



Inflammation 101: The Fire Within

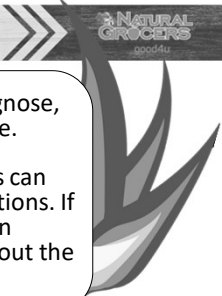


1

Reminder

This class is not intended to diagnose, treat, or mitigate any disease.

Dietary supplements and foods can interact with prescription medications. If you are taking a prescription medication, become informed about the possible interactions.



2

The Natural Grocers Difference

- 🍏 Nutrition Education
- 🍏 Highest Quality Products
- 🍏 Always AffordableSM Prices
- 🍏 Commitment to Our Community
- 🍏 Commitment to Our good4uSM Crew



5 FOUNDING PRINCIPLES



3

Inflammation: Good, Bad, & Ugly

Inflammation is essential for life

- Necessary immune response to illness or injuries
- Helps us fight foreign invaders
- Helps us heal and recover from injury

4

The Good

Acute Inflammation

Acute inflammation is an immune response to infection or injury that includes symptoms such as **swelling, redness, pain, and heat**

Acute Inflammation is short in duration and typically resolves itself in hours or days

5

The Bad

Chronic Inflammation

Chronic inflammation may result from **unresolved acute inflammation** and/or low-grade inflammation caused by a number of **diet, lifestyle, or environmental factors**

Symptoms include **fatigue, poor mood, aches and pains, rashes, digestive issues, weak immune system, or go unnoticed**

Chronic inflammation is long lasting and may be ongoing if the root of the problem is not resolved

6

The Ugly

Chronic inflammatory diseases are the most significant cause of death and account for 50% of all deaths worldwide

Disease names ending with '-itis' directly implies an inflammatory disorder

However, current research highlights that **inflammation plays a central role in almost every chronic disease**

7

Across Life-span

Recent research highlights the role of chronic inflammation during fetal and child development

Inflammaging is the theory examining the effects of inflammation on our biological age and its association with chronic diseases

As we age, we become more susceptible to the effects of chronic inflammation

8

Chronic Inflammation

Diet, lifestyle, and environmental factors drive chronic inflammation

Chronic inflammation is **low-grade** and **systemic**

Chronic inflammation leads to **collateral damage** that affect many tissues and organs

9

Inflammatory Lifestyle

Our **modern lifestyle** is full of stressors that directly contribute to **chronic inflammation**

What are some common stressors?

Chronic stress signals immune cells to generate **inflammation** which has been shown to affect our **cognitive function** and **mood**

Chronic Stress

Inflammation

Immune Cells

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10

Environmental Factors

Each year we are collectively exposed to approximately 2,000 new chemicals in products we use or ingest

Chlorpyrifos are one of the **most widely used organophosphate pesticide** used on a variety of crops including corn, soybeans, broccoli, and apples

A 2019 study on mice showed **chlorpyrifos** consumption increased **gut permeability** leading to **low-grade chronic inflammation, insulin resistance, and obesity**

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11

Environmental Factors

We cannot make the mistake of separating human health and environmental health!

Human Health

Health

Environmental Health

One study on 210 healthy twins found **environmental factors, not genetics, are the strongest contributors to differences in levels of inflammation across individuals**

The researchers found differences in levels of chronic inflammation increased over time as individual twins were exposed to different environments

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12

Inflammatory Diet

The Standard American Diet is high in processed food, refined carbohydrates, sugars, and unhealthy fats

The SAD diet is known to promote inflammation and is associated with a wide range of chronic diseases

A 2019 review showed a high Dietary Inflammatory Index (DII) score was associated with an increased risk for cardiovascular disease, adverse mental health, and musculoskeletal disorders

Number at risk

Years	High DII	Medium DII	Low DII
0	1000	1000	1000
1	950	950	950
2	900	900	900
3	850	850	850
4	800	800	800
5	750	750	750
6	700	700	700
7	650	650	650
8	600	600	600

13

Blood Sugar & Inflammation

High Blood Sugar

AGEs

Inflammation

Insulin Resistance

What are some other factors that increase inflammation?

14

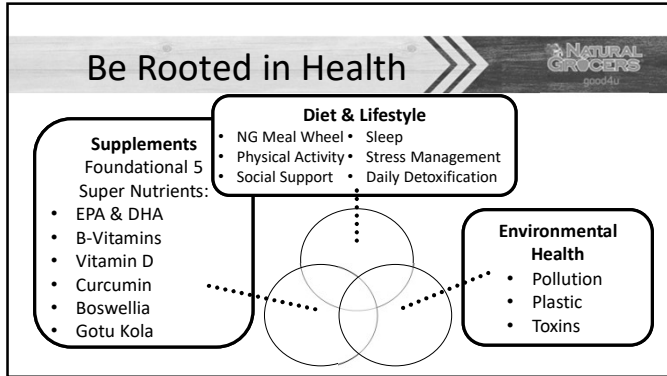
Inflammation Balance

Inflammation

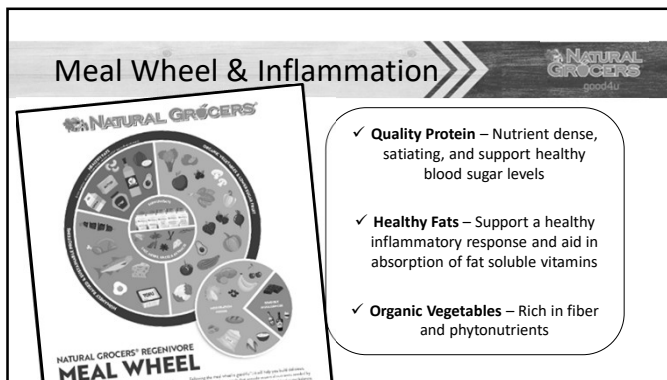
- Nutrient Dense Diet
- Dietary Supplements
- Sleep
- Exercise
- Social Well-Being
- Stress Management

- Sugar
- Unhealthy fats
- Processed Food
- Environmental Toxins
- Stress
- Food Allergies/Sensitivities

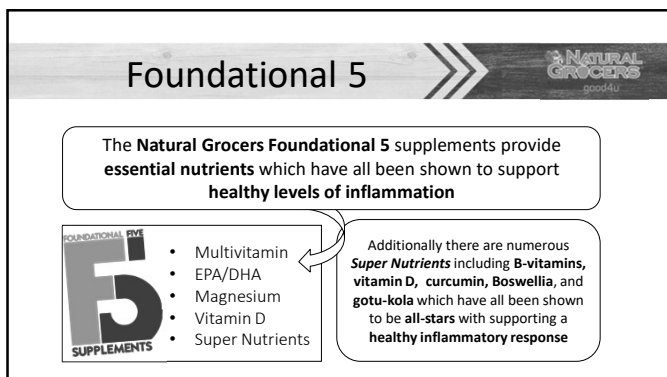
15



16



17



18

EPA & DHA

EPA and DHA are two omega-3 fats that play a central role in a healthy inflammatory response

Research supports EPA & DHA's ability to support a wide variety of health goals due to their ability to modulate inflammation

- Cardiovascular Function
- Healthy Cognition & Mood
- Healthy Weight Maintenance
- Joint Comfort & Mobility
- Healthy Immune Response
- Normal Blood Sugar Levels
- Healthy Skin

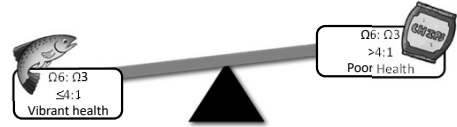


19

Omega Balance

Omega-6 and omega-3 fats should be consumed in balance to support healthy levels of inflammation

Current estimates suggest that our current intake of $\Omega 6 : \Omega 3$ is 20:1, while our ancestors were estimated to have closer to a 1:1 ratio



20

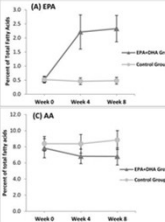
Omega Balance

A 2018 randomized controlled study look at the effect of **2.5 g of EPA & DHA** supplementation a day in middle to late adulthood

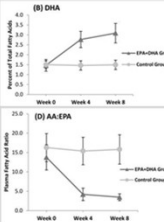
The researchers found that **EPA & DHA** supported a **healthy omega-6 to omega-3 ratio**

Additionally, adults who took EPA and DHA had **healthy levels of inflammation**

(A) EPA



(B) DHA



(C) AA



(D) AA:EPA



21

B-Vitamins

Several of the B-vitamins (B1, B2, B3, B6, Folic Acid, and B12) have been shown to support a healthy inflammatory response and have been studied for a wide-range of benefits

- Immune Response
- Cardiovascular Function
- Mood and Cognition

A 2017 study showed B-vitamin supplementation (B6, Folic Acid, and B12) supported healthy levels of inflammation and cardiovascular function in healthy adults exposed to fine particulate matter pollution



22

Vitamin D

Until recently, vitamin D was primarily considered the "bone vitamin"

We now know nearly every tissue in our body has receptors for vitamin D!

Recent research now shows **vitamin D** plays an important role in modulating the **immune system** and supporting a **healthy inflammatory response**



23

Vitamin D



A 2018 meta-analysis of randomized controlled trials including 33 studies found vitamin D supplementation supported healthy levels of inflammation in patients with Diabetes



24

Curcumin

There are over 7,000 published articles highlighting curcumin's many benefits

Many of curcumin's benefits can be attributed to its ability to **modulate inflammation**



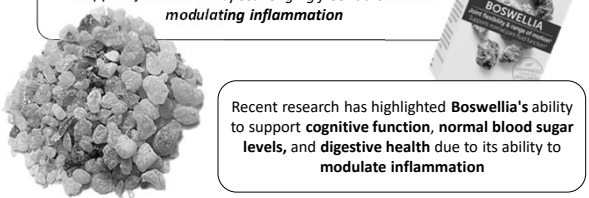
Research supports curcumin's health supportive role:

- Cognitive Function and Mood
- Digestion
- Cardiovascular Health
- Respiratory Health
- Joint Comfort and Mobility
- Immune Health
- Healthy Metabolism
- Skin Health

25

Boswellia

Boswellia is a traditional herb mostly known for its ability to support joint health by **scavenging free radicals** and **modulating inflammation**



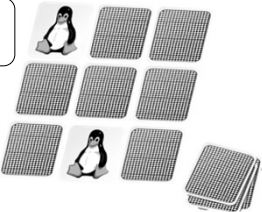
Recent research has highlighted **Boswellia's** ability to support **cognitive function**, **normal blood sugar levels**, and **digestive health** due to its ability to **modulate inflammation**

26

Gotu Kola

Gotu Kola is an herb used in traditional medicine known to support **brain health**

A 2020 study on rats highlighted gotu kola's ability to support **brain health** by **quenching free-radicals**, supporting **healthy levels of acetylcholine**, and supporting a **healthy inflammation response**

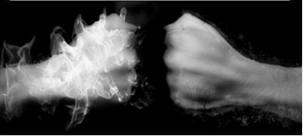


27

Summary

Inflammation is a necessary immune response which has enhanced human survival

However, our modern diet, lifestyle, and environment leads to a state of low-grade chronic inflammation that greatly affects our health



A balanced inflammatory response requires you to *Be Rooted in Health*:

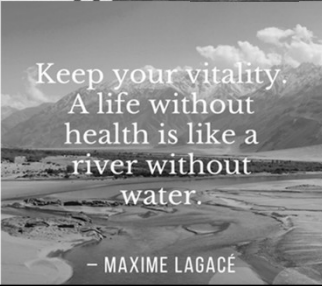
- **Nutrient Dense & Balanced Meals**
- **Supplements:** Foundational 5, EPA & DHA, Vitamin D, B-Vitamins, Curcumin, Boswellia, and Gotu Kola
- **Healthy Environment**

28

Why?

*Although chronic inflammation may go unnoticed, the choices you make in your everyday life **are noticeable** and have the power to **calm your internal flame***

Our vitality requires we take steps to support a healthy inflammation response and will lead to a happier and healthier you



Keep your vitality.
A life without health is like a river without water.

— MAXIME LAGACÉ

29

Resources




30

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- Schedule a 1:1 coaching session
- Invite your NHC to speak at your next event
- Check out our upcoming classes



SCAN ME
