



Preventing and Managing Your Body's Chronic Inflammation for Health & Wellness



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SAVE THE DATE

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IDA Be Well Summit

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Dental Practice Committee

Keynote speaker

Dr. Brett Kessler

ADA President-Elect



Two Types of Inflammation:

Acute: The body's natural response to an injury such as a broken leg or a burned hand.

Initial pain exists as a protection mechanism from further injury. EX: Removing one's hand from a hot stove.

Chronic: This inflammation – has become more commonplace and contributes to many causes of chronic disease and morbidity that we commonly see today.

Acute Inflammation

- Inflammation can trigger the production of more immune cells and antibodies.
- These can be life saving when fighting off viruses, bacteria, and even newly formed cancer cells, but it takes energy and resources to make these.
- The body prioritizes dealing with these situations as they threaten the survival of the organism.
- Therefore, fewer metabolic resources are available to the other cells in the body.

Objectives

Chronic inflammation:

What it is?

What causes it?

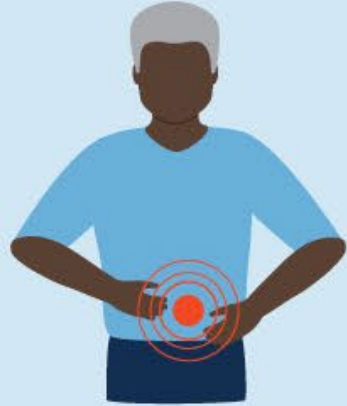
What can you do about it?

Chronic inflammation is...

Low-grade, frequently has no symptoms and can last for weeks, months or even years.

Chronic inflammation can become a disease over time.

Signs of chronic inflammation can include:



Abdominal pain.



Chest pain.



**Fatigue and/or
insomnia.**



Fever.



Joint pain or stiffness.



Mouth sores.



Skin rash.

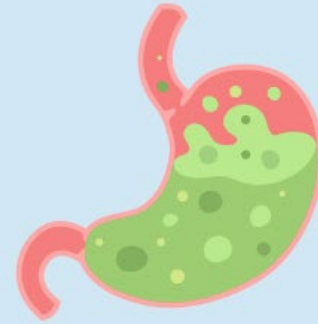


Depression, anxiety and other mood disorders.

Cleveland Clinic



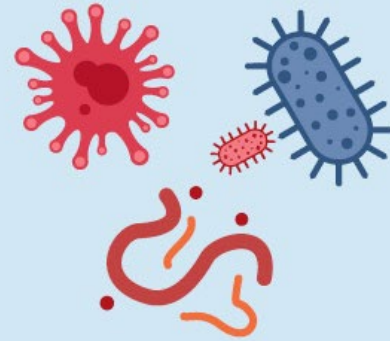
Diarrhea or constipation.



Acid reflux.



Weight gain or weight loss.



Frequent infections.

Cleveland Clinic

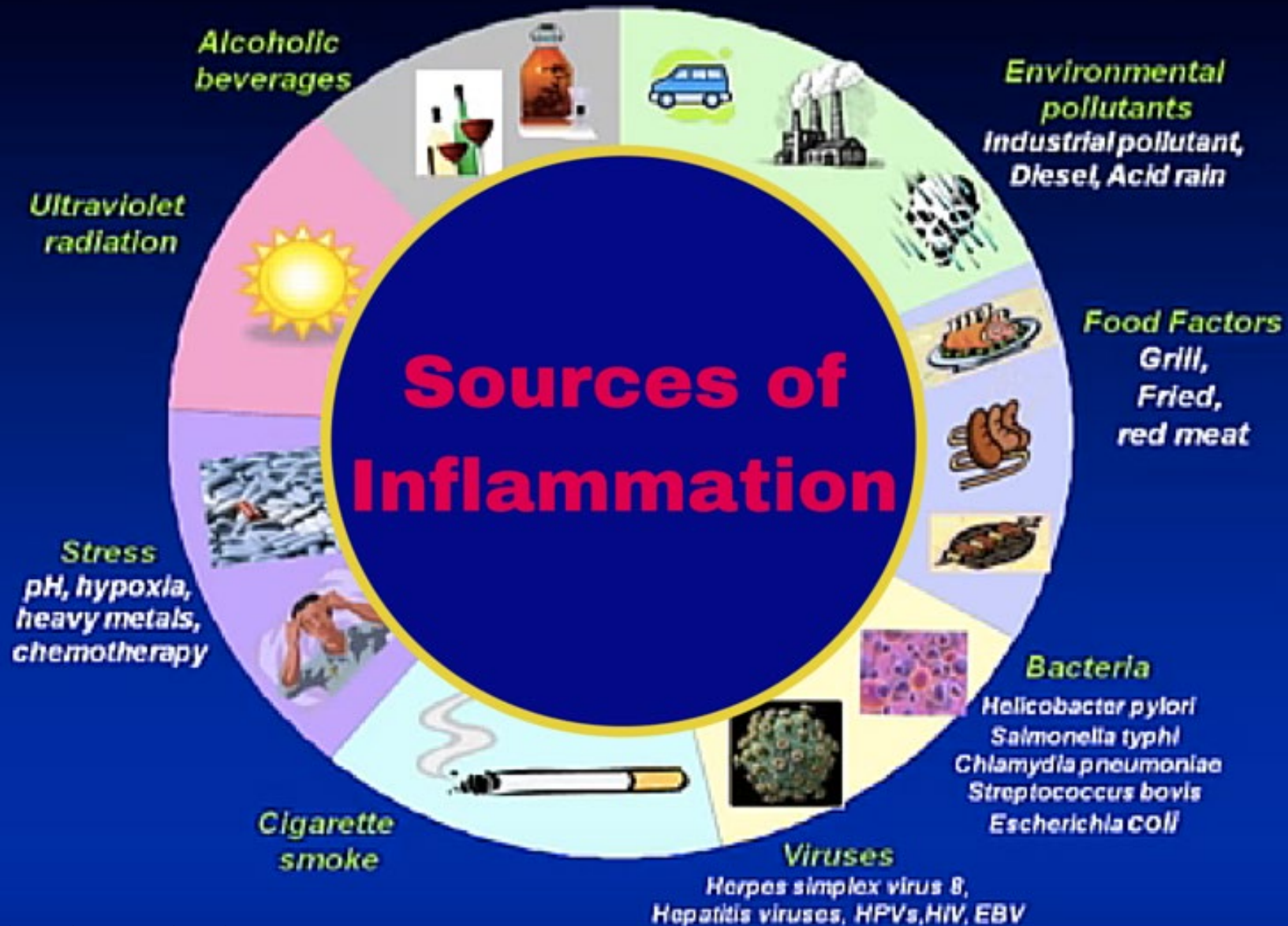


Chronic Inflammation Disease States

- Autoimmune diseases, like lupus, rheumatoid arthritis (RA), psoriasis and ankylosing spondylitis (AS).
- Cardiovascular diseases, such as heart disease and high blood pressure
- Certain cancers
- Gastrointestinal diseases, like Crohn's disease and inflammatory bowel disease.
- Lung diseases, like asthma and chronic obstructive pulmonary disease (COPD)
- Mental health conditions, such as depression and anxiety
- Metabolic diseases, like Type 2 diabetes
- Neurodegenerative diseases, such as Alzheimer's disease and Parkinson's disease

Together, inflammatory diseases account for more than half of all deaths globally.

Potential Sources of Inflammation



STRESS

Potential
Sources of
Inflammation

Sleep can have a major effect on inflammation in the body.

Quality zzz's





Quality zzz's: Sleep gets overlooked as a source of inflammation

Poor sleep has been strongly linked to long-term inflammation of the digestive tract such as inflammatory bowel diseases.

Other Ways Inflammation Can Affect Your Health

Gut Health: Inflammatory Bowel Disease, Ulcerative Colitis, Crohn's Disease

Rheumatoid Arthritis: Also linked to smoking, lack of vitamin D and more.

Heart Disease: Link to Obesity and unhealthy eating contribute to inflammation and fatty plaque in arteries affecting heart.

Higher Risk of Cancer

Respiratory Issues: Inflammation in lungs can cause accumulation of fluid and narrowing of the airways leading to asthma, infections and COPD (Chronic Obstructive Pulmonary Disease).

Other Ways Inflammation Can Affect Your Health

Inflammation of the mouth is reflected in the outcome of Periodontitis (inflammation of the gums).

Weight loss difficulties: Inflammation can slow metabolism, increase insulin resistance,

Bone Growth Interference

Skin Issues: Psoriasis (Immune System causes cells to grow too quickly) Also, may lead to more wrinkles.

Chronic Inflammation is linked to depression.

Other Ways Inflammation Can Affect Your Health

Mental Disorders

Low- grade inflammation is often found in people with metabolic and mental disorders.

Many people speculate that neuroinflammation might be the root cause of at least some mental and neurological disorders.

Cytokine storms and overactive inflammatory response can kill people with COVID. Lingering inflammation is one of the primary suspects for the cause of long covid, in which people have mental and neurological symptoms for months or years after infection.

Chris Palmer, MD

- HARVARD PSYCHIATRIST AND RESEARCHER WORKING AT THE INTERFACE OF METABOLISM AND MENTAL HEALTH
- AT HARVARD MEDICAL SCHOOL:
 - Assistant Professor of Psychiatry
 - Founder and director of the Metabolic and Mental Health Program
 - Director of the Department of Postgraduate and Continuing Education at McLean Hospital
- PIONEERING THE USE OF THE KETOGENIC DIET AND ITS APPLICATIONS IN PSYCHIATRY.



Brain
Energy

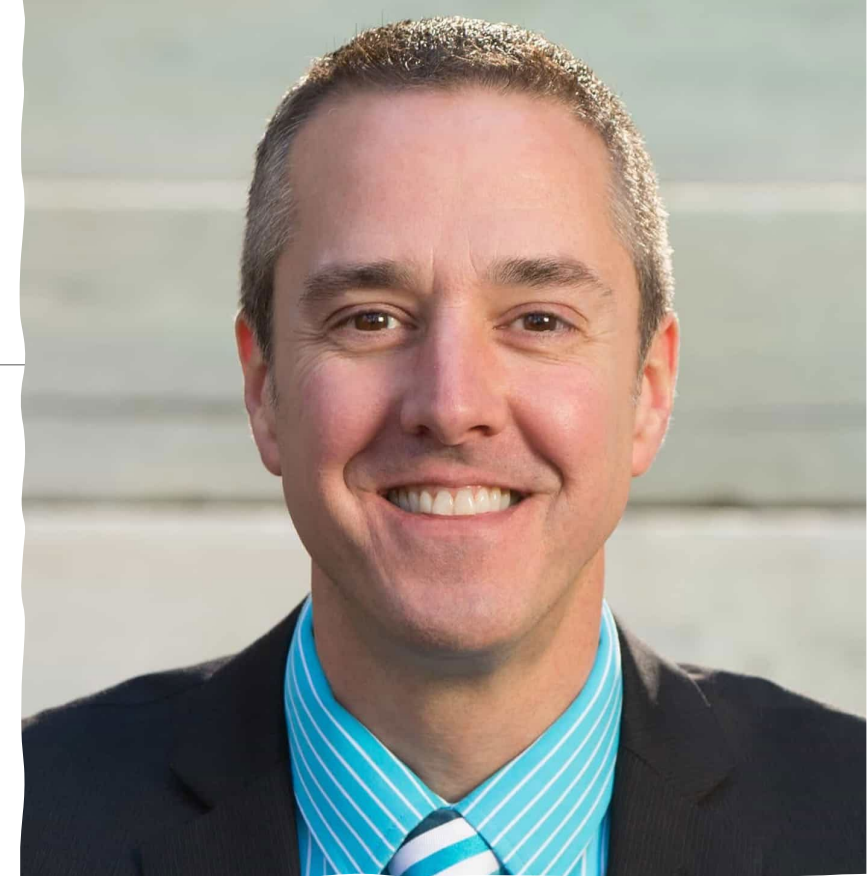
Brain Energy Theory Explained

- METABOLISM – HOW ALL LIVING ORGANISMS USE TO CONVERT FOOD INTO ENERGY. FUNDAMENTAL TO LIFE.
- METABOLIC PROBLEMS LEAD TO CELL DYSFUNCTION.
- METABOLIC DYSFUNCTION IN BRAIN CELLS IS LEADING CAUSE OF MENTAL ILLNESS AND CROSSES OVER INTO ALL CHRONIC DISEASES: CANCER, DEMENTIA, ALZHEIMER'S, AND DIABETES



Brain
Energy

Brain Energy Theory Summarized



- INFLAMMATION PLAYS A POWERFUL ROLE IN MENTAL AND METABOLIC HEALTH.
- INFLAMMATION ALWAYS AFFECTS METABOLISM, AND METABOLIC PROBLEMS OFTEN INCREASE LEVELS OF INFLAMMATION.

Brain
Energy

Brain Energy Theory Summarized

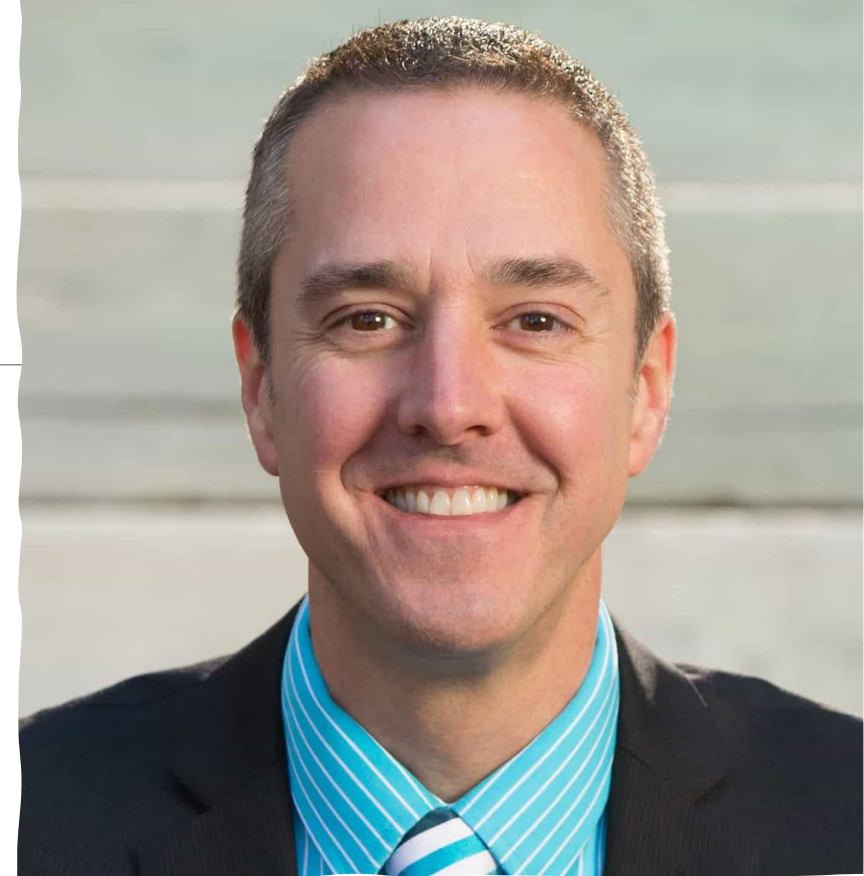
FOR MANY PEOPLE, POOR DIET, LACK OF EXERCISE, POOR SLEEP, SMOKING, USE OF ALCOHOL OR OTHER DRUGS, AND OTHER LIFESTYLE FACTORS ARE THE PRIMARY CAUSES OF LOW- GRADE INFLAMMATION. ADDRESSING THESE DIRECTLY IS MORE IMPORTANT THAN TRYING TO REDUCE INFLAMMATION THROUGH OTHER MEANS, SUCH AS TAKING AN ANTIOXIDANT PILL.



Brain
Energy

Brain Energy Theory Summarized

INFLAMMATION IMPACTS MENTAL STATES, AND MENTAL STATES CAN CAUSE INFLAMMATION. MITOCHONDRIA ARE DIRECTLY AND INDIRECTLY INVOLVED WITH INFLAMMATION AND IMMUNE CELL FUNCTION. INFLAMMATION AND MITOCHONDRIA ARE IN A COMPLEX FEEDBACK CYCLE AND CAN PLAY AN IMPORTANT ROLE IN METABOLIC AND MENTAL HEALTH.



Brain
Energy

Prevention and Management include:

Eating to reduce inflammation:

Quality Sleep; sleeping 7-8 hours.

Regular physical activity (natural & powerful anti-inflammatory medicine)

Environmental factors (Blue Zones, living longer and better)

LEIF'S STORY

Anti-
inflammatory
protocol

Optimal AF



They include rainbow of fruits and vegetables, whole grains, plant-based proteins (like beans and nuts), fatty fish, and fresh herbs and spices.

Anti-Inflammatory Foods



Blue Zones: Dan Buettner

Environmental Factors Affecting Inflammation



Anti-Inflammatory Food + Supplement Recommendations

Foods that dull mood → [“Blue Bowels”]

Unsupportive Fats + Deep Fried Foods

- Margarine
- Shortening
- Hydrogenated oils

Examples:

- Tempura
- Empanadas
- Samosas
- Fish and chips
- Chicken-fried steak
- French fries



Anti-Inflammatory Food + Supplement Recommendations

Supportive Foods

Good fats:

Monounsaturated fats, high in omega-3 fatty acids, should make up the majority of fats in your diet. Found mostly in:

- Olive oil
- Almonds
- Walnuts
- Nut butters (almond and cashew) *Peanuts are a legume
- Avocados
- *Cold-water fatty fish (salmon, mackerel, tuna, herring, and sardines)
- Dark, leafy vegetables
- Grass-fed beef

Polyunsaturated fats better than trans fats, but some are not recommended for depression.



* Highest source

Anti-Inflammatory Food + Supplement Recommendations

Supportive Foods

Omega-3 Fatty Acids

- Omega-3s are essential to mental health.
- Important for normal body metabolism--they are a vital part of cell membranes and are the starting point for making hormones that regulate blood clotting, contraction and relaxation of artery walls, and inflammation.
- We cannot produce them on our own--we must get our omega-3s from our diet. This is why they're called *essential fatty acids*.



Anti-Inflammatory Food + Supplement Recommendations

Supportive Foods

Omega-3 Fatty Acids

- Three main EFAs are:
 - Eicosapentaenoic acid (EPA)
 - Docosahexaenoic acid (DHA)
 - Alpha linolenic acid
- They promote brain health by lowering inflammatory markers and protecting neurons from excessive inflammation.



Anti-Inflammatory Food + Supplement Recommendations

Supportive Foods

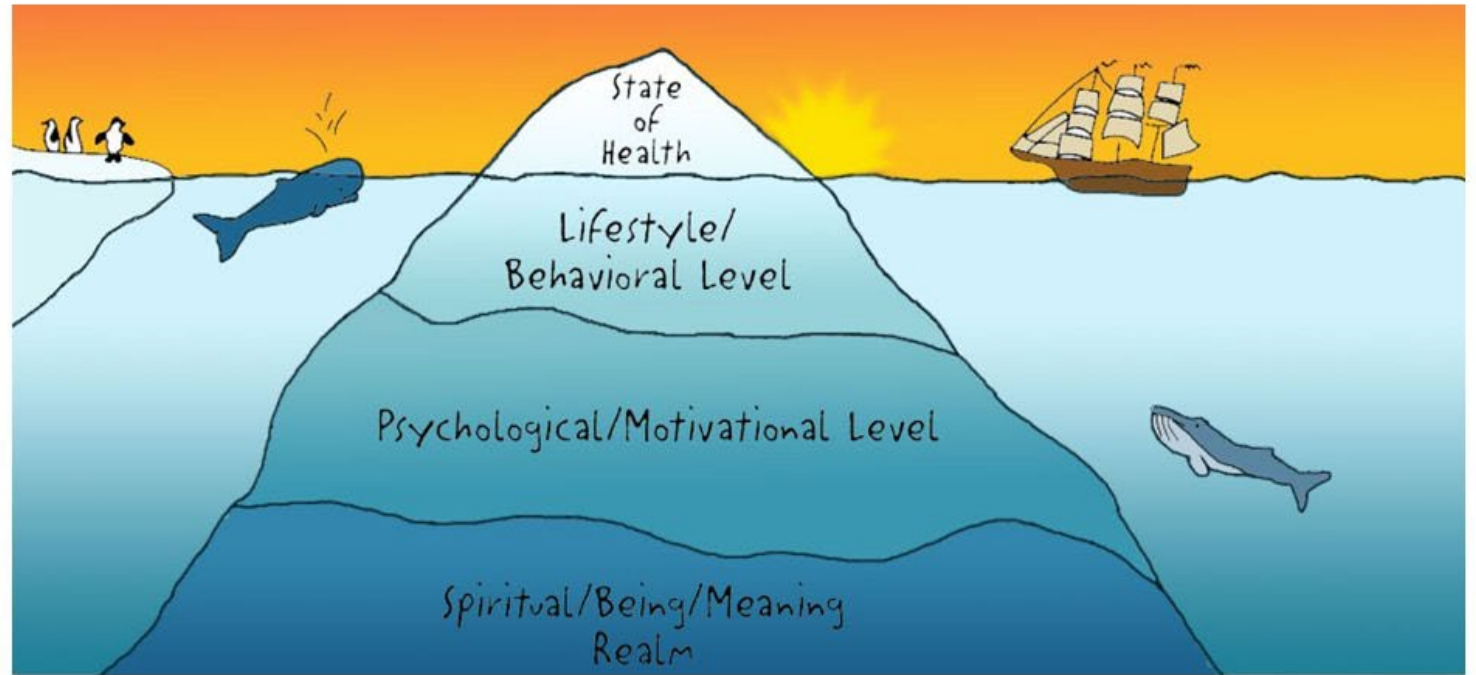
Omega-6 Fatty Acids - in moderation only:

- Corn oil
- Sunflower oil
- Safflower oil
- Cottonseed oil
- Peanut oil
- Soybean oil
- Sunflower oil
- Grapeseed oil
- Sesame oil
- Nuts and seeds (walnuts, sunflower seeds, pumpkin seeds, pine nuts, Brazil nuts)
- Oily fish (salmon, herring, mackerel, sardines)



The Iceberg Model of Health

Healthy
Mindset Can
Help to
Manage Your
Body's
Inflammation



Wellness Inventory Program

Summary – 7 Secrets

1. Manage Stress
2. Make healthy food choices
3. Nutritional supplements as needed
4. Limit Alcohol
5. Sleep
6. Exercise
7. Self Care – especially Oral Health

Calm Your Inflammation—7 Proven Secrets Dr. Brenda Tidwell

Create a Keystone Habit

Keystone habits lead to the development of multiple good habits.

They start a chain effect in your life that produces a number of positive outcomes.



Helpful Resources

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| The Power of Habit | By: Charles Duhigg |
| Thrive: Finding Happiness The Blue Zones Way | By: Dan Buettner |
| Healing Spices | By: Bharat B. Aggarwal, PHD |
| The Longevity Kitchen | By: Rebecca Katz & Mat Edelson |
| Internet Search: 13 Ways Inflammation Can Affect Your Health | By: Amanda MacMillan |
| Internet Search: Chronic Disease: Notes & Reports | By: Centers of Disease Control and Prevention |
| Wellness Coaching for Lasting Lifestyle Change (Second Edition) | By: Michael Arloski, PhD, PCC, CWP |
| <u>Gerontology: Obesity, Inflammation and Insulin Resistance</u> | By: External Sources: PubMed/Medline |
| | |

Helpful Resources

| Inflammation—The Silent Fire | Dr. Carly Stewart |
|---|-------------------------------|
| Calm Your Inflammation—7 Proven Secrets | Dr. Brenda Tidwell |
| Anti-Inflammatory Diet for Beginners | Yasmine Elamir, William Grist |
| Brain Energy | Dr. Chris Palmer |
| Your Brain on Food | Dr. Uma Naidoo |
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