

Inflammation and Chronic Disease

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Health Conditions with Related to Inflammation

- **CVD (Heart Disease, Hypertension, Stroke)**
- **Arthritis**
- **Alzheimer's Disease**
- **Autoimmune Conditions (MS, RA, Lupus, Scleroderma, etc)**
- **Asthma & Allergies**
- **Obesity**
- **Diabetes**
- **Cancer**

Relationship of Diet/Lifestyle to Inflammation

I. Types of Dietary Fat

Saturated Fats

- Promote platelet “stickiness”
- Increase LDL

Trans-Fats

- Artificial – Not native to human body
- Increase inflammatory response

Essential Fat Imbalances

- Omega-3 Deficiencies + Excess Omega-6
- Omega-9 Fats: (Non-Essential FA) do not promote inflammation

II. Pollution

- Pesticides/Herbicides
- Ozone
- Xenoestrogens (foreign hormone mimickers)
- Environmental Chemicals (e.g. petroleum by-products, dry cleaning, industrial waste, many others)

- III. **Food Allergies and Consequences of Poor Digestion**
- IV. **Smoking**
- V. **Lack of Exercise/Inactivity**
- VI. **Antioxidant-Poor Diet (low in Fruits/Veggies)**
- VII. **Stress**
- VIII. **Oxidative Stress** – Reaction of cellular molecules with oxygen or other free radicals.

Sources of Oxidative Stress

- **Normal Metabolic Processes**
- **Smoking/Pollution**
- **Sugar/Refined Carbohydrate**
- **Excess Iron**
- **Toxic Fats**
- **Homocysteine**

Things to AVOID:

- **Most all conventional cooking oils**
- **Common food allergens and craved foods**
- **Limit Dairy**
- **Sugar**

Role of Digestion

- I. **Food Allergens**
 - **Irritate GI Tract**
 - **Lead to chronic inflammation**
- II. **Dysbiosis & Leaky Gut Syndrome**
 - A. **“Good” Bacteria (Probiotics)**
 - **Digest Food**
 - **Stimulate/Balance Immunity**
 - **Aid in Detoxification**
 - **Kill off Pathogenic Microorganisms**

B. Pathogenic Microorganisms

- **Produce Disease**
- **Provoke an Immune Response (Inflammation)**

Nutritional Supplements

- 1. Fish Oil (EPA/DHA)**
- 2. Borage or EPO (GLA)**
- 3. B₆, B₁₂, Folic acid (lowers homocysteine)**
- 4. Antioxidant Supplements**
 - Mixed Carotenoids & Lycopene
 - Full Spectrum Vit E (alpha, gamma tocopherols & tocotrienols)
 - Vitamin C (as mineral ascorbates) and Bioflavonoids
 - Alpha-Lipoic Acid
 - Green Tea Extract
 - *Ginkgo biloba*
 - Pycnogenol or Grape Seed Extract

- 6. Anti-Inflammatory Herbs**
 - Holy Basil
 - Rosemary
 - Curcumin (Turmeric) and Ginger
 - *Boswellia serrata* (Boswellin)

- 7. Enzymes**
 - Pancreatin Trypsin/Chymotrypsin
 - Bromelain & Papain
 - Plant/fungal enzymes

Positive Lifestyle Changes:

- **Organically grown produce**
- **Grass-fed/free range meats and poultry/eggs**
- ***Wild caught* fish (salmon & sardines)**
- **Variety of brightly colored vegetables/fruits**
- **Olive or macadamia nut oil as primary cooking oils**
- **Snack on raw nuts/seeds**

