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## **The Big "C"—Cancer Prevention, Detection & Treatment**

### **General Facts & Information**

- **What is cancer?**

Cancer is a group of diseases characterized by uncontrolled growth and spread of abnormal cells. All cancers involve the malfunction of genes that control cell growth and division.

- **What causes cancer?**

Cancer is caused by both external factors including tobacco, chemicals, radiation, sunlight, and infectious organisms, and internal factors such as inherited mutations, hormones, immune conditions, and mutations that occur from metabolism.

About 5% of all cancers are strongly hereditary. However, most cancers do not result from inherited genes but as a result of damage that occurs from internal and external factors. These causal factors may act together or in sequence to initiate or promote carcinogenesis.

- **Can cancer be prevented?**

A new global policy report from the World Cancer Research Fund and American Institute for Cancer estimates that in the US, **about one third of the most common cancers could be prevented through diet, physical activity, and weight management.** This figure doesn't include smoking, which alone accounts for about a third of cancers. The report also estimates 45% of colon cancer cases and 38% of breast cancer cases in the US are preventable through diet, physical activity, and weight maintenance. (*Policy and Action for Cancer Prevention*)

- **How can we lower our risk factors and help prevent cancer?**

Every day we are constantly bombarded with chemicals—from the foods we eat, to the products we use to clean and care for our homes and lawns, to the beauty products we use on our hair and skin. While we may benefit from some aspect of each of these products, an accumulation of these chemicals in the body causes damage to the cells that are responsible for healthy function. As toxins accumulate, they cause oxidative stress that damages DNA, which can lead to cancer and birth defects.

Overwhelming evidence also points to the harmful effects of chemicals and pollutants as a major contributor to illnesses including high blood pressure, elevated cholesterol, heart disease, autoimmune diseases, and neurological disorders such as Alzheimer's and Parkinson's diseases.

Lifestyle choices also add to the internal and external factors that lead to cancer. Poor diet (nutritionally depleted, processed food), lack of exercise, stress, lack of sleep, smoking, and alcohol consumption are all associated with cancer risk.

To lower our risk factors and help prevent cancer, we all must pay attention to the external and internal toxins we expose ourselves to on a daily basis, as well as our individual lifestyle choices.

## **Skin Cancer**

- **Who's at risk?**

Skin cancer is the most common form of cancer in the US, despite the fact that it is highly preventable! The Skin Cancer Society lists California, Florida, and Texas as the top three states where melanoma is diagnosed most frequently.

Melanoma is the deadliest form of skin cancer and it is increasing faster than almost any other form. The American Cancer Society research studies show up to 90% of melanoma cases are linked directly to UV exposure.

Surprisingly, the majority of people diagnosed with melanoma are white men over age 50. Men over 40 spend the most time outdoors and have the highest annual exposure to UV radiation. The percentage of women under age 40 with basal cell carcinoma has tripled in the last 30 years, while their rate of squamous cell cancer has increased four-fold.

Until age 39, women are almost twice as likely to develop melanoma as men. Starting at age 40, melanoma incidence in men exceeds incidence in women, and this trend becomes more pronounced with each decade.

As far as using tanning beds—**don't!** Males and females of all ages who have **EVER** used tanning beds have a 15% higher risk of developing melanoma, and for those who use a tanning bed before the age of 35, their risk of developing melanoma increases by 75%!

- **How do you prevent skin cancer?**

Protecting your skin from the sun is the best defense against skin cancer and the best way to preserve youthfulness. The sun's ultraviolet radiation is the number one environmental factor that robs our skin of its youthful appearance and causes fine lines, wrinkles, sagging skin, discolorations, and spots associated with sun damage.

Sunscreen is a critical weapon in the fight against skin cancer and photoaging, but not all sunscreens are created equally. Sunscreen must provide a physical barrier to keep skin-damaging elements from penetrating your skin.

There are two primary types of sunscreen: **chemical** and **barrier**. Most commercial sunscreen products are chemically based and contain ingredients that actually absorb the harmful rays of the sun and convert into carcinogens. Chemical sunscreens are known to disrupt the fragile endocrine system, causing hormonal imbalances which can damage your health and lead to disease.

Barrier sunscreens provide an advanced level of protection much like an umbrella or shield over the skin. The titanium dioxide sits on the skin, protecting it by bouncing off the sun's rays. Barrier sunscreens also help protect the skin from toxic **free radicals** that damage cells and tissue and accelerate the aging process by damaging collagen and elastin. Free radicals also produce DNA mutations that lead to skin cancer. That's why Dr. Harper developed the broad spectrum sunscreen Phyto Protect SPF 25. Phyto Protect is a paraben-free sunscreen that provides a unique combination of protection from UV rays and free radicals. Some of the products key ingredients like Edelweiss and Buddleja Davidii are free radical scavengers which can help suppress the growth of cancer cells. Other added ingredients help repair cells, provide antioxidant benefits, and help reverse the signs of UV damage.

It's important to be aware that many of the products we use daily on our skin contain chemicals that not only cause your skin to age more rapidly and increase your risk of developing skin disorders, but they can also seriously damage your health. The skin is the body's largest organ—what you put on the outside also affects the inside!

- **Are cosmetics safe?**

Cosmetics are the least regulated products under the FDA, and the government doesn't require pre-market safety testing, review, or approval for cosmetics. Two of the most common classes of chemicals found in cosmetics that are causing major health concerns are **phthalates** and **parabens**.

Phthalates are "plasticizers" used to make products soft and flexible, and they are added to products like nail polish, perfumes, skincare creams, lotions, and soaps. Phthalates cause a range of adverse health problems including liver, kidney, and lung damage, as well as reproductive and neurological damage. They are often referred to as "endocrine disrupters" because they mimic the body's natural hormones, which can interfere with the body's endocrine system.

Parabens are often added to anti-aging creams and other products such as shampoos, moisturizers, personal lubricants, toothpaste, chemical sunscreen, spray tanning solutions, shaving gels, and even food products as a preservative. When absorbed through the skin, parabens accumulate in body tissue—especially breast tissue—and mimic the hormone estrogen. **This is especially alarming because estrogen imbalance can drive the growth of breast tumors.** Several clinical studies, including a report in the Journal of Applied Toxicology, found the presence of parabens in tissue samples taken from human breast tumors.

When it comes to skincare products, one way to ensure your safety is to use only organic. Dr. Harper has developed a complete line of organically infused cosmeceuticals that feed your skin with complex and synergistic combinations of phytochemicals, vitamins, and other essential nutrients to revitalize and regenerate your skin. All of Dr. Harper's products are made with organic ingredients that are safe and effective and work in harmony with your skin and body to enhance your natural healing and regenerative capabilities.

Antioxidants are also critical to combat the free radicals that damage your skin.

**Waterless Vitamin C with Idebenone** is one of Dr. Harper's skincare products that contains a high concentration and potency of pure vitamin c in a waterless form that preserves its potency and effectiveness. The 2% concentration of Idebenone provides an effective anti-aging treatment and antioxidant that is scientifically proven to protect your skin against environmental stressors that damage skin.

## **Breast Cancer**

- **Are you at risk?**

Aside from non-melanoma skin cancer, breast cancer is the most common form of cancer in women. Breast cancer also is the number one cause of cancer death in Hispanic women, and it is the second most common cause of cancer death in white, black, Asian/Pacific Islander, and American Indian/Alaska Native women. (Centers for Disease Control and Prevention)

Research has identified several risk factors associated with breast cancer. Aside from being female, age is the most important factor affecting breast cancer risk. Risk is increased by inherited genetic mutations (BRCA1 and BRCA2 genes), personal or family history of breast cancer, menstrual history (menstrual periods that start early and/or end late in life), taking oral contraceptives, being overweight, lack of exercise, and alcoholic consumption of one or more beverages per day.

Several highly publicized studies have linked estrogen replacement therapy to an increased risk of breast cancer, heart disease, stroke, and blood clots. But the studies apply to estrogen replaced alone without the progesterone counterpart. Studies show that estrogen alone causes tissue growth in the uterus that can lead to cancer, but when replaced in conjunction with progesterone, the risk is diminished.

- **Is hormone replacement therapy safe?**

When considering hormone replacement therapy (HRT), it's not just a question of whether or not to take estrogen, but how to balance your individual estrogen and progesterone hormone levels to provide the greatest benefit—relief from undesirable symptoms like fatigue, hot flashes, depression, decreased libido, mental fogging—and the highest level of protection against cancer and other disease.

Estrogen has been prescribed for over 40 years to provide menopausal women relief from sweating, fatigue, hot flashes, vaginal dryness, depression, and decreased libido. Replacing estrogen improves skin and muscle quality and greatly improves mental outlook. More importantly, it decreases the risk of heart disease and osteoporosis. Although the research varies, the consensus of clinical data is that estrogen replaced

alone without progesterone can increase the incidence of uterine and breast cancer.

**However, when replaced in conjunction with progesterone, the risk is diminished.**

Progesterone, estrogen's counterpart, is produced in the corpus luteum, the adrenal glands, and in the placenta during pregnancy. A precursor to estrogen and testosterone, progesterone provides many benefits including the prevention of osteoporosis (by stimulating osteoblasts to form new bone), protection against endometrial cancer by maintaining the endometrium, and it is a natural diuretic. Progesterone also helps restore libido and provides a natural protection against cancer.

**Biochemically identical estrogen and progesterone hormones, when combined and properly balanced, provide many of the benefits of hormone replacement therapy without the risks.** Together they protect against cardiovascular disease, improve and/or prevent osteoporosis, improve mood and mental status, and improve sexual function or libido.

- **What are biochemically identical hormones?**

Biochemically identical hormones are created in a lab and designed to have the exact molecular structure and function as hormones in your body. Also called “natural” or “bio-identical,” biochemically identical hormones are chemically indistinguishable from the hormones in your body. Substances made naturally either in your body or in nature (e.g., vitamins and hormones) are protected by federal regulation and may not be patented.

Synthetic hormones are chemically altered so they can be patented by pharmaceutical companies. Examples of widely used synthetic hormones are Prempro, Premarin, and Provera. Several highly publicized studies have linked the use of synthetic hormones to an increased risk of breast cancer, heart disease, stroke and blood clots. However, the study results have been applied incorrectly to all types of hormones including biochemically identical ones, which has created confusion and misguided controversy.

Biochemically identical hormones can be either manufactured or compounded. Manufactured biochemically identical hormones are mass-produced and only available in limited dosing strengths and formulations. Compounded biochemically identical hormones can be prepared for individualized dosages

Dr. Harper prescribes only compounded biochemically identical hormones and never synthetic hormones. This approach ensures you get the exact strength and dosage you need and enables her to fine-tune or modify dosages or prescriptions as hormonal needs change.

- **How are hormone levels determined?**

Just like your DNA, your individual hormonal profile is unique. Therefore, an effective hormone replacement program must be tailored to your individual deficiencies or excesses and closely monitored for any interactions or side effects. When it comes to hormones, one size does not fit all!

At Nutritional Medicine Associates, Dr. Harper creates a customized program for each patient based on individual physiological needs, beginning with a thorough physical exam and complete series of laboratory blood tests to determine your specific hormone

levels and identify any risk factors. She also monitors each patient's progress through regular blood testing, making modifications as necessary to achieve optimal results.

Dr. Harper recommends the "Female Panel" and "Male Panel" for patients because they provide the most comprehensive snapshot of your physiologic well-being as well as providing a way to screen for many common and not-so-common conditions, and identifying risk factors for future disease

Both panels consist of a full chemistry and complete blood count (CBC) measuring 35 different blood components, which assess cholesterol and triglyceride levels, blood glucose, iron and mineral levels, kidney and liver function, and blood cell components.

The Female Panel consists of the complete CBC, chemistry test, ferritin, insulin, lipids, Free T3, TSH, estradiol, progesterone, total and free testosterone, DHEA, vitamin D, Estronex, homocysteine, and C-reactive protein. Both homocysteine and C-reactive protein, along with levels of cholesterol lipoproteins, are powerful predictors of cardiovascular disease.

The Male Panel also includes the PSA (prostate specific antigen) test, which is a very sensitive marker for prostate cancer. The female panel includes a test for progesterone levels, providing information concerning female fertility, ovulation cycles, and possible hormonal tumors.

- **What is Estronex testing?**

Just as your hormonal profile is unique, your body also metabolizes hormones differently. The body metabolizes estrogens into several different metabolites that can impact cancer development in the body. One metabolite, 2-hydroxyestrone (2-OHE1), tends to inhibit cancer growth. Another, 16-a-hydroxyestrone (16-a-OHE1), actually encourages tumor development. A woman's "biochemical individuality" determines which of these metabolites predominates. Studies have shown that measuring the ratio of these two metabolites provides an important indication of risk for future development of estrogen-sensitive cancers.

The **Estronex 2/16 Test** from measures the ratio of these two critical estrogen metabolites from a single urine specimen. **Estronex 2/16** ratios less than 2.0 indicate increasing long-term risk for breast, cervical, and other estrogen-sensitive cancers. Importantly, nutritional interventions can help raise **Estronex 2/16** ratios and decrease long-term risk.

Estrogen metabolism depends on three factors: a woman's genetic makeup, lifestyle and diet, and environment. Therefore, understanding estrogen metabolism, and the things we can do to affect it, offers significant opportunities to reduce cancer risks, particularly of breast and uterine cancers.

- **What is the link between Vitamin D and breast cancer?**

Current research links vitamin D to a host of health benefits, such as warding off Parkinson's disease, reducing rates of inflammatory conditions associated with heart disease and stroke, and even preventing cancer. In fact, newer studies reveal that high levels of vitamin D can actually reduce the risk of breast cancer and inhibit the growth of existing tumors.

Two new meta-analysis studies—which combine data from multiple reports—reveal new prescriptions for potentially preventing up to half of the cases of breast cancer and two-thirds of the cases of colorectal cancer in the United States. A team of cancer prevention specialists at the Moores Cancer Center at University of California, San Diego, conducted the studies and reported quite significant results. The first study examined nearly 1,800 records and found:

- Individuals with the lowest blood levels of vitamin D (25-hydroxyvitamin D) had the highest rates of breast cancer.
- Individuals with the highest blood levels of vitamin D (25-hydroxyvitamin D) had the lowest rates of breast cancer.

The second study, which looked at nearly 1,500 people, showed similar results. Raising vitamin D levels (25-hydroxyvitamin D) to 34 ng/ml reduced rates of colorectal cancer by half, while raising levels to 46 ng/ml cut the risk by two-thirds. Based on mounting evidence that vitamin D is a critical nutrient for health, Dr. Harper recommends that her patients have levels checked annually.

- **What is the best way to get the right amount of vitamin D?**

Several food sources including fish, eggs, fortified milk, and cod liver oil contain vitamin D, but diet accounts for very little of the nutrient that actually makes it into your bloodstream. Your skin also makes vitamin D from ultraviolet light, but too much sun causes skin damage and significantly increases the risk of skin cancers.

Supplementation offers the safest and most effective source of vitamin D, but not all supplements are alike. Vitamin D comes in two forms: D2 (ergocalciferol), which is synthesized by plants, and the more potent D3 (cholecalciferol), which is synthesized in the skin upon sunlight exposure. New research indicates D3 is the best form because it is three times as potent as D2 and more readily absorbed into the bloodstream. Most multi-vitamins contain too little D2 and include vitamin A, which can offset many of the benefits of vitamin D.

On the flip side, too much vitamin D can cause a dangerous buildup of calcium in the body. Although the FDA okays taking up to 2,000 international units per day, each person's baseline level is different. That's why I recommend that my patients have their vitamin D levels tested on an annual basis and adjust dosage amounts as appropriate.

- **What role does nutrition play in cancer prevention?**

Food is designed to be the fuel that makes our bodies healthy and lean, and getting the right balance of nutrients is critical to maintaining a healthy weight and a healthy immune system and preventing disease.

However, with our busy schedules and fast-paced lifestyles we often substitute food quality with quantity and convenience. We consume a lot of fast food, over-processed food, highly refined sugar, carbohydrates and trans fat—foods that actually prevent our bodies from properly absorbing essential vitamins and minerals. Research shows that those who are deficient in essential vitamins and minerals are at a higher risk of developing and dying of chronic diseases like diabetes, heart disease, and cancer.

About two-thirds of the calories consumed in America come from refined foods. Refined foods have been processed, removing most of the nutrients they contain in their natural state. Some nutrients are added back through a process misleadingly known as “enrichment,” but the process also adds in chemicals and preservatives that negatively affect metabolism and cellular health.

Vitamin deficiencies also can cause your skin to age prematurely because the vital organs (heart, lungs, brain) grab the nutrients you eat first to ensure they have what they need to keep your body functioning. Your skin then receives nutrients only if your nutrition is near perfect.

Supplementing your diet with vitamins and minerals can help you prevent disease and look and feel younger. In addition, when undergoing biochemically identical hormone replacement therapy, supplements like Dr. Harper’s specially formulated Hormone Defense provide the natural vitamins and minerals your body needs for additional protection against diseases like breast cancer.

- **What can you do to lower your risk of cancer?**

To lower our risk factors and help prevent cancer, we all must pay attention to the external and internal toxins we expose ourselves to on a daily basis, as well as our individual lifestyle choices:

- Eat a healthy diet rich in whole foods.
- Exercise daily and maintain a healthy weight.
- Minimize/manage stress.
- Get adequate (restorative) sleep.
- Avoid toxins whenever possible.
- Don’t smoke.
- Limit alcohol consumption.
- Be happy—practice positive thinking!

Are you ready to take control of your health, look and feel your best while preventing disease? Contact our office today @ 512.343.9355 and let Nutritional Medicine Associates help you get started.

<http://ruthieharper.com/nma/hormones.html>