As a dietetic professional, I am often asked about the safety and efficacy of alternative diet therapies, namely macrobiotic and raw food diets. These alternative diets are publicized as “cure alls” and guaranteed prevention for modern day ailments. Truth be told, there are no “magic bullets” to annihilate disease, or “guaranteed” preventative nutrition therapies; however, diet modification can certainly help many afflictions.

Macrobiotic and raw food diets can offer health benefits in conjunction with medical treatments for diseases. Though, I would caution patients not to delay proven treatments in pursuit of “natural” remedies, especially those proposed by unlicensed professionals. While showing respect for patients’ beliefs and choices regarding specialized diets, we have a duty to provide evidenced-based advice for complementary therapies. To that extent, I have reviewed scientific literature for unbiased information on macrobiotics and raw foods.

Unfortunately, there is limited clinical data, with several studies having methodology flaws. The difficulty in studying macrobiotic and raw food diets lies in ideology—these diets are actually life philosophies that encompass behavior, food, and thought. The intangible nature of these principles makes it seemingly difficult to conduct sound scientific research. Nonetheless, I have sifted through the media “hype” and anecdotal reports to filter out the faulty logic and myths. In the following segments, I will outline the basic principles and components of each diet, and identify the dietary advantages and pitfalls. My hope is that you may use this information to speak openly with patients about these alternative diet therapies and provide reasonable advice.

**Macrobiotic Diet**

**Basic Principles and Components**

The Macrobiotic Diet is based on the principles of Yin and Yang, which promote balance, health and spiritual freedom. These principles consider individual differences with respect to one’s climate, geography, and health status. The approach also emphasizes physical activity and stress reduction to restore power and natural healing. Hernan Aihara, a Japanese physician, describes macrobiotics as “finding [your] physical limitations and trying to live within them.”

The traditional macrobiotic diet is very strict, allowing only natural, in-season foods, and specialized cooking techniques. Aluminum and non-stick cookware, microwave ovens, and electric cooking devices are discouraged. Many foods are forbidden including alcohol, coffee, dairy products, dietary supplements, eggs, herbal teas, meats,
processed foods, and many fruits and vegetables. Beverages are limited to special teas. As you can imagine, diet adherence is extremely difficult. Western culture has adapted the diet to allow for occasional consumption of "forbidden" foods, while emphasizing natural, minimally processed foods. The modern macrobiotic diet is composed of 40-60 percent whole cereal grains, 20-30 percent vegetables, and 5-10 percent beans. Fruits, nuts, seeds, and white fish are allowed 2-3 times per week. Ginger, miso, mustard, sea salt, and tamari soy sauce are the basic seasonings. Artificial sweeteners, chemical additives, genetically modified foods, and refined sugars are excluded. Of course, organic foods are preferred. The following chart outlines the recommended intakes based on the "Great Life Pyramid: Macrobiotic Dietary Guidelines For A Temperate Climate" illustrated by Michio Kushi.

**Daily:** Whole Grains—barley, brown rice, buckwheat, corn, millet, oats, rye, & wheat; and minor portions of bread, noodles, pasta, and cereal flour products  
Vegetables—sea vegetables (nori, wakame), green leafy, round & root vegetables; prefer locally grown, major portion cooked, some raw or pickled  
Beans—chick peas, lentils, soy beans (tempeh, tofu)  
**Weekly:** Fish/seafood (primarily white)  
Fruit (locally grown and in season)  
Nuts and Seeds  
Sweets (grain or fruit based)  
**Monthly:** Dairy, eggs, meat, poultry, if desired

**Dietary Advantages**

A macrobiotic diet is mainly a vegetarian diet, focusing on whole cereal grains. The *Journal of Nutrition* suggests that high intakes of whole grains may reduce the risk of cancer and diabetes by altering the metabolism of estrogen, glucose, and insulin, and by altering the oxidative process. Furthermore, the dietary fiber effects of whole grains may reduce serum cholesterol levels and decrease the risk for heart disease. Another heart healthy aspect of the macrobiotic diet is lower intakes of dietary fat. Kushi et al found that average macrobiotic intakes for saturated and polyunsaturated fats are 5 percent and 8 percent respectively.

The dietary components of sea vegetables and soy foods may provide protection against hormone-dependent cancers (breast, endometrium, prostate) and stomach cancer. The *Journal of Nutrition* informs us of the anti-tumor activities of fucoidan, a sulfated polysaccharide found in brown seaweed, and the phytoestrogens, protease inhibitors, and saponins found in soy. Sea vegetables and soy foods also contain powerful antioxidant vitamins and minerals to protect cells from oxidative damage.

**Dietary Pitfalls**

The exclusion of dairy, eggs and meat from the diet may lead to inadequate intakes of calcium, vitamin B12 and essential amino acids. In fact, some clinical deficiencies have been observed in infants and children consuming a traditional macrobiotic diet. The diet restric-
tions pose a genuine risk for malnutrition, especially for persons who require substantially more calories and nutrients due to age, compromised health status, or physical activity. Normally, supplementation could compensate for some diet inadequacies; however, the macrobiotic approach discourages dietary supplements of any kind. To that extent, a macrobiotic diet may not be suitable for children, adolescents, pregnant, and lactating women.

Despite the nutritional risks, macrobiotics is a popular approach to cancer and other debilitating illnesses. Testimonials of disease remission are highly publicized in lay literature. But is there any scientific basis for these anecdotal reports? Honestly, there is limited research evaluating the effectiveness of macrobiotics on specific diseases and no randomized control trials (the gold standard) have evaluated the therapy. So, the current evidence on macrobiotics is inconclusive. The American Cancer Society publicly notes a lack of empirical evidence that macrobiotics prolongs cancer survival or reduces the side effects of treatment. The primary concern is the macrobiotic philosophy may lead patients to delay or discontinue conventional therapy. The secondary concern is the diet changes may affect treatment outcomes. High intakes of soy phytoestrogens may stimulate tumor cell proliferation in breast and endometrial cancers. Dr. Weiger, a Harvard researcher, warns that phytoestrogens are 10 times higher in macrobiotic diets and the higher lignan intakes from legumes, seeds, vegetables and whole grains can also be damaging.

Often, cancer patients are asked to avoid particular foods and supplements while receiving treatment. This is because diet changes may alter the metabolism of some drugs and reduce the efficacy of chemotherapy. Subsequently, the Harvard School of Medicine has cautioned the use of macrobiotics in conjunction with conventional cancer therapy.

Many raw food practitioners are holistic people that possess a genuine concern for the environment. They believe raw foods promote the use alternative food preparation methods to conserve energy (cooking is thought to waste gas and electricity and harm the environment). Raw food followers eat organic agriculture and avoid all animal products to help protect the planet. But environmental concerns are only part of the ideology—raw foodists also believe that long life and well-being are achieved by consuming “living” foods that are unadulterated by cooking, heating, or processing. Living foods are believed to contain essential enzymes that help us digest foods completely and heal naturally without the need for medication. Raw food proponents argue that eating cooked foods decreases immune function, hastens aging, and diminishes energy because cooking destroys vitamins and minerals and promotes free radicals and carcinogens in food. On the other hand, the antioxidants and enhanced digestion of living or raw foods help boost immune function and “detoxify” the body.

Raw food enthusiasts promote organic whole foods, of which 75 percent (or more) should be uncooked. Various food preparation techniques are encouraged, such as blending, chopping, dehydrating, extracting, juicing, soaking, and sprouting. And, yes, many of these methods require specialized equipment, including a blender, food dehydrator, food processor, grinder, juice extractor and mortar and pestle.

So, what do raw dieters eat? Typical foods and beverages include fresh fruits and vegetables, beans and legumes, grains, nuts and seeds, dried fruits, freshly made juices, coconut milk, and purified water. A one-day menu may look like this:

**Breakfast:** Strawberry smoothie

**Morning Snack:** Applesauce
Dried fig bar
Mixed nuts
Citrus fruit salad

**Lunch:** Oriental lettuce wraps
California sushi rolls
Veggie sticks
Sesame seeds
Orange slices
Tomato juice

**Afternoon Snack:** Carob shake

The Raw Food Diet

**Basic Principles and Components**

As mentioned earlier, Raw Foods is more of a lifestyle than a diet. The fundamental principles guide behavior and thought, in addition to food choices.
Dinner: Gazpacho
Evening Snack: Sunflower seeds
  Guacamole salad
  Dried apricots
  Mango pudding
  Papaya juice

Dietary Advantages
A raw food diet is rich in complex carbohydrates, found in fruits, grains, legumes, nuts, seeds, and vegetables. The soluble fiber in complex carbohydrates helps to lower blood sugar and serum cholesterol, and manage body weight. The insoluble fiber provides bulk and improves intestinal motility. Accordingly, diets rich in complex carbohydrates are recommended for the prevention and/or treatment of many diseases, including cancer, diabetes, heart disease, and obesity.

A raw diet is also rich in phytonutrients, which are found in plant-based foods. These chemical compounds are known for their ability to inhibit cell mutation and tumor growth. The American Institute for Cancer Research associates high vegetable intakes with reduced risk for cancer. Research studies have shown a 23 percent decrease in cancer risk when consuming 400 grams of vegetables per day, according to the Journal of Nutrition. It is important to note, however, that no distinction is made between raw and cooked vegetables.

Typically, a raw food diet is plentiful in water-soluble vitamins, which include eight B vitamins and vitamin C. These nutrients possessed by "living foods" help form coenzymes necessary for metabolic pathways, energy production, and transamination; and aid in chemical synthesis and cellular repair. Unfortunately, water-soluble vitamins are easily destroyed by heat. Therefore, the highest concentration of vitamins B and C (occurring naturally) is in raw foods.

Another plus for raw foods is they are naturally low in fat and sodium. These attributes help reduce the risks for hypertension, heart disease and stroke. With the exception of restrictive medical diets for diverticulosis, renal disease, and the like, raw foods can be a part of a healthy diet regimen.

Dietary Pitfalls
A raw food diet may lead to unwanted side-effects, such as diarrhea, headaches, skin irritations, stomach upset, and strong body odor. These symptoms are said to be the short-term results of detoxification, as the body removes undesirable substances byproducts of metabolism. However, symptoms that persist may actually have a serious underlying cause and require medical attention. Keep in mind that living foods are publicized to help the body "better resist and recover from just about any kind of disease", which may lead dieters to delay or forego medical treatment. Healthcare practitioners should urge patients to notify their primary care provider if symptoms persist. Other reported bodily discomforts include "being hungry all the time," "not feeling satisfied," "having uncontrollable gas" and "having

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Resources For Alternative Nutrition

• Books:
  "Vegetables, Fruits and Herbs in Health Promotion," R. Watson, PhD, 2001

• Websites:
  For health information or research data on complementary and alternative medicine visit http://nccam.nih.gov/
  For information on current clinical research in human volunteers visit http://clinicaltrials.gov/
  For information on raw food books, online-magazines, products, and supplements, visit these web links http://www.living-foods.com/
  http://www.eatraw.com/
  http://www.rawfood.com/
  http://www.livingnutrition.com/
I WANT TO BE THERE WHEN
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Dr. Robert J. Hoffman
Dr. John A. Hofmann
Dr. Thomas M. Klapp
Dr. Joseph Lupo
Dr. Larry Markson
Dr. Randolph O’Dell
Dr. Dennis Perman
Dr. Charles Ribley
Dr. Jerry Schindler
Dr. Robert T. Sottile (posthumously)
Dr. Gary C. Wanamaker
Dr. Claire M. Welsh

More will be added because of their commitments and actions.

Someone said to me, “Well, I’ll give when Sid Williams is back in the mix.” Look, we all have our opinions about Sid. There’s my opinion, which dates back to a life-changing experience as a student at a DE meeting. There’s your opinion, which may be pro-Sid or anti-Sid. And then there will be history’s view of Sid. That will be shaped by fact, myth, and Sid’s behavior in the years to come. But Life’s future is now. There are those who are stepping up, now, because they know the real issue has always been about the future of chiropractic and the future of Life, and that we are simply caretakers of chiropractic for our time. Using Sid as an excuse to not step up may be convenient, but it does nothing to help. Those who help today will be the benefactors of a positive future. Those who don’t will be spectators to the noble women and men who attend history. These committed people, like the students in Berlin, wanted to be there at Life’s historical moment and that’s exactly what they’re doing.

Walt Whitman said, “We convince people by our presence.” When I complete my life, I want to look back and realize I was there at the greatest moments in history and life.

“I want to be there when the Berlin Wall falls. I want to be there when the astronauts return from the moon. I want to be there when my children are born. I want to be there to say goodbye to fallen friends. I want to be there now to propel Life toward its destiny.”

Can you say, “I want to be there?” Will you be able to say, “I was there and I made a difference?”

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considerable food cravings.” These indications could signify the need for more calories and nutrients. Raw foods are low in fat and calories and therefore require continuous consumption; and individuals with increased needs for calories and nutrients due to activity level, age, or health status may fall short of their daily requirements. Consequently, a raw diet may be contraindicated for specific health conditions that are associated with uncontrollable weight loss, such as anorexia, cachexia, cancer and failure to thrive.

The challenge of meeting calorie and nutrient requirements is exacerbated by the lower digestibility of many raw foods. The fiber and phytates abundant in raw foods bind to certain nutrients (i.e. calcium, iron, and zinc) and interfere with absorption. However, cooking raw foods increases the bioavailability of these nutrients because phytates and similar substances are denatured by heat. Furthermore, some phytonutrients increase in concentration when heated. Lycopene, for example, is more abundant in processed foods such as spaghetti sauce and ketchup than in fresh tomatoes. Therefore, raw food practitioners should include some cooked foods or take a dietary supplement to reduce the risk for nutrient deficiencies.

Another pitfall of a raw food diet is limited variety. The restriction of foods and preparation methods limits the nutrient composition and the variation in aroma, temperature, and texture. Science has long understood that the nutrients found in food work synergistically to facilitate metabolic processes and provide health benefits. When scientists isolate nutrients to manipulate their function, the biological benefits and potency are often reduced. Subsequently, if food groups are excluded (isolated) from the diet, the biochemical synergy and health benefits may be reduced. Ultimately, the lack of variety and psychosocial challenges of a raw diet make long-term success very difficult and could lead to nutrient deficiencies and health risks.

Conclusions

Macrobiotics and raw foods are popular alternative diet therapies for disease prevention and treatment. However, no clinical studies have demonstrated the proposed health benefits of either diet. From a practical viewpoint, unproven does not mean untrue. So, the efficacy of macrobiotics and raw diet therapy is inconclusive. With regards to safety, potential food and drug interactions exist, as well as deficiencies in essential nutrients, minerals, and vitamins. Patients should be advised to keep a symptom diary and notify their health care provider of new or persistent symptoms. Specific health concerns arise in patients with poor nutritional status, since food and nutrient intakes are restricted. Healthcare providers must closely monitor these individuals for signs of malnutrition. Adverse health conditions could result from macrobiotic or raw diet therapies, though no clinical cases have been documented.

Cristina Caro, MBA, RD, LD, is the Dietetic Internship Coordinator and instructor for Life University’s Department of Nutrition. Cristina has specialized training in clinical nutrition, child and adolescent weight management, food safety management, and health education. This Georgia native serves on the Board of the Greater Atlanta Dietetic Association and participates in American Red Cross community education programs. Caro conducts nutrition seminars and workshops throughout Georgia and the southeastern states. You may contact her at www.MNTofGA.com.
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