Integrative Approaches to Prostate Cancer Treatment

By Isaac Eliaz, M.D., M.S., L.Ac.
One out of every six men in this country is struggling with prostate cancer at this very moment. So if you’re reading this report in the wake of your own recent diagnosis, the first thing you should know is that you’re in very good company. The second thing you should know is that addressing this disease in a way that minimizes side effects and maximizes your health and longevity is possible... in fact, that’s the very reason I’ve written this report.

There’s absolutely no question that wading through your various treatment options can be confusing business—not least of all in the case of prostate cancer, when some difficult choices will have to be made. But when you’re up against any kind of illness, knowledge is one of your surest sources of power. And it’s my hope that once you’ve finished this report, you will be armed with the information you need to ask the right questions—and make the right decisions—as you follow your own personal path to recovery.

I’ll be covering a wide range of topics in the pages that follow, from necessary diagnostic tests to critical nutritional supplements. But first, let me begin by explaining a little more about what’s involved in a truly integrative approach to healing prostate cancer.

**What is integrative medicine?**
Integrative medicine is an approach to healthcare that draws upon various healing traditions and modalities in order to create a synergistic movement *towards* health and *away from* disease.

As you’ve probably noticed, conventional treatments—especially in oncology—focus on attacking and destroying the disease. While this approach has its merits, strictly disease-focused treatments neglect to support your overall health and vitality—which in turn leads to a further disintegration in your health.

The goal of integrative medicine, on the other hand, is to *support* your health and vitality while at the same time reducing disease (see Figure 1). Naturally, this would also be the goal of any effective integrative prostate cancer treatment.

**Figure 1**
Wellness is represented by two vertical axes/arrows. The health axis points up with increasing health representing increasing longevity. In contrast as one travels up the disease axis one gets closer to death. A hypothetical patient presented with a weakened vitality and an aggressive cancer would show up on the axes at the points labeled “before interaction”. The goal of integrative medicine is to use a combination of conventional and complimentary methods to increase health and decrease the disease resulting in the patient ending up at the points “After the interaction”.

Prostate cancer (PC) is a heterogeneous disease ranging from a physiological, “non-malignant” process to a disease that can kill you in months. Therefore, the basic principles in the treatment of PC are maximum diagnosis and minimum intervention.

So what does this mean on a practical level?
The First Step: Evaluation
The first step in evaluating a person newly diagnosed with PC is to create a broad and extensive baseline—one that focuses on both the health and the disease aspects. I frequently see patients that were initially evaluated by the leading institutions in this country. And yet more often than not, these evaluations lack much of the basic information critical to designing intelligent treatment protocols.

Understanding the Patient
In order for a person to get back to optimal health, they first need to know where on the health and disease axis they are. This requires a thorough evaluation. As a doctor, that means listening to the patient in order to get a feel for his health status. How well is he taking care of himself? Does he exercise, walk, maintain a healthy diet, and use stress reduction methods? How quickly will he respond to a health concern or health opportunity? (For example, a man notices a change in urinary frequency—does he call his doctor the same day, or does he wait six months before reporting it?)

Another factor to evaluate is the willingness of the patient to address his own condition. Does he have enough flexibility to make the necessary changes in his life—and to follow through with them? This information is absolutely critical when I am making my assessments as well as my recommendations.

A physician can think that a particular patient needs to walk one hour a day, alter their diet, take six different supplements, change their job, etc....but making the above recommendations without considering if the person is able (or willing) to follow them would be an example of doctor-driven medicine. In patient-driven medicine—which is the calling card of any good integrative doctor—the reality of the patient’s situation will always determine the plan.

Gathering Essential Data
The initial evaluation always has a number of components, which when combined will give us a better ability to assess the health and disease status of the person. These include:
1. Detailed history and intake
2. Thorough physical exam
3. Additional diagnostic methods (In my practice, I rely heavily on pulse diagnosis.)
4. Laboratory work
5. Imaging
6. Biopsies, if needed

Unfortunately, I won’t be able to cover all of these components in detail here. Instead, I’ll focus on the four main issues: blood tests, urine tests, imaging and biopsies.
Important blood tests

PSA (Prostate Specific Antigen)
Prostate-specific antigen is a protein produced by cells in your prostate gland, elevated levels of which can indicate the presence of prostate cancer. It’s important to measure both the total and free levels, as well as to track the magnitude of changes and the speed at which the PSA is increasing. I could devote a full article on evaluating the PSA—but for now, simply remember these key points:

- Low PSA doesn’t necessarily mean a slow-growing disease.
- Rate of change is very important.
- PSA can actually have seasonal variations.
- It’s essential to evaluate the PSA in relationship to the size of the prostate. For example, a PSA of 4.5 with a prostate of 30ml is more worrisome than a PSA of 7.5 with a Prostate of 110ml (very large). That’s because a normal prostate secretes PSA at an average rate of 0.07ng/ml. For the 30ml patient, this natural production accounts for 2.1 out of the total score of 4.5—only half. For the 7.5 patient, however, it accounts for all of the PSA.
- Prostatitis is quite non-specific, and will also elevate the PSA. So elevated PSA with urinary symptoms (a common complaint in cases of prostatitis) is less worrisome than the same PSA without any complaints.

PAP (Prostatic Acid Phosphatase)
This test—which measures levels of Prostatic Acid Phosphatase, an enzyme produced in your prostate—was used regularly before PSA gained popularity, and it still plays an important role in the initial evaluation.

The finding of a PAP elevation signifies that there is a higher risk that the prostate cancer is outside the prostate and that the cancer is a more aggressive type. This is an essential component of initial “staging” of prostate cancer. I use this information as a guide to choosing further diagnostic tests and ultimately to guide my recommendations for an integrative treatment plan.

Hormonal profile
The hormone profile is very important. For example, a patient with prostate cancer who has a high testosterone level will respond better to treatment compared to a patient with the same disease, but lower testosterone levels.

Here are the basic lab tests that I order on all my patients with prostate cancer:

- Total Estrogens
  As men age, testosterone is increasingly converted to estrogens. This tendency is compounded by exposure to environmental toxins, xenoestrogens and toxic heavy metals. I often see an increase in total estrogen, estrogen to testosterone ratio, and 16-hydroxy estrogen to 2-hydroxy estrogen ratio. These hormonal changes are major factors in the pathogenesis of prostate cancer and contribute greatly to the increased incidence of prostate cancer. It’s in restoring this critical hormonal balance that complementary and
integrative medicine has come to play a leading role in the prevention of prostate cancer.

- **Testosterone** - total and free
- **Progesterone**
- **DHEA-S**
- **DHT (Dihydrotestosterone)**

In addition:

- **Prolactin** - Higher levels (including high-normal) have a worse prognosis.
- **CEA** - The cancer tends to be more aggressive when this colon cancer marker is elevated.
- **IGF-1** - When elevated, this also indicates a more aggressive disease. However, I haven’t found this one to be as useful as I hoped. It may be a laboratory detection issue.

**Thyroid Function**

Thyroid function is also important, as it can indicate the speed of the individual’s metabolism. In cancerous conditions, the body will often attempt to slow down the thyroid in an attempt to slow down the disease. As such, the problem is not really in the thyroid—it’s simply an adaptive response of the body. For that reason, I always exercise caution when considering thyroid support in a patient with cancer. From the perspective of health and disease, if the disease is moving faster than the health aspect, speeding up that aspect is not a good idea. If, on the other hand, the patient is winning their fight, speeding up can allow for more healing to be accomplished in a shorter period of time.

**Important urine tests**

**PCA3 test**

Prostate Cancer Gene 3 (PCA3) is a gene-based test carried out on a urine sample. PCA3 is highly specific to prostate cancer—and therefore, in contrast to PSA, it’s not increased by common conditions such as benign enlargement (BPH) or inflammation of the prostate (prostatitis).

There are four scenarios in which PCA3 could help in making better decisions in diagnosing and treating PCa. Using this test, a doctor can determine:

1. which men with ≥ 1 negative biopsy have a high probability of a positive repeat biopsy
2. which men with an elevated PSA level (between 2.5 and 10 ng/mL) or a low PSA level but a suspicious DRE have a high probability of a positive first biopsy
3. which men with PCa have a high probability of significant PCa
4. which men with PCa have a high probability of disease progression on watchful waiting

The PCA3 test has yet to be cleared or approved by the U.S. Food and Drug Administration (FDA). However, this test is available and is being used by some of the most progressive physicians working with prostate cancer patients today.
To have this test performed in the U.S., simply go to http://www.pca3.org/public/listexperts. Although the list on this site does not seem complete, you may still be able to get adequate guidance.

**Imaging**
A good baseline requires good imaging. Unfortunately, an ultrasound taken in the average urologist’s office is unacceptable. Some reliable state-of-the-art imaging techniques include:

**Color Doppler flow ultrasound**
This is an excellent and cost effective imaging method. The limitation is that at the present time very few doctors know how to do it well. I am fortunate to have one of the best imagers in the country nearby at The University of California, San Francisco (UCSF).

**MRI-S or Endorectal MRI with Spectroscopy**
Also known as magnetic imaging with spectroscopy, this is an advancement in imaging where two modalities are used and compared. It’s used to help determine the probability of organ confined disease, or to see if the cancer has spread to seminal vesicles or regional lymph nodes.

**Bone Scan**
This is a scan that may be ordered for initial staging of prostate cancer if aggressive disease is suspected from the biopsy report.

**Biopsy**
Biopsies are the gold standard for confirmation of PC. So why even write about them?

Well, it’s clear that biopsies are over-performed. When are they really needed? The basic question I ask when it comes to biopsies is: Will the biopsy make a difference in the treatment plan? Certain patients with localized disease are adamant about following their imaging and staying on watchful waiting—and for them, the biopsies will make no difference whatsoever.

Biopsies provide important information on the grade of the disease, the Gleason score, and how extensively the disease has spread on the local level. (For more information about cancer grading and Gleason scores visit www.dreliaz.org.)

Knowing the level of aggressiveness of the cancer and whether it is localized or has extended beyond the prostate gland itself are crucial pieces of information for formulating an effective integrative treatment strategy. However, biopsies have the following disadvantages:

- Side effects, including long term pain, possible infections, and disturbance in urination.
- Spread of disease. Although there are no good studies to confirm this point, we do know that for patients with negative RPCR (meaning, no PC cells are detected systemically), half will turn positive after radical prostatectomy.
Logically speaking, multiple injuries to the tissue (in this case, caused by 6 to 18 biopsies) will increase inflammation and angiogenesis, both being major contributors toward metastasis.

- False negative is another concern. False negatives can range from 20 to 40 percent, depending on how many biopsies are done, what imaging techniques are used, and who is doing them.

If you can get good imaging routinely, the PSA is low, and the disease is clearly localized to a small part of the prostate, follow-up without biopsy is a viable choice—one that I think will become more popular over time. PCA3 can also prevent unnecessary biopsies, as I mentioned before. But of course, making this decision is easier if you have all the laboratory data and know how to interpret it.

If you are undergoing biopsies, the most important supplement for you to take is modified citrus pectin—at a dosage of 15 grams per day for a week before biopsies, and for the three to four weeks after. This can reduce the chance of cancer spreading due to the procedure.

**Conventional treatments**

Once your diagnosis has been established, it’s time to consider your choices in terms of treatment, the best course of which will ultimately depend on your individual situation. Your options include:

**Localized treatments**

- External radiation (3D conformal) therapy. This has been improved as IMRT (Intensity Modulated Radiation Therapy), where the intensity can be modified based on the location—delivering more radiation to the tumor, and less to the surrounding tissue.
- Seed implants—another form of radiation in which radioactive seeds are implanted into the prostate gland, in order to concentrate the activity while reducing damage to surrounding tissue.
- Radical Prostatectomy or prostate removal. This is the last on my list as it tends to result in a high number of undesirable effects—including erectile dysfunction and urinary incontinence.

**Androgen deprivation therapy**

The goal of androgen deprivation therapy is to suppress levels of male hormones in your body, as they are known to stimulate the growth of prostate cancer cells. It’s a form of systemic treatment for men who are unwilling or unable to undergo surgery or radiation.

Combined hormonal therapy—or the use of more than one hormone-modulating drug—can yield positive results when used appropriately over a long period of time. However, monotherapy—the use of a single agent (such as Casodex) without suppression of testosterone—offers the best quality of life. I prefer this method in cases of less aggressive disease, where the quality of life and sexual function are a major consideration.
Complementary Treatments
Any beneficial integrative program for prostate cancer will always begin with dietary modification. These are some of the most critical changes you can make, and they can have a very big impact on your health in the long term.

The first modification you should consider is the elimination of red meats. Meat contains high amounts of arachidonic acid, and some by-products of arachidonic acid have promoted prostate cancer in animals. In addition, well-done and cured meats (such as bacon, salami, and ham) can also promote prostate cancer—so you’ll want to limit your consumption of these as well.

Fish, high in omega-3 fatty acids, on the other hand—think wild Atlantic salmon, for example—have shown to be beneficial for prostate cancer patients. With that said, you should be wary of fish that are also high in mercury (such as swordfish and tuna). It’s always wise for you to keep your mercury levels as low as possible, and it’s especially important when you’re battling prostate cancer—or any disease for that matter.

Finally, several servings of cruciferous vegetables a day—such as cabbage, Brussels sprouts, broccoli, and cauliflower—can help to fight CaP and reduce your risk of this disease. In test tube and animal studies, these foods have been shown to have potent anticancer activity—likely due to several of their active compounds, including indole-3-carbinol, 5 glucaric acid (calcium D-glucarate), and sulforaphane. But the protective effects of cruciferous vegetables are also thought to be due to their high concentration of the carotenoids lutein and zeaxanthin, as well as their stimulatory effects on the breakdown of environmental carcinogens associated with prostate cancer.

Whatever their primary mode of action may be, the value of “eating your vegetables” has been borne out in a number of clinical studies—with some very impressive results. A recent preliminary study of men newly diagnosed with prostate cancer showed a 41 percent decreased risk of prostate cancer among those men eating three or more servings of cruciferous vegetables per week, as compared with those eating less than one serving per week.

Some critical supplements
In addition to dietary changes, you’ll also find that you have a number of supplements to choose from as part of a complementary program—and in my clinical experience, they can have an extraordinarily powerful effect in the fight against prostate cancer.

Based on the latest scientific research, many different nutrients have shown promise in the prevention and control of prostate cancer. Combining these nutrients in effective amounts allows the cancer to be attacked from all sides at once—both inhibiting the cancer and promoting long-lasting health. They can be used at all stages and in conjunction with all conventional treatment protocols. These nutrients can be divided according to their beneficial principles:

1. Anti-tumor
There are many supplements that can be used, some of which I detail later, but here is a highlight on two of the most important: modified citrus pectin (for prevention of metastasis) and medicinal mushrooms (for immune enhancement).

**Modified Citrus Pectin**

Modified citrus pectin (MCP), a compound derived from the pith of citrus fruit peels, is absolutely essential in the treatment of prostate 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 getting cancer cells to enter back into the cell cycle and die a normal 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. The 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. 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 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 rodents 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.

A commercially available form of modified citrus pectin was developed in response to the positive results of the animal studies and was tested in men with prostate cancer. A pilot trial using MCP at 15 grams a day and a subsequent phase II trial both showed that MCP slows the progression of prostate cancer as evidenced by a reduction in the rate of PSA rise. The phase II trial involved men where primary conventional treatment was initially successful, but subsequently their PSA began to climb again, representing cancer recurrence. This time, 70 percent of the trial participants showed a significant reduction in the rise of their PSA climb.

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 state solid tumors of varying types—colon cancer, prostate cancer, breast cancer, kidney cancer, lung cancer, cervical cancer, liver cancer, and pancreatic cancer, among others. 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.

By the conclusion of the study, response rates continued to improve, with a majority of the patients showing improved quality of life and pain reduction. And perhaps most remarkably, one patient with metastasized prostate cancer demonstrated a 50 percent decrease in PSA levels at 16 weeks, accompanied by a significant increase in clinical benefit.

More recent research—published in the journal Integrative Cancer Therapies, and performed in conjunction with Columbia University—points to the potential mechanism of this action. Laboratory results indicate that MCP can inhibit cell proliferation and apoptosis in prostate cancer cell lines (including androgen-dependent and androgen-independent cells), induce apoptosis by the cleavage of Caspase-3, and inhibit cell proliferation by reducing MAP kinase signaling. This ability to induce apoptosis in androgen-independent prostate cancer...
cell lines is especially significant, as it is the more aggressive form of cancer that can metastasize and lead to death. Any help in slowing down the progression of this cancer has a direct effect on prolonging a patient’s life.

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 hyper-inflammation. And they are of particular concern in prostate cancer.

The chelation 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.

It must be noted that there is only one form of Modified Citrus Pectin that has been validated in human clinical trials. This is important, since not all MCPs are the same—and no other product on the market matches the chemical specifications of the MCP used in human clinical trials. If the molecular weight of the MCP is too high it can’t be absorbed into the bloodstream—if it is too low it won’t effectively block all the galectin sites. Another property, the degree of esterification, must be below 5% in order to get optimal binding.

If you want the effects seen in any of these clinical studies, you must use the same preparation, in appropriate doses according to your needs (see Table 1, below). I also invite you to read the comprehensive report that I’ve compiled on MCP, which covers the earliest research on this incredible compound as well as the most current studies, published just in the past year. (It’s available for free at my website, www.dreliaz.org)

Table 1: The Use of Modified Citrus Pectin

<table>
<thead>
<tr>
<th>MCP Application</th>
<th>Use (Take on an empty stomach)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Cancer</td>
<td>15 grams/day (5 grams, 3 times a day)</td>
</tr>
<tr>
<td>Biopsy</td>
<td>15 grams/day (5 grams, 3 times a day)</td>
</tr>
<tr>
<td></td>
<td>Take one week before procedure and two weeks after.</td>
</tr>
<tr>
<td>Heavy Metal Chelation</td>
<td>High body burden levels: 15 grams/day (5 grams, 3 times a day)</td>
</tr>
<tr>
<td></td>
<td>Lower levels: 15 grams/day for 5 days a month, 5 grams/day the rest of the month</td>
</tr>
<tr>
<td>Cancer Prevention</td>
<td>5 grams/day ongoing</td>
</tr>
</tbody>
</table>
**Medicinal Mushrooms**

Medicinal mushrooms have been well researched for their anti-tumor and immune-stimulating effects, and are absolutely essential for the maintenance of 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, regulate your immune system to perform at its highest potential. They are important for maintaining long term health in this modern world and are even more critical for individuals who have cancer.

If you are new to using mushrooms, I recommend you start with a "priming" 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 *Coriolus, Cordyceps, Reishi (Ganoderma), Polyporus, Maitake, Agaricus, Shiitake, Hericium, Auricularis, Poria*, and *Tremella*.

For the sake of convenience, look for a balanced mushroom formula that includes all of these.

**Other Nutrients**

As you can see in Table 2 (which covers some, but not all, of the nutrients that can be used against prostate cancer) many nutrients and herbs have multiple functions. For example, Curcumin has direct anti-tumor properties, helps with hormonal modulation and liver detoxification, and stabilizes the P-53 chromosome. One of the many strengths of nutritional and herbal therapies is the ability to combine nutrients that have similar properties to get a stronger, synergistic effect.

<table>
<thead>
<tr>
<th>Nutrient or Herb</th>
<th>General Use (Total amounts per day)</th>
<th>Highlighted Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modified Citrus Pectin</td>
<td>15 grams/day</td>
<td>Anti-tumor&lt;br&gt;Prevents metastasis&lt;br&gt;Anti-angiogenic&lt;br&gt;Toxic metal chelation</td>
</tr>
<tr>
<td>Medicinal mushrooms</td>
<td>4 – 12 grams/day</td>
<td>Immune Enhancement&lt;br&gt;Detoxification/Liver Support</td>
</tr>
<tr>
<td>Supplement</td>
<td>Dosage</td>
<td>Functions</td>
</tr>
<tr>
<td>------------------------------------------------</td>
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<td>------------------------------------------------</td>
</tr>
<tr>
<td>Curcumin (Turmeric root extract 95% curcuminoids)</td>
<td>1,500-4,500 mg/day</td>
<td>Cytotoxic/Anti-Tumor, Hormonal modulation, Detoxification/Liver Support</td>
</tr>
<tr>
<td>Chinese Herbs</td>
<td>varies</td>
<td>Cytotoxic/Anti-Tumor, Multiple properties</td>
</tr>
<tr>
<td>Saw Palmetto berry extract Pygeum bark extract</td>
<td>100-600 mg/day</td>
<td>Cytotoxic/Anti-Tumor, Hormonal Modulation, Anti-inflammatory</td>
</tr>
<tr>
<td>Lycopene</td>
<td>10-30 mg/day</td>
<td>Cytotoxic/Anti-Tumor, Antioxidant</td>
</tr>
<tr>
<td>Artemisinin</td>
<td>200-1,200 mg/day</td>
<td>Cytotoxic/Anti-Tumor, use carefully- can weaken digestion</td>
</tr>
<tr>
<td>Selenium</td>
<td>200 mcg-3,600 mcg/day</td>
<td>Cytotoxic/Anti-Tumor, Antioxidant</td>
</tr>
<tr>
<td>Thymic protein A</td>
<td>As directed</td>
<td>Immune enhancement</td>
</tr>
<tr>
<td>Stinging nettles root</td>
<td>150-400 mg/day</td>
<td>Immune enhancement</td>
</tr>
<tr>
<td>Soy isoflavones</td>
<td>100-1,000 mg/day</td>
<td>Anti-angiogenic, bone protection prevents metastasis</td>
</tr>
<tr>
<td>I3C (Indole-3-Carbinol)</td>
<td>50-300 mg/day</td>
<td>Hormonal modulation</td>
</tr>
<tr>
<td>DIM (Diindolymethane)</td>
<td>50-300 mg/day</td>
<td>Hormonal modulation</td>
</tr>
<tr>
<td>Garlic</td>
<td>Varies</td>
<td>Anti-microbial</td>
</tr>
<tr>
<td>Cayenne</td>
<td>Varies</td>
<td>Anti-inflammatory</td>
</tr>
<tr>
<td>Green tea extract</td>
<td>50-500 mg/day</td>
<td>Antioxidant, Hormonal Modulation</td>
</tr>
<tr>
<td>Vitamin D-3</td>
<td>1,000 IU-6,000 IU/day</td>
<td>Promotes cell differentiation</td>
</tr>
<tr>
<td>Zinc</td>
<td>30 to 50 mg/day</td>
<td>Antioxidant, Hormonal Modulation</td>
</tr>
<tr>
<td>Vitamin E</td>
<td>400 to 1,200 IU/day</td>
<td>Antioxidant</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>1,000 to 6,000 mg/day</td>
<td>Antioxidant, Other multiple functions</td>
</tr>
<tr>
<td>Quercetin</td>
<td>250-2,000 mg a day</td>
<td>Antioxidant, Anti-inflammatory, Reduces drug resistance</td>
</tr>
<tr>
<td>Conjugated linoleic acid (CLA)</td>
<td>3,000 mg/day</td>
<td>Cytotoxic, Promotes cell differentiation</td>
</tr>
<tr>
<td>Resveratrol from red grape extract (Vitus vinifera) or Polygonum cuspidatum root extract</td>
<td>20-200 mg/day</td>
<td>Antioxidant</td>
</tr>
<tr>
<td>Broccoli extract 22:1 (Brassica oleracea)</td>
<td>50-200 mg/day</td>
<td>Antioxidant, Anti-inflammatory</td>
</tr>
</tbody>
</table>
The disadvantages of having so many options, of course, is that patients may end up taking a very large number of pills or the dosing regimen can be too confusing. To simplify things, I recommend using nutritional blends that are formulated to encompass many different therapeutic aspects. These blends often use lower amounts of individual ingredients and work synergistically to produce a stronger effect than the recommended larger dose single ingredient in the table above. With prostate cancer patients, I use a formula that incorporates many of these ingredients. This, in combination with modified citrus pectin, forms my basic protocol. From this foundation, I'll add medicinal mushrooms and other nutrients (or more of specific herbs or nutrients) as warranted by the patient’s health and disease status.

I also use other therapeutic modalities such as acupuncture, infrared saunas, lifestyle and diet recommendations, body work, IV therapies and body-mind medicine. The protocol is further modified to accommodate the use of conventional treatment. Some supplements are specifically used to prevent or counteract side effects of conventional treatments. A good example is preventing osteoporosis in patients undergoing CHT, and preventing clots in patients after procedures or in men receiving estrogenic treatments.

Whatever the concern, there’s almost always a natural method available to safely counteract it. (You can find more details on this topic at my website, www.dreliaz.org.)

Ultimately, when addressing prostate cancer in a holistic, integrative way, it’s essential to combine a number of beneficial therapeutic principles and modalities—and to employ protocols that honor the basic principles of health and disease. As my clinical experience has repeatedly demonstrated to me, integrative medicine can be of limitless value to you in your fight against prostate cancer—whatever its stage, and whatever other conventional treatments you may choose.

REFERENCES AND RESEARCH


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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.