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### Introduction

A cancer diagnosis initiates more than a medical journey — it marks a profound physical, emotional, and psychological shift. From the moment of diagnosis, individuals are often thrust into a whirlwind of decisions, treatments, appointments, and information overload. Amid this complexity, one essential truth can feel easily overlooked: you still have agency — especially when it comes to how you nourish your body, support your energy, and care for your inner terrain.

This guide was created to help you do exactly that. It is designed to complement conventional cancer therapies — not replace them — by offering evidence-informed strategies rooted in functional, naturopathic, and nutritional science. Whether you're undergoing chemotherapy, radiation, surgery, immunotherapy, or repurposed drug protocols, this guide offers holistic support to help reduce side effects, preserve resilience, and optimize recovery.



#### **Understanding Cancer Treatment: What You Might Encounter**

Cancer treatment is rarely one-size-fits-all. Depending on your diagnosis, tumor type, and stage, you may undergo one or more of the following interventions:

Treatment Type	Purpose	Common Side Effects	
Chemotherapy	Kills rapidly dividing cells	Fatigue, nausea, appetite loss, low immunity, mouth sores, digestive changes	
Radiation	Targets and destroys cancer cells at specific sites	Skin irritation, fatigue, tissue inflammation, localized pain or scarring	
Surgery	Removes tumors or affected tissue	Pain, fatigue, digestive disruption, scar tissue, lymphedema (in some cases)	
Immunotherapy	Stimulates the immune system to attack cancer	Flu-like symptoms, fatigue, inflammation, gut or skin issues	
Targeted therapies	Blocks specific genes or proteins in cancer cells	Diarrhea, liver changes, fatigue, blood pressure changes	
Repurposed drugs	Medications originally used for other conditions, now targeted for cancer	Varies by drug; often better tolerated but still require terrain support	

Each treatment type affects the body differently, but all can deplete nutrients, stress the mitochondria, alter digestion, and challenge detox pathways. Supporting these systems with food, hydration, rest, and targeted supplementation can make a meaningful difference in how you feel — and how your body responds to care.



# The Role of Nutrition: Building, Buffering, and Repairing

While nutrition is not a cure for cancer, it is a cornerstone of integrative care. Food becomes information, sending messages to your immune system, metabolism, gut microbiome, and even your mitochondria — the cellular engines responsible for energy production and repair.

Proper nutrition during treatment can help:

- Preserve lean muscle mass and prevent malnutrition
- Support immune resilience and reduce inflammation
- Aid tissue repair and manage oxidative stress
- Mitigate treatment side effects like nausea, fatigue, and taste changes
- Keep digestion and elimination moving efficiently
- Maintain energy and prevent excessive weight loss or gain
- Enhance overall quality of life

Nutrition also affects how your body metabolizes drugs, clears cellular debris, and maintains hormone balance — all key terrain factors that can influence outcomes during and after treatment.

# Why an Integrative Approach Matters

Modern oncology has made great strides in targeting and managing cancer. But supporting the whole person — not just shrinking tumors — is essential to long-term recovery.

Naturopathic and functional approaches:

- Focus on identifying and addressing root causes of imbalance
- Prioritize terrain support (immune, mitochondrial, microbiome, metabolic)
- Emphasize the importance of gentle, supportive care alongside medical treatment
- Use personalized nutrition, lifestyle, and targeted supplementation to reduce treatment toxicity and enhance vitality

This isn't about "alternative" medicine — it's about integrative, complementary care that strengthens your foundation.



## The Importance of Nutrition in Cancer Treatment

Nutrition plays a crucial role in maintaining health, particularly throughout cancer treatment. It significantly influences your overall well-being during therapy and the effectiveness of your body's response to treatments. Adequate nutrition can enhance your immune system, help regulate body weight, preserve muscle strength, and facilitate quicker recovery from treatment side effects. Let's delve into some key ways in which nutrition supports your body during this challenging period.

#### **Supporting the Body's Needs During Treatment**

#### **Maintain Energy Levels**

Throughout cancer treatment, your body might need more energy than normal, even if your appetite decreases. Eating a diet that is high in calories from nutrient-rich foods can help supply the energy necessary to remain active and aid in your body's recovery. Carbohydrates, healthy fats, and proteins are vital for maintaining stable energy levels.

#### **Support the Immune System**

A well-nourished body is more capable of combating infections and healing from illnesses. Foods abundant in vitamins and minerals, especially antioxidants such as vitamin C, vitamin E, and selenium, play a vital role in strengthening your immune system. By incorporating a diverse range of fruits, vegetables, and whole grains into your diet, you ensure that you receive these essential nutrients.

#### **Preserving Muscle Mass**

Loss of muscle mass, referred to as cachexia, is a prevalent concern during cancer treatment. Protein is essential for preserving muscle mass and aiding in tissue repair. To help maintain your strength, consider incorporating excellent sources of protein such as lean meats, fish, eggs, dairy products, legumes, and nuts into your diet.

#### **Enhancing Recovery**

The body requires essential nutrients to heal effectively during and after treatment. For example, amino acids derived from proteins serve as the fundamental components for muscle tissue, while vitamins and minerals play a crucial role in wound healing and cell regeneration. By maintaining a balanced diet rich in a variety of nutrients, you can facilitate a quicker recovery process.

### Importance of Individualized Nutrition

Every individual's journey with cancer and its treatment is distinct, which is why a universal approach to nutrition is ineffective. Various factors, including the type of cancer, the treatment plan, your age, weight, and overall health, all contribute to defining your unique nutritional requirements.

#### **Personalized Nutrition Support:**

Working with a registered dietitian who specializes in oncology can help tailor a nutrition plan to your specific needs. They can help you manage side effects, maintain a healthy weight, and ensure you're getting the right balance of nutrients to support your treatment and recovery.

#### Flexibility in Eating Habits:

Cancer treatments can alter your taste preferences, appetite, and how your body absorbs nutrients. An individualized nutrition plan can accommodate these changes, offering flexible and practical solutions that make eating easier and more enjoyable.

In conclusion, nutrition plays a crucial role in cancer treatment by enhancing your body's capacity to handle the demands of therapy, preserving your strength, and facilitating recovery. By adopting appropriate nutritional strategies, you can more effectively manage the side effects of treatment and elevate your overall quality of life during this difficult period.

## Common Nutritional Challenges During Cancer Treatment

Cancer treatment can bring about a variety of side effects that impact your nutritional intake and overall health. These side effects can vary depending on the type of treatment you're undergoing, but many patients face similar challenges when it comes to eating well during this time. In this section, we'll explore some of the most common nutritional challenges associated with chemotherapy, radiation therapy, and maintenance therapies, along with practical strategies to manage them.

#### **Side Effects of Chemotherapy and Nutrition**

Chemotherapy is among the most prevalent cancer treatments; however, it frequently brings side effects that can complicate eating. Below are some of the most common challenges along with helpful tips for managing them.

#### Nausea & Vomiting

Nausea and vomiting are among the most recognized side effects of chemotherapy. These symptoms can greatly diminish your appetite and create challenges in keeping food down.

- Opt for small, frequent meals rather than three larger ones. This approach can help avoid an overly full stomach, which may lead to nausea.
- When feeling nauseous, select bland and easily digestible foods such as toast, rice, applesauce, or bananas.
- Maintain hydration by sipping on clear liquids, like water, broth, or ginger tea, throughout the day.
- Consider consuming foods at cold or room temperature, as hot dishes can occasionally trigger feelings of nausea.

## Side Effects of Chemotherapy and Nutrition

#### **Taste Changes:**

Chemotherapy can alter your sense of taste, making foods taste bland, metallic, or different than they usually do. This can reduce your desire to eat, leading to inadequate nutrition.

#### Tips to Manage:

- Experiment with different flavors and seasonings to find what works for you. Sometimes, adding a bit of lemon juice, vinegar, or herbs can make food more palatable.
- If meat tastes off, try alternative protein sources like eggs, tofu, or legumes.
- Use plastic utensils if you're experiencing a metallic taste, as metal utensils can sometimes exacerbate this issue.

#### Loss of Appetite:

It's not uncommon to lose your appetite during chemotherapy, making it difficult to consume enough calories and nutrients.

- Prioritize nutrient-dense foods that pack a lot of nutrition into small portions, such as smoothies, yogurt, nuts, and avocado.
- Consider liquid nutrition supplements, which can provide calories and essential nutrients in an easy-to-consume format.
- Set a regular eating schedule, even if you're not particularly hungry. Eating at consistent times can help ensure you're getting enough nutrition.

## Radiation Therapy & Nutritional Considerations

Radiation therapy targets cancer cells in specific areas of the body, but it can also affect surrounding healthy tissues, including those involved in digestion. The nutritional challenges you may face will depend on the area being treated.

#### Impact on the Digestive System:

If radiation therapy is directed at the abdominal or pelvic area, it can lead to gastrointestinal discomfort, including diarrhea, constipation, and bloating.

#### Tips to Manage

- For diarrhea, focus on low-fiber, easy-to-digest foods like white rice, bananas, and applesauce. Stay hydrated with plenty of fluids, including electrolyte-rich drinks.
- For **constipation**, increase your intake of high-fiber foods like whole grains, fruits, and vegetables, and drink plenty of water.
- If you're experiencing bloating, avoid gas-producing foods like beans, carbonated beverages, and cruciferous vegetables.

#### **Difficulty Swallowing:**

Radiation therapy to the head, neck, or chest can cause difficulty swallowing (dysphagia) or a sore throat, making it challenging to eat solid foods.

- Opt for soft or pureed foods like smoothies, mashed potatoes, soups, and yogurt, which are easier to swallow.
- Avoid spicy, acidic, or rough-textured foods that could irritate your throat.
- Ensure you're staying hydrated by drinking plenty of fluids, and consider adding a high-calorie, high-protein supplement if needed.

### **Nutrition for Maintenance Therapies**

Maintenance therapies are designed to keep cancer at bay and prevent recurrence, but they can still impact your nutritional needs. While the side effects might be less severe than those of more aggressive treatments, maintaining good nutrition is still crucial.

#### Importance of Maintaining Strength and Weight:

Even during maintenance therapy, it's important to maintain a healthy weight and muscle mass to keep your body strong and resilient.

#### Tips to Manage:

- Focus on a balanced diet that includes lean proteins, healthy fats, and plenty of fruits and vegetables.
- Regular, moderate exercise can help maintain muscle mass, appetite, and overall well-being. Discuss any new exercise routines with your healthcare provider before starting.
- Keep track of your weight and nutritional intake to ensure you're meeting your needs. If you're losing weight unintentionally, consult with a dietitian for personalized advice.

#### **Incorporating Anti-Inflammatory Foods:**

Chronic inflammation can contribute to cancer progression, so incorporating anti-inflammatory foods into your diet is beneficial during maintenance therapy.

- Include foods rich in omega-3 fatty acids, such as salmon, flaxseeds, and walnuts, which have anti-inflammatory properties.
- Eat a variety of colorful fruits and vegetables that are high in antioxidants, such as berries, leafy greens, and tomatoes.
- Use spices like turmeric and ginger, which have natural antiinflammatory effects, in your cooking.

# Supporting the Terrain — Mitochondria, Microbiome, Detox & Immunity

In integrative and functional oncology, we often speak of supporting the "terrain" — the internal environment that either fosters healing or allows disease to progress. Cancer doesn't occur in a vacuum. It develops in a biological environment influenced by inflammation, oxidative stress, immune dysregulation, mitochondrial dysfunction, hormonal imbalance, and impaired detoxification. During treatment, these systems can become further compromised, but with the right support, they can also become your body's allies in healing.

#### Mitochondrial Resilience: Sustaining Energy and Repair

The mitochondria are your cells' energy factories — and they are highly sensitive to both cancer and conventional therapies like chemotherapy and radiation. Damaged mitochondria contribute to fatigue, brain fog, low resilience, and poor tissue healing.

#### Treatment challenges:

- Increased ROS (oxidative stress)
- Impaired ATP (cellular energy) production
- Disruption of mitochondrial DNA and membranes

#### Supportive strategies:

- Prioritize easy-to-digest proteins and healthy fats (e.g., eggs, oily fish, avocado, olive oil)
- Include mitochondrial nutrients:
  - CoQ10 or Ubiquinol: Antioxidant that supports ATP production
  - Acetyl-L-carnitine: Transports fatty acids into mitochondria
  - Magnesium: Cofactor in mitochondrial enzyme systems
  - Alpha-lipoic acid (ALA): Antioxidant + supports glucose metabolism

#### Gentle therapies to consider:

- Red light therapy (photobiomodulation) post-radiation/chemo
- Breathwork to optimize cellular oxygen delivery
- Gentle movement to stimulate mitochondrial biogenesis

# Supporting the Terrain — Mitochondria, Microbiome, Detox & Immunity

The gut microbiome plays a key role in immune modulation, detoxification, and nutrient absorption — all of which are under strain during cancer treatment. Antibiotics, steroids, and chemotherapy disrupt microbial diversity and mucosal health, increasing vulnerability to infections, food sensitivities, and inflammation.

#### Supportive strategies:

- Eat prebiotic-rich foods: steamed asparagus, leeks, carrots, beets, apples, oats (as tolerated)
- Use fermented foods like kefir, sauerkraut, or low-histamine yogurt if tolerated
- Include soothing herbs: slippery elm, marshmallow root, chamomile
- Supplement (if appropriate) with:
  - Saccharomyces boulardii: Especially after antibiotics
  - Spore-based probiotics (e.g., Bacillus strains):
     Often better tolerated during treatment
  - L-glutamine: Supports gut lining (start with 2– 5g/day if approved)

#### Avoid during vulnerable phases:

- Raw roughage
- High-dose probiotics without practitioner supervision



#### **Detoxification Support: Liver, Lymph, and Beyond**

Your body is always detoxifying — clearing metabolic waste, dead cells, used hormones, and environmental toxins. During treatment, this system becomes overloaded.

#### Key organs:

- Liver (phase I & II detox)
- Kidneys
- Skin (sweat)
- Lymphatic system
- Colon

#### Supportive strategies:

- Hydration: minimum 2-3 liters/day filtered water or herbal infusions
- Bitter foods (dandelion, arugula, lemon, radish, endive) support bile flow
- Use cruciferous vegetables (broccoli, cauliflower, kale, cabbage) to upregulate detox enzymes (if tolerated)
- Consider gentle detox agents:
  - Milk thistle (silymarin) for liver support
  - Calcium D-glucarate for hormone detox
  - N-acetylcysteine (NAC) to replenish glutathione
  - Castor oil packs over the liver (if energy allows)

#### Avoid:

• Harsh detoxes, prolonged fasting, or strong binders unless under clinical supervision

#### Immune Modulation: Strength Without Overstimulation

During cancer treatment, immune function can be either suppressed (e.g., with chemo) or over-activated (e.g., with immunotherapy). The goal is modulation — helping the immune system function with clarity, not chaos.

#### Supportive strategies:

- Eat a rainbow of vegetables for polyphenols and vitamin C
- Zinc, selenium, and vitamin D are key for NK cell and T-cell function
- Include immune-supportive mushrooms:
  - Turkey tail (PSK/PSP), Reishi, Shiitake (as food or standardized extracts)
- Herbal tonics:
  - Astragalus membranaceus: Immune adaptogen
  - Medicinal mushroom blends (standardized extracts)

Caution: Avoid immune stimulants like high-dose echinacea or elderberry during active immunotherapy unless supervised

## Lifestyle Strategies for Energy, Sleep & Mental Clarity

#### **Energy: Rebuilding the Spark Without Overdoing It**

Fatigue during cancer treatment is real — often described as profound, non-restorative, and persistent. It's not always about sleep — it's about cellular energy and the body's constant repair work.

#### Supportive habits:

- Pace yourself with rest-activity cycles (15–20 mins light movement → rest)
- Use sunlight and breathwork as energizing tools
- Include B vitamins, magnesium, and adaptogens as appropriate
- Minimize blood sugar dips with protein-rich mini meals

#### Try:

- Morning walk with sunlight
- Deep diaphragmatic breathing 2-3x/day
- Protein + fat-rich snacks (nut butter + apple, hummus + crackers)

#### **Mental Clarity & Mood Support**

"Chemo brain," emotional burnout, and mood swings are common during treatment. The brain, gut, and mitochondria are deeply interconnected — and each needs nourishment.

#### Supportive practices:

- Grounding practices: barefoot in nature, hand on heart breathing
- Journaling: for emotional clarity and purpose anchoring
- Creativity: coloring, music, art all stimulate neuroplasticity
- Connection: talk with a friend, support group, or therapist regularly

#### Nutrient support:

- Omega-3s (EPA/DHA)
- Magnesium L-threonate or glycinate
- Lion's mane mushroom (for cognitive repair)
- Phosphatidylserine (if cortisol is elevated at night)

## Lifestyle Strategies for Energy, Sleep & Mental Clarity

#### **Sleep: Circadian Protection During Treatment**

Sleep disruption is common due to pain, worry, medications, or nighttime cortisol surges. Yet sleep is when immune function, detox, and repair peak. Supportive strategies:

- Stick to a sleep-wake routine, even on weekends
- Use blue light blockers after sunset
- Drink herbal teas: chamomile, passionflower, skullcap, tulsi
- Consider low-dose melatonin (1–3mg) especially if on steroids

#### **Environmental tools:**

- Blackout curtains
- Cool room (~65°F)
- White noise or guided meditations

#### **Restorative Movement**

Physical movement supports lymph flow, blood sugar regulation, and mood — but it must be gentle and adaptive to your energy and treatment schedule. Try:

- Short walks, especially post-meal
- Chair yoga or stretching
- Lymphatic brushing (with gentle touch) before showers
- Qi Gong or Tai Chi excellent for chemo fatigue

Even 5–10 minutes of intentional movement makes a difference.



# Evidence-Informed Adjuncts: Foods, Nutrients & Botanicals During Treatment

Cancer treatment demands an incredible amount from the body: nutritionally, emotionally, and metabolically. While food is foundational, targeted nutrients and botanicals can offer additional support — reducing treatment side effects, preserving cellular function, and buffering the body's terrain.

Many of these nutrients are depleted during chemotherapy or radiation, while others serve as cellular protectors or immune modulators. Each should be considered in context — your cancer type, treatment plan, current labs, and medical team all matter.



Food	Supportive Compound	Key Benefit
Broccoli sprouts, arugula, cabbage	Sulforaphane, glucosinolates	Phase II detox, antioxidant, hormone modulation
Cooked mushrooms (esp. shiitake, maitake, turkey tail)	Beta-glucans	Immune modulation, gut microbial support
Wild salmon, sardines, walnuts	EPA/DHA omega-3s	Inflammation balance, cell membrane repair
Blueberries, pomegranate, cherries	Anthocyanins, ellagic acid, polyphenols	Antioxidant, DNA protection, microbiome diversity
Garlic, onions, leeks	Allicin, organosulfur compounds	Immune and liver support, prebiotic function
Green tea (unsweetened)	EGCG (epigallocatechin gallate)	Anti-angiogenic, mitochondrial protection
Ginger, turmeric, rosemary	Polyphenols, curcuminoids, gingerols	Anti-inflammatory, nausea relief, immune support

Cooking tip: Many of these compounds are enhanced by gentle heat, healthy fats, or being chopped and rested before cooking (especially alliums and crucifers).

#### **Targeted Nutrients to Replenish & Protect**

Many cancer therapies increase oxidative stress, damage the gut lining, and deplete critical nutrients. The following nutrients are commonly used in supportive oncology protocols:

Nutrient	Function During Treatment	Dose Range	Cautions / Notes
Vitamin D3	Immune regulation, reduces treatment-related fatigue	2,000-5,000 IU/day	Monitor serum 25(OH)D; avoid excess without lab guidance
Magnesium (glycinate or threonate)	Muscle, nerve, bowel, and mitochondrial support	200-400 mg/day	Magnesium threonate for cognitive function; citrate for bowels
Zinc (picolinate or bisglycinate)	Supports taste recovery, immune and skin healing	15–30 mg/day	Too much zinc may lower copper — don't exceed long term
Selenium (selenomethionine)	Antioxidant; supports thyroid and glutathione	100-200 mcg/day	Avoid in high doses with immunotherapy unless supervised
Vitamin B Complex (methylated)	Energy metabolism, nerve function, methylation	Active B- complex daily	Especially important for those on folate-depleting medications
Glutamine	Gut lining repair, reduces mucositis, supports immune cells	5–10 g/day (divided)	May be contraindicated in some active cancers — check with team
N-Acetylcysteine (NAC)	Precursor to glutathione, antioxidant and mucolytic	600-1,200 mg/day	Avoid immediately before chemo sessions unless cleared
CoQ10 / Ubiquinol	Mitochondrial repair, cardiovascular and neuroprotection	100-200 mg/day	May interact with certain chemo drugs; use cautious

CoQ10

#### **Botanicals with Emerging or Traditional Use in Oncology Support**

Many plant-derived compounds exhibit anti-inflammatory, antioxidant, or immune-balancing activity. The key is modulation, not overstimulation.

Botanical	Traditional/Research Role	Form/Use	Considerations
Turkey tail (Coriolus)	Enhances immune surveillance; used with chemo in Japan	1-3g powder or 500- 1,000mg extract/day	Polysaccharide-K (PSK) used clinically
Reishi (Ganoderma lucidum)	Immune modulation, liver protection	Tea, tincture, or 500mg capsule daily	Adaptogenic and calming
Curcumin (Turmeric)	Anti-inflammatory, DNA repair pathways	500– 1,000mg/day with fat and black pepper	May thin blood; avoid high- dose pre-surgery
Milk thistle (Silymarin)	Liver protection, glutathione enhancement	150– 300mg/day extract	Use standardized extracts; well tolerated
Astragalus	Immune tonic and adaptogen	1–3g dried root or 500mg extract daily	May be contraindicated with immunotherapy
Ginger	Nausea relief, digestion, anti-inflammatory	Fresh, tea, or 250mg capsule 2– 3x/day	Safe in most treatment settings
Green tea extract (EGCG)	Inhibits angiogenesis, DNA protection	200– 400mg/day or as brewed tea	Avoid green tea extract during some chemo cycles



## Conclusion: Walking Through Treatment with Strength and Support

Cancer treatment is an intense and often unpredictable journey. It challenges the body's systems, the mind's resilience, and the spirit's sense of stability. Yet within this process, there are powerful ways to protect, nourish, and restore yourself. Nutrition, lifestyle, and targeted support are not "extras" — they are foundational. They help preserve muscle mass, stabilize energy, regulate inflammation, and keep the immune system as balanced as possible. They also offer something equally important: a sense of agency in a time when so much may feel outside your control.

You do not have to do everything at once. Healing is built from small, consistent steps:

- A nutrient-dense smoothie on a low-appetite day.
- A short walk in the sunlight between appointments.
- A breath cycle to calm your nervous system before bed.
- A few minutes with a loved one, a book, or music that lifts you.

These moments accumulate — physically and emotionally — to create a terrain more capable of recovery.

As you move forward, remember:

- Work with your team communicate openly about your nutritional strategies and supplements.
- Listen to your body it will signal when it needs more rest, more fuel, or more connection.
- Honor your pace healing is not linear, and resilience is built in layers.

The protocols, repurposed drugs, and clinical tools provided through IMAHealth.org are designed to target the disease. This guide is here to help you care for you — the person living the journey. By nourishing your terrain alongside medical treatment, you are creating the conditions for strength, recovery, and long-term well-being.

You are more than your diagnosis.

You are not alone.

And you are an active, vital participant in your own healing.



# Find resources and stay connected: IMAhealth.org

