

Cancer Supportive Care

Thriving beyond surviving

Nutritional guidance for cancer patients and their practitioners



THORNE



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None of the Thorne Cancer Supportive Care products are intended to substitute for any medications that are prescribed by licensed health-care practitioners, nor are any of these products intended to be an adjunct to or augment a particular therapy or drug action in the treatment of cancer. If you are a licensed health-care practitioner, then please call 1-800-228-1966 for information on how to obtain the products in the Thorne Cancer Supportive Care product line. If you are a patient, a care-giver, or a consumer, then please contact your licensed health-care practitioner to obtain the products in the Thorne Cancer Supportive Care product line. Thorne Cancer Supportive Care products should only be taken under the supervision of a licensed health-care practitioner.

Cancer supportive care

Introduction

In response to patient demand, we invite you to be part of our Thorne Cancer Supportive Care – Thriving Beyond Surviving. Many of you have shared your need to have more guidance, especially regarding nutrition – before, during, and after treatment in order to achieve optimal health. This guide provides nutritional and lifestyle guidance for cancer patients and their practitioners.

It is estimated that as many as 85% of cancer patients take nutritional supplements to manage the side effects of treatment, often without guidance from their oncologist. Many of you could be taking nutritional supplements that are not needed or that could interfere with your treatment, instead of using high-quality, evidence-based supplements that can help you manage side effects and improve your ability to complete treatment.

The Internet teems with unqualified sources, unsubstantiated claims, and misinformation that can lead you to use supplements contaminated with heavy metals, pesticides, or drugs, with the end result being interference with your treatment and possible harm to you.

Cancer treatments can often:

- | Impact the immune system
- | Reduce appetite
- | Cause fatigue
- | Cause neuropathy
- | Cause diarrhea
- | Cause weight loss

All of these can negatively impact your quality of life and scheduling of treatment. It is easier to address these adverse impacts before they occur rather than afterwards. You will read about nutritional solutions to these challenges in this guide. During your recovery it is important to be sure that your body gets the nutrients it needs. Many cancer treatments – including surgery, chemotherapy, and radiation – can result in an increased need for certain nutrients to prevent deficiencies and maintain optimal health (a good quality of life). Thus, eating a nutrient-rich diet is essential.

Balanced nutrition is an important part of cancer prevention, treatment, and reduced risk of recurrence. Despite the changes that can result during cancer treatment that affect appetite and taste, our goal is for you to maintain a wholesome, nourishing diet with a wide variety of whole foods that support your optimal health. For an in-depth look at foods that can maximize your nutritional wellbeing, see Dietary Recommendations on pages 3-8. Making healthy changes to your diet and adding targeted nutritional supplements is critically important. Optimizing your treatment with foods, nutrients, and botanicals can help you manage side effects while enhancing your ability to complete your therapy.

Other lifestyle modifications that can benefit your recovery include getting and staying fit and managing life's stressors. Mind-body techniques like meditation, deep breathing, yoga, tai chi, acupuncture, guided imagery, massage, and exercise can help reduce stress and provide a sense of wellbeing. Reducing stress can also reduce pain. [The mind-body connection](#) section will provide an overview of these techniques and how they can benefit you.

What you will gain

from participating in Thorne's Cancer Supportive Care *Thriving Beyond Surviving*

- | Improve treatment outcomes when treatment is combined with a healthy lifestyle and diet plan.
- | Be able to choose which foods are best to eat. Certain foods can turn on cancer-fighting genes and turn off cancer-promoting genes.
- | Learn which foods are best to avoid. Many foods can make your body a welcome environment for cancer.
- | Learn how to attain/maintain ideal body composition. There is a strong connection between decreased fat and increased lean muscle and improved immune function and overall survival.
- | Support a healthy balance of inflammatory chemicals in your body. There is an association between inflammation, cancer, and increased side effects.
- | Improve blood sugar/glucose metabolism. One study found that when glucose metabolism is higher and fasting blood sugar is lower, the risk for breast cancer recurrence is reduced (see [obesity & cancer](#) section).
- | Learn which supplements can best support you through treatment by addressing nutrient insufficiencies.

The inflammation connection

A matter of balance

Did you know that inflammation can be associated with cancer initiation and progression?

Although short-term (acute) inflammation is a good thing – the result of your immune system mounting a reaction against an invading organism, irritant, or allergen – long-term inflammation can be at the center of many chronic conditions, including cancer. It's all a matter of balance. They say a picture is worth a thousand words – so look at the diagram below, which explains the inflammation-cancer connection. We'll talk about this more in the [diet](#) section.

Role of chronic inflammation in cancer development



Nutritional Supplementation

Improve outcomes and quality of life

It is not uncommon for individuals with newly diagnosed cancer to have certain nutrient deficiencies, such as vitamins, minerals, amino acids, or essential fatty acids. In addition, the disease itself or its treatment can compound these deficiencies or result in new ones. Poor nutrition negatively impacts your disease prognosis.

We now offer a suite of safe and efficacious nutritional supplements designed to help better manage side effects of the disease or from treatment. At Thorne, we know the purity of a dietary supplement product's raw ingredients will make the difference between an effective, well-tolerated product and an inferior, poorly absorbed one. That is why our commitment is to use only the purest ingredients possible. Thorne provides a variety of products to address your nutritional needs. Your health coach or health-care practitioner can guide you in the choice of which products are best for you.

Thorne's support products help:

- I Enhance your quality of life
- I Improve your ability to complete treatment
- I Address nutrient deficiencies

See [Appendix I](#) and [II](#) for a description of the specific products in our cancer support line of nutritional supplements.



A science minute

40% of patients

A study of patients undergoing chemotherapy found 40% were malnourished based on a nutritional screening test.

Gudny Geirsdottir O, Thorsdottir I. Nutritional status of cancer patients in chemotherapy; dietary intake, nitrogen balance and screening. *Food Nutr Res* 2008;52.

Dietary recommendations

Good vs. bad fats

Although fats are often implicated in cancer causation, it is important to draw a distinction between “good fats” and “bad fats.” Trans fats – artificially prepared fats, also referred to as hydrogenated fats (made by pumping hydrogen into the fat), and found in margarine and other products (check labels) – have been implicated in many chronic diseases, including cancer.

Trans fats were developed in order to convert liquid vegetable oils into solids, making them spreadable and increasing their shelf life. When trans fats were developed, butter was being demonized as artery-clogging and being bad for your heart. As it turns out, trans fats are far worse.

On the other hand, the omega-3 fatty acids EPA and DHA, found in coldwater fish, are beneficial. The benefits of cold-water fish and their oils are in part due to their ability to help the body maintain a normal inflammatory response. Intake of omega-3 fatty acids from cold-water fish is associated with promoting better prognoses for cancer patients.

Olive oil

Olive oil is a monounsaturated fat, which means when it is lightly heated for cooking it does not produce free radicals like vegetable oils do that are mostly polyunsaturated. Free radicals are molecules that have been shown to disrupt cells and wreak havoc in the body. Organic, extra-virgin olive oil is recommended and can be used cold in salads and other dishes or in light sautéing. It is best not to cook on high heat with olive oil because its essential health-providing nutrients can be destroyed.

Coconut oil

Coconut oil is a good choice when high heat is needed for cooking because it is mostly saturated fat, which means it remains stable and won't produce free radicals even at high heat. Palm oil and avocado oil, because they consist mainly of saturated or monounsaturated fats, with very little polyunsaturated fat, also make good candidates for cooking.

Ghee

Clarified butter or ghee is also a very stable and tasty choice for cooking foods with higher heat. The protein and lactose (milk solids) are removed, which yields just the oil.

To make ghee, melt two sticks of butter in a medium sauce pan over low heat. Let cook for 30-40 minutes until the butter has separated – there will be a white, thick film on top and the light-brown milk solids will sink to the bottom. While the butter is cooking it will bubble a bit. Place a cheesecloth in a sieve over a medium-size bowl and pour the melted butter through it. Pour the ghee in a glass jar and keep it in the refrigerator.



A science minute

25% increase in mortality

A 2013 study by researchers at Vanderbilt University in Tennessee found a 25% increase in mortality from all causes in the group that ate the highest amount of trans fatty acids.

Kiage J, Merrill P, Robinson C, et al. Intake of trans fat and all-cause mortality in the Reasons for Geographical and Racial Differences in Stroke (REGARDS) cohort. *Am J Clin Nutr* 2013;97:1121-1128.

Decrease colon tumor size

In an animal study, olive oil was shown to decrease colon tumor size and slow its metastasis.

Hashim Y, Worthington J, Allsopp P, et al. Virgin olive oil phenolics extract inhibit invasion of HT115 human colon cancer cells in vitro and in vivo. *Food Funct* 2014;5(7): 1513-1519.

Higher EPA & DHA

In a study of 3,088 women with early-stage breast cancer, the group who had the highest intake of dietary EPA and DHA – mainly from fish – had a 25% reduced risk of a breast cancer recurrence.

Patterson R, Flatt S, Newman V, et al. Marine fatty acid intake is associated with breast cancer prognosis. *J Nutr* 2011;141:201-206.

Positive impact on breast health

The VITAL Study looked at diet and lifestyle habits of 40,000 postmenopausal women. The analysis of fat intake found omega-3 fatty acids from fish had a positive impact on breast health; whereas, certain trans fatty acids had a negative impact.

Sczaniecka A, Brasky T, Lampe J, et al. Dietary intake of specific fatty acids and breast cancer risk among postmenopausal women in the VITAL cohort. *Nutr Cancer* 2012;64:1131-1142.

Lower risk of breast cancer

A study showed that women who ate more fish and olive oil had a lower risk of breast cancer than women who did not.

Mourouti N, Papavagelis C, Plytzanopoulou P. Dietary patterns and breast cancer: a case-control study in women. *Eur J Nutr* 2015;54(4):609-617.

Anti-cancer effects

The constituents of extra-virgin olive oil, such as a substance called oleocanthal, have shown anti-cancer effects in lab tests against various cancer cell types.

Akl M, Ayoub N, Mohyeldin M, et al. Olive phenolics as c-Met inhibitors: (-)-Oleocanthal attenuates cell proliferation, invasiveness, and tumor growth in breast cancer models. *PLoS One* 2014;9(5):e97622.

Dietary recommendations

Add color

To include a wide variety of colors in your diet you will need to include lots of vegetables and fruits. Fruits and vegetables contain flavonoids and other antioxidants that fight free radicals in a healthy and balanced way.

Vegetables and fruits are also high in fiber, which creates a healthy intestinal environment by promoting beneficial bacteria and fatty acids. Fiber increases butyric acid levels in the colon – the fuel for colon cells. A healthy level of beneficial bacteria and butyric acid can decrease inflammation in the colon and decrease the risk of colon cancer. Fiber also improves elimination so the by-products of food digestion don't "sit" in the intestines and create toxic substances.

Mediterranean diet

No single diet is suited for everyone; however, recommending the Mediterranean diet is a good place to start. Although it is well known that this diet helps prevent heart disease, it is not as well known that it is also a great diet to prevent and control other chronic diseases, including cancer.

The Mediterranean diet is based on the dietary habits of those who live in the countries bordering the Mediterranean Sea – Spain, Italy, and Greece, in particular. The diet is primarily fruits, vegetables, olive oil, whole grains, and legumes.

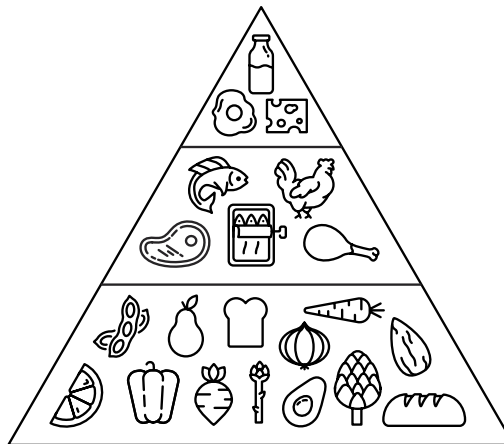
Dairy and eggs

- Organic eggs
- Milk
- Yogurt
- Other dairy products

Protein

- Fish (wild)
- Meat
- Seafood
- Tofu
- Poultry

Vegetables, fruit,
whole grains, beans,
nuts, seeds, & healthy oils



Hydrate



Be active

(at least 20 minutes per day)



A science minute

Stronger protective effect

The study on the previous page in which women who ate more olive oil and fish had lower rates of breast cancer also found an even stronger protective effect from eating a diet high in fruits and vegetables. There are literally hundreds of studies that have drawn the same conclusion with regard to all cancer types.

Mourouti N, Papavagelis C, Plytzanopoulou P. Dietary patterns and breast cancer: a case-control study in women. *Eur J Nutr* 2015;54(4):609-617.

Anti-cancer diet

Evidence supports the Mediterranean diet as an "anti-cancer diet." In one study, 250 women with newly diagnosed breast cancer were compared to women of the same age who did not have cancer. Adherence to a Mediterranean-type diet was assessed and found to significantly decrease breast cancer risk. The factors that had the most influence on decreasing cancer risk were unrefined grains, vegetables, and fruits – all of which translate to high levels of dietary fiber and antioxidants. Anything that decreases risk will also decrease the risk of recurrence.

Mourouti N, Kontogianni M, Papavagelis C, et al. Adherence to the Mediterranean diet is associated with lower likelihood of breast cancer: a case-control study. *Nutr Cancer* 2014;66:810-817.

Mediterranean diet & cancer

A comprehensive study of the Mediterranean diet on cancer, published in October 2014, was a meta-analysis that pooled data from a number of already published studies. This format allows for analysis of very large groups. In this review, 33 studies involving more than two million people were analyzed. This analysis found that the Mediterranean diet resulted in a reduction for overall cancer risk and mortality. In addition, significant decreases in risk for cancers of the upper (mouth, esophagus) and lower (colorectal) digestive tract and prostate were observed. Smaller risk reductions were seen for breast, stomach, and pancreatic cancer.

Schwingshackl L, Hoffmann G. Adherence to Mediterranean diet and risk of cancer: a systematic review and meta-analysis of observational studies. *Int J Cancer* 2014;135(8):1884-1897.

Dietary recommendations

Avoid inflammatory foods

We recommend going one step further than the Mediterranean diet and embracing what we call the Thorne-Modified Mediterranean Diet. This diet eliminates inflammatory foods, including foods you might be allergic to. Even though a food can appear to be healthy, it might not be if you have an intolerance or allergy to it. Eating foods you're allergic to can contribute to inflammation in the body because your body perceives the food as a foreign invader and mounts an immune reaction to it (see the [inflammation connection](#) section). The most common food allergens are gluten (wheat, spelt, barley, rye), dairy products, eggs, soy, peanuts, and corn.



Peanuts



Soy



Eggs



Dairy



Corn



Gluten

Although the Mediterranean diet focuses on foods that are primarily anti-inflammatory (for example, fruits and vegetables with anti-inflammatory flavonoids or fish with anti-inflammatory omega-3 fatty acids), it is worth discussing several pro-inflammatory foods you should avoid. Vegetable oils like safflower or corn oil can create inflammation by causing an imbalance between omega-6 and omega-3 fatty acids. Heating these polyunsaturated oils can also create cancer-causing free radicals. As explained in the good vs. bad fats, trans fats should be avoided as well. Olive oil, because it's monounsaturated, does not cause the same problems.

Processed meats, such as bacon, bologna, ham, pastrami, salami, and sausage, should be avoided. These meats are prepared via salting, smoking, curing, or adding preservatives that create carcinogenic substances that have been implicated in various types of cancer, including colon, stomach, and pancreatic.

Excess sugar, especially in the form of high fructose corn syrup (HFCS), found in large amounts in sodas and processed foods, can cause widespread inflammation. HFCS can actually cause what is known as leaky gut. Someone who has leaky gut is much more prone to developing food allergies – and more inflammation. Sugar can also cause obesity, which has been implicated in inflammation. In addition, cancer cells use sugar as a fuel source for dividing and proliferating.

Foods that can turn off cancer-promoting inflammation

We have focused on several foods that can turn on inflammatory processes in the body. But what about foods that can turn them off? Chemicals associated with inflammation in the body are called cytokines. Directing the cytokines is a protein called NFκB, which controls our very DNA. What if you could slow inflammation down, just by what you eat? Let's shine a spotlight on some foods and spices that can do just that.

Tomatoes

Tomatoes contain lycopene – a carotenoid pigment that gives tomatoes their red color. Lycopene is a potent antioxidant that can quench those free radicals we've been talking about. Tomatoes also contain other antioxidants, including vitamin C. In addition to its antioxidant effects, lycopene has potent anti-inflammatory effects. Unlike some fruits and vegetables, processing tomatoes into tomato juice, tomato sauce, or tomato paste actually increases the bioavailability of lycopene. Other fruits that contain lycopene include apricots, watermelon, and guava.

Broccoli and cabbages

Broccoli and other members of the cabbage family contain important anti-inflammatory constituents, one of the best of which is well-researched glucoraphanin. When eaten, glucoraphanin is converted to sulforaphane, which has both direct and indirect properties that resist inflammation. Sulforaphane helps detoxify carcinogenic substances that you come into contact with in your diet and environment. When it's overcooked, broccoli is less likely to retain its activity – so lightly steamed or raw is preferable. Vegetables in the cabbage family include:

- | | | | | | |
|-------------|------------------|----------------|----------------|-------------|-------------------------|
| Arugula | Broccoli | Cauliflower | Kale | Radishes | Turnips & turnip greens |
| Beet greens | Brussels sprouts | Collard greens | Kohlrabi | Rutabaga | Watercress |
| Bok choy | Cabbage | Horseradish | Mustard greens | Swiss chard | Wasabi |

Berries

Berries of all colors are full of flavonoids, antioxidants, and other cancer-fighting chemicals. Strawberries and raspberries contain an ingredient – ellagic acid – that helps the body deactivate carcinogens. Blueberries and huckleberries contain anthocyanosides, which are among the most potent antioxidants known. Always try to eat at least a half-cup of berries daily when they are in season.

Dietary recommendations

Spices to reduce inflammation

These spices can turn off NFkB (inflammation's master switch). From *The Cancer Fighting Kitchen* by Rebecca Katz, MS.

Anise	Clove	Ginger	Oregano
Basil	Coriander	Holy basil	Parsley
Black pepper	Cumin	Lemongrass	Rosemary
Caraway	Fennel	Licorice	Saffron
Cardamom	Fenugreek	Mint	Tamarind
Chili pepper	Flaxseed	Mustard seed	Turmeric
Cinnamon	Garlic	Nutmeg	

Avoid pesticides

Some fruits and vegetables, even though they are good for you, are likely to have pesticide residues when you don't buy organic. While we recommend eating organic foods as much as possible, finding organic sources of the fruits and vegetables on this list is particularly important. Originally, they were termed the Dirty Dozen. However, two more have been added, so now the list can be referred to as the Foul Fourteen. In addition, if you eat chicken or dairy products, these should also be organic. Grass-fed beef (organic when possible) and wild-caught fish are also preferable. The counterpart to the Foul Fourteen is the Clean Fifteen – those fruits and vegetables that are the least likely to contain pesticide residues.

Dirty dozen plus 1

- 01 Apples
- 02 Celery
- 03 Sweet bell peppers
- 04 Peaches
- 05 Strawberries
- 06 Nectarines
- 07 Grapes
- 08 Spinach
- 09 Cherries
- 10 Pears
- 11 Tomatoes
- 12 Potatoes
- 13 Hot peppers

The clean fifteen

- 01 Onions
- 02 Sweet corn
- 03 Pineapples
- 04 Avocado
- 05 Cabbage
- 06 Sweet peas
- 07 Asparagus
- 08 Mangos
- 09 Eggplant
- 10 Kiwi
- 11 Cantaloupe
- 12 Papayas
- 13 Honeydew melon
- 14 Cauliflower
- 15 Broccoli

Foods to eat & foods to avoid

By now you should have a good idea of which foods to eat and which ones to avoid. However, we thought we'd make it easy.

Vegetables

Fresh – either raw, steamed, grilled, roasted, sautéed in olive oil, juiced

Optimal sources

Arugula	Brussels sprouts	Eggplant	Okra	Swiss chard
Asparagus	Cabbage	Endive	Parsnips	Squash
Artichokes	Carrots	Escarole	Peas	Taro
Bean sprouts	Cauliflower	Green beans	Radishes	Tomatoes
Bell peppers	Celery	Jicama	Rutabaga	Turnips
Bok choy	Collard greens	Kale	Spinach	Yams
Broccoli	Cucumbers	Mushrooms	Sweet potatoes ⁺	Zucchini

⁺Potatoes should be eaten in moderation because they have a high glycemic index

Avoid

- Deep fried vegetables
- Canned vegetables

Fruits / juices (in moderation)

Fresh, frozen, dried, canned without sugar or other added sweeteners

Optimal sources

Apples	Grapes	Papayas
Apricots	Lemons	Pears
Avocados	Limes	Peaches
Bananas	Kiwis	Plums
Blackberries	Mangos	Pomegranates
Blueberries	Melons	Raspberries
Cherries	Nectarines	Strawberries
Cranberries	Oranges	Tangerines

Avoid

- Fruit canned in sugar
- Sweetened fruit juices

Note: Dried fruit and unsweetened fruit juices should be limited due to high natural sugar content.

Legumes

Optimal Sources

Adzuki beans	Navy beans	Pinto beans	Split peas
Red beans	Chickpeas	Mung beans	Soybeans
Black beans	Lima beans	Lentils	

Grains

Optimal Sources

Amaranth	Millet	Quinoa	Whole grain rice
Buckwheat	Oats	Teff	Wild rice

.....

Avoid

Cakes	Cereals	Pastries
Cookies	Pancakes	

Protein / dairy

Meats and fish should be organic when possible.

Optimal Sources

Beef ⁺	Pork ⁺	Yogurt
Chicken	Salmon	Cheese
Lamb ⁺	Sardines	Eggs
Mackerel	Turkey	

⁺Occasional

.....

Avoid

Fried fish	Sausage
Fried chicken	Processed meats
Bacon	

Sweeteners

Optimal Sources

Coconut sugar

Stevia

Monk fruit

Honey
.....

Avoid

High fructose corn syrup

Sugar

Artificial sweeteners

Fats

Optimal Sources

Olive oil (source of monosaturated fat)

Coconut oil

Nuts & seeds

Avocados
.....

Avoid

Trans fats (hydrogenated and partially hydrogenated vegetable oil)

Refined oils (e.g., safflower, corn)

Other items to avoid

Soft drinks (sodas)

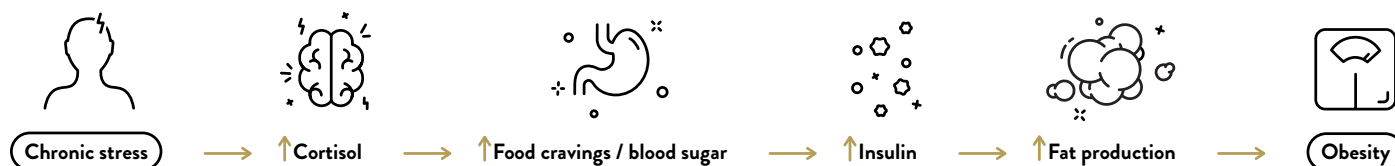
Diet sodas

Fruit beverages

Obesity & cancer

You probably already know that obesity is associated with heart disease, diabetes, and metabolic syndrome; but, did you know that it is also associated with cancer risk? Recent research has shown that unhealthy weight gain can increase the risk for numerous types of cancer.

The connection between chronic stress and obesity



Metabolic syndrome

Not surprisingly, metabolic syndrome, a condition closely associated with obesity, can increase the risk for cancer or its recurrence. Studies have shown an increased risk for breast, prostate, and kidney cancers in individuals who have metabolic syndrome.

How do you know if you have metabolic syndrome?

A general rule of thumb for a diagnosis of metabolic syndrome is the presence of three or more of the following signs or symptoms:

- Increased waist circumference (>102 cm/40 inches men and >88 cm/34 inches women)
- Elevated blood pressure (>130/85 mmHg)
- Elevated blood sugar (fasting blood sugar \geq 100 mg/dL)
- High triglycerides (>150 mg/dL)
- Low HDL-cholesterol – the “good” cholesterol (<40 mg/dL in men and <50 mg/dL in women)



A science minute

BMI & cancer

One study that followed five million people for an average of 7.5 years found increased body mass index (BMI) – a sign of being overweight – was associated with increased risk for developing 17 different cancer types.

Bhaskaran K, Doubles I, Forbes H, et al. Body-mass index and risk of 22 specific cancers: a population-based cohort study of 5.24 million UK adults. *Lancet* 2014;384:755-765.

Prostate cancer

In a study of 283 men who had undergone prostatectomy, metabolic syndrome was associated with an increased risk of recurrence of prostate cancer. The risk increased depending on the number of metabolic syndrome risk factors a man had.

Shiota M, Yokomizo A, Takeuchi A, et al. The feature of metabolic syndrome is a risk factor for biochemical recurrence after radical prostatectomy. *J Surg Oncol* 2014;110:476-481.

Higher levels of fasting blood sugar

In a study of 1,200+ women treated for breast cancer at various stages, women with higher levels of fasting blood sugar were at greater risk for both metastasis and recurrence.

Contiero P, Berrino F, Tagliabue G, et al. Fasting blood glucose and long-term prognosis of non-metastatic breast cancer: a cohort study. *Breast Cancer Res Treat* 2013;138:951-959.

50% greater chance

A study of 4,200+ women who had breast cancer found that those who had three or more signs or symptoms of metabolic syndrome had a 50% greater chance of developing a second breast cancer event – either a recurrence or a second primary cancer.

Calip G, Malone K, Gralow J, et al. Metabolic syndrome and outcomes following early-stage breast cancer. *Breast Cancer Res Treat* 2014;148(2):363-377.

More than twice the risk

A similar Italian study of 2,000+ breast cancer survivors found an even greater association between breast cancer recurrence or metastasis and metabolic syndrome. Women who had metabolic syndrome had more than twice the risk of having a recurrence or metastasis.

Berrino F, Villarini A, Traina A, et al. Metabolic syndrome and breast cancer prognosis. *Breast Cancer Res Treat* 2014;147(1):159-165.

Cooking resources

Individuals on chemotherapy know that treatment can sometimes seriously alter sense of taste – making things taste metallic or even just plain tasteless. Rebecca Katz, MS, has written several cookbooks with cancer patients in mind. Her website, rebeccakatz.com, is full of resources, including some great recipes. The following is an excerpt from her interview on National Public Radio:

“ There are some things patients can do to retain their interest in food, according to Rebecca Katz. She is a chef who works with cancer patients, helping them learn how to eat and even enjoy food during treatment. Her books, *The Cancer-Fighting Kitchen* and *One Bite at a Time*, offer lots of suggestions. ‘...There are some very practical changes patients can make.

If water or food tastes like metal, add a little acid, the type found in lemons, limes, and oranges. If you feel like you are eating cardboard, add salt. Sea salt is best because it’s not processed like typical table salt. If foods taste bitter or harsh, a tiny drop of Grade B organic maple syrup will make it taste better.’ ”

The Cancer-Fighting Kitchen

By Rebecca Katz, MS

The Cancer-Fighting Kitchen features 150 science-based, nutrient-rich recipes that are easy to prepare and designed to give patients a much-needed boost by stimulating appetite and addressing treatment side effects, including fatigue, nausea, dehydration, mouth and throat soreness, taste bud changes, and weight loss. A step-by-step guide helps patients nutritionally prepare for all phases of treatment, and a full nutritional analysis accompanies each recipe. This remarkable resource teaches patients and caregivers alike how to use readily available powerhouse ingredients to build a symptom-fighting and cancer-fighting culinary toolkit. Blending fantastic taste with meticulous science, these recipes for soups, vegetable dishes, proteins, and sweet and savory snacks are rich in the nutrients, minerals, and phytochemicals that will help patients thrive during treatment.

Other books by Rebecca Katz include *One Bite at a Time* and *The Longevity Kitchen*.

Nourishing Meals: Gluten-free, Soy-free, and Dairy-free Dishes

By Alissa Segersten and Tom Malterre, MS, CN

Nourishing Meals provides information and recipes to support optimal health in an unhealthy world. *Nourishing Meals* is the ultimate guide to eating healthfully. The authors, Tom and Ali show how easy it is to ditch processed foods one meal at a time with 365 delicious, whole food-based, allergen-free recipes.

Stress and Cancer: Methods to De-stress

A cancer diagnosis is an extremely stressful event, followed by the additional stress from the treatment. How you choose to deal with this stress can significantly affect your sense of wellbeing and general quality of life. Learning coping mechanisms to help you deal with the stress can have a significantly positive impact on depression, anxiety, and even the physical symptoms associated with cancer or its treatment. Emotional and social support in a group setting can be of benefit and provide a safe environment to share information, experiences, and emotional ups and downs. Whether stress can actually cause cancer or affect its prognosis is still a matter for debate. However, we know that stress does weaken the immune system, making you more susceptible to infection. Because a healthy immune system is essential for fighting cancer, it stands to reason that stress can impact the disease. What are some stress-reduction techniques to consider?

Power of exercise

As we've discussed, chronic inflammation is associated with an increased incidence of cancer and other chronic diseases. Did you know that regular exercise can actually decrease inflammation? The anti-inflammatory effect of regular exercise is partly associated with its effect on decreased body fat. As described on page 9, there is an association between obesity and cancer. Fat cells are their own little inflammation factories, making inflammatory chemicals called cytokines – more specifically adipokines, because they come from adipose or fat tissue. Thus, exercise that decreases body fat will help to decrease inflammation. Several studies that have been conducted, either in animals or humans, also show that moderate exercise decreases an important blood marker of inflammation called C-reactive protein (CRP). Certain chemotherapy drugs or cancer itself can result in muscle wasting. On the other hand, exercise can increase lean muscle mass. Along with exercise, taking an amino acid nutritional supplement can lessen muscle wasting and increase lean muscle mass. Increasing lean muscle mass can have significant benefit in terms of recovery, treatment tolerance, and general quality of life.

Exercise can improve the sense of wellbeing, as well as decrease the fatigue from cancer or its treatment. Physical activity can include activities such as walking, biking, or swimming, and should be based on ability and level of endurance.

Helpful exercise tips

- | Whatever you choose for exercise, **start gradually** and increase your intensity and duration little by little.
- | When given a choice between walking up two flights of stairs or taking the elevator, **choose the stairs**.
- | When going to the grocery store, **park further** from the entrance than you normally do.
- | Place an exercise step, treadmill, or elliptical machine in front of the television and **work out while you watch** your favorite TV show.
- | You can also use this venue to do abdominal and **other floor exercises**.
- | Find a **walking buddy** so you can encourage each other.
- | Particularly in winter, **regularly** go to a local shopping mall just to walk.
- | **Find a variety** of exercises you enjoy doing and switch them up.
- | Enroll in an **exercise class** that meets regularly – dance, yoga, Zumba, etc.
- | If you have a job that requires sitting for long periods, **stand up, stretch, and walk** around every hour or so.
- | Use half of your lunch break for a short **15-30 minute walk**, or do squats and abdominal exercises in your office when you can't get outside.
- | Try to get in 10,000 steps per day monitored with a pedometer, Fitbit®, or other tracker.



A science minute

Mild-to moderate aerobic exercise

A study in women with early-stage breast cancer found mild-to moderate aerobic exercise significantly improved fatigue; whereas, the group that did not exercise had an increase of fatigue during radiotherapy.

Yang T, Chen M, Li C. Effects of an aerobic exercise programme on fatigue for patients with breast cancer undergoing radiotherapy. *J Clin Nurs* 2015;24(1-2):202-211.

Yoga

You might be surprised to learn that several scientific studies have been conducted on the effects of yoga on cancer. It's logical that anything that reduces stress is beneficial. Yoga has been shown to improve sleep, mood, stress (cancer-related or otherwise), physical symptoms, fatigue, and general overall quality of life.

What is less intuitive is that yoga can decrease inflammation. In fact, one study showed it turned off NFκB – that protein described earlier in the [diet](#) section that can turn on inflammation in the body. We talked about a number of spices that can turn off NFκB – now you can add yoga to your tool kit.

One particular program involves yoga and mindfulness meditation and is referred to as mindfulness-based stress reduction or MBSR. It was developed by Dr. Jon Kabat-Zinn at the University of Massachusetts Medical Center.

"Mindfulness practice is ideal for cultivating greater awareness of the unity of mind and body, as well as of the ways the unconscious thoughts, feelings, and behaviors can undermine emotional, physical, and spiritual health." Visit mindfullivingprograms.com for more information.

Other integrative therapies

Massage therapy

In addition to improving overall mood, massage therapy has been shown to be effective in managing treatment-related side effects, such as anxiety, depression, fatigue, and muscle and bone pain.

Acupuncture and acupressure

Acupuncture is an evidence-based therapy that can be beneficial for nausea, vomiting, and pain. It can also help relieve or reduce the intensity of many side effects from treatments, including constipation, decreased appetite, dry mouth, hot flashes, neuropathy, fatigue, difficulty sleeping, anxiety, and depression. Acupuncture is safe when performed by qualified practitioners and has a very low risk of side effects.



A science minute

Inflammation & yoga

Yoga can improve inflammation. In one study, breast cancer survivors who had persistent fatigue either participated in Iyengar yoga for 12 weeks or served as a control group that got health education during that time. Blood samples were taken before, immediately after, and three months after the end of the study. Yoga resulted in a decrease in inflammation-related gene expression, including a decrease in the inflammation promotor NFκB.

Bower J, Greendale G, Crosswell A, et al. Yoga reduces inflammatory signaling in fatigued breast cancer survivors: a randomized controlled trial. *Psychoneuroendocrinology* 2014;43:20-29.

Cancer-related fatigue

Yoga can improve cancer-related fatigue. Yoga was put to the test in a study of 60 women with breast cancer who were receiving chemotherapy. The group was divided in half – 30 took part in two yoga sessions per week for eight weeks, while 30 women did not. After eight weeks the yoga group experienced much less fatigue and fatigue-related interference in their lives.

Taso C, Lin H, Lin W, et al. The effect of yoga exercise on improving depression, anxiety, and fatigue in women with breast cancer: a randomized controlled trial. *J Nurs Res* 2014;22(3):155-164.

Anxiety & depression

Yoga can decrease anxiety and depression. In a study of 68 women with breast cancer who were receiving radiation treatment, part of the group regularly did yoga while the other half did not. This study found a decrease in anxiety, depression, and perceived stress in the yoga group, but an increase in the non-yoga group.

Banerjee B, Vadiraj H, Ram A, et al. Effects of an integrated yoga program in modulating psychological stress and radiation-induced genotoxic stress in breast cancer patients undergoing radiotherapy. *Integr Cancer Ther* 2007;6(3):242-250.

Mindfulness-based stress reduction

Mindfulness-based stress reduction can help with cancer-related fatigue. Thirty-five individuals with cancer-related fatigue were assigned to a seven-week MBSR program or a wait list (serving as the control group). The meditation and yoga training resulted in large decreases in fatigue and depression, with improvements in sleep, compared to those who did not do MBSR. The improvements lasted for several months after completion of the course.

Johns S, Brown L, Beck-Coon K, et al. Randomized controlled pilot study of mindfulness-based stress reduction for persistently fatigued cancer survivors. *Psychooncology* 2015;24(8):885-893.

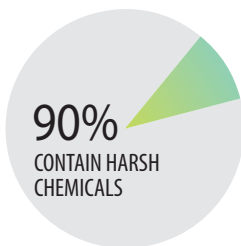
Personal-care products

What we put on our skin really does matter

It is a well-accepted fact that toxins in the environment – in the food we eat, air we breathe, and water we drink – can contribute to cancer. But what about things we put on our skin? The skin is the body's largest organ, which means whatever we put on our skin can potentially end up in our bodies. In fact, what we put on our skin has the potential to be more harmful than what we eat, because chemicals absorbed through the skin bypass the liver, the body's primary organ of detoxification, thereby directly entering the bloodstream and the body's organs. So what we put on our skin really does matter.

Ninety percent of skin-care products on the market today contain ingredients that can be harmful, potentially causing problems ranging from skin irritation to hormone-related disorders. When you consider that on average, women use six cosmetics and 13 personal-care products daily, while men, on average, use 10 personal-care products daily, you realize why consumers are at risk. Common ingredients like phthalates (thall-lates) and parabens found in shampoos, creams, and lotions can act as hormone disruptors. Hormone disruptors (also called xenoestrogens or endocrine disruptors) are molecules that behave like the hormone estrogen that is made naturally by the body. While a certain amount of estrogen is absolutely necessary for life (even in men), too much of an estrogenic affect can be harmful. Hormone disruptors can bind to the same cell receptor sites in the body that the natural estrogens produced in the body do. These have been particularly implicated in hormone-dependent cancers.

In 2012, the World Health Organization cautioned consumers that “endocrine disruptors are more of a global threat than climate warming.” A significant amount of research has been conducted in this area. See Science Minutes for examples of a possible connection between hormone-disrupting chemicals found in personal-care products and cancer.



Ninety percent of skin-care products on the market today contain ingredients that can be harmful.



A science minute

Phthalate MEP levels

In one study, 233 women with breast cancer were compared to 221 women who did not have breast cancer. Urine samples collected from the cancer patients prior to treatment found significantly higher levels of the phthalate MEP in the women with cancer compared to the women who did not have breast cancer. The connection was especially strong in the premenopausal women who had breast cancer.

Lopez-Carrillo L, Hernandez-Ramirez R, Calafat A, et al. Exposure to phthalates and breast cancer risk in northern Mexico. *Environ Health Perspect* 2010;118:539-544.

Parabens

Parabens were found in high concentrations in breast tissue removed during mastectomies from women with breast cancer. The highest paraben levels were found in the upper outer quadrant of the breast, which is the most common site for breast cancer.

Pugazhendhi D, Pope G, Darbre P. Oestrogenic activity of p-hydroxybenzoic acid (common metabolite of paraben esters) and methylparaben in human breast cancer cell lines. *J Appl Toxicol* 2005;25:301-309.

Sample meal plan

Day 1

Breakfast	Breakfast quinoa ⁺
Lunch	Chopped baby kale salad ⁺ Option 1: Add 3-4 ounces of protein (white anchovies, chicken, salmon, etc.) Option 2: Add 1 cup of lentils or beans Option 3: Pour masala (see red quinoa masala ⁺ recipe) over raw baby kale and let greens wilt
Dinner	Chicken or turkey vegetable soup with ginger meatballs ⁺
Snack	Herb and olive oil hummus ⁺

Day 2

Breakfast	Easy eggs in a cup ⁺
Lunch	Sautéed bok choy with ginger ⁺ Option 1: Add 3-4 oz of added protein (white anchovies, chicken, salmon, etc) Option 2: Add 1 cup of lentils or beans Option 3: Pour masala (see red quinoa masala ⁺ recipe) over sautéed bok choy
Dinner	Poached salmon with spring onion and white wine ⁺ – If you substitute magic mineral broth ⁺ , sip broth (8 oz per day) Serve with steamed greens
Snack	Sliced apple with almond butter

Day 3

Breakfast	Nutty Granola ⁺ Serve with almond / coconut milk and berries
Lunch	Coconut lime cauliflower “rice” ⁺ Option 1: Add 3-4 ounces of protein (white anchovies, chicken, salmon, etc.) Option 2: 1 cup of lentils or beans Mixed green salad
Dinner	Quinoa Salmon Burger ⁺ Steamed greens
Snack	Pear with 1 tbsp of walnuts

⁺Recipe included in Recipe section

Shake recipes

Pumpkin

Ingredients

- 2 scoops MediBolic
- 8-10 oz Coconut milk (or preferred milk)
- 3-4 tbsp Canned organic pumpkin

For extra richness, two tablespoons of yogurt can be added (plain, vanilla, or honey yogurt, or a non-dairy “yogurt” such as yogurt made from coconut milk can be substituted).

For additional spice, a dash of pumpkin pie spice can be added.

Nutty vanilla

Ingredients

- 2 scoops MediBolic
- 1/4 cup Cashews blended with 4 oz. of water until creamy
- 12-14 oz Water
- 1/8 tsp Organic vanilla powder or vanilla extract
- 1 tbsp Chia seeds

For a strawberry twist, add 1/2 cup organic strawberries

Banana chocolate

Ingredients

- 2 scoops MediClear-SGS Chocolate
- 2 oz Coconut milk (plain), rice milk, or nut milk
- 2-4 oz Cold water
- ½-1 Banana

For a thicker smoothie, add ice and eliminate water.

If your smoothie is too gritty, add 1 tsp flax oil.

Orange standby

Ingredients

- 2 scoops MediClear (Original, Plus, or SGS Vanilla)
- 6 oz Orange juice (fresh squeezed)
- 2-4 oz Cold water

For a thicker smoothie, add ice and eliminate water.

Peach cooler

Ingredients

- 2 scoops MediClear (Original, Plus, or SGS Vanilla)
- 6 oz Pear juice
- 2 oz Cold water
- ½ cup Peaches (fresh or frozen)

Very berry

Ingredients

- 2 scoops MediClear (Original, Plus, or SGS Vanilla)
- ½ cup Blueberries (fresh or frozen)
- ½ cup Raspberries (fresh or frozen)
- 8 oz Cold water or 4 oz cold water + 4 oz rice milk

For a chocolate version, use MediClear-SGS Chocolate.

Super green

Ingredients

- 2 scoops MediClear or MediClear-SGS Vanilla
- 1 handful Spinach or kale
- 1/2 Banana (fresh or frozen)
- 1 tbsp Almond butter
- 10 oz Water or coconut water

Breakfast recipes

Easy eggs in a cup

Serves: 2

Ingredients

1 tbsp	Olive oil
1/2 cup	Finely diced red onion
1 tsp	Minced garlic
4	Organic eggs
4 cups	Tightly packed baby spinach, washed and dried
Pinch	Freshly ground pepper
1/4 cup	Crumbled organic feta cheese (optional)
Pinch	Freshly grated nutmeg
Etc	Sea Salt

Directions

Heat the olive oil in a sauté pan over medium heat, then **add the onion** and sauté until translucent, about 3 minutes.

Stir in the garlic and sauté for an additional 30 seconds, then stir in the spinach and a pinch of salt and **cook until wilted and tender**, about another 30 seconds. Remove from the heat and stir in the nutmeg.

Lightly grease 4 small ramekins with olive oil. For each ramekin, spoon in ¼ of the spinach mixture, then sprinkle on 1 tablespoon of the cheese. **Gently crack 1 egg** on top of the cheese then sprinkle the pepper and a pinch of salt over all 4 ramekins.

Bake for **12-14 minutes** at 375°, until very little liquid remains and it moves around when you shake the ramekins.

This and many other delicious recipes can be found in the book, *The Cancer-Fighting Kitchen: Nourishing, Big-Flavor Recipes for Cancer Treatment and Recovery* by Rebecca Katz.

Nutty granola

Yields: 4-5 cups

Ingredients

1 cup	Raw almonds
1 cup	Raw pecans
1 cup	Raw walnuts
1/2 cup	Raw sunflower seeds
1/2 cup	Raw pumpkin seeds
2-3 tbsp	Whole chia seeds
2 tsp	Cinnamon
1/4 tsp	Nutmeg
1/4 tsp	Sea salt
1/4 cup	Maple syrup
3/4 cup	Dried cranberries or raisins
1/4 cup	Melted coconut oil
Etc	Almond / coconut milk
	Berries

Directions

Preheat oven to **300 degrees**. Line a large baking dish, rimmed cookie sheet, or jelly roll pan with parchment paper.

Place the almonds, pecans, and walnuts into a food processor fitted with the “s” blade and **process** until you have a chunky, coarse meal.

Pour into a medium-sized mixing bowl. Add the sunflower seeds, pumpkin seeds, chia seeds, cinnamon, nutmeg, and sea salt. **Stir together** to evenly distribute the spices and salt.

Add the syrup and **mix together** using a large spoon. Spread on the parchment-lined cookie sheet and bake for **35-40 minutes**.

Remove from oven and **stir in** the dried cranberries or raisins. Let cool completely on the cookie sheet then transfer to a glass jar for storage.

Serve with almond or coconut milk and berries.

Kitchen Tip: Lining a metal cookie sheet with parchment paper keeps the granola from burning.

Nutrition Tip: Soaking nuts and seeds overnight and then dehydrating them until crisp not only makes them more digestible, but also allows their nutrients to become more bioavailable. You can do this before using them in the granola recipe above.

This recipe is from *Nourishing Meals: Healthy Gluten-free Recipes for the Whole Family*, by Alissa Segersten and Tom Malterre.

Breakfast quinoa

Serves: 2

Ingredients

1/3 cup	Raw quinoa	1 tbsp	Walnuts
1 cup	Water	1/4 cup	Fresh berries
1/2 cup	Chopped apple	Dash	Cinnamon
1 tbsp	Ground flax seed		

Directions

Bring water to a **boil**, add quinoa and chopped apple.

Simmer about 20 minutes.

Remove from heat and **add** ground flax seeds, walnuts, berries, and cinnamon.

Serve immediately.

Salad & broth recipes

Chopped baby kale salad

Serves: 4

Ingredients

6 oz	Baby kale, chopped
2 slices	Red onion, halved
2 tbsp	Dried blueberries or cranberries
1/2	Cucumber, sliced & quartered

Dressing

2 tsp	White / red balsamic vinegar
4 tsp	Olive oil
Etc	Salt & pepper to taste

Sautéed bok choy with ginger

Serves: 2

Ingredients

1 bunch	Bok choy
1 tbsp	Grated ginger
1 tsp	Olive oil / coconut oil
Etc	Salt & pepper to taste

Directions

Chop baby bok choy or bok choy in 1-inch slices, discarding the base and tops.

Heat olive oil or coconut oil on medium heat, then **add ginger** and stir for 1 minute.

Add bok choy and stir for 2 minutes.

Magic mineral broth

Yields: 6 quarts

Excellent tonic, soup base, tea, or base for a heartier dish

Ingredients

6	Carrots, cut into thirds
2	Yellow onions, unpeeled, cut into chunks
1	Leek, white and green parts, cut into thirds
1 bunch	Celery, including the heart, cut into thirds
4	Red potatoes, unpeeled, quartered
2	Japanese or regular sweet potatoes, unpeeled, quartered
1	Garnet yam, unpeeled, quartered
5	Cloves garlic, unpeeled, halved
1/2 bunch	Fresh flat-leaf parsley
8 in	Strip of kombu
12	Black peppercorns
4 whole	Allspice or juniper berries
2	Bay leaves
8 quarts	Cold, filtered water
1 tsp	Sea salt

Directions

Rinse all of the vegetables well, including the kombu.

In a 12-quart or larger stockpot, **combine** the carrots, onions, leek, celery, potatoes, sweet potatoes, yam, garlic, parsley, kombu, peppercorns, allspice berries, and bay leaves.

Fill the pot with the water to 2 inches below the rim, cover, and **bring to a boil**. Remove the lid, decrease the heat to low, and **simmer, uncovered**, for at least 2 hours.

As the broth simmers, some of the water will evaporate; add more if the vegetables begin to peek out. **Simmer** until the full richness of the vegetables can be tasted.

Strain the broth through a large, coarse-mesh sieve (remember to use a heat-resistant container underneath), then add salt to taste.

This recipe is from rebeccakatz.com; it can also be found in the book, *The Cancer-Fighting Kitchen: Nourishing, Big-Flavor Recipes for Cancer Treatment and Recovery*, by Rebecca Katz.

Side dishes

Red quinoa masala

Serves: 6-8

Ingredients for Quinoa

2 cups	Red quinoa
3.5 cups	Water
Pinch	Sea salt

Ingredients for Masala

3-4 tbsp	Extra virgin olive oil or coconut oil
1 tsp	Whole cumin seeds
1 tsp	Brown or black mustard seeds
2 tbsp	Finely chopped fresh ginger
1 large	Onion, cut into crescent moons
1/2 tsp	Turmeric
2-3	Plum tomatoes, chopped
1-1.5 tsp	Sea salt or Herbamare®
1/2-1 cup	Chopped cilantro

Directions

Rinse quinoa in fine mesh strainer under cold water; drain well.

Place quinoa into a 2-quart pot, add water and salt; cover and **bring to a boil**. Reduce heat to low and **simmer** for about 15-20 minutes.

Remove pot from heat and **let cool for 30 minutes**.

To make the masala, first heat a 6-quart stainless steel or cast iron pot (a 12-inch skillet also works).

Add the oil, let it heat for 10-20 seconds, then **add** the cumin and mustard seeds; sauté 30-60 seconds until they begin to **pop**.

Immediately add the ginger and onions; sauté for about 10 minutes or until the onions are very soft and beginning to change color.

Add the turmeric, tomatoes, and salt. **Sauté** a minute more and then **add the cooked red quinoa**.

Gently stir, then cover the pot and cook for 5-10 minutes over **medium-low** heat.

Turn off heat, add cilantro, and fluff with a fork. **Serve hot**.

This recipe is from *Nourishing Meals: Healthy Gluten-free Recipes for the Whole Family*, by Alissa Segersten and Tom Malterre.

Herb and olive oil hummus

Yields: 4 cups

Ingredients

3 cups	Cooked garbanzo beans, or 2 cans drained
1 tsp	Ground cumin
1/4 cup	Bean cooking liquid or water
1-2 tsp	Sea salt or Herbamare®
1/2 cup	Sesame tahini
1/2 cup	Squeezed lemon juice
1 small	Handful fresh parsley
1/4 cup	Extra virgin olive oil
2-3 tbsp	Fresh oregano leaves
2-3 cloves	Garlic, crushed
1-2 tbsp	Fresh marjoram leaves

Directions

Place all ingredients except for the fresh herbs into a food processor fitted with the "s" blade and process until **smooth and creamy**.

Taste the hummus to see if it needs more lemon, tahini, garlic, or salt. Add more water if needed for a thinner consistency and process again.

Add the fresh herbs and **pulse until combined**, but not completely pureed.

Place the hummus into small serving dishes and **sprinkle** with extra chopped herbs and a drizzle of extra virgin olive oil if desired.

Store in a covered glass container in the refrigerator for **up to a week**.

This recipe is from *Nourishing Meals: Healthy Gluten-free Recipes for the Whole Family*, by Alissa Segersten and Tom Malterre.

Lunch & dinner recipes

Quinoa salmon burgers

Yields: 6 burgers

Ingredients

3-4	Green onions, ends trimmed
1 large	Handful fresh cilantro
1-2 tsp	Lemon zest (optional)
1 tsp	Herbamare®
1-1.5 lb	Wild salmon, skinned and deboned
1 cup	Cooked quinoa
Etc	Freshly ground black pepper
	Olive oil or coconut oil for cooking

Directions

Place the green onions, cilantro, lemon zest, Herbamare, and black pepper into a food processor fitted with the “s” blade and **process** until it is finely minced.

Add the salmon and quinoa and process again until desired consistency. **Form** into patties and place onto a plate.

Heat a large skillet over medium to **medium-high heat** and add a tablespoon of oil and place a few patties in the skillet (3 at a time in a 10-inch skillet). If the pan is hot it should only take 2-3 minutes per side to cook. If the pan is not quite heated it will take about 5 minutes per side and they may stick a little.

Remove patties from skillet and set onto a plate. They will continue to cook when off the stove so do not overcook them.

Variation: Try fresh dill and parsley in place of the cilantro. You could also add 1/2 teaspoon of chipotle chili powder and use lime zest in place of the lemon zest.

Poached salmon with spring onions & white wine

Serves: 4-6

Ingredients

2 lb	Wild salmon fillet
2	Spring onions
3-4	Sprigs fresh thyme
3 tbsps	Extra virgin olive oil
1/2 cup	White wine
Etc	Herbamare®
	Freshly ground black pepper

Directions

Rinse the fish fillet and pat dry. Place into pan **skin-side** down.

Trim the ends off the onions and cut in half lengthwise; run under cool water to remove any dirt or sand.

Place onions and fresh thyme on top of the salmon. **Drizzle** with olive oil.

Add the white wine to the pan and then **season the fillet** with Herbamare and freshly ground black pepper.

Cover and poach over medium/medium-low heat for 10-12 minutes. Serve immediately.

Note: The fish can also be poached in magic mineral broth instead of white wine.

These recipes are from *Nourishing Meals: Healthy Gluten-free Recipes for the Whole Family*, by Alissa Segersten and Tom Malterre.

Lunch & dinner recipes

Chicken (or turkey) vegetable soup with ginger meatballs

Serves: 4

Meatball ingredients

1 lb	Ground organic dark-meat turkey or chicken
2 tsp	Grated fresh ginger
1 tsp	Minced garlic
1/4 cup	Fresh parsley, finely chopped
1/2 tsp	Sea salt
pinch	Cayenne
1	Egg, beaten
1/3 cup	Uncooked white basmati or jasmine rice

Soup ingredients

2 tbsp	Extra-virgin olive oil
1	Yellow onion, diced small
1 large	Carrot, peeled and diced small
1 large	Celery stalk, diced small
2 cloves	Garlic, minced
1 tsp	Grated fresh ginger
8 cups	Chicken broth*
1/2 cup	Fresh or frozen sweet peas
1/4 cup	Fresh parsley, finely chopped
1/4 cup	Fresh basil, finely chopped
1	Lime, cut into quarters, for garnish
Etc	Sea salt

*For homemade recipe of chicken magic mineral broth visit rebeccakatz.com

Directions

To make the **meatballs**, line a sheet pan with wax paper.

Combine the chicken or turkey, ginger, garlic, parsley, salt, cayenne, egg, and rice in a bowl and mix with your hands or a spatula until **well combined**. Don't overwork the mixture or the meatballs will be tough. Wet the palms of your hands so the mixture doesn't stick, roll it into **1-inch balls**, and place them on the prepared pan.

To make the **soup**, heat the olive oil in a soup pot over medium heat, then add the onion and a pinch of salt and sauté until translucent, about 4 minutes.

Add the carrot, celery, garlic, ginger, and 1/4 teaspoon of salt and continue sautéing for about 3 minutes. Pour in ½ cup of the broth to deglaze the pot and cook until the liquid is **reduced by half**.

Add the remaining 7½ cups broth and another ¼ teaspoon of salt and bring to a **boil**. Lower the heat to maintain a vigorous simmer, then gently **transfer half** of the meatballs into the simmering broth. (Refrigerate or freeze the remainder to use later.)

Cover and allow the meatballs to **simmer** for 15 minutes. Add the peas and cook for 3 minutes more, then stir in the parsley and basil. Serve each bowl garnished with a wedge of lime.

This recipe is from rebeccakatz.com; it can also be found in the book, *The Cancer-Fighting Kitchen: Nourishing, Big-Flavor Recipes for Cancer Treatment and Recovery*, by Rebecca Katz.

Supplement prescription

Supplement	Suggested use (capsules/scoops)	Time of day (circle)
		AM / Noon / PM
		AM / Noon / PM
		AM / Noon / PM
		AM / Noon / PM
		AM / Noon / PM
		AM / Noon / PM
		AM / Noon / PM
		AM / Noon / PM

Can I purchase these similar nutritional supplements from my health-food store?

No, it is important to only use Thorne nutritional supplements or those supplements prescribed by your health-care practitioner. The combination of ingredients used in Thorne nutritional supplements are specifically developed to target your metabolic health.

Thorne manufactures high quality products by using the purest possible ingredients and eliminating all unnecessary additives. For example, Thorne never uses magnesium stearate, a flowing agent commonly used in supplement manufacturing that might inhibit proper absorption in the body.

Health journal

Exercise

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Activity							
Duration							

Psyche

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Mood							
Appetite							
Stress level							
Sleep duration							
Sleep quality							
Injury / illness							
Energy level							

Food

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast							
Lunch							
Dinner							
Snack							
Supplements							

Appendix I: Core supplement support



D-5,000

It is essential to maintain healthy vitamin D levels throughout all stages of life, from fetal development to old age. Vitamin D helps protect a number of important functions in the body* and, because of the growing understanding of its importance, the FDA has doubled the previous recommended daily intake from 400 IU to 800 IU (20 mcg). Vitamin D is directly involved in over 200 genes in the immune system.* Cutting-edge research suggests serum vitamin D levels should be in the range of 50-80 ng/mL 25-hydroxyvitamin D (25(OH)D). Although direct sunlight exposure is a good source of vitamin D, many people do not get enough sun due to season change, latitude, or lifestyle. Therefore, vitamin D supplementation can be of great benefit in these cases.*

The amount of vitamin D needed to achieve minimum vitamin D sufficiency (commonly defined as a 32 ng/mL 25(OH)D blood level) depends on many factors and can vary significantly from individual to individual. Thus, the requirement for vitamin D supplementation needs to be individualized. Thorne's D-5,000 supplies 5,000 IU of vitamin D3 in each capsule. This potency is ideal for maintaining optimum vitamin D levels in healthy individuals.* Thorne also offers a liquid Vitamin D and D/K and capsules in doses of 1,000, 5,000, and 10,000 capsules.



Foundational



Bone support*



Immune support*



ResveraCel®

NR offers fundamental support for mitochondrial biogenesis, as well as all other mitochondrial activities – from energy production to the regulation of metabolism and cellular aging.*

Resveratrol mimics the effect of calorie restriction by activating the sirtuin group of proteins.‡ Resveratrol shows promise in helping attenuate the effects of several age-related conditions.*

Research shows that quercetin not only acts as a potent antioxidant and is synergistic with the activities of resveratrol, it also slows the breakdown of resveratrol in the body.* Like resveratrol, quercetin also enhances sirtuin activity.*

Betaine – also known as trimethylglycine – is a premier methyl donor.* In addition to providing significant methylation support because it can donate three methyl groups, betaine provides support for important metabolic functions that are associated with metabolic syndrome.*



Healthy Aging*



Metabolism*



Meriva 500-SF

As discussed in [the inflammation connection](#) section, cancer and its treatment can be associated with chronic inflammation. The curcuminoids in Meriva help promote a healthy inflammatory response through optimizing cytokine production.* These curcuminoids may also help minimize malaise, occasional aches, and feelings of general discomfort.* The curcumin in Meriva is bound to molecules called phospholipids. Because phospholipids are important constituents of the cell membrane, they envelope the curcumin and usher it across the gut wall and into the bloodstream where it can do the most good.*



GI support*



Joint support*



Liver/detox*



Wound/injury*

A Science Minute

Curcumin bound to phospholipids, to make what is called a phytosome, was shown in one study to be 29-times better absorbed than just curcumin powder.*

Cuomo J, Appendino G, Derr AS, et al. Comparative absorption of a standardized curcuminoid mixture and its lecithin formulation. *J Nat Prod* 2011;74:664-669.

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

Appendix I: Core supplement support

D-5,000

V12

SUPPLEMENT FACTS		
Serving Size: One Capsule		
One Capsule Contains:		%DV
Vitamin D (as Vitamin D3) (5,000 IU)	125 mcg	625%
Daily Value (DV)		

Other Ingredients: Microcrystalline Cellulose, Hypro- mellose (derived from cellulose) capsule, Leucine, Silicon Dioxide, Vitamin E (d-Alpha Tocopheryl).

Suggested Use: Take 1 capsule daily or as recommended by your health-care practitioner.

If pregnant, consult your health-care practitioner before using this product.

D138 / 60 Capsules

ResveraCel®

V04

SUPPLEMENT FACTS		
Serving Size: Two Capsules		
Servings Per Container: 30		
Two Capsules Contain:		%DV
Nicotinamide Riboside Chloride†	300 mg	*
Quercetin Phytosome (<i>Sophora japonica</i>) extract (flower) / Phospholipid complex from Sunflower)	250 mg	*
Trans-Resveratrol	150 mg	*
Betaine Anhydrous (Trimethylglycine)	50 mg	*
*Daily Value (DV) not established.		

Other Ingredients: Leucine, High and low viscosity hydroxypropyl methylcellulose, Magnesium Citrate, and Calcium Laurate (TimeSorb®††), Hypromellose (derived from cellulose) capsule, Silicon Dioxide.

Suggested Use: Take 2 capsules one to two times daily or as recommended by your health-care practitioner.

†This product contains ChromaDex Inc.'s proprietary Nicotinamide Riboside ingredient, Niagen®. Niagen is a registered trademark of ChromaDex, Inc. Patent: See ChromaDexPatents.com. ††The ingredients in this product are complexed with Time-Sorb®, a time-release matrix.

If pregnant, consult your health-care practitioner before using this product.

SB302/ 60 Capsules

Meriva 500-SF

V02

SUPPLEMENT FACTS		
Serving Size: Two Capsules		
Two Capsules Contain:		%DV
Curcumin Phytosome† (Curcuma longa extract (root) / Phospholipid complex from Sunflower)	1 g	*
*Daily Value (DV) not established.		

Other Ingredients: Hypromellose (derived from cellulose) capsule, Leucine, Calcium Laurate, Silicon Dioxide, Calcium Citrate, Microcrystalline Cellulose.

Suggested Use: Take 1-2 capsules two times daily or as recommended by your health-care practitioner.

If pregnant, consult your health-care practitioner before using this product.

SF814 / 120 Capsules

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Appendix II: additional supplement support



Amino Complex

Lemon / Berry flavored

- | Provides substrates to the Krebs Cycle for energy production*
- | Promotes mitochondrial biogenesis*
- | Promotes lean muscle mass and muscle strength, including the elderly*

SP637 / 7.7 oz (219 g)

SP641 / 8.1 oz (231 g)



Basic Nutrients III

A comprehensive multiple without copper and iron

- | Contains well-absorbed calcium and magnesium citrate minerals*
- | Provides the active, readily usable forms of vitamins B2, B6, and B12
- | Features well-absorbed trace minerals*
- | Provides tissue-ready folate as 5-MTHF for those with methylation problems or poor conversion of folate to its active form*

VM6 / 180 Capsules



Boswellia Phytosome

Boswellia bound to phospholipids for enhanced absorption*

- | Three- to seven-fold higher levels of boswellic acids in plasma due to phytosome technology*
- | Clinical trials support the efficacy of boswellia phytosome (Casperome®)
- | Supports a healthy balance of inflammatory cytokines in the respiratory tract, GI tract, brain, and musculoskeletal system*
- | Contains a full spectrum of boswellic acids

SF819 / 60 Capsules



Carnityl®

Acetyl-L-carnitine for support of the brain and peripheral nerves*

- | Acts as an antioxidant in the brain and nerves of the upper and lower limbs*
- | Supports healthy brain function*
- | Minimizes discomfort due to alterations in nerve function in individuals undergoing cancer therapy*
- | Promotes healthy sperm count and sperm motility*
- | Taking between meals is often recommended

SA520 / 60 Capsules

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Appendix II: additional supplement support



Calcium D-Glucarate

Liver detoxification*

- | Supports glucuronidation, an important liver detoxification pathway*
- | Minimizes the recycling of toxins back into the liver*
- | Supports healthy hormone metabolism*

M280 / 90 Capsules



Crucera-SGS®

Unique antioxidant formula that harnesses the cell-protective properties of broccoli seeds and sprouts*

- | Targeted cellular protection & ramps up the body's detoxification enzymes*
- | Key factor behind the many health benefits attributed to cabbage family (cruciferous) vegetables
- | Each capsule contains 50 mg of sulforaphane glucosinolate – equivalent to eating two pounds of cooked broccoli
- | Broccoli seed extract helps support healthy cellular DNA repair*

SP660 / 60 Capsules



Dipan-9®

Pancreatic enzymes (pancreatin) for digestive support*

- | Provides lipase, protease, and amylase for digestion of fats, proteins, and carbohydrates*
- | Benefits individuals with occasional indigestion*
- | Undiluted pancreatin; lactose-free and the highest potency and purity possible

SD401 / 180 Capsules



EnteroMend®

A unique botanical and amino acid formula for intestinal health support*

- | Meriva® and Casperome® (curcumin and Boswellia phytosomes) for enhanced absorption and to help maintain an already healthy inflammatory response in the GI tract*
- | DaltonMax 700® – a unique 200:1-potency aloe extract that soothes the mucus membranes of the GI tract*
- | L-Glutamine for support of colonic permeability*
- | Sunfiber® - partially hydrolyzed guar gum to promote healthy gut flora, normal butyrate levels, and bowel regularity*

SP681 / 5.9 oz (168 g)

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Appendix II: additional supplement support



Ferrasorb®

A complete blood-building formula*

- | 36 mg of elemental iron per capsule
- | Provides the active forms of folate and vitamins B6 and B12 – all essential for blood building*
- | Includes well-absorbed, non-constipating iron bisglycinate*
- | Adds vitamin C to enhance iron absorption*
- | Optimal blood-building effect*

SF750 / 60 Capsules



FiberMend®

Easy-to-use soluble prebiotic fiber formula to help maintain regularity and balanced GI flora*

- | Soluble fiber blend: mixes easily in water or preferred beverage
- | Promotes regularity*
- | Well-tolerated: minimal, if any, bloating or cramping*
- | Supports healthy glycemic control*

SP635 / Net wt 11.6 oz (330 g)



FloraSport 20B®

Containing 20 billion active cultures per capsule*

- | For use during occasional diarrhea*
- | Provides digestive tract and immune system support for travelers, including athletes*
- | Helps maintain a healthy balance of gastrointestinal flora*
- | Positive results from a randomized, placebo-controlled trial
- | In individually-sealed blister-packs for humidity and temperature control

SF818 / 30 Capsules



Fractionated Pectin Powder

Water-soluble modified citrus pectin in powder form

- | Nutritional support for oncology patients*
- | Complex polysaccharide obtained from the peel and pulp of citrus fruits
- | Preferentially binds to the lectins on the cell membranes of unwanted cells, in turn preventing the attachment of the unwanted cells to normal cells*

SF778 / Net Wt 5.3 oz (150 g)

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Appendix II: additional supplement support



GI-Encap®

Soothing botanical support for the GI tract*

- | To soothe irritation of the mouth and esophagus, open 2-3 capsules and mix with warm water for a healing tea*
- | Helps maintain the health of the esophagus and stomach*
- | Slippery elm and marshmallow root contain components that soothe the digestive tract*
- | Good companion to L-Glutamine Powder

SF714 / 180 Capsules



Green Tea Phytosome

Antioxidant containing decaffeinated green tea*

- | The antioxidant, liver protective, and metabolic benefits of green tea without the caffeine*
- | Helps maintain the body's normal inflammatory response to oxidative stressors*
- | Enhanced absorption from phytosome preparation*
- | Extracts from green tea can increase energy expenditure, essentially burning fat and calories*

SB336 / 60 Capsules



Indole-3-Carbinol

Supports estrogen metabolism*

- | Maintains an optimal 2-hydroxy/16-hydroxy estrogen ratio (increasing the good estrogen and decreasing the bad)*
- | Found in cabbage family vegetables, it's a source of DIM
- | Nutritional support for liver detoxification*

SF749 / 60 Capsules



L-Glutamine Powder

Primary fuel for the cells lining the small intestine*

- | Promotes GI and immune health*
- | Important amino acid that is necessary for wound healing*
- | Supports a healthy nervous system*
- | Glutamine powder facilitates taking in higher amounts

SA519 / Net wt 18.1 oz (513 g)

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Appendix II: additional supplement support



Melaton-3™ | Melaton-5™

Melatonin is ideal for sleep and normalizing circadian rhythms*

- | Synthesis of melatonin can be decreased by the aging process
- | Helps regulate the sleep-wake cycle*
- | Can provide benefit for shift workers and jet lag*

SF788 / 60 Capsules

SF780 / 60 Capsules



Meta-Balance™

For women who need nutritional support during menopause*

- | A drug-free approach to menopause*
- | Helps manage the normal ebbing of hormones*
- | Enhances mood*

SF711 / 60 Capsules



Omega Superb™ – Lemon Berry

Lemon berry flavored EPA/DHA

- | With added antioxidant support from the carotene, astaxanthin*
- | From non-endangered cold-water fish from the pristine waters off Chile and Peru
- | No fishy-tasting burps from the digestive tract

SP639 / 8.45 fl oz (250 ml)



O.P.C.-100™

Optimally absorbed grape seed extract formulated to support blood vessel strength and eye health*

- | OPC provided as a phytosome for enhanced absorption*
- | A flavonoid antioxidant*
- | Promotes vascular integrity*

SF745 / 60 Capsules

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Appendix II: additional supplement support



PharmaGABA-250

Natural source of GABA – an important brain chemical

- | Non-habit forming, non-drowsy
- | The only natural-source of GABA – an important calming brain chemical*
- | Acts like a brake during times of runaway stress*
- | Promotes a calm, relaxed, focused state of mind*

SF788 / 60 Capsules



Phosphatidyl Choline

Important for all cell membranes in the body

- | Excellent choline source for liver support*
- | Protects liver cells from toxin-induced damage*
- | Promotes cholesterol metabolism and excretion*
- | Supports maintenance of healthy bile*

SP605 / 60 Gelcaps



PolyResveratrol-SR®

Resveratrol with synergistic ingredients

- | Supports blood vessel health and normal cell proliferation*
- | Enhances SIRT-1 (the longevity enzyme) activity*
- | Supports the body's normal inflammatory response to oxidative stressors*
- | Enhances liver function and detoxification*

SB300 / 60 Capsules



Q-Best 100™

Exclusive crystal-free CoQ10 for optimal absorption

- | Proprietary formula with demonstrably better absorption over other CoQ10 forms, including dry powder, oil, nanoparticle, and liposomal preparations*
- | Promotes normal cardiovascular function, enhances blood vessel function, and is an essential nutrient for cellular energy production*
- | No chemical additives or titanium dioxide
- | Nearly three times better absorbed than ubiquinol*

SP624 / 60 Gelcaps

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Appendix II: additional supplement support



Quercetin Phytosome

Supports allergy sufferers by helping stabilize mast cell membranes that store and release histamine*

- | Flavonoids in quercetin help promote a healthy inflammatory response through optimizing cytokine production*
- | Quercetin bound to sunflower-sourced phosphatidylcholine for enhanced absorption*
- | Helps stabilize mast cells that store and release histamine*
- | An antioxidant flavonoid*

SB335 / 60 Capsules



Siliphos®

Combines a flavonoid from milk thistle (silybin) with phospholipids to form a well-absorbed complex (a phytosome)*

- | Provides liver support*
- | Helps maintain normal glutathione levels – an important antioxidant for detoxification*
- | Phytosome preparation provides more silybin to the liver*
- | Dual liver-protective benefits from milk thistle extract and phospholipids*

SF733 / 90 Capsules



Super EPA

Concentrated omega-3 fatty acids from cold-water fish

- | Helps maintain healthy heart and brain function*
- | 425 Mg EPA and 270 mg DHA per softgel
- | Molecular distillation helps remove heavy metals and other potential contaminants
- | Enhances mood and memory*

SP608 / 90 Gelcaps



Vitamin D / K2 Liquid

Liquid vitamins D3 and K2 in a balanced formula

- | 10 drops contain 5,000 IU vitamin D3 and 1 mg vitamin K2 (MK4)
- | Vitamins K and D for support of healthy bones*
- | In liquid for ease of dosing and titration
- | Both vitamins support a healthy cardiovascular system*
- | Provides nutritional support for oncology patients*

KD500 / 1 fl oz (30ml)

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Whey Protein Isolate

Chocolate / Vanilla flavored

- | High-protein, low-carb protein supplement
- | Easily digestible protein for optimal amino acid supplementation
- | Helps boost natural antioxidant glutathione levels*
- | Contains sweeteners derived from natural sources

SP110 / 31.9 oz (906 g)

SP111 / 29.5 oz (837 g)

