

## FORUM: WHAT TO EAT WHEN YOU CAN'T EAT

**Introduction: What to Eat When You Can't Eat**Gregory A. Plotnikoff, MD, MTS, FACP, *United States***Citation**

Global Adv Health Med.  
2014;3(6):56-72.  
DOI: 10.7453/gahmj.2014.063

**Key Words**

Nutrition, cachexia, anorexia, cancer,  
Ayurveda, traditional Chinese  
medicine, anthroposophic

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**F**ood is perhaps the most common and most tangible expression of love, care, and concern. The shared sensual delight of cooking and of eating is a remarkably large dimension of the human experience. The prominence of food in life means that both patients and their families can undergo profound emotional and social shifts when illness is accompanied by neither the desire nor the capacity to eat. This can include significant disruption of established patterns, important relationships, and even one's self-image. Common human emotions experienced by patients and their loved ones can include helplessness, exclusion, rejection, anxiety, and other forms of distress.

There are many medical terms to describe the symptoms behind the inability to eat such as loss of appetite (anorexia), loss of taste (dysgeusia), and/or food aversion (due to xerostomia, mucositis, nausea, vomiting, constipation, diarrhea, or dysphagia). No matter the name applied, what counts most from a patient's perspective is that the inability to eat results in a remarkably diminished quality of life. In fact, quality of life scores are largely determined by patients' perception of their nutrient intake and their experience of unintentional weight loss.

The Western standard of care is to provide small, frequent meals of energy-dense food, avoiding extremes of taste or aroma, presented with style in a pleasant environment. Numerous commercial high-calorie and high-protein nutritional formulas are both promoted and prescribed as beneficial supplements. And drug therapies commonly recommended include either progestagens (megesterol acetate or medroxyprogesterone acetate) or corticosteroids such as dexamethasone. The former are associated with deep venous thromboses, water retention, vaginal spotting, and sexual dysfunction. The latter can result in profoundly low vitamin D states.

However, this standard of care is not universal. I can attest that when I practiced at Keio University Medical School in Tokyo, Japan, I and my oncology colleagues prescribed with good results Kampo (traditional Japanese herbal medicine) formulas such as *Rikkunshito* for relief of cancer-related anorexia and cachexia. And I learned while travelling in Cambodia of the importance of soups made with *Cannabis sativa* for the care and comfort of patients with advanced cachexia and related barriers to eating.

These observations reinforce this journal's commitment to advancing meaningful knowledge for all health practitioners from a global perspective. We collectively—both East and West—have much to learn from the world's many healing traditions and much to learn from those who practice holistic and integrative care grounded in Western science. In this spirit, *Global Advances in Health and Medicine* invited renowned practitioners from multiple perspectives to share their insights on the vexing problem of "what to eat when one can't eat." What follows are five important statements from practitioners of Ayurveda, anthroposophic medicine, holistic nutrition, integrative oncology, and traditional Chinese medicine (TCM). Our hope is that all readers will gain insights and perspective that will enhance the quality of life for all persons who suffer from the inability to eat.

**Ayurveda Nutrition for Cancer Patients**Marcia Meredith, *United States*

Marcia Meredith

**A**yurveda is the traditional ancient medicine of India. It is based on the principles of nature in that the human is a microcosm of the universe, and the five primordial elements of space (ether), air, fire, water, and earth exist in all matter including human beings. It teaches that the five elements, through the interplay of cosmic influences, create the human senses and certain aspects of human physiology. Ayurveda groups the five elements into three basic energies that create the functional principles that are in everything and everybody. This is the *doshic* system of *vata*, *pitta*, and *kapha*, or the *tridosha*. A basic translation of the word *dosha* is

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“fault,” and this makes sense when we understand a primary purpose of the *doshas* is to let us know when something is wrong. The *doshas* govern psychophysiological response and pathological changes. When the *doshas* are in balance, we have good health and harmony in mind, body, and spirit, and when they are out of balance, we have symptoms of ill health according to the quality and number of the *dosha(s)* involved. When the *dosha* becomes vitiated or aggravated, the affected tissue becomes diseased.

Most symptoms of ill health involve an imbalance of one or two *doshas*. At this juncture, the symptom(s) may be reversed or remediated with the proper application of Ayurvedic principles to soothe the *dosha* and allow healing to occur. However, Ayurveda says that cancer is a *tridoshic* disease. When all three *doshas* are involved, the soothing or reversal of the *doshas* in the diseased tissues is more challenging than if only one or two *doshas* are involved.

The modern application of allopathy in the treatment of a person with cancer usually involves strong chemotherapeutic pharmaceuticals used to attack the disorganized cancer cells and kill them so they will not cause the patient to die. In this scenario, it is common for the patient to experience disabling side effects from the treatment. Often, the most disturbing of these side effects is the lack of appetite, leading to weight loss and nutritional deficiency at a time when nutrition is sorely needed to keep the body strong and weather the treatment.

The next important Ayurvedic concept is *agni*. Translated from Sanskrit, *agni* means “fire.” Ayurveda uses the term *agni* to refer to the fire element within the human being. *Agni* governs all transformations in the body. Its primary function is digestion, absorption, assimilation, and transformation of food and sensations into energy. There are several ways *agni* occurs in the human body, but for the purposes of this article we are referring to the stomach and small intestine, the exocrine function of the pancreas and gall bladder, and the hydrochloric acid and digestive enzymes therein. According to Ayurveda, *agni* is the main source of life. The human being cannot live without *agni*. When *agni* is strong, the person can live a long healthy life. When *agni* is slow or weak, the person will have symptoms of ill health.

The current condition of the *agni* in the patient can be determined by the Ayurvedic doctor/practitioner using *Trividha Pariksha*, or the three categories of clinical examination. These are *darshana* or visual inspection, *sparshana* or use of all forms or examination using touch, and *prashna* or questioning the patient to discern the history and the current symptoms. When the *agni* is low, the patient can be observed to have pale skin and low vitality due to lack of heat/*agni* in the body. The tongue diagnosis frequently shows a coating in the stomach and intestinal areas due to low fire and poor digestive capacity. The nails may be pale and ridged as well due to low digestive fire. The pulse diagnosis will be thin and feeble due to generalized weakness in the patient and the stomach pulse will be feeble, indicating low *agni*. Asking questions and listening to the patient’s story with compassion is a vitally important aspect of healing.

Up to this point, I have introduced the ancient system of Ayurveda, general information on how disease occurs according to Ayurveda, a frequent cancer patient scenario resulting from the strong allopathic treatments for cancer, and the important concept of *agni* and the Ayurvedic exam of the patient to confirm the condition. The remainder of this article will offer information about how Ayurveda approaches the situation of a cancer patient with anorexia, weight loss, and nutritional deficiencies.

In the case of a patient with cancer, it is likely the *agni* had been low for a period of time, which may have contributed to the occurrence of disease. Also, due to the aggressive chemotherapy to treat the cancer, the *agni* is further weakened. It is of primary importance to strengthen and support the *agni* of this patient so that appetite is improved and healing can occur.

#### SUGGESTIONS FOR SUPPORTING THE AGNI FOR THE CANCER PATIENT:

1. Fresh ginger kindles the *agni*. Take a thin slice of fresh ginger with a squeeze of lime juice and a pinch of salt before a meal. Cook food with small amounts of fresh ginger.
2. Avoid drinking excess water during or after meals. Take 8 to 12 oz warm water, *agni* tea, cumin, coriander, and fennel (CCF) tea, or ginger tea (recipes follow) with the meal. It is acceptable to take a sip of the tea between bites of food. Satisfy thirst an hour after the meal with warm tea or warm water.
3. Always avoid iced food and beverages. Ice extinguishes the *agni*.
4. Eat a simple light diet of soup and rice (food chart below). Add small amounts of ghee and

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spices (not chilies) to food as tolerated. Ayurveda is a cooked food system and in this case does not recommend raw food.

5. Take ½ cup warm water then a short (10-minute) nap lying on the left side before the meal. This will help to kindle the *agni* and create an appetite.
6. Eat with awareness. Notice the taste and color of the food. Avoid reading, watching television, or computer work while eating. When you eat, only eat. Conversation should be pleasant and calm. Food should be fresh and colorful.
7. If energy allows, taking a short walk between meals can help kindle the *agni* and improve appetite.

### AYURVEDIC DIETARY SUGGESTIONS FOR THE CANCER PATIENT

If the patient has been languishing for a period of time with anorexia and weight loss leading to severe weakness, Ayurveda suggests a specific diet for rebuilding the *agni* and the body. Below is the *Sansarjana Krama*, or the diet to gradually kindle *agni*. It is a step-by-step program. The length of each step can be a half-day to 1 full day, depending on appetite. Organic basmati rice is used for this program.

| Stages              | Definition   |
|---------------------|--|
| <i>Manda</i>        | Warm cooked rice water from soft cooked rice.  |
| <i>Peya</i>         | Drinkable rice gruel. Rice made with excess water and blended. Take warm.  |
| <i>Vilepi</i>       | Rice porridge. Very soft cooked rice, thicker than <i>peya</i> .   |
| <i>Akruta yusha</i> | Rice soup made without spices. May add very soft cooked vegetables.  |
| <i>Kruta yusha</i>  | Soft rice soup made with vegetables, salt and spices such as cinnamon, cardamom, cumin, or mustard seed.   |
| <i>Odana</i>        | Plain well-cooked rice with small amount of ghee and salt.   |
| <i>Kruta odana</i>  | Rice soup with ghee, salt, mild spices, and well-cooked split mung dal, or rice soup with meat broth (such as chicken broth), salt, vegetables, and mild spices. |

This diet is excellent for the patient who cannot digest heavy food. This diet may be followed for the patient who is undergoing chemotherapy, for the patient who is gradually building up his or her appetite following chemotherapy, or for any person recovering from chronic illness. For meals, the brothy rice soup is easy to digest and will gradually increase the *agni* and the appetite. Between meals, plain basmati rice served as *odana* may be taken as a snack if desired. Avoid raw, cold, rough, dry, and frozen food (for example raw vegetables, iced drinks and cold foods, dry rough crackers, and frozen microwaveable food). When the patient has recovered, he or she may take the *doshic* diet of fresh seasonal cooked food, avoiding foods that are heavy, oily, and overly spicy.

### Tea Recipes to Support *Agni*<sup>a</sup>

- Fresh ginger tea: 2 slices fresh ginger in a mug. Add hot water and enjoy.
- CCF tea: Equal parts cumin, coriander, and fennel Seeds. Use 1 teaspoon of seeds per mug of hot water.
- Ayurvedic Institute *agni* tea: 1 qt water, 1 pinch cayenne powder, .5 in to 1 in grated fresh ginger, 1 teaspoon rock salt, 2 tablespoons Sucanat or other natural sweetener. Boil all ingredients together for 20 minutes. Remove from heat and allow to cool for 5 minutes. Finally, add juice of 2 limes. Mix well, strain, and enjoy warm before meals or during meals to kindle *agni*.

This article presents an Ayurvedic nutritional approach to helping the cancer patient weakened by treatment or disease. It will assist in gradually building the digestive power of the patient to allow for increased nutritional absorption, weight gain, and increased energy. Dr Lad of the Ayurvedic Institute says, "Ayurveda is slow medicine." This program should be adhered to for as long as needed to regain the ability to digest food and improve overall strength.

<sup>a</sup> Thanks to the Ayurvedic Institute, Albuquerque, New Mexico.

**About the Author**

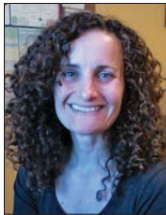
**Marcia Meredith** has been a registered nurse for 35 years and a nurse practitioner since 2002. She is a 2006 graduate of the 2-year program at the Ayurvedic Institute in Albuquerque, New Mexico ([www.ayurveda.com](http://www.ayurveda.com)), and a grateful student of Dr Vasant Lad. She studied with Maya Tiwari of the Wise Earth School of Ayurveda from 1998 to 2004. She acknowledges Alakananda of the Alandi Ashram in Boulder, Colorado, for her wisdom and teachings. She offers Ayurveda health consultations and Ayurvedic treatments at her private healthcare practice, Health Through Ayurveda, in Minneapolis, Minnesota. Marcia has a deep passion for Ayurveda with its gentle, natural medicine approach.

## Considering the Mechanisms Behind Cancer Cachexia-Anorexia Can Inform Wiser Nutritional Interventions

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Weight loss and anorexia are symptoms of aggressive tumor metabolism. There has been a determined effort to prevent weight loss in cancer patients ever since it was first reported to be associated with poor survival in lung cancer.<sup>1</sup> Ascribing wasting to increased resting energy expenditure and malnutrition, the goal historically has been to maximize caloric intake, and in the fat-phobic era, this has meant carbohydrate loading. However, high-carbohydrate, calorie-dense interventions provide limited patient benefit in terms of quality of life and survival.<sup>2-4</sup>

Emerging evidence reveals that shortened survival is more a function of aggressive tumor metabolism than of weight loss per se.<sup>5</sup> Metabolic adaptations driven by tumor metabolism are directly responsible for the muscle loss and adipose depletion in cachexia.<sup>5,6</sup> With this, we must reconsider the usefulness of increasing calories by unskillful means.

We can address weight loss more proficiently by first assessing contributing factors to determine why the patient cannot eat. For an estimated 50% to 80% of cancer patients, the primary culprit is cancer-induced anorexia-cachexia (CIAC). Other treatable factors, summarized in Table 1, can significantly contribute to weight loss as well. While a deeper exploration of these is beyond the scope of this summary, Table 1 provides an assessment tool.

CIAC syndrome involves severe wasting of skeletal and cardiac muscle, with or without depletion of adipose stores, that—unlike starvation—cannot be fully reversed by increased calorie intake.<sup>7</sup> The underlying mechanisms of this complex metabolic disorder include<sup>8,9</sup>

- Sustained inflammation—increased inflammatory cytokines TNF- $\alpha$ , IL-1, IL-6 and IFN- $\gamma$ ; high c-reactive protein (CRP) parallels progressive weight loss in cachectic patients<sup>10</sup>
- Insulin resistance<sup>11,12</sup>
- Altered carbohydrate, lipid, and protein metabolism—increased anaerobic glycolysis (ie, Warburg effect) and reduced beta-oxidation of fats
- Diminished redox resilience—reactive nitrogen species induce myocyte apoptosis
- Anabolic resistance—postulated to be due to decreased anabolic hormones (eg, testosterone) and increased catabolic factors (eg, cortisol and myostatin).

With the underlying pathophysiology of CIAC elucidated, let's consider potential disadvantages of commercial enteral feeding formulas (CEFF).

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**Table 1** Contributing Factors That May Exacerbate Cachexia

| Factor   | Explanation   |
|--|---|
| <b>Dehydration</b>   | May reduce appetite   |
| <b>Nausea (and subclinical nausea)</b>   | Nausea, vomiting, queasiness, reduced appetite; food avoidance may occur without overt awareness of nausea  |
| <b>Zinc deficiency</b>   | Poor appetite, reduced sense of smell and taste, impaired anabolic signaling  |
| <b>Dysgeusia</b>   | Treatment-induced damage to taste buds; foods taste metallic, overly salty, or like "cardboard"   |
| <b>Xerostomia</b>  | Reduced saliva flow leads to difficulty swallowing, impaired digestion (which begins in the mouth)  |
| <b>Mucositis</b>   | Food avoidance due to oral pain, may benefit from bland/soft or liquid diet   |
| <b>Swallowing difficulties</b>   | May require adaptations to food consistency (liquid diet, blenderized food, increased food viscosity)   |
| <b>Impaired digestive competence (hypochlorhydria or pancreatic insufficiency)</b> | Early satiety, dyspepsia, gas/bloating shortly after meals, prolonged sense of fullness after meals, impaired digestion and absorption of proteins and fats   |
| <b>Intestinal wall injury/ Malabsorption</b>                                       | Bowel resection, abdominal radiotherapy, chemotherapy, gluten sensitivity, treatment-induced villous atrophy, intestinal permeability defects; weight loss, difficulty gaining or maintaining weight, cramping, bloating, diarrhea, abdominal pain, constipation, steatorrhea |
| <b>Dysbiosis/small intestine bacterial overgrowth</b>                              | Gastrointestinal flora participate in digestion and enterocyte health; emerging awareness of the role of the microbiome in weight management  |
| <b>Diarrhea</b>  | Rapid transit time diminishes absorptive capacity   |
| <b>Constipation</b>  | May result in reduced appetite, nausea  |
| <b>Conditioned food avoidance</b>  | Previous treatment-induced dyspepsia leads to learned food avoidance, often without conscious awareness   |
| <b>Fatigue, depression/anxiety, adrenal insufficiency</b>                          | Patient is too exhausted to plan meals, shop, cook, and eat   |
| <b>Misguided food beliefs</b>  | Adherence to diet with inadequate fat or protein intake due to beliefs about what constitutes an ideal "anti-cancer" diet; fear of eating the "wrong" foods leads to reduced intake   |

### INSULIN RESISTANCE

The glycemic load (GL) of CEFFs is particularly worrisome (Table 2). For reference, a  $GL \geq 10$  per serving is considered high, and CEFFs range from 20 to 26 per 8-oz (240 mL) serving. These formulas, known contributors to hyperglycemia, can worsen insulin resistance, and metabolic syndrome is a negative prognostic factor across several cancer types.<sup>13-15</sup>

High-carbohydrate calorie loading in an effort to address weight loss may directly fuel a metabolically active tumor.<sup>5</sup> Forging an environment permissive of tumor progression via multiple pathologic mechanisms,<sup>16</sup> insulin resistance

- stimulates mitosis;
- increases IL-6 and fosters inflammation;
- increases IGF-1 signaling, which is implicated in tumor cell evasion of apoptosis;
- suppresses immune function;
- promotes angiogenesis;
- boosts leptin, which stimulates cell migration and metastasis;
- increases circulating free estrogen levels; and
- contributes to treatment resistance by stimulating tumor cell glutathione synthesis.<sup>17,18</sup>

### PRO-INFLAMMATORY FATS

Highly imbalanced omega-6 to omega-3 ratios—particularly with elevated insulin—can fuel

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Table 2 Comparison of Enteral Feeding Formulas

| Nutrition Facts per 8-oz serving         | Conventional Feeding Formulas |                            |                   |                                     |                         |                          | Holistic Feeding Options                  |                               |                              |                              |                                 |                            |
|--|-------------------------------|----------------------------|-------------------|-------------------------------------|-------------------------|--------------------------|---|-------------------------------|------------------------------|------------------------------|---------------------------------|----------------------------|
|  | Ensure Plus                   | ProSure                    | Ensure Original   | Boost Plus                          | Boost Glucose Control   | KetoCal 4:1 237 mL       | Liquid Hope Whole Foods Meal Replacement  | Orgain Nutritional Shake      | Orgain Vegan Shake           | Orgain High Protein Shake    | Vega One (dry mix only 1 scoop) | Homemade Coconut Smoothie  |
| Calories                                 | 350                           | 300                        | 220               | 360                                 | 190                     | 356                      | 293                                       | 185                           | 160                          | 109                          | 135                             | 794                        |
| Protein (g)                              | 13                            | 16                         | 9                 | 10                                  | 16                      | 7.32                     | 15  | 12                            | 12                           | 18                           | 15                              | 28                         |
| Carb (g)                                 | 50                            | 44                         | 32                | 45                                  | 16                      | 4.1                      | 31  | 23                            | 18                           | 6                            | 11                              | 15                         |
| Sugars (g)                               | 20                            | 7                          | 15                | 24                                  | 4                       | 0                        | 6   | 9                             | 6                            | 1.5                          | 2                               | 3                          |
| Fiber (g)                                | 0                             | 5                          | <1                | 3                                   | 3                       | 2.65                     | 7   | 1.5                           | 1.5                          | <1                           | 6                               | 3                          |
| Fat (g)                                  | 11                            | 6                          | 6                 | 14                                  | 7                       | 35.1                     | 13  | 5                             | 4.4                          | 2                            | 3                               | 72                         |
| Omega-6 (mg)                             | 3850 mg                       | 366 mg                     | 7700 mg           | 3000 mg                             | 1500 mg                 | 7650 mg                  | 1520 mg                                   | 202 mg                        | 178 mg                       | 89 mg                        | 1100 mg                         | 608 mg                     |
| Omega-3 (mg)                             | 650 mg                        | 1100 mg                    | 320 mg            | 600 mg                              | 300 mg                  | 872 mg                   | 4833 mg                                   | 11 mg                         | 10 mg                        | 5 mg                         | 1500 mg                         | 2339 mg                    |
| n-6:n-3 ratio                            | 6:1                           | 0.3:1                      | 24:1              | 5:1                                 | 5:1                     | 9:1                      | 1:3                                       | 19:1                          | 19:1                         | 19:1                         | 1:1.4                           | 1:4                        |
| Glycemic load                            | 26                            | 20                         | 23                | 22                                  | 9                       | 1                        | 13  | 12                            | 10                           | 5                            | 1                               | 5                          |
| Lipid source                             | corn, soy, canola             | fish oil, MCT, canola, soy | corn, soy, canola | canola, corn & high oleic sunflower | canola, corn, sunflower | palm, soy, sunflower oil | organic flax, borage oil, almond butter   | high oleic sunflower          | high oleic sunflower         | high oleic sunflower         | flax, chia                      | coconut oil, MCT, fish oil |
| Protein source                           | milk, soy isolate             | casein, whey               | milk, soy isolate | milk, soy isolate                   | milk                    | casein, whey             | organic brown rice, organic almond butter | whey, organic grass-fed dairy | brown rice, chia, flax, hemp | organic grass-fed milk, whey | pea, hemp, sprouted brown rice  | variable                   |
| Low-carb                                 | —                             | —                          | —                 | —                                   | Yes                     | Yes                      | —   | —                             | —                            | Yes                          | Yes                             | Yes                        |
| Organic                                  | —                             | —                          | —                 | —                                   | —                       | —                        | Yes                                       | Yes                           | Yes                          | Yes                          | —                               | Yes                        |
| Probiotics                               | —                             | —                          | —                 | —                                   | —                       | —                        | —   | —                             | —                            | —                            | Yes                             | Yes                        |
| Fruits/vegetables                        | —                             | —                          | —                 | —                                   | —                       | —                        | Yes                                       | Yes                           | Yes                          | —                            | Yes                             | —                          |
| Vitamins/minerals                        | Yes                           | Yes                        | Yes               | Yes                                 | Yes                     | Yes                      | Yes                                       | Yes                           | Yes                          | —                            | Yes                             | —                          |
| Digestive enzymes                        | —                             | —                          | —                 | —                                   | —                       | —                        | —   | —                             | —                            | —                            | Yes                             | —                          |
| Gluten-free                              | Yes                           | Yes                        | Yes               | Yes                                 | Yes                     | Yes                      | Yes                                       | Yes                           | Yes                          | Yes                          | Yes                             | Yes                        |
| Dairy-free                               | —                             | —                          | —                 | —                                   | —                       | —                        | Yes                                       | —                             | Yes                          | —                            | Yes                             | —                          |
| Soy-free                                 | —                             | —                          | —                 | —                                   | —                       | —                        | Yes                                       | Yes                           | Yes                          | Yes                          | Yes                             | Yes                        |
| Corn-free                                | —                             | —                          | —                 | —                                   | —                       | —                        | Yes                                       | —                             | —                            | —                            | —                               | Yes                        |
| GMO-free                                 | —                             | —                          | —                 | —                                   | —                       | —                        | Yes                                       | Yes                           | Yes                          | Yes                          | —                               | Yes                        |
| BPA-free pkg                             | —                             | —                          | —                 | —                                   | —                       | —                        | Yes                                       | —                             | —                            | —                            | —                               | Yes                        |
| No trans fats or hydrogenated oils       | Yes                           | Yes                        | Yes               | Yes                                 | —                       | —                        | Yes                                       | Yes                           | Yes                          | Yes                          | Yes                             | Yes                        |
| No HFCS                                  | —                             | —                          | —                 | —                                   | —                       | —                        | Yes                                       | Yes                           | Yes                          | Yes                          | —                               | Yes                        |
| No artificial sweeteners                 | Yes                           | Yes                        | —                 | Yes                                 | —                       | —                        | Yes                                       | Yes                           | Yes                          | Yes                          | Yes                             | Yes                        |
| No artificial color/flavor/preservatives | —                             | —                          | —                 | —                                   | —                       | —                        | Yes                                       | Yes                           | Yes                          | Yes                          | Yes                             | Yes                        |
| Copper (mg)                              | 0.5                           | 0.55                       | 0.5               | 0.5                                 | 0.5                     | 0.28                     | 0.5                                       | 0.36                          | 0.36                         | 0                            | 1                               | 0.1                        |
| Folic acid (µg)                          | 101                           | 406                        | 101               | 101                                 | 202                     | 68                       | (folate) 72                               | 73                            | 73                           | 0                            | 200                             | (folate) 9                 |
| Iron (mg)                                | 4.5                           | 1.6                        | 4.8               | 4.5                                 | 4.5                     | 3.6                      | 3   | 0.4                           | 1.3                          | 0.4                          | 9                               | 1.8                        |

Abbreviations: BPA, bisphenol A; GMO, genetically modified organism; HFCS, high-fructose corn syrup; MCT, medium chain triglycerides.

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chronic systemic inflammation.<sup>19</sup> Smoldering inflammation fosters multiple hallmarks of cancer, including proliferation and survival, angiogenesis, metastasis, and treatment resistance.<sup>20,21</sup>

### GASTROINTESTINAL IMBALANCES

Liquid formulations fail to prompt digestion. The high osmolality of formulas containing hydrolyzed proteins and simple sugars can increase transit time and diarrhea. Inadequate soluble fiber hinders healthy gut flora and, together with high glycemic intake, can produce dysbiosis. Artificial sweeteners induce glucose intolerance by altering gut microbiota.<sup>22</sup> There is a growing awareness of the diverse roles of the gut microbiome in nutrient and energy acquisition from the diet, regulating mood, immunity, and inflammation. Emerging studies highlight gut barrier dysfunction and the microbiome as potential targets in muscle wasting.<sup>23,24</sup>

### UNDESIRABLE INGREDIENTS

CEFFs provide excess amounts of certain micronutrients that are potentially contraindicated in cancer patients: iron,<sup>25-27</sup> copper,<sup>28,29</sup> and synthetic folic acid.<sup>30-32</sup> Growing numbers of nutritionally aware consumers and healthcare providers decline to use formulas with artificial ingredients, high-fructose corn syrup, or genetically modified organisms (GMOs) and are seeking a more healthful, whole foods–based approach.

More holistic feeding options are available (Table 2). Liquid Hope (Functional Formularies, Dayton, Ohio), a whole foods meal replacement, has an excellent omega-6:3 ratio and high fiber. The GL=13, 50% less than most CEFFs. The omega-6:3 ratio of Orgain (Irvine, California) shakes is 19:1, but the total fat content is low and could be remedied with supplemental fish oil. Orgain High Protein Shake has a low GL of 5. Vega One (Burnaby, British Columbia, Canada) powder can be added to any liquid, such as unsweetened nut milk or green tea. Rich in fiber, it provides 1500 mg omega-3 and its GL=1. However, it contains more iron than is advisable except in cases of iron-deficiency anemia. CEFFs should be selected on a case-by-case basis, matching formula strengths and weaknesses to the client's needs.

To craft a patient-centered feeding strategy, define goals that address the underlying metabolic abnormalities in CIAC. Ideal feeding approaches reduce inflammation and improve insulin sensitivity, muscle mass, redox resilience, gut barrier function, and microbiome health.

Low-fat, high-carb strategies are inadequate to reverse CIAC. An intriguing solution is to emphasize carefully selected dietary fats instead of carbohydrates. This approach reduces the key source of energy for malignant cells while providing a substrate (ketones) to which healthy cells can adapt.<sup>5,33</sup> Ketone bodies decrease glucose and glutamine uptake, diminish lactate release, and directly reduce muscle protein degradation, further reducing the supply of gluconeogenic precursors.<sup>6,34</sup>

A high-fat medium chain triglycerides (MCT)–supplemented diet (80% calories from fat) mitigated weight loss by 50% compared to a standard diet (12% fat, 50% carbohydrate) in an animal model of colorectal cancer cachexia.<sup>35</sup> In a model of pancreatic cancer cachexia, mice fed a ketogenic diet showed a 45% increase in muscle weight and a 20% increase in body weight compared to controls.<sup>6</sup> Metabolic reprogramming by ketones reduced expression of signature genes associated with cachexia.

Low-carbohydrate diets have proven superior to isocaloric low-fat diets at reducing serum glucose, insulin resistance, and inflammatory markers like CRP.<sup>5</sup> These are the very metabolic factors associated with cancer recurrence and cachexia. High-fat diets, even those supplying up to 85% of calories as fat, are well tolerated by healthy volunteers, with no impairments in hepatic, renal, cardiac, or hemopoietic function.<sup>35</sup>

Our office has been providing clients with a high-fat, low-carbohydrate smoothie recipe since 2001 (Table 3). While this approach is well tolerated, it is important to observe contraindications such as biliary obstruction, intense nausea, or diarrhea. Home preparation allows for quality ingredients and recipe adjustment for digestive concerns, taste, and allergies. The key ingredients—MCTs, carnitine, fish oil—have specific purposes. MCTs, unlike longer chain fatty acids, readily absorb across the small intestine without needing bile salts or enzymatic digestion. L-carnitine supports intestinal transport of lipids and fatty acid oxidation by type I and type IIa muscle fibers. Adequate levels are rate limiting for ketoadaptation.<sup>36</sup> Carnitine is commonly

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**Table 3** Low-glycemic Load Smoothie Recipe**Basic Recipe**

- 1/2 cup full-fat coconut milk
- 2 heaping tablespoons protein powder—can be whey from organic, grass-fed cows or other non-antigenic protein such as rice, pea, hemp protein
- 1 tablespoon liquid sunflower lecithin (helps emulsify the fats for easier digestion)
- 2 tablespoons medium chain triglycerides oil
- 1 teaspoon liquid fish oil, supplying 1626 mg EPA, 1126 mg DHA (reduce dose if platelets <100, taking blood thinners, or in cases of diarrhea)
- 1 tablespoon L-carnitine liquid, supplying 3 g (essential for metabolism of fats, boosts energy)
- 1-2 tablespoons freshly ground flaxseed meal, 2 tsp ground chia seed meal or pectin (optional: use as needed for soluble fiber)
- Probiotic supplying 50-100 billion cfu acidophilus/bifidus (for constipation or diarrhea; use caution if ANC $\leq$ 1.0)

**Flavor Variations**

- Lemon Ginger—2 tablespoons lemon juice, 1/4 tsp zest of organic lemon or tangerine, 1/2 tsp grated fresh ginger root (good for nausea and appetite)
- Tropical Paradise—Add 1/2 cup pineapple or papaya and 1 tablespoon lime juice (supports digestion)
- Nutty Butter—1 tablespoon peanut butter, sunflower seed butter, or almond butter
- Chocolate Mint—1 teaspoon unsweetened cocoa powder, 1/2 teaspoon peppermint extract, and 3-4 drops liquid stevia
- Apple Spice—1/2 cup unsweetened applesauce, 1/2 teaspoon cinnamon, 1/4 teaspoon ginger and 1/8 teaspoon nutmeg
- Pumpkin Spice—Add 1/4 cup canned pumpkin, 1/4 teaspoon pumpkin pie spice

deficient in cancer patients, and supplementation supports lean body mass and improves appetite.<sup>37</sup> High-dose fish oil improves omega 6:3 ratio in high-fat feeding regimes, improves protein metabolism, and counteracts anabolic resistance.<sup>38</sup> Fish oil (2.2 g/d) permitted 69% of lung cancer patients to gain or maintain muscle compared with 29% of patients receiving standard care.<sup>39</sup> Fish oil eicosapentaenoic acid (EPA) stabilized weight in pancreatic cancer patients.<sup>40</sup> Combination protocols (Megace plus EPA, L-carnitine, and/or antioxidants) have proven more effective than single-agent therapy.<sup>41,42</sup>

**Abbreviations**

|               |   |
|---------------|---|
| CEFF          | Commercial enteral feeding formulas       |
| CIAC          | Cancer-induced anorexia-cachexia syndrome |
| CRP           | C-reactive protein                        |
| EPA           | Eicosapentaenoic acid                     |
| GL            | Glycemic load                             |
| IFN- $\gamma$ | Interferon-gamma                          |
| IGF-1         | insulin-like growth factor-1              |
| IL-1          | Interleukin-1                             |
| IL-6          | Interleukin-6                             |
| MCT           | Medium chain triglycerides                |
| TNF- $\alpha$ | Tumor necrosis factor-alpha               |

We have let a misdirected fear about the culprit in cachectic wasting drive a whole industry of high-glycemic feeding formulas, and we need not continue. We can educate patients about CIAC mechanisms as a cause of weight loss and anorexia. We can empower patients to target inflammation and reverse insulin resistance rather than just pushing them to eat the very foods that intensify cachexia. Rather than relying on body weight alone, appropriate monitoring needs to include Glasgow Prognostic score (CRP and serum albumin), insulin resistance markers (serum

glucose, insulin, high-density lipoprotein, triglycerides, uric acid), mid-arm circumference (or other lean body mass indicators), hand-grip strength, performance status, fatigue, and quality of life.

**About the Authors**

*Nutritional Solutions provides cutting edge translational research in nutrition oncology and innovative cancer nutrition guidance to people with cancer and their families. Owner and founder **Jeanne M. Wallace, PhD, CNC**, pioneered the oncometabolic approach to cancer nutrition in 1996. She was joined later by **Michelle Gerencser, MS**, and **Patrice Surley, MH, NC**, and the group has more than 50 years of clinical experience and continues to evolve the approach in response to emerging research. Nutritional Solutions has served thousands of clients all over the world, consulting by phone and Skype. Easily digestible and comprehensive written materials, drawing on almost 9000 published studies, along with the one-on-one consulting relationship, allow each client to increase his or her cancer nutrition knowledge base and a deep personal understanding of cancer nutrition as a manner of living.*



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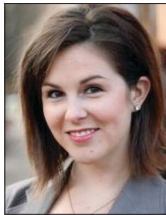
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## An Integrative Oncology Perspective

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Keith Block



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Many patients undergoing cancer treatment suffer from anorexia. Immediately after certain chemotherapy treatments, complaints of not wanting to eat anything at all or a total loss of appetite are common. During this time, general medical advice is to “Eat whatever you want” out of desperation to get the patient adequate calories. However, this recommendation can be frustrating and misleading to patients who want to focus on food as medicine. Research shows that quality of food does matter. Studies show that nutrition is often underutilized in treating cancer patients. In fact, some studies claim that nutritional intervention should be obligatory in all oncology therapy.<sup>1</sup> There are optimally healthful options for high-calorie, protein-rich foods that patients can eat, even when suffering from a diminished appetite.

Anorexia (a decline in appetite) and cancer cachexia (muscle wasting) are exacerbated by the presence of systemic inflammation. Therefore, suggesting that patients ingest unhealthy, processed foods is not appropriate as these foods can fuel the inflammatory process and speed weight loss. Studies show that proper dietary intervention can reduce or even prevent malnutrition and cachexia in cancer patients.<sup>2</sup> Feeding calories alone is not enough. Cancer can cause an altered metabolic state that requires nutritional intervention focused on selecting foods that calm inflammation and are more desirable and acceptable to patients.<sup>3</sup> The quality of dietary choices for patients undergoing cancer treatment is a critical aspect of their health and healing.

When a patient has marked anorexia or simply no appetite, emphasis should be placed on calorically dense foods that can be eaten in small portions. While warm or odorous foods can exacerbate nausea, cool and neutral-tasting foods can soothe and nurture. Medical nutrition therapy interventions for anorexia, poor appetite, and/or early satiety include the following:

- Eat small, frequent meals of calorie-dense foods and fluids.
- Eat in pleasant surroundings, avoiding stress or conflict at meals.
- Eat by the clock rather than waiting for appetite or hunger cues.
- View eating as part of treatment, though not forgetting that food must be seen as pleasurable and not as medicine.
- Consume medical nutrition beverages when eating is too tiring.
- Use foods that are easy to prepare and serve to preserve energy.
- Avoid foods with strong smells.
- Eat cold meals.<sup>4,5</sup>

Regarding foods that are best for controlling pain and increasing tolerance to diet when there is a lack of appetite, research suggests that patients need healthy foods that contain fiber. They should limit items that are high in fat and sugar, which can exacerbate symptoms such as abdominal pain, nausea, bloating, gas, and diarrhea. Many patients undergoing treatment are lactose intolerant and cannot tolerate the high-fat dairy products so often recommended.<sup>2</sup> Herbs like ginger are widely known for alleviating chemotherapy-induced nausea. Doses can be as small as one-quarter to one-half teaspoon and should be considered as part of a diet supportive of poor appetite or nausea/vomiting.<sup>6</sup> Cheap, high-calorie products such as corn and soy oil are included in many commercial medical nutrition beverages, but research shows that the enzymes cyclooxygenase and lipoxigenase convert omega-6 fatty acids in these oils into pro-inflammatory signals.<sup>7</sup> Instead of consuming these types of beverages, creating a drink at home with ingredients that counter inflammation can be beneficial for the health of patients. Drinks made with fresh berries and fruits can also increase acceptability of healthful foods when patients are experiencing a loss of appetite.

When patients simply “can’t eat,” providers can recommend that patients or family members create their own simple, calorie-dense medical nutrition beverage. A homemade shake contains antiinflammatory ingredients to help combat cachexia rather than omega-6 rich corn oil and

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high-glycemic corn syrup solids found in pre-packaged beverages. Start with unsweetened, non-dairy milk such as oat or almond milk and add unsweetened protein powder (rice, pea, soy, almond) equivalent to 18 to 20 g of protein. Blend a healthy monounsaturated or omega-3 fatty acid source such as flax oil, avocado slice, almond butter, or fish oil for added calories that also diminish inflammation. The addition of supplements such as omega-3 fish oil has proven helpful for stopping cachexia.<sup>1</sup> Blend in fiber-rich foods such as berries, spinach, or a frozen banana for added antioxidants, vitamins, and minerals. A small amount of fruit will contribute flavor and sweetness without the addition of a simple sugar source. Further flavoring can be added in the form of pure cocoa powder, vanilla or almond extract, or fruit preserves without any added sugar. For anti-nausea support, consider adding freshly grated or ground ginger (which can also be taken in tea or in capsules).<sup>6</sup>

When evaluating laboratory values to assess risk for cancer cachexia and malnutrition associated with loss of appetite, first consider the acute phase response proteins C-reactive protein (CRP) and interleukin-6 (IL-6). It is crucial to address pro-inflammatory circulating factors that are associated with upregulation of catabolic pathways, which can fuel loss of fat and lean muscle. Be aware that elevated inflammatory proteins often accompany a depressed albumin level, despite actual visceral protein status.<sup>8</sup> Hepatic protein albumin is no longer used as a serious marker of clinical nutrition status because it is commonly inaccurately depressed by an increase in inflammatory markers such as CRP. It is also greatly dependent on fluid status (ie, falsely high with dehydration).<sup>4</sup> Pre-albumin is a marker with a much shorter half-life than albumin and may be a better predictor of short-term changes in visceral protein status.

Further labs that help interpret nutritional needs and risk for weight loss include leptin and insulin-like growth factor (IGF-1), which may be helpful in assessing risk and progress in maintaining weight. Low brain leptin levels should increase caloric intake and suppress energy expenditure, helping to regulate weight, but with the presence of inflammatory cytokines linked to tumor progression such as tumor necrosis factor- $\alpha$ , IL-6, and interferon- $\gamma$ , the patient may experience a decline in appetite and an interruption of normal leptin levels.<sup>5,9</sup> IGF-1 is a sensitive marker of nutritional status. When at adequate levels, it can help to maintain muscle mass and protect from oxidative damage. As an anabolic hormone, high levels of IGF-1 are not considered beneficial in oncology patients. However, low levels may indicate an increase in frailty and loss of muscle mass.<sup>10</sup> Assessing both leptin and IGF-1 can help evaluate changes in fat or lean muscle due to a loss of appetite.

Physical assessment now plays a critical role in nutrition evaluation of at-risk patients, specifically evidence of temporal or clavicular wasting, lean body mass loss, and significant weight loss (>10% body weight in 6 months). A dietetic consult should assess physical findings such as grip strength, edema, general decline in function, and physical characteristics such as pallor, stomatitis, and quality of hair and nails associated with nutritional deficiency.<sup>4</sup> When a patient reports loss of appetite or changes in weight, physical assessment should be part of evaluation and monitoring at each follow-up.

In conclusion, poor appetite or anorexia in oncology patients can lead to an uncontrollable loss in fat and lean body mass (cancer cachexia) resulting in a decline in quality of life and a worsening prognosis. Cancer cachexia can be fueled by inflammatory cytokines that can be measured and tracked with regular lab values. Research shows that cancer patients have an increased need for high-quality nutrition, including decreased levels of omega-6 and saturated or trans-dietary fat, refined and simple sugars, and other inflammatory drivers. Notably, such inflammatory drivers are found in commercial beverages. Many patients have a low acceptability of food because of nausea, vomiting, or fatigue. Calorie- and protein-rich beverages can be made at home, providing caregivers with an opportunity to genuinely nurture a loved one with high-quality ingredients as well as through offering the care and attention we all deserve. Attending to the quality and presentation of foods can help to slow or correct cancer cachexia and weight loss while improving appetite. Research shows that nurture through nutrition holds a vital place in the treatment of oncology patients.

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## An Anthroposophic Medicine Perspective

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Hermann Spindler



Regula Tobler

Anthroposophic Medicine (AM) originates from German-speaking Europe and offers a holistic view of the human organism.<sup>1</sup> AM cancer care integrates conventional cancer treatment and AM, art therapy, therapeutic massage, psychotherapy, and counselling on biographical and lifestyle matters, as well as nutrition.<sup>2-4</sup> In general, most AM doctors recommend a balanced diet that includes fresh organic produce and takes into account individual preferences while avoiding dogmatic pursuit of rigorous dietary guidelines. Some AM physicians recommend reducing consumption of red meat, alcohol, sugar, and white flour (Kienle GS, 2014, unpublished results from a qualitative study).

The nutritional recommendations and practices are drawn from specific AM concepts that include the complex interrelationships of the human being and its natural environment.<sup>1</sup> It is commonly understood that the future of our biosphere, agriculture, and food in particular is threatened by irreversible detrimental changes and is becoming a major health issue.<sup>5,6</sup> Biodynamic agriculture comprises a conceptual and practical framework and attempt to contribute to bringing health back to the soil, to agriculture and its foodstuff: from soil to plate to human health.<sup>7</sup>

Cancer patients often undergo intrusive and debilitating treatment (eg, radiotherapy, chemotherapy) with significant side effects that compromise their nutritional intake and status. These patients need nutritional support, highlighting the significance of the question “What to eat when you can’t eat?” Here we offer an overview of the nutritional considerations and practice in an AM hospital, Klinik Arlesheim AG, Switzerland.

Advanced cancer and its treatment affect health on all levels and disturb carefully orches-

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Daniel Krüerke



Maurice Orange

trated regulatory mechanisms that govern sleep, immune function and competence, and all other aspects of health. Quality of life is significantly impaired by fatigue, depressed mood, insomnia, and/or pain. Metabolism and food utilization are also affected by lack of appetite, reduced food intake due to nausea, painful gums and mucous membranes, an altered sense of taste, or even strange taste sensations. A cancer patient receiving chemotherapy said, “All food tastes like soggy cardboard” and “Everything that used to be tasty isn’t anymore. I don’t know what I want to eat, and I don’t know what is good for me.” With the loss of lifelong food habits, patients often are distressed and it becomes challenging for them to maintain their health through food.

Challenging questions arise for the patient, the nutritionist, and the chef alike: How can the patient’s recovery be supported with appropriate dietary measures? What are the right foods, amounts, composition, and preparation?

Answers to these questions require sound nutritional knowledge and an appreciation of the patient’s situation and preferences. First and foremost, a respectful, individual, and empathetic approach to the patient is all-important, particularly for vulnerable and distressed cancer patients. In a hospital setting, patients are even more vulnerable due to loss of autonomy and a familiar environment.

Attention to nutrition, through attentive communication with the hospital chef and his team, helps patients to enjoy food again and regain confidence in their recovery. Three central questions can help to enhance self-awareness and to strengthen confidence in nutrition: (1) What do I eat?, (2) What does it taste like for me?, and (3) What good does it do me?

**MEETING THE PATIENT**

The chef and members of his team ensure that most patients, and particularly all cancer patients, are interviewed on admission to assess the patients’ nutritional status and needs. The patient is asked about eating habits before diagnosis and how they may have changed since: dietary changes, likes and dislikes, preferences, regularity, amount, hot or cold meals, and possible intolerances or allergies.

The medical staff will have input in this assessment as well, as will the physical exam and laboratory work. This model does require a high degree of awareness—and an equally high level of communication—by all staff of the contribution of nutrition to the recovery of the patient.

A golden rule is to never impose a dietary change and to begin with food that is familiar to the patient rather than unfamiliar food, which is less likely to be accepted. Also, simple food is more likely to be accepted and doesn’t challenge the often fragile metabolism that is already overwhelmed.

**FROM KITCHEN TO BEDSIDE**

High-quality food (ie, regional, fresh, and seasonal produce from biodynamic agriculture) is preferred. Food is presented in an attractive way to enhance the quality of digestion.

Various conditions can lead to lack of appetite and inability to eat: each condition or symptom requires a different nutritional response. Patients with persistent nausea may need medications and are given herbal extracts or ginger before food is offered. Patients with good vital reserves and weight may not come to harm with short periods of food abstinence and may be helped with small, frequent intake (sips) of light broth, lightly salted bouillon, and small amounts of cool, freshly prepared high-calorie drinks. For example, drinks enriched with almond oil, linseed oil, and ripe fruits offer a fine flavor and are more vitalizing than standardized industrial products. Undernourished, wasting patients would need rich broth and soups made flavorful with fresh herbs and grated ginger.

Tasty soups, vegetable dishes, and dishes made from corn, rice, or semolina are often easily digested; these can be enriched by the addition of high-quality fats (plant oils, cream, and even a little butter and protein [eg, egg yolks, cottage cheese]). Carefully prepared chicken and vegetable broth prepared with fresh herbs are appetizing and easy to digest. If needed for further sustenance, a little lean meat and fish can be added to the diet. This could be prompted by the patient’s request or chef’s recommendation (when need for additional protein) or prescribed by a physician.

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Diarrhea or indigestion is addressed with figs, flaxseed, black tea, juices with added salt, and some carbohydrate. If a patient is in pain, we try easy-to-digest, smoothed food that isn't too heated, possibly slightly warmed or even cool. In cases of fever, give cooling foods, such as cold yogurt or viscous foods. It's important never to go against the patient's instincts or sense of what he or she needs. Always try to adjust to changing circumstances.

**ADJUSTING TO CHANGE**

When planning and preparing meals, both the physician and chef will be attentive to changes in the condition of the patient and adjust food preparation accordingly. The shared awareness of the patient, chef, and physician can ensure that the addition, for example, of good-quality oils, fats, fish, or dairy products has a meaningful place. Although the diet is usually plant-based, fish and meat may be requested by the patient, recommended by the chef, or even prescribed by the physician.

**EFFICACY, INSPIRED RECOVERY**

Clearly, this model requires a high degree of awareness, a high level of communication, and that the staff is able and willing to engage with a hands-on, time-consuming practice. In an age of healthcare driven by economics, this may at first glance seem inefficient and not very cost effective. However, within this care model resides a powerful tool for health education and stimulating learning, self-confidence, autonomy, and a substantial increase in quality of life. Confident and inspired patients may do better in their recovery and may require less medical care from the already congested acute-care tier.

Additionally, a well-functioning team that manages complex healthcare issues in an atmosphere of mutual awareness and collaboration is more likely to thrive, be creative, and inspire patients. External and in-house training opportunities exist; the chef and nutritionist attempt to provide in-house training for correct nutrition and food preparation, enabling the patient to support his or her long-term health via proper nutrition. After all, it is not what we eat but what is digested that gives strength to the body.

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## FORUM: WHAT TO EAT WHEN YOU CAN'T EAT

## Chinese Dietary Therapy

Megan Odell, LAc, MS, *United States*; Jennifer Blair, LAc *United States*



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The paradigm of Chinese medicine is as foreign to our culture as the language. The language of *yin* and *yang* and *qi* can seem antiquated and simplistic when approached without context. But underlying this complex system of medicine is the premise that all interactions between organisms are fundamentally about an exchange of energy.

The exchange of energy provides the basis for all the treatment modalities of Chinese medicine. In dietary therapy, food is defined by its energetic function: how it causes *qi* to move and its flavor, nature, and temperature.

The way these energetic properties interact with the body defines our relative state of balance, or homeostasis. Whether we describe food by taste, temperature, and energetic signature or by complex chemical interactions at the cellular level, we arrive at a similar conclusion: the consumption of food means not only the ingestion of caloric energy but also the uploading of information.

Within this paradigm, the superior physician is called to use diet to both maintain the health of his or her patients and also as an essential therapeutic intervention to address both chronic and acute illness.

What, then, is called for with a patient who no longer has the desire or ability to eat? A patient can be weakened by illness or as a side effect of conventional biomedical treatment such as chemotherapy, thus impeding the basic survival instinct to take nourishment.

According to Chinese medicine, we must consider the effects of both the primary illness and the secondary illness derived from treatment. “Cancer is a disease that uses up the body’s resources,” writes Li Peiwin. “In addition, Qi and Blood will be severely damaged in those undergoing surgery, whereas radiation and chemotherapy often result in poor appetite, nausea and vomiting, diarrhea, and other adverse reactions in the gastrointestinal tract.”

From the perspective of Chinese medicine, the *qi* of the spleen and stomach (the primary drivers of digestion) eventually become so depleted from disease and treatment that they can no longer absorb the nutrients in food. As the body becomes weaker and no longer has the strength to properly digest food, the patient loses appetite altogether. In the worst cases, this makes the patient more susceptible to further illness and mortality.

This means that from the perspective of Chinese medicine, it is essential to not just supplement calories missed during the absence of eating; it is equally if not more important that we acknowledge the patient’s current underlying weakness and help the patient reverse the cascading loss of *qi*. We must, in effect, prescribe food whose energetic nature will help to rebalance the body, repair the gastrointestinal tract, and allow the patient to become hungry again.

It is also important to note that there is not a “one size fits all” approach to prescriptions. In order to make an appropriate diagnosis and prescription, a Chinese medicine practitioner relies heavily on a patient’s subjective experience. Does she feel hungry at all? Any cravings or unusual tastes/odors in her mouth? How are her bowel movements and the shape of her stool? How about energy levels? Any physical discomfort? Headaches? Sleep? Mood? Any hot flashes, night sweats, dry mouth, or thirst?

In terms of more objective tools for diagnosis, a Chinese-trained clinician also investigates the patient’s tongue (noting shape, color, coating, sublingual vessels, etc); palpates the patient’s pulse (in three positions on each wrist, noting speed, quality, depth, etc); and also observes the patient’s skin, eyes, fingernails, and general demeanor (their *shen*, or spirit, in Chinese medicine). Taking all of this information into consideration, the Chinese medicine practitioner is then able to define the pattern of imbalance for a patient and in turn the treatment principle and prescription for treatment.

Many of the patients who cannot eat share some common presentations. In addition to the suppression of appetite, they are usually exhausted and feel foggy-headed. Their faces and nail beds are pale. They might complain of headaches and dizziness, maybe tinnitus. Their stools are often loose and unformed, sometimes alternating with constipation. Their tongues are likely swollen, their pulses somewhat soggy and weak.

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Beyond that, there are unique symptoms and signs that appear, depending upon the illness and modes of treatment. All of these are taken into consideration, and a comprehensive diagnosis can be made, followed by a specific Chinese medicine prescription involving dietary therapy but likely also other modalities as well.

In terms of dietary therapy, the Chinese practitioner considers the patient's diagnosis and chooses foods whose energetic signature—flavor and temperature—will help the body back to a place of health.

If we look first at the flavor of a food, we can see that each flavor has unique interventional properties. In traditional Chinese medicine terms, each of the five flavors has a function in the body. In modern scientific terms, we might say that each flavor governs a specific aspect of metabolic process. By keeping the flavors in balance, the body is better able to maintain homeostasis and therefore longevity. By extension, the principle of flavor is also used to treat imbalance in the body. While Chinese dietary therapy has more depth than can be explored in this space, let's provide an overview.

To begin, let us consider an example of how flavor functions and interacts in the body. In patients without an appetite, the key consideration is usually the deficiency of *qi*. In Chinese medicine, the sweet flavor is said to nourish the *qi*. Put simply, foods that are considered sweet provide energy to an organism. The sweet flavor occurs naturally in grains, vegetables, meat, and fish, to name a few examples.

It is also stated in Chinese medical theory that an overabundance of the sweet flavor in the diet leads to conditions of dampness. Dampness can be defined on a spectrum, including such mundane and specific symptoms as nausea, lack of appetite, and nasal congestion or can be noted systemically, as in obesity.

Pungent flavors move *qi* upward and outward and can often aid in the digestion of nutrient-dense foods. Coffee is an example of a pungent flavor that serves as a good digestive aid when served after a heavy meal. Ginger, horseradish, and many of the mildly pungent spices from oregano to rosemary, while adding flavor, also serve to offset the rich nature of the foods with which they are combined.

In the Chinese view, temperature is another way in which foods are categorized. A balance of temperature is maintained to harmonize both the internal landscape of the body and the relationship with the external environment. It is essential to note that the temperature of a food in this context is defined outside of a numerical measure of Fahrenheit or Celsius. Warm foods include fresh ginger, while dried ginger is considered hot. Cucumbers and watermelon are considered cold, and rice is said to be neutral in temperature.

It is also true that the physical temperature of a food, especially foods served cold, have an affect on optimal metabolism. Too many cold or raw foods or iced beverages can inhibit the natural distillation process of food and literally dampen the process of digestion, leading to constipation, nausea, or loss of appetite. The Chinese-trained clinician would encourage that a meal be washed down with a small cup of warm water or a mild tea rather than a big glass of a sugary iced beverage. Being mindful to simple changes like this can also help increase appetite in patients struggling with nausea or cachexia.

When applying a food for therapeutic purposes, a clinician must always account for the natural warm state of the human body, especially that of the digestive process. Too many cold foods, either in property or actual physical temperature, will upset the appropriate distillation of food.

Too often, patients recovering from serious illness have diets that may actually inhibit the healing process simply because the caloric content of a food is confused with the healing properties. In the Chinese view, the process of warm distillation requires that we view the digestive process as an equation. The nutritional value of a food outside of the body must be measured also by the ability of the body to extract that nutrition. In this way, we can see that net gain is more important than caloric intake. For a weak patient or someone recovering from a surgery, often a mild broth-based soup, rather than a grilled cheese sandwich and a salad, will deliver the best outcomes. A soup is, in essence, predigested nutrition that the body can more readily assimilate. The cheese and wheat and raw greens in this example, while calorically dense, provide a challenge to the body's ability to distill the finest essence of the food and apply it to fueling the healing process. Put simply, with so much of the body's energy focused on extracting nutritional value, there is less left over for regeneration and repair.

Similarly, oncology patients are often given a meal replacement product, usually based in corn



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oil, soy, milk, and/or sugar. From our reading of Chinese dietary therapy, although this might seem easier to digest than a grilled cheese sandwich, we know that all of these ingredients engender dampness and will further bog down a patient's overall system. The patient's underlying *qi* deficiency will become further entrenched, and she will be less likely to truly recover, no matter how speedy the recovery of calories.

For physicians who are interested in incorporating Chinese medical dietary therapy for their patients, the complex diagnostic approach can seem daunting. While it is beneficial for patients to consult someone with a depth of training in Chinese medicine, there are some basic ideas that are easy to incorporate across the board and could help patients who have lost their appetites. In general, foods should be cooked and easy to digest, focusing on broth-based soups and stews. Avoid dairy products, processed sugars, and cold or raw foods. Another classic option is congee, or rice porridge—a supremely nourishing option that is also easy to digest (see sidebar).

Too often, the allopathic view misses the medicinal properties inherent in food simply because it lacks the immediate potency of a pharmaceutical. It may be beneficial for an allopathically trained physician to see how the fundamental approaches of Chinese medicine and dietary therapy not only can support the health of patients but may also be a cornerstone in the efforts to treat intractable conditions. Chinese medicine is not a folk medicine; it is a complex and logical approach to providing healing and curing approaches to clearly defined patterns of illness and disease. One may find that adherence to these simple principles offers a physician the opportunity to enhance outcomes in treating illnesses.

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## Nourishing Congee

Adapted from *Five Phase Congee* by Michael Ishii, LAc

Start with a highly nourishing broth: cook down the carcass of a chicken (skin and bones) with a bulb of garlic, a cup of thinly sliced ginger, and two tablespoons of sea salt for 6 hours over the course of 3 days. Start with 3 quarts of water, adding water whenever necessary. When the broth is not cooking, refrigerate it until the fat congeals on the top; skim the fat and save it in a separate container, refrigerated. After the last fat skimming, strain the broth to remove any bones and remaining connective tissue (most should have dissolved into the broth).

Next, heat your chilled chicken fat to liquefy it and then strain it through a clean cloth to clarify it. Store the fat in the refrigerator. A tablespoon of this can be added to other recipes and packs a silky punch of delicious high-calorie nourishment for people who are struggling to get enough.

Next up: the congee. Combine 2 cups of Chinese or Japanese white rice with 10 cups chicken stock in a crockpot. Add several cloves of garlic and 2-3 in of ginger root, sliced. This needs to simmer for at least 4 hours. Once finished, this will serve as a base congee for several meals. Keep refrigerated.

When it is time to eat, reheat a portion of the congee with up to a cup of additional broth and a tablespoon of the clarified chicken fat. Add some of the following ingredients according to what the person's system can tolerate: sliced red dates, goji berries, hard boiled organic eggs, thinly sliced meats, Japanese mushrooms (they will cook in the hot broth), nori seaweed, Umeboshi or other pickled vegetables, freshly grated turmeric root. These ingredients will strengthen the spleen and stomach, build Qi and Blood, nourish Yin and Essence, and thus stimulate appetite.