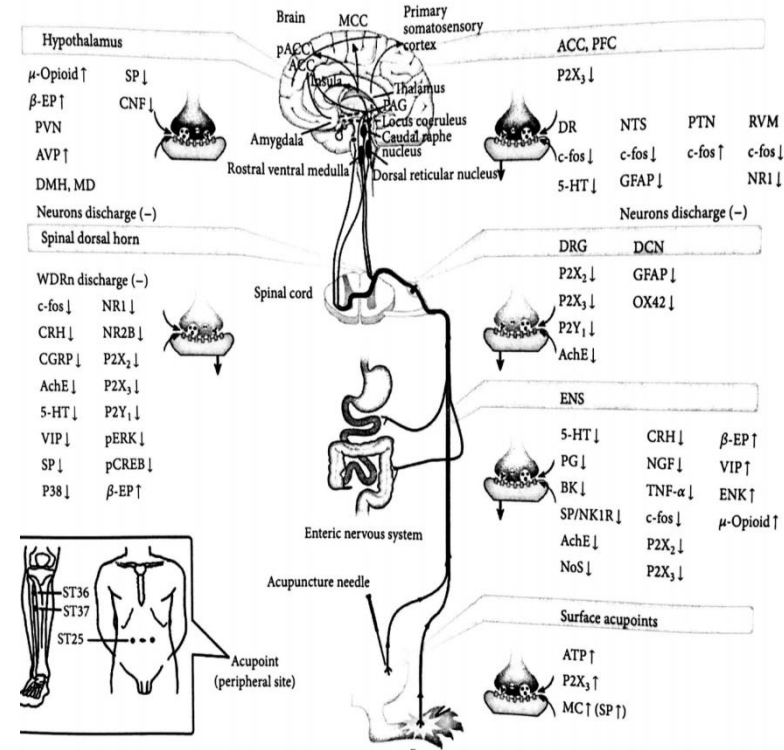
GBA links the brain's emotional and cognitive areas with GI system

Acupuncture regulates GBA

IBS may be triggered by excess negative emotional activity, including anxiety and depression

Acupuncture may improve depression

Acupuncture may improve visceral hypersensitivity



Pei LX, et al., Clinical Evaluation of Acupuncture Treating IBS-D Belonging to Liver Depression and Spleen Deficiency Syndrome.
 Friedrich M, et al. Effects of antidepressants in patients with irritable bowel syndrome and comorbid depression.

Acupuncture and IBS

“Acupuncture for irritable bowel syndrome provided an additional benefit over usual care alone. The magnitude of the effect was sustained over the longer term. Acupuncture should be considered as a treatment option to be offered in primary care alongside other evidenced based treatments.”



MacPherson H, et. al. Acupuncture for irritable bowel syndrome: primary care based pragmatic randomized controlled trial. BMC Gastroenterology 2012; 12: 150.

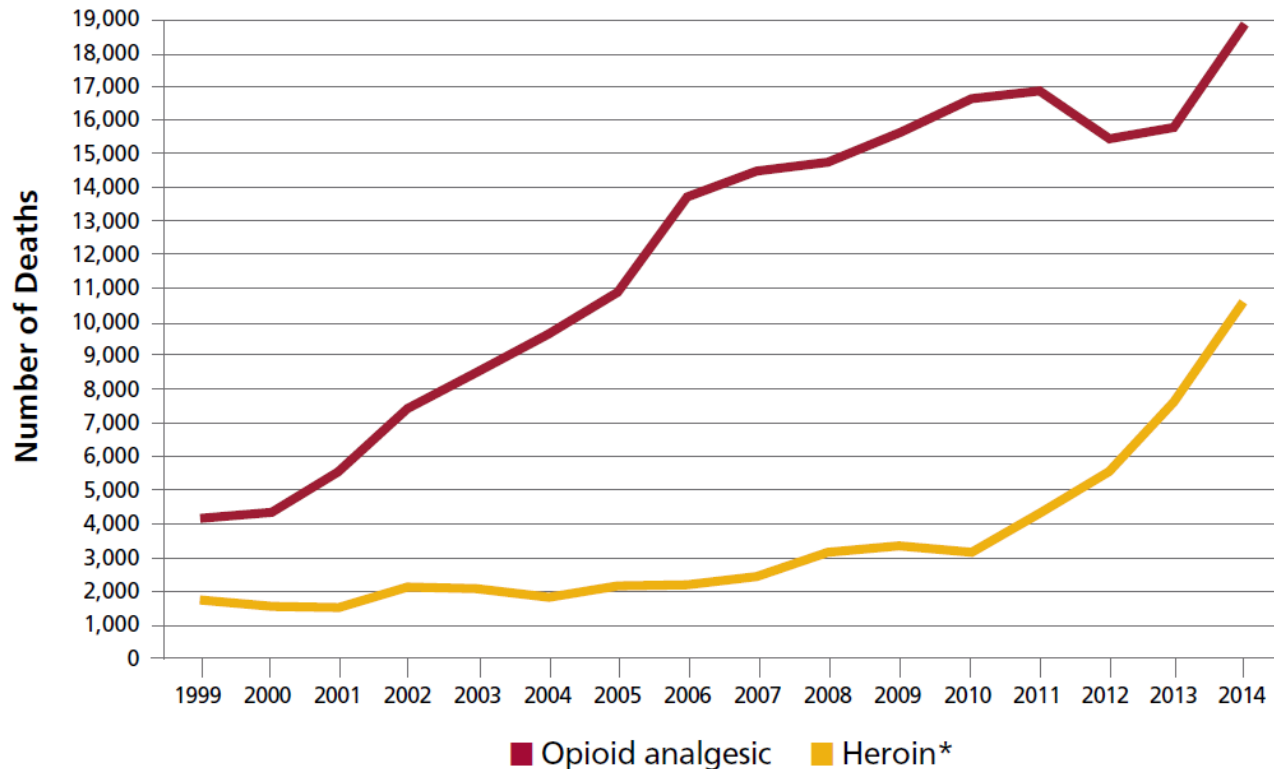


Pain



Low back pain is one of the most common reasons for physician visits in the United States

U.S. Deaths from Opioids & Heroin: 1999-2014



*Heroin includes opium.

1999-2013 Statistics: CDC/NCHS NVSS Multiple Cause of Death Files.

2014 Statistics: American Society of Addiction Medicine (ASAM). Opioid Addiction: 2016 Facts & Figures.

The Opioid Crisis

- Estimated economic burden: \$78.5 billion annually
- 25% of those who are prescribed opioids misuse them
- 5% of those who misuse opioids go on to use heroin
- 80% of those who use heroin, first misused prescription opioids

ACP Guidelines: Treatment of Low Back Pain

Feb 2017

Recommendation 1:

*Given that most patients with **acute or subacute low back pain** improve over time regardless of treatment, clinicians and patients should **select nonpharmacologic treatment** with superficial **heat** (moderate-quality evidence), **massage, acupuncture, or spinal manipulation** (low-quality evidence). If pharmacologic treatment is desired, clinicians and patients should select nonsteroidal anti-inflammatory drugs or skeletal muscle relaxants (moderate-quality evidence). (Grade: strong recommendation)*

Recommendation 2:

*For patients with **chronic low back pain**, clinicians and patients should **initially select nonpharmacologic treatment** with **exercise, multidisciplinary rehabilitation, acupuncture, mindfulness-based stress reduction** (moderate-quality evidence), **tai chi, yoga, motor control exercise, progressive relaxation, electromyography biofeedback, low-level laser therapy, operant therapy, cognitive behavioral therapy, or spinal manipulation** (low-quality evidence). (Grade: strong recommendation)*

Acupuncture Reduces Pain Medication Prescriptions in adult patients who received acupuncture treatments at a United States Air Force medical center.

Opioid prescriptions decreased by 45%, muscle relaxants by 34%, NSAIDs by 42%, and benzodiazepines by 14%.

"In this military patient population, the number of opioid prescriptions decreased and patients reported improved symptom control, ability to function, and sense of well-being after receiving courses of acupuncture"

Crawford Paul, Penzien Donald B., and Coeytaux Remy. Medical Acupuncture. August 2017, 29(4): 229-231.



Stress: a common factor



Health conditions affected by stress

Anxiety

IBS

Pain

Depression

Heart Disease

Headache

Weight

Diabetes

Can we prevent and relieve stress?



Mindfulness Based Stress Reduction Program

3 Components:

1. Educational material

- Relaxation
- Meditation, yoga

2. Practice

- Meditation, yoga in group meetings
- Meditation, yoga as homework

3. Group processes

- Barriers to practice and supportive interactions



MBSR vs. Cognitive Behavioral Therapy or Usual Care on Back Pain and Functional Limitations

- 342 Adults, age 20 – 70 with chronic low back pain
 - Mean age: 49.3
 - Mean duration of back pain: 7.3 years
- Usual Care vs. MBSR vs. CBT
 - Usual care
 - MBSR: Training in mindfulness, meditation, and yoga in 8 weekly 2-hour groups
 - CBT: Training to change pain-related thoughts and behaviors
- Outcomes: Functional limitations + Self-reported back pain
- Reported at 4, 8, 26, 52 weeks

Percentage (95% CI)

Usual Care MBSR CBT

Roland Disability Questionnaire (RDQ)

4 weeks	27.3 (20.3, 36.6)	34.5 (26.8, 44.3)	24.7 (18.1, 33.8)
8 weeks	35.4 (27.6, 45.2)	47.4 (38.9, 57.6)	51.9 (43.6, 61.7)
26 weeks	44.1 (35.9, 54.2)	60.5 (52.0, 70.3)	57.7 (49.2, 67.6)
52 weeks	48.6 (40.3, 58.6)	68.6 (60.3, 78.1)	58.8 (50.6, 68.4)

Pain Bothersomeness

4 weeks	20.6 (14.6, 28.9)	19.1 (13.3, 27.4)	21.7 (15.3, 30.6)
8 weeks	24.7 (18.1, 33.6)	36.1 (28.3, 46.0)	33.8 (26.5, 43.2)
26 weeks	26.6 (19.8, 35.9)	43.6 (35.6, 53.3)	44.9 (36.7, 55.1)
52 weeks	31.0 (23.8, 40.3)	48.5 (40.3, 58.3)	39.6 (31.7, 49.5)

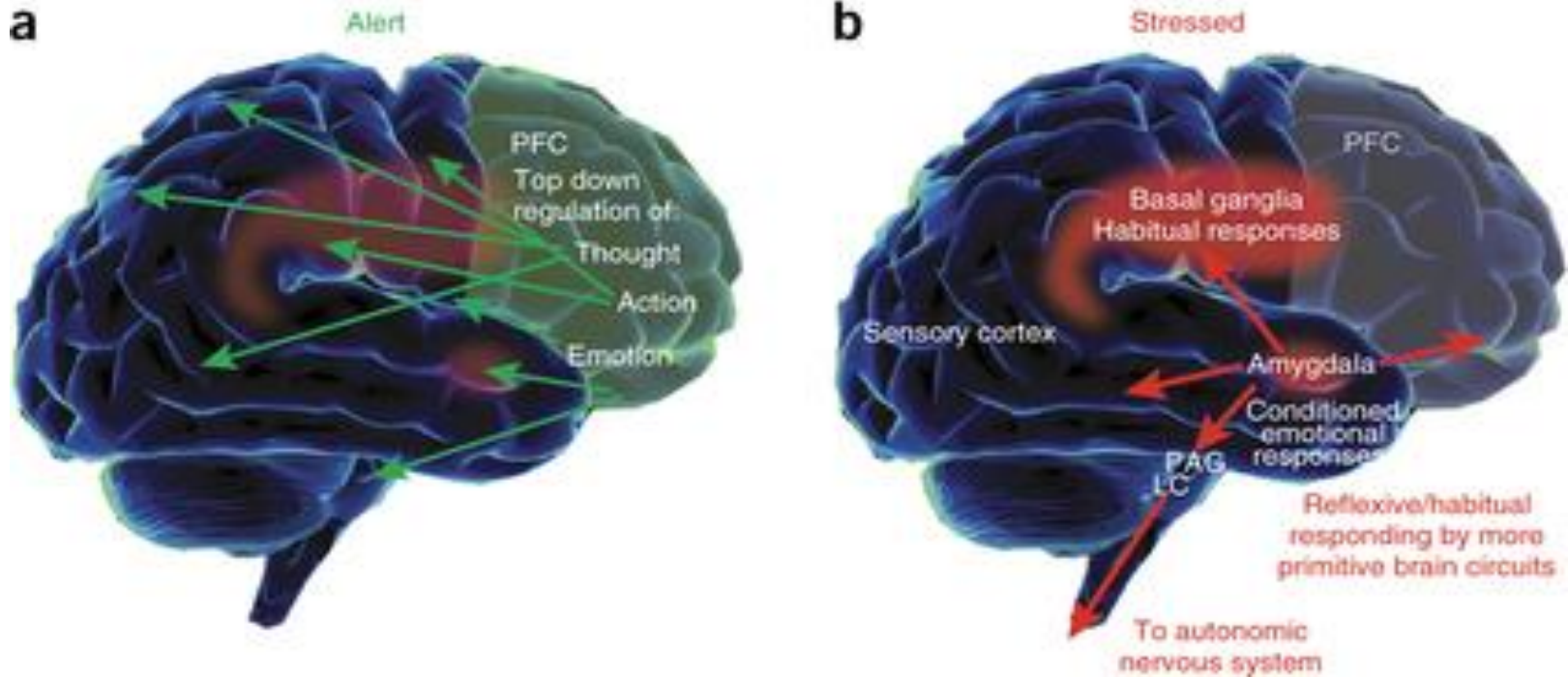
MBSR vs. Cognitive Behavioral Therapy or Usual Care on Back Pain and Functional Limitations

For adults with chronic low back pain, treatment with MBSR or CBT alongside usual care resulted in greater improvement in self-reported back pain and functional limitations at 26 weeks.

Effect of Mindfulness-Based Stress Reduction vs .Cognitive Behavioral Therapy or Usual Care on Back Pain and Functional Limitations in Adults with Chronic Low Back Pain: A Randomized Clinical Trial. JAMA 2016.



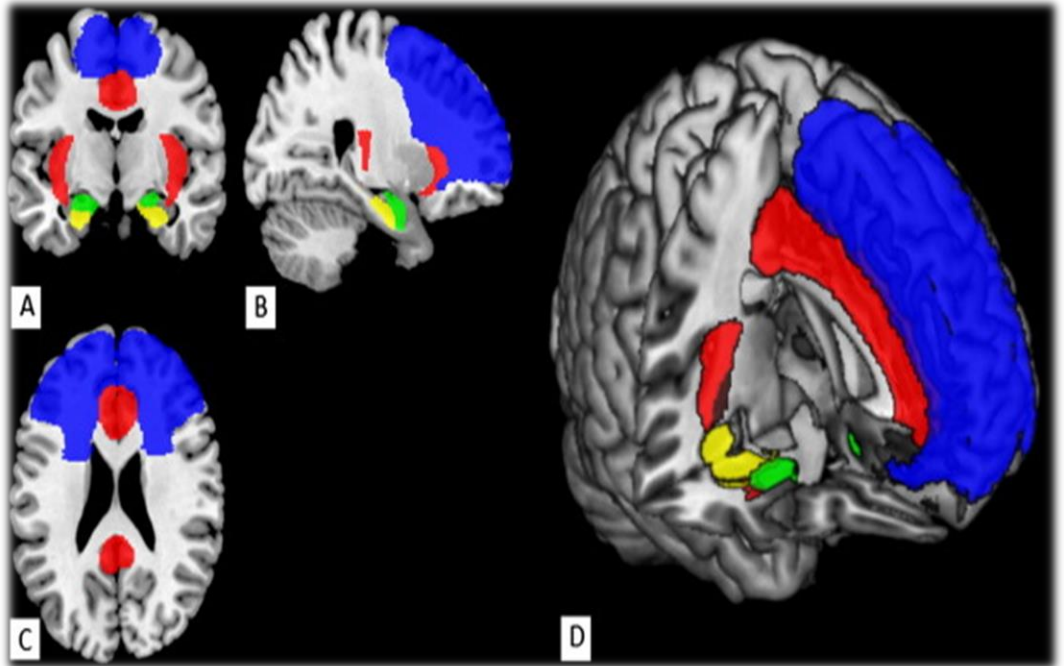
Neurologic Effects of Chronic Stress



Arnsten, A. Stress weakens prefrontal networks: molecular insults to higher cognition

Effect of MBSR on the Brain

- Activity
- Connectivity
- Volume
- May improve emotion regulation and higher cognitive function
- Clinical effects are long lasting



Blue Zones



Integrative Health and Wellbeing Clinical Team



Oleg Fabrikant, DAOM, LAc
Acupuncturist

- Experienced Acupuncturist in General practice, internal medicine, pain management, orthopedics, neurological, musculoskeletal and TMJ disorders, sports and soft tissue injuries and women's health.



Manna Lu-Wong, RN
Integrative Health Nurse

- Trained in aromatherapy, contemplative care, yoga, both western and traditional Japanese Reiki, acupuncture
- Helped implement Complementary Care Program at NYP/LM Cancer Center



Jacqueline Herbach, LMSW, LMT
Massage Therapist & Pilates Instructor

- Certified in Massage Therapy, Pilates, Personal Training, Group Exercise, Yoga, Ericksonian Hypnosis
- Formerly provided private and group Pilates classes, specialized in Orthopedics



Jackie Topol, RD, CSO, CDN
Integrative Nutritionist

- Board certified specialist in oncology nutrition
- Experienced working with patients with weight management, skin health, food sensitives, chronic fatigue, IBS, heart disease and cancer



Alka Gupta, MD

Jackie Topol, MS, RD, CSO, CDN

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