



## **Integrative Approaches to Breast Cancer Treatment:**

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Ask anyone you know, and they'll probably tell you that someone they love—a mother, a grandmother, a sister, a daughter, a friend, a neighbor, or a coworker—has **struggled with the devastating diagnosis of breast cancer. Maybe they've even come face to face with the disease themselves, just as 2.5 million women living in this country today have.**

**If you're reading this report, chances are good that someone you love is battling breast cancer, too. Or maybe you're reading this in the wake of your own breast cancer diagnosis... and preparing for the struggle that lies ahead. Whatever the reason, I'm glad that you've come here**—and as an integrative doctor with a long history of helping patients triumph over this frightening disease, it is my hope that the contents of this report will help to empower you in your own fight against breast cancer in the months and years ahead.

**I'll be covering a wide range of topics in the pages that follow, from important diagnostic tests to critical nutritional supplements that can foster your path to recovery.** But first, let me begin by providing a closer look at breast cancer and some of its potential causes.

## **Heredity isn't as important as you might think**

The actual cause of breast cancer is unclear, but you may be surprised to learn that the vast majority of cases are not hereditary. There are tests available to determine whether you may have inherited certain genes that have been implicated in breast cancer development, but the fact remains that genetic predisposition only account for five to ten percent of diagnoses. As for the remaining 90 percent, the cause is still unknown—though research points to several other influencing factors.

Some of these factors cannot be changed—such as your gender, increasing age, a personal history of breast cancer, menstruation before the age of 12, and menopause after 55. But many of them are avoidable, which means that you can do something to decrease your risk of breast cancer even if you have a strong family predisposition.

One of the main environmental risk factors is exposure to ionizing radiation—such as x-rays, uranium, radioactive materials, and nuclear waste. Similarly, emerging research suggests that pesticides and estrogen-mimicking compounds (called xenoestrogens) that can be found in certain pesticides, fuels, detergents—and most notably, plastics—are able to promote cancer cell growth just as prolonged estrogen exposure would.

Synthetic and animal-derived forms of postmenopausal hormone replacement therapy are also known risk factors for breast cancer—as are obesity, smoking, and excess alcohol consumption. So if any of these risks apply to you—and even if they **don't**—regular self-examinations and breast cancer screening is still an absolute must.

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## Why mammography isn't always the best detection method

With fears of breast cancer taking the forefront in every woman's mind today, the medical industry continues to push the use of mammography for "prevention and early detection" of this deadly disease. Let's take another look at this concept.

Mammography does not prevent breast cancer, but the earlier breast cancer is detected by self-exam or mammography and followed by treatment, the greater the woman's chances of survival. That much is clear. However, mammographic x-rays fail to detect as much as 20 percent of breast cancer in women over 50, and as much as 40 percent in younger women.

Other drawbacks include the invasive use of radiation, a known carcinogen, and the fact that breast tumors have been growing, on average, eight to ten years before they can be picked up by mammography. With the annual exposure to ionizing radiation coupled with the mechanical pressure on the breast tissue, the safety of mammography is more than questionable. The value of mammography is its ability to detect masses as well as tiny calcifications that are often present in an area of abnormal tissue. These calcium deposits often appear at sites of chronic inflammation, which is often a precursor to cancer. Other detection methods do not show these micro-calcifications.

Are there alternative or additional imaging methods that can complement mammography and possibly replace it sometimes? Luckily, yes. Thermography, a noninvasive, 100-percent safe procedure that registers the infrared heat waves omitted from the breasts can be useful in the early detection of physiological patterns that can suggest breast cancer, or create breast cancer later in life.

I have used thermography as an adjuvant tool in my practice for quite some time. Based on my clinical experience I many times prefer to use thermography as my ongoing imaging procedure for early detection, as well as a way to assess my treatment protocol. Since thermography is a physiological dynamic assessment, improvement in systemic patters such as estrogen/progesterone imbalance or 2OH/16OH estrogens imbalance will many times be reflected in an improved thermographic reading. Similar important changes are not expected to be seen in mammography.

Breast ultrasound is another non-invasive method of assessing breast tissue. Sound waves are used to detect the difference between a cystic (or fluid-filled) "mass" and a solid mass. Cystic masses are most often benign. A solid mass is often benign but can also be malignant. In this case, further testing is needed.

MRI, or magnetic resonance imaging, uses electromagnetic imaging techniques rather than radiation to view breast tissue. MRI is highly sensitive and has a higher false positive rate than does mammography, leading to more unneeded biopsies. As you can see, we are at a place in terms of medical technology where each method of screening shows us some information, but may not show everything we would like to know. So we are faced with the difficulty of weighing the potential risks and benefits of the screening options we currently have. This needs to be done on an

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individual basis, with each woman discussing the pros and cons with her provider. And this is what empowerment is all about: Having the knowledge to make informed **decisions. That doesn't mean that a decision is always easy or clear, but it is a** different paradigm from the one in which women are expected to simply allow whatever test their practitioner orders.

## **So what are some other tests you can use to assess your risk of breast cancer?**

Get your vitamin D levels checked. Your level should be in the range of 70-90. If not, take supplemental Vitamin D3. (Work with a holistic practitioner who can help you decide how much to take for your individual situation.)

Get your hormones checked. Hormonal imbalances can contribute to increased breast cancer risk. Around the time of menopause many women have excess estrogen production which can increase breast cancer risk.

Test your estrogen metabolism. New urine tests offer a doorway into the internal **workings of your body's system for breaking down hormones. Genetic mutations and** nutrient deficiencies often result in problems with breaking down hormones properly, thus increasing your breast cancer risk.

Get your thyroid tested. Low thyroid levels are associated with increased breast cancer.

Check your iodine levels with a simple urine test. Iodine concentrates in breast tissue, and is often deficient in our western diets.

## **I've been diagnosed with breast cancer... what now?**

**When we face a health challenge, especially if it's a significant challenge such as** cancer, it creates a shake-up in our system. What was important for us a moment before diagnosis is no longer so important. Things that used to bother and upset us are pushed to the side-lines. We now face the issue of life and death, the possibility of departing from **this human life... and this is undoubtedly the single biggest issue** that we will encounter.

This begins a process of facing the myriad of deep emotions that are stirred up by your diagnosis. Elizabeth Kubler Ross was the first to describe the many stages an individual goes through in facing a life-threatening illness—including denial, anger, fear, sadness, and finally, acceptance. As you allow yourself to feel and move through these feelings, you will find that dealing with the possibility of death and preparing for death does not weaken your ability to fight the disease and win the battle. On the contrary, it allows you to free a substantial amount of suppressed energy that was trying to push the issue of death away. This energy can now be used to fight for life and for recovery. My clinical experience regularly confirms this philosophy.

Upon receiving a diagnosis of cancer, we become vulnerable. We are forced to peel off many of our defenses, and the unnecessary layers melt away as we face the

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biggest crisis of our life. In this process we now start searching for medical choices.

What to do? Is it surgery, chemotherapy, or radiation therapy? Am I prepared to make life style changes? What supplements, herbs, diets and other strategies can I integrate into my regimen? We are bombarded by information from our family, friends and neighbors as they help us try to answer these important questions. At this time we also enter the conventional oncology system where fear, and a limited viewpoint about effective treatment and healing options, makes it difficult to keep your own center and sense of self.

All of this can serve to block your vulnerability and your ability to look deeper and gain a better understanding of life, and of who you are. This window of opportunity for deeper understanding can be closed if we succumb to fear and pressure. But this opening is precisely where wisdom can be found. Only when we peel, slow down, and take off the masks, can we truly get in touch with our core.

The goal of integrative medicine in general, especially with cancer, is to nourish both this new wisdom and the strengthening of our core from the moment of diagnosis **through the remainder of our lives, no matter what the “medical outcome” is. If we** engage in the path of knowledge and wisdom, there is no possible outcome but a successful outcome, regardless of the result of the procedure or the treatment. Such an approach will naturally allow us to respond better to treatment regimens and help to prolong our life while enhancing the quality of life.

As you come to terms with the reality of your recent diagnosis, you must also begin to make some important decisions about your treatment plan. Conventional protocols—including surgery, chemo, and radiation—are usually the first steps that your doctor will recommend. There are many websites, including the NCI and Mayo Clinic, which do a wonderful job of explaining the options available to you in the conventional oncology approach. What I would like to do here is share with you some **crucial information that you won't find in those discussions, which can help** you to make more informed decisions as you navigate your way through conventional treatments.

## **The pros and cons of biopsy**

In order to confirm a diagnosis of breast cancer when there is suspicious mass, a biopsy will be recommended to remove all or part of the suspicious area for microscopic evaluation. A fine needle biopsy—in which a hollow core needle is inserted using guided imaging to accurately locate the area and obtain a sample—is often recommended. Another option, and the one that I recommend, is an excisional biopsy. This is a more extensive procedure, usually requiring general anesthesia. The difference is that an excisional biopsy removes the entire suspected area, along with a margin of clear tissue.

Why do I recommend excisional biopsy over needle biopsy? Whenever you disturb or traumatize tissue, the body reacts with a healing response. Many growth factors are stimulated to heal the affected area that is damaged and inflamed. In my opinion, a needle biopsy triggers such a response in an area where the abnormal

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tissue has not been fully removed, but only disturbed. An excisional biopsy, on the other hand, removes the abnormal tissue entirely, so that when the body responds with growth factors and inflammation, the abnormal tissue is gone.

Again, there are pros and cons, as well as individual risk factors, to be considered. For some women, a needle biopsy might be preferred—but I always prepare women for either procedure with Modified Citrus Pectin, medicinal mushrooms, and other botanicals (all of which I will discuss later in this article).

## **Surgical options for the most common types of cancer**

There are two main types of breast cancer. Ductal carcinoma is the most common kind, and it begins in the cells in your milk ducts. Lobular carcinoma, on the other hand, begins in your lobules (your milk glands). Both cancers are described as either in situ, which means that the abnormal cells have not spread from their location of origin, or invasive, which means that the cancer cells have spread into other parts of your breast tissue, and may eventually reach other parts of your body. Your course of treatment will likely depend on what type of cancer you have, but in either case, surgery will be advised.

Your two main surgical options are lumpectomy, in which the tumor and a small portion of surrounding tissue are removed, and mastectomy, in which the entire breast (including lobules, ducts, fatty tissue, and skin) is removed. The former is suitable for smaller in situ cancers, whereas the latter is advised for more invasive cancers. Your surgeon may also want to remove a lymph node for biopsy—and if cancer is found, additional lymph nodes will also be removed.

An important point of research to be aware of is that the timing of your surgery appears to matter. One British study (published in the November 1999 issue of *Cancer*) examined how menstrual cycle phases at the time of breast lumpectomy and mastectomy surgeries influenced the survival rates of 112 pre-menopausal women with breast cancer. Findings indicated that women who have surgery in the luteal (or post-ovulation) phase of their menstrual cycle have a higher survival rate than those who have surgery in the early follicular (or pre-ovulatory) phase.

Of the women who had surgery in the second half of their cycle (post-ovulation), 75 percent were alive ten years later. By contrast, only 45 percent of women who had surgery on days three through 12 of their menstrual cycle had a ten-year survival rate. This is a very important piece of information for menstruating women, indicating that breast cancer surgery should be scheduled for the post-ovulation phase whenever possible.

## **What about radiation, chemo, and other therapies?**

Recommendations for radiation and chemotherapy are based on a number of factors, including the type of cancer, and whether or not there is invasion into surrounding tissue, or metastasis to nearby lymph nodes or other areas of the body. There are several genetic tests available for women with localized disease that can determine the aggressiveness of the cancer cell biology, and can be used to help with

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decision-making regarding the benefit (or lack thereof) of chemotherapy. This new technology should be offered to you as part of your assessment and decision-making process.

**The newest research in cancer biology shows us that each individual's cancer is** absolutely unique, just like the thumbprint of each person is unlike **anyone else's**. What this means is that each person's cancer cells have a unique mix of abnormal genetic expression, which can be determined using specialized laboratory testing **called functional tumor profiling. The preserved tissue "block" that is stored** at the pathology department where your biopsy or surgery was performed can be sent to special labs for this type of testing. In addition, by prior arrangement, fresh tissue can also be taken at the time of surgery and sent to special labs that can test the cells to see which chemotherapy agents or combinations will be most effective for your individual tumor biology.

This is the cutting edge of oncology, and it gives doctors the ability to truly individualize treatment options. Unfortunately, however, not many facilities are offering this to their patients. Nevertheless, I want you to know that it is available, and if more patients advocate for this kind of individualization, eventually it will become more mainstream.

Similarly, new types of radiation and time/duration reduced radiation schedules are also being studied and compared with the traditional standard of care. Radiation is usually recommended after lumpectomy, and studies have shown that it can significantly decrease the risk of re-occurrence (but not overall survival). Some facilities offer a new radiation technique, called the mammatome, in which a small inflatable balloon is inserted into the surgical site, and a tiny radioactive seed is inserted for a short period of time. This delivers a more localized dose of radiation. Some facilities also offer inter-operative radiation, during which radiation is given directly to the affected site during surgery.

You should discuss these innovations with your providers and include them as part of your decision-making process. Always remember that you can choose to use another facility (or even travel to another state) in order to take advantage of these advances in technology—all of which may improve your experience and reduce your side effects, while proving just as effective as more conventional options.

Aside from chemo and radiation, your doctor may also recommend hormone-**blocking therapy, if your cancer is determined to be "estrogen receptor positive."** **Tamoxifen is an example of a drug** that acts by blocking estrogen from attaching to cancer cells (called a selective estrogen receptor modulator, or SERM). This drug is recommended for all premenopausal and some postmenopausal women with estrogen receptor positive breast cancer—though **some women (known as "fast metabolizers") will process the drug so quickly it is not a very effective treatment. To** safeguard against this, a genetic test is now available, which determines an **individual's ability to metabolize and use Tamoxifen effectively.**

Other common breast cancer drugs include a class of hormone-blockers called aromatase inhibiting drugs. Aromatase inhibitors are recommended for

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post-menopausal women with estrogen receptor positive breast cancer, and work by preventing the conversion of androgens into estrogen within the body, thus decreasing stimulation of cancer fueled by higher levels of estrogen.

Finally, there are drugs—such as Herceptin and Avastin—that have been shown to induce apoptosis (cancer cell death) in certain, but not all, types of breast cancer. Unfortunately, while clinical studies indicate that these drugs may slow tumor growth, survival times are not significantly increased with their use, to say nothing of quality of life—a common shortcoming among new cancer drugs emerging with FDA approval today.

Often based on the results of studies that demonstrate modest value in the fight against cancer, many approved drugs will enter the routine protocol and comprise a standard of care that affects many individuals. As a result, the multi-billion sales generate great profits for the pharmaceutical manufacturer, while patients may only receive marginal benefits at best.

After reading many of these studies and seeing the cancer patients in my clinic who are addressing their illness with individually tailored integrative approaches, I realize that while the new research and the new drugs are important, the real future is in optimizing the integration process. Many of the patients at my clinic have been able to extend their life by months and years—not just weeks—while enjoying a better quality of life.

Unfortunately, not everyone is aware that they can receive substantial benefits from something as simple as an improvement of their lifestyle. I am not advocating that we ignore the benefits provided by modern science, but rather that we look at them in context with the entire picture of a patient as an individual.

## **Lifestyle changes can keep you cancer-free**

Discussing further the field of lifestyle and dietary changes as an example, research demonstrates that diet and lifestyle can directly affect human health. As I mentioned earlier in this report, evidence shows that lifestyle factors—including exposure to chemical carcinogens (from smoking), heavy alcohol consumption, physical inactivity, and poor diet—play major roles in the development of a number of common cancers.

The current human diet contains a variety of mutagens and carcinogens that may act through the generation of reactive oxygen species and lead to the initiation of cancer and other chronic diseases. For example, consumption of red meat is associated with cancers of the colon, breast, and prostate, as charbroiling and frying meats at high temperatures forms heterocyclic amines, which are potent carcinogens.

Several potential mechanisms may contribute to the benefits of physical activity and diet in reducing your risk of cancer. First, lifestyle modification can affect oxidant/antioxidant status. Diets high in whole grains, fruits, and vegetables contain a high amount of natural antioxidants that might play an important role in preventing cancer, and this type of diet combined with physical activity has been

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shown to reduce oxidative stress. Physical activity has also been shown to increase **the body's antioxidant mechanisms**.

Second, physical activity and diet may induce reductions in free sex hormone levels and may increase circulating sex hormone-binding globulin which binds sex hormones and decreases their ability to interact with target tissues. Third, exercise and diet may reduce metabolic hormone levels and growth factors which have been associated with increased risk of prostate, breast, and colorectal cancers. So when it comes to actively fighting or preventing breast cancer, diet and exercise are the best place to start.

A plant-based diet that favors fiber-rich beans, as well as omega-3-rich nuts (such as walnuts), seeds (such as flaxseed), wild-caught salmon and sardines—as opposed to saturated animal fats from meat and dairy products—is ideal. Avoid artificially "hydrogenated" trans fats—found in margarine and many crackers, cookies, baked goods, and fried foods—as research has linked them to increased breast cancer risk. Similarly, the polyunsaturated omega-6 fats that you'll find in vegetable oils have also been linked to breast cancer risk, despite their deceptively healthy reputation. Instead, stick with organic fish, flax, walnut, or olive oils, which have all been shown beneficial in reducing both inflammation and cancer risk.

Eating plenty of fresh vegetables and fruit is also critical. Just be sure to buy organic whenever possible to avoid exposure to dangerous chemicals and pesticides, which can be stored in your fat cells, including those in your breast tissue. And finally, avoid sugar and white flour products—they promote inflammation, suppress your immune system, and fuel cancer growth.

Proper hydration—by way of six to eight glasses of fresh, clean water a day—is equally essential in the fight against any disease. Do not, however, drink tap water or bottled water. While the former often contains cancer-promoting chemicals like chlorine or fluoride, the latter may be just as dangerous (if not more so) due to estrogen-mimicking compounds imparted from plastic bottles. Instead, I recommend investing in a home filtration system, and drinking your water out of a glass—while these filters can be expensive, their benefits to your health are well worth the cost.

Your improved diet and hydration will have the added benefit of helping you to maintain a healthy weight, which is another important way to reduce your breast cancer risk. Excess fat contributes to chronic inflammation and increases your estrogen production, so staying in shape through regular exercise is key. Fortunately, you can achieve this simply by walking more. And if you can take your walks **outside, so much the better: The extra boost of vitamin D that you'll get from the sunshine** is one of your single greatest sources of natural cancer protection.

Regular walks are also great for stress relief, which is another important lifestyle factor in cancer prevention. Stress can have a major impact on your physical health. Numerous scientific studies have investigated this link, and evidence indicates that chronic stress can significantly suppress your immune function and contribute to inflammation. So it is crucial to make stress reduction a priority in whatever way

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suits you—whether it’s meditation, yoga, Tai Chi, visualization, music, or anything else that helps you to unwind.

## **Critical supplements for breast cancer survival**

Based on the latest scientific research, many different nutrients have shown promise in the prevention and control of breast cancer. Combining these nutrients in effective amounts allows the cancer to be attacked from all sides at once—inhibiting the cancer and promoting health. They can be used at all stages and in conjunction with all conventional treatment protocols.

There are many supplements that you can incorporate into your own treatment, some of which I will detail later, but here are some highlights of a few of the most important: Modified Citrus Pectin (for prevention of metastasis), medicinal mushrooms (for immune enhancement), and select botanicals and phyto-nutrients (for overall breast health).

## **Modified Citrus Pectin**

Modified Citrus Pectin (MCP), a compound derived from the peel pith of citrus fruit, is absolutely essential in the treatment of breast cancer. It directly attacks cancer, thereby reducing the disease—but at the same time it has properties that enhance the overall health of the individual, making it a true super nutrient. Let me take a moment to explain how it can do all this.

Cancer cells are different from normal cells in a number of important ways. First and **foremost, they have lost control of the “cell cycle”**—a natural cycle that controls when cells live, when they divide, and when they die. Cancer, by definition, grows out of control without any of the normal checks and balances. As such, many cancer killing herbs, nutrients, and drugs function by inducing apoptosis (cell death).

Another important difference **that cancer cells have is they “look” different from** normal cells. All cells have different molecules on their surface, and these molecules allow the cells to communicate with each other and their environment. These molecules have multiple functions:

- **They are receptors for neurotransmitters or hormones.**
- **They are markers that identify what type of cell it is.**
- **They are “hands” that let the cell stick in place or move around.**

Cancer cells can have several distinct qualities that separate them from healthy cells. They may have more of one type or less of another—or, they have markers on their **surface that clearly state “Hey—I’m an out-of-control cancer cell!”** These changes on the surface of cancer cells allow white blood cells to recognize them as cancerous and kill them.

One type of molecule that cancer cells have too many of is called Galectin-3. **Galectin-3 molecules function as “hands” and help the cancer spread in many ways.**

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First, they are important in reaching out and stimulating the growth of new blood vessels—a process called angiogenesis. This allows the cancer to get the blood-flow and nutrients it needs to grow out of control.

Second, galectins allow cells that break off from the primary tumor to aggregate or clump together in the bloodstream—this allows the cancer cells to move to a new site **in the body. Finally, the galectin “hand” can grab hold of the new location and** complete the spread of the cancer—a process called metastasis.

Modified Citrus Pectin is a natural substance that can bind to Galectin-3 molecules and block them—**which means the cancer cells can't spread and grow. Early research** on prostate cancer showed that oral administration of MCP to laboratory animals resulted in a dramatic reduction in prostate cancer metastasis to the lungs. More recent research from this same group of scientists has extended the protection of MCP to breast and colon cancer and has shown that MCP blocks the growth of primary tumors and the formation of new blood vessels.

Recent advances have introduced a new, more potent form of this compound, which has since demonstrated even more compelling results among a group of late-stage cancer patients. In late 2007, researchers at Albert-Ludwigs University in Freiburg, Germany enrolled 49 patients, each with advanced solid tumors types including colon, prostate, breast, kidney, lung, cervical, liver, and pancreatic cancer. Each patient had completed conventional treatments, including surgery, chemotherapy, and radiation without success. Nearly 90 percent of the cancers had metastasized.

During the trial, patients were administered 5 grams of MCP orally, three times a day. They would later be evaluated for clinical benefit—including pain reduction, improved physical functioning, increased appetite and sleep, and reduced fatigue. At just eight weeks, the results were already overwhelmingly positive, with 20.7 percent of the patients showing an overall clinical benefit response and stabilization of disease. An amazing feat considering how advanced these cancer patients were.

Another unique quality attributed to MCP is its effectiveness as a chelating agent. Heavy metals, in conjunction with the abundant presence of environmental toxins and xenoestrogens, constitute a dangerous insult to the body through DNA damage, hormonal modulation, immune suppression, oxidative stress, and inflammation. They are of particular concern in breast cancer.

The chelating properties of MCP have been confirmed in several clinical trials—showing that in healthy individuals, MCP can safely and gently increase the urinary excretion of toxic metals such as mercury, cadmium, arsenic and lead. These results have been paired with significant improvement in various clinical symptoms, suggesting that **MCP's ability to remove heavy metals and environmental toxins on** an ongoing basis may be of great benefit to cancer patients.

## Medicinal mushrooms

Medicinal mushrooms have been well researched for their anti-tumor and immune-stimulating effects, and are absolutely essential for the maintenance of

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**vitality. Simply put, they support your body's natural immune functions. In an ideal world, all aberrant cells in the body would be identified and destroyed by natural killer cells or other circulating immune cells. But stress, exposure to toxins, and other health imbalances can reduce your immune system's ability to work optimally.**

Medicinal mushrooms, on the other hand, stimulate your immune system to perform at its potential. They are important for maintaining long term health and are critical for individuals who have cancer. If you are new to using mushrooms, I recommend you start with a "loading" dose for one to two months. This dose should be two or three times the maintenance level. (I also suggest that you double your maintenance dose during the first two weeks of the spring and autumn.) After this, you can drop to the normal maintenance dose, which is typically the suggested dose.

It is important to take medicinal mushrooms on a long term basis, as some of their benefits require an extended time of consumption. In general, I recommend supplementing many different mushrooms in order to obtain optimal protection—if you have cancer, for example, beneficial mushrooms include Trametes (Coriolus), Phellinus, Ganoderma (Reishi), Cordyceps, Grifola (Maitake), Agaricus, Polyporus, Lentinus (Shiitake), Tremella, and Hericium.

For the sake of convenience, look for a balanced mushroom formula that includes several of these species. In my practice, I use a blend of mushrooms that are grown on a mixture of tumor-inhibiting and immune enhancing herbs. This unique growing process results in a more potent mushroom preparation.

## **Additional nutrients for immediate and long-term breast health**

In addition to MCP and medicinal mushrooms, combinations of several important nutrients and botanicals can also make a big difference in your fight against and recovery from cancer.

Select phytonutrients are critical to this effort. Scientists have found that chemicals found in broccoli and related cruciferous vegetables including cabbage, Brussels sprouts, bok choy, kale, chard and turnips have powerful anticancer properties. Researchers at the University of California, Berkeley have shown that indole-3-carbinol, a primary component of cruciferous vegetables, stops the growth of breast cancer cells specifically. Indole-3-carbinol appears to work by balancing estrogen metabolism and halting the cell cycle in breast cancer cells without actually killing the cells. Broccoli and cabbage sprouts—now available in some markets and included in the ingredients of some green powder formulations—have the highest concentrations of these important compounds. The biologically active form of indole-3-carbinol is its natural dimer derivative diindolylmethane (DIM), which is also readily available in supplement form and remains one of my highest recommendations for the prevention and treatment of breast cancer.

Antioxidant support through bioactive natural compounds like turmeric and quercetin is also essential in the fight against cancerous developments, specifically where breast health is concerned. Research indicates that polyphenol-rich quercetin can induce apoptosis through mitochondrial- and caspase-3-dependent pathways in

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human breast cancer cells, and that it can enhance the effectiveness of chemotherapeutic drugs such as doxorubicin (Andriamycin). Meanwhile, high-quality preparations of turmeric rhizome extract (curcumin) have been proven to inhibit the breast cancer cell proliferation that leads to tumor growth by down-regulating inflammatory mediators like NFkappaB.

Immune-modulating herbs—such as *Astragalus membranaceus* root extract (*Huang Qi*), and *Scutellaria barbata* herb extract (*Ban Zhi Lian*)—can play important roles in your breast health as well. *Astragalus* not only bolsters the lowered immunity that accompanies many breast cancer drugs, it also contains a variety of saponins that carry their own anticarcinogenic and proapoptotic effects against human cancer cells. Similarly, *Scutellaria* shows high selectivity in the inhibition of cancer cell lines, and remains a safe and well tolerated choice for patients with metastatic breast cancer.

In my clinical experience, taking all of the above natural compounds individually or as part of a single formula designed to support breast health and immune strength will deliver the best results, both in terms of prevention and active breast cancer recovery—especially when combined with MCP and medicinal mushrooms. In my practice, I regularly use a blend that makes synergistic use of these essential ingredients, and the results I have seen in my breast cancer patients with this type of integrative supplementation have been remarkable.

An individualized program like this can be used as a supportive treatment during a course of chemotherapy or radiation, reducing the side effects of conventional treatment, while enhancing its effectiveness and supporting core strength. After conventional treatment, such a program is restorative, cleansing, building, and provides powerful preventative effects.

Outside of focused cancer-specific formulas, vitamins and minerals continue to be among your best allies in the fight against breast cancer, in particular the powerful antioxidants vitamin A and C. Research shows that the two work synergistically in combination to inhibit human breast cancer cell proliferation. Similar results have been seen with vitamin E and D3—the latter of which is the most bioavailable form of supplemental vitamin D.

Adequate levels of all of these vitamins are critical if you want to stay cancer-free, along with the trace elements zinc, selenium and iodine—all of which are linked with lower rates of cancer in population studies.

The list of phytonutrients and botanicals with powerful anticancer properties is rapidly expanding. Many have been used for centuries by traditional cultures around the world, and also by the physicians in the early days of our country who were highly trained in herbal medicine. Herbs such as artemisia, rosemary, sage, milk thistle and nettle root, and compounds such as resveratrol or EGCG from green tea, are just a few of the myriad botanicals that are emerging with powerful anticancer properties. In addition, the ancient disciplines of Chinese and Ayurvedic medicine have enormous contributions to make to botanical cancer treatment and prevention. All of these integrative disciplines can be employed as part of a larger program that

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enhances the effectiveness of more conventional protocols, while minimizing negative side effects.

As my final piece of advice, I want to encourage you never to give up. With your options for treatment continually increasing and integrative modalities continually improving, there are always choices. And where there are choices, there is always hope.

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## About the Author: Isaac Eliaz, M.D., M.S., L.Ac

**Dr. Isaac Eliaz, a pioneer in the field of integrative medicine since the early 1980's, is a respected author, lecturer, researcher, product formulator and clinical practitioner.**

Dr. Eliaz is a frequent guest lecturer on integrative medical approaches to health, immune enhancement, and cancer prevention and treatment. He has also taught several courses on Traditional Chinese Medicine for medical doctors and licensed acupuncturists. As an innovative formulator of dietary supplements, Dr. Eliaz developed and currently holds the patents for several of his unique herbal formulations.

In order to substantiate nutritional approaches to health, Dr. Eliaz regularly participates in clinical studies and has been published in well-recognized, **peer-reviewed journals. In addition, many of Dr. Eliaz' formulations have been submitted for validation in independent human clinical studies whose results have been published in peer-reviewed journals.**

Dr. Eliaz continually studies, integrates and applies the best of health practices of both western medicine and complementary and alternative approaches. A native of Israel, Dr. Eliaz lived in the Far East and in Latin America before returning to study **medicine at Tel Aviv University. While studying for his degree, Dr. Eliaz' interest** turned towards the role of alternative therapies in daily health. This led to his eventual research and personal experience with yoga, shiatsu, and acupuncture as therapeutic modalities.

After graduating medical school in 1986, Dr. Eliaz established a highly successful clinical practice in Tel Aviv, utilizing his training in both western and eastern medicine. While maintaining a clinical practice, Dr. Eliaz pursued graduate studies in clinical herbology at Hebrew University of Jerusalem and classical Chinese medicine with teachers in Israel and Europe.

In 1989 Dr. Eliaz moved to the San Francisco Bay area in order to continue his studies at the American College of Traditional Chinese Medicine, earning a Master of Science degree in 1991. During this time he also energetically sought-out leading practitioners of alternative medicine to broaden his knowledge and experience. Since 1991 Dr. Eliaz has maintained a busy private practice in northern California that focuses primarily on integrative, holistic protocols for cancer patients.

**The guiding mission of Dr. Eliaz' professional life is achieving the integration and synergy of multiple healing modalities from both ancient and modern paradigms into a holistic practice of medicine. It is the heart of his clinical practice, of his research, and a mission that he communicates with great passion and clarity.**