

Redefining Cancer:

## **The Science Of Healing**

# **Food As Medicine**

Macronutrients vs Micronutrients

Anti-Inflammatory

Anti-Angiogenic

Anti-Cancer

Calorie Appropriate

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# Macronutrients: The Foundations

Macronutrients are the essential nutrients your body needs in large quantities. They provide the cellular energy required for immune function, tissue repair, and maintaining optimal metabolic health.

**45-65%**



Carbohydrates

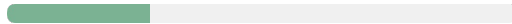


Your body's primary energy source. Focus on complex, fiber-rich, and low-glycemic sources like cruciferous vegetables, legumes, and whole grains to stabilize blood sugar.

**20-35%**



Healthy Fats

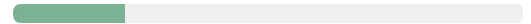


Essential for hormone production, nutrient absorption, and fighting inflammation. Prioritize plant-based sources like avocados, walnuts, flaxseeds, and extra virgin olive oil.

**10-35%**



Proteins



Crucial for tissue repair, immune function, and maintaining muscle mass. Emphasize clean, plant-based proteins such as beans, lentils, nuts, and seeds.

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# Micronutrients for Prevention



## Essential Vitamins

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Vitamin A & C: Powerful antioxidants that protect cells from DNA damage and support immune function.

Vitamin D: Regulates cell growth, supports immune response, and shows strong links to reduced risk of colon and breast cancers.

Vitamin E: Protects cell membranes from oxidative stress and inhibits tumor angiogenesis.

B-Complex (Folate): Crucial for DNA synthesis and repair; deficiencies can lead to DNA mutations that increase cancer risk.



## Vital Minerals

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Selenium: Enhances antioxidant enzyme activity and immune response; associated with lower risks of prostate and lung cancers.

Zinc: Essential for DNA repair, cell division, and maintaining a robust immune system against abnormal cells.

Calcium & Magnesium: Calcium binds to bile acids in the colon (reducing irritation), while magnesium supports hundreds of enzymatic reactions involved in cellular health.

Iron: Necessary for oxygen transport and cellular energy, though balance is key as excess can promote oxidative stress.

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# **Plant-Based Compounds**

### Terpenes

Aromatic compounds found in citrus, essential oils, and herbs. Research shows they can exhibit potent anti-cancer activities by inducing apoptosis (cell death) and inhibiting cellular proliferation.

### Flavonoids

Powerful antioxidants found abundantly in tea, berries, onions, and apples. They are highly effective at modulating immune responses, reducing chronic inflammation, and providing anti-angiogenic benefits.

### Phytochemicals

Broad category of protective plant nutrients including polyphenols and thiols. They actively help repair DNA damage, detoxify carcinogens, and starve tumors by cutting off their blood supply.

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# Anti-Inflammatory Foods



### Vibrant Produce

Leafy Greens, Berries, Tomatoes

Rich in natural antioxidants and phytochemicals. Dark greens like spinach and kale, along with colorful berries, actively protect cellular health and lower systemic inflammation.



### Plant-Based Fats & Proteins

Flax, Chia, Hemp, Walnuts

Essential sources of plant-based Omega-3 fatty acids, proteins, and lignans. These powerful seeds and nuts create a foundational defense against inflammatory pathways and support cellular health.



### Herbs & Spices

Turmeric, Ginger, Garlic

Nature's most potent anti-inflammatory agents. Compounds like curcumin (in turmeric) and gingerol (in ginger) directly inhibit inflammatory enzymes and support immune resilience.

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# Flaxseed: The Powerhouse Seed

## Why Ground? & Lignans

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### Always Grind Your Flaxseeds

Whole flaxseeds pass through the digestive system unabsorbed. Grinding them unlocks their nutritional value, making the omega-3s, fiber, and critical plant compounds bioavailable.

### The Power of Lignans

Flaxseeds are the richest dietary source of lignans (phytoestrogens) – containing 75 to 800 times more lignans than other plant foods. In the gut, bacteria convert lignans into compounds that can bind to estrogen receptors, modulating hormonal activity safely.

## Proven Anti-Cancer Mechanisms

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### 1. Reduces Tumor Growth

Studies show flaxseed and its lignans inhibit estradiol-induced tumor growth and decrease cell proliferation rates.

### 2. Inhibits Angiogenesis

Flaxseed actively suppresses the secretion of vascular endothelial growth factor (VEGF), starving tumors of blood supply.

### 3. Increases Apoptosis

Research indicates that lignans induce apoptosis (programmed cell death) in various cancer cell lines.

#### References:

- *Clin Cancer Res.* "Flaxseed and Its Lignans Inhibit Estradiol-Induced Growth..." (PMC4152533)
- *Front. Nutr.* "The Effect of Flaxseed in Breast Cancer: A Literature Review" (PMC11818310)

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# Methionine Restriction

Many cancer cells exhibit "methionine dependency," requiring exogenous methionine to grow. Normal cells can synthesize what they need, but cancer cells cannot survive without dietary intake.

## Human Needs vs. Reality

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Daily Requirement: The human body only needs about 800 mg of methionine per day.

Standard American Diet: Most Americans consume between 2,000 to 3,000 mg daily.

The Problem: This massive surplus feeds the methionine dependency of potential tumor growth.

## The Animal Protein Problem

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Animal proteins are extremely dense in methionine compared to plant proteins. Let's look at one example often considered "healthy":

Salmon (6 oz serving)

Contains ~1,300 mg of Methionine

(160% of your daily requirement in one meal)

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# Inflammatory Foods to Avoid

Dietary drivers of systemic inflammation and potential cancer risk



## Highly Processed

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### Processed Meats

Bacon, sausages, hot dogs, and deli meats containing nitrates/nitrites.

### Refined Carbohydrates

White bread, pastries, and white flour products that spike blood sugar rapidly.

### Sugary Drinks

Soda, sweetened juices, and energy drinks linked to systemic inflammation.



## Fats & Other Risks

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### Fried Foods

Deep-fried items containing trans fats or oxidized oils that trigger inflammatory responses.

### Excessive Red Meat

High intake of beef, pork, and lamb, especially when charred or cooked at very high heat.

### Alcohol

Consistent alcohol consumption causes tissue inflammation and is a known carcinogen.

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# **Understanding Angiogenesis**

## What is Angiogenesis?

Angiogenesis is the physiological process through which new blood vessels form from pre-existing vessels.

While essential for normal healing and growth, this process is hijacked by cancer to fuel its expansion beyond a microscopic size.

## Starving Cancer Cells

Tumors secrete chemical signals to stimulate blood vessel growth, securing their own private blood supply for oxygen and nutrients.

Anti-angiogenesis aims to cut off this supply line. By suppressing new vessel formation, we can literally starve tumors and halt their growth.

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# **Anti-Angiogenic Foods**

Natural compounds that help starve cancer by preventing new blood vessel growth


 Green Tea

 Berries

 Turmeric

 Garlic & Onions

 Tomatoes

 Cruciferous Vegetables

 Citrus Fruits

 Soy Products

 Dark Chocolate

 Red Grapes

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# Anti-Cancer Foods

Featuring Dr. Joel Fuhrman's Nutritarian G-BOMBS & Key Protectors

### G-B-O

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**Greens:** Nutrient-dense leafy greens (kale, spinach, collards) loaded with essential cancer-fighting phytochemicals.

**Beans:** Legumes and lentils that act as powerful sources of fiber, resistant starch, and plant protein.

**Onions:** The allium family (onions, leeks, scallions) is rich in quercetin and potent detoxifying compounds.

### M-B-S

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**Mushrooms:** Contain unique antigen-binding proteins that stimulate the immune system and inhibit tumor growth.

**Berries:** Blueberries, strawberries, and blackberries are packed with antioxidants and angiogenesis inhibitors.

**Seeds:** Flax, chia, and sesame seeds offer lignans and healthy fats that protect cellular integrity.

### Additional Protectors

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**Cruciferous Veggies:** Broccoli, cauliflower, and Brussels sprouts provide sulforaphane to detoxify carcinogens.

**Garlic:** Contains powerful alliinase enzymes that form allicin, known to halt cancer cell proliferation.

**Turmeric:** Its active compound, curcumin, delivers potent anti-inflammatory and cellular protection benefits.

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# Cancer-Contributing Foods

### Meats & Animal Proteins

**Processed Meats:** Bacon, sausages, hot dogs, and deli meats containing nitrates (classified as Group 1 carcinogens).

**Red Meat:** Beef, pork, and lamb, especially when consumed in excess or cooked at very high temperatures (charring).

### Beverages & Liquids

**Alcohol:** Ethanol consumption is directly linked to an increased risk of multiple cancer types by damaging DNA and tissues.

**Sugary Drinks:** Sodas and sweetened juices that cause rapid blood sugar spikes, driving insulin resistance and obesity.

### Processed & Refined

**Ultra-Processed Foods:** Packaged snacks and convenience meals loaded with artificial additives, preservatives, and unhealthy fats.

**Refined Carbohydrates:** White flour and excess sugars that are stripped of fiber, fueling systemic inflammation in the body.

# Understanding BMI and BMR



## BMI (Body Mass Index)

Height to Weight Ratio

A simple calculation using a person's height and weight. It's used as a screening tool to categorize body weight.

**How to find it:** Use online BMI calculators (like NIH or CDC) or calculate:  $\text{weight}(\text{kg}) / [\text{height}(\text{m})]^2$



## BMR (Basal Metabolic Rate)

Calories Burned at Rest

The number of calories your body needs to accomplish its most basic (basal) life-sustaining functions while at rest.

**How to find it:** Search "BMR Calculator" online and input your age, gender, height, and weight.

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# Leveraging a Caloric Deficit



## Understanding the Deficit

A caloric deficit occurs when you consume fewer calories than your Total Daily Energy Expenditure (TDEE).

When energy intake drops below baseline requirements, the body must seek alternative fuel sources to function.



## The Mechanism of Ketosis

A consistent deficit can naturally shift metabolism. As glycogen (stored carbs) depletes, the liver converts stored fat into ketones for energy.

**Note:** This metabolic flexibility is achieved through moderate caloric restriction, not by adopting a high-fat "keto diet."

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# **Caloric Surplus for Healing**

### Rebuilding the Body

Eating more calories than your BMR (Basal Metabolic Rate) creates a caloric surplus, providing the essential energy needed for tissue repair and rebuilding muscle.

This is crucial for healthy weight restoration after intense treatments that deplete the body's reserves.

### Nutrient-Dense Surplus

Focus on calorie-dense, whole foods to add healthy weight without promoting inflammation:

Nuts and nut butters

Avocados and healthy oils

Complex carbohydrates (sweet potatoes, oats)

Legumes and plant proteins

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# **Joyful & Delicious Food**

Food is more than just macros, micros, and compounds. It is a celebration of life, a centerpiece of community, and a powerful source of emotional healing and pleasure.

### **Vibrant & Colorful**

Nature provides a stunning palette of colors and textures. Eating the rainbow isn't just visually spectacular; it ensures a wide array of protective phytonutrients that delight the senses.

### **Flavor & Pleasure**

Healthy food should taste amazing. Utilizing herbs, spices like turmeric and garlic, citrus zest, and natural sweetness creates satisfying, delicious meals that you genuinely look forward to eating.

### **Community & Love**

Sharing meals with loved ones builds connection and reduces stress. The love poured into preparing a nourishing meal is a vital, unseen nutrient that supports whole-body healing.

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# The VIDA Protocol Juicing Recipe



### STAGE 1: THE JUICE BASE

Run all these ingredients through a high-quality juicer:

- ✓ Cucumber
- ✓ Carrots & Celery
- ✓ Ginger & Garlic
- ✓ Turmeric root
- ✓ Thin jalapeño slice
- ✓ Red beet
- ✓ Grapes
- ✓ Cilantro
- ✓ Lemon & Lime
- ✓ Orange
- ✓ Apple & Pineapple
- ✓ Spinach & Chard
- ✓ Curly kale
- ✓ Red kale
- ✓ Dandelion leaves



### STAGE 2: BLEND & BOOST

Pour juice into blender and add:

- + Mixed Berries
- + Strawberries
- + Chlorella powder
- + Spirulina powder

**BLEND UNTIL SMOOTH**

A deeply nourishing, anti-inflammatory powerhouse.