Cancerous Cells Cannot Thrive Without This

Not long ago, researchers at the world-renowned University of Texas MD Anderson Cancer Center published a groundbreaking scientific review of their favorite anti-cancer nutrient -- curcumin. Curcumin, along with several other nutrients, is remarkable in that it can actually tell the difference between a healthy cell and a cancer cell.

According to Wellness Resources, here is how the researchers explained their interest in curcumin:

“... Curcumin (diferuloylmethane) ... is one of the most powerful and promising chemopreventive and anticancer agents ... How curcumin exerts its powerful anticancer activities has been thoroughly investigated, and several mechanisms of action have been discovered ... curcumin exerts its biological activities through epigenetic modulation.”

In other words, curcumin changes the regulation of DNA to help kill cancer. In fact, curcumin not only influences epigenetic settings, it also manages the downstream consequences, helping to guide multiple steps in the way gene orders are implemented.

Sources:
» Wellness Resources May 12, 2011
» Genes and Nutrition May 2011; 6(2):93-108
» GreenMedInfo.com Curcumin Studies
» GreenMedInfo.com Turmeric Studies

Dr. Mercola’s Comments:

The role of epigenetics in health and disease is becoming ever clearer, and I firmly believe this field of study will eventually supplant the current medical paradigm. The conventional belief has been that genes controlled their own expression and were therefore the direct
cause of certain diseases. This laid the groundwork for the idea that your genes predetermined your health.

But genes are in fact NOT self-regulating.

Having "bad genes," does not at all mean you're doomed to suffer some inevitable fate. Genes are merely blueprints, and these blueprints are activated and controlled by something else entirely, namely their environment. This environmental information—which includes diet, toxic exposures, as well as thoughts and emotions, and more—can create more than 30,000 different variations from each blueprint, allowing for an astounding amount of leeway in modifying the expression or "read-out" of each gene!

**The Power of Food as Medicine**

As a result of these findings, we're now finally seeing science alter its course to investigate the power of optimal nutrition to improve health and prevent chronic disease from occurring in the first place. To anyone who is well-versed in alternative medicine, this is simply common sense. But many are still in denial about the power each individual wields over their own health, and that preventing disease and even treating disease can be as simple as modifying your diet and lifestyle—essentially, altering the environment of your body, to provide the best, most health promoting growth medium possible for all your cells.

Part of the explanation for why food can have such a powerful influence on serious diseases such as cancer is due to its influence on a biological process called angiogenesis-- the process your body uses to build blood vessels. Cancerous cells, like all other cells in your body, cannot thrive without the oxygen and nutrients supplied by your capillaries.

Excessive angiogenesis (too many blood vessels) promote diseases such as cancer.

Most of us actually carry around microscopic cancer cell clusters in our bodies all the time. The reason why we all don't develop cancer is because as long as your body has the ability to balance angiogenesis properly, it will prevent blood vessels from forming to feed these microscopic tumors. Trouble will only arise if, and when, the cancer cells manage to get their own blood supply, at which point they can transform from harmless to deadly.

As our ancestors intuitively understood, Nature has laced a large number of foods and herbs with naturally occurring inhibitors of angiogenesis, rendering them natural "anti-cancer medicines." Simply by consuming these anti-angiogenic foods you can naturally boost your body's defense system and prevent blood vessels from forming and feeding the microscopic tumors that exist in your body at any given time.
I've previously written about a number of different foods found to have particularly powerful epigenetic influence, such as broccoli and resveratrol, but many researchers consider the curcumin in turmeric to have the greatest potential in combating cancer.

**Curcumin—One of the Most Powerful Cancer Gene Regulators**

It's now becoming more widely accepted that cancer is not pre-programmed into your genes, but rather it's the environment of your body that regulates your genetic expression that can trigger cancer to occur. Adverse epigenetic influences that can damage or mutate DNA and alter genetic expression, allowing cancer to proliferate, include:

<table>
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<th>Nutritional deficiencies and hormonal imbalances</th>
<th>Toxins and pollution</th>
<th>Chronic infections</th>
<th>Infectious toxic byproducts</th>
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<tr>
<td>Chronic stress</td>
<td>Chronic inflammation</td>
<td>Free radical damage</td>
<td>Thoughts and emotional conflicts</td>
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Curcumin currently has the most evidence-based literature supporting its use against cancer than any other nutrient. Interestingly this also includes the metabolite of curcumin and its derivatives, which are also anti-cancerous. Best of all, curcumin appears to be safe in the treatment of all cancers.

Researchers have found that curcumin can affect more than 100 different pathways, once it gets into the cell. More specifically, curcumin has been found to:

<table>
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<th>Inhibit the proliferation of tumor cells</th>
<th>Decrease inflammation</th>
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<tr>
<td>Inhibit the transformation of cells from normal to tumor</td>
<td>Inhibit the synthesis of a protein thought to be instrumental in tumor formation</td>
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<tr>
<td>Help your body destroy mutated cancer cells so they cannot spread throughout your body</td>
<td>Help prevent the development of additional blood supply necessary for cancer cell growth (angiogenesis)</td>
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However, much of curcumin's power seems to lie in its ability to modulate genetic activity and expression—both by destroying cancer cells, and by promoting healthy cell function. It also promotes anti-angiogenesis, i.e. it helps prevent the development of additional blood supply necessary for cancer cell growth as discussed above.

For example, a 2005 study in *Biochemical Pharmacology* found that curcumin can help slow the spread of breast cancer cells to the lungs in mice.
"Curcumin acts against transcription factors, which are like a master switch," said lead researcher, Bharat Aggarwal. "Transcription factors regulate all the genes needed for tumors to form. When we turn them off, we shut down some genes that are involved in the growth and invasion of cancer cells."

Another study in Biochemical Pharmacology also found that curcumin inhibits the activation of NF-kappaB, a regulatory molecule that signals genes to produce a slew of inflammatory molecules (including TNF, COX-2 and IL-6) that promote cancer cell growth.

Other Health Benefits of Curcumin

The growing interest in curcumin over the past 50 years is understandable when you consider the many health benefits researchers have found when studying this herb. According to studies, curcumin may help:

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<th>Benefit</th>
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<tr>
<td>Reduce cholesterol levels</td>
<td>Prevent low-density lipoprotein oxidation</td>
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<td>Suppress thrombosis and myocardial infarction</td>
<td>Suppress symptoms associated with type 2 diabetes</td>
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<td>Suppress symptoms of multiple sclerosis</td>
<td>Suppress symptoms of Alzheimer's disease</td>
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<tr>
<td>Suppress tumor formation</td>
<td>Enhance wound healing</td>
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<tr>
<td>Increase bile secretion</td>
<td>Protect against cataracts</td>
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How to Use Curcumin

To get the full benefits curcumin has to offer, look for a turmeric extract that contains 100 percent certified organic ingredients, with at least 95 percent curcuminoids. The formula should be free of fillers, additives and excipients (a substance added to the supplement as a processing or stability aid), and the manufacturer should use safe production practices at all stages: planting, cultivation, selective harvesting, and then producing and packaging the final product.

Unfortunately, at the present time there really are no formulations available for the use against cancer. This is because relatively high doses are required and curcumin is not absorbed that well.
According to Dr. William LaValley, one of the leading medicine cancer physicians I personally know, typical anticancer doses are up to three grams of good bioavailable curcumin extract, three to four times daily. One work-around is to use the curcumin powder and make a microemulsion of it by combining a tablespoon of the powder and mixing it into 1-2 egg yolks and a teaspoon or two of melted coconut oil. Then use a high speed hand blender to emulsify the powder.

Another strategy that can help increase absorption is to put one tablespoon of the curcumin powder into a quart of boiling water. It must be boiling when you add the powder as it will not work as well if you put it in room temperature water and heat the water and curcumin. After boiling it for ten minutes you will have created a 12 percent solution that you can drink once it has cooled down. It will have a woody taste.

The curcumin will gradually fall out of solution however. In about six hours it will be a 6 percent solution, so it's best to drink the water within four hours.

Be aware that curcumin is a very potent yellow pigment and can permanently discolor surfaces if you aren't careful.

Please Remember the Cancer Treatment BASICS

It is encouraging to see cancer research on herbs such as turmeric. However, it's virtually impossible to discuss cancer prevention and treatment without touching on one of the absolute best cancer prevention nutrients ever discovered, namely vitamin D.

Despite its name, vitamin D is actually a powerful neuro-regulatory steroid, and it's likely more potent than curcumin, as its epigenetic influence covers more than 2,000 genes in your body—or about 10 percent of all genes! There are also more than 830 peer reviewed scientific studies showing vitamin D's effectiveness in the treatment of cancer.

Personally, I believe it is virtually malpractice to not optimize vitamin D levels when treating someone with cancer. In this case, your vitamin D levels should be around 70-100 ng/ml. For more information about optimizing your vitamin D levels, please see my previous article Test Values and Treatment for Vitamin D Deficiency.

Cancer Treatments: Chemo or Natural?

Contrary to 'conventional wisdom,' chemotherapy is rarely the best option for cancer treatment as it usually typically doesn't cure cancer or extend life, and it rarely improves the quality of life. Dr. Ralph Moss, who is the author of eight books on cancer treatment, has reviewed thousands of studies as part of the research for his books -- and he has not found one single good study showing that chemo cures cancer or extends life.
What chemo does do, however, is expose your body to toxins that kill all cells that multiply and divide rapidly. This includes not only cancer cells, but also other rapidly multiplying and dividing cells, such as bone marrow, reproductive system cells and hair follicles.

These are powerful drugs that present an assault on your system -- one that your body must then overcome along with the cancer. And the effects do not end right after the treatment. One UCLA study found that chemotherapy can actually change the blood flow and metabolism of your brain in ways that can **linger for 10 years or more after treatment**.

**For Additional Curcumin Studies**

GreenMedInfo.com has a listing of **1,456 curcumin studies**, hundreds of which relate specifically to curcumin's effect on different types of cancer.

**Natural (and Epigenetic) Cancer Prevention Strategies**

I believe you can virtually eliminate your risk of cancer and other chronic disease, and radically improve your chances of recovering from cancer if you currently have it, by following some relatively simple risk reduction strategies—all of which help promote a healthful biological environment in which your cells can thrive and combat disease naturally.

You don't read or hear much about these strategies because they have not been formally "proven" yet by conservative researchers. However, did you know that **85 percent** of therapies currently recommended by conventional medicine have never been formally proven effective either?!

My top 12 cancer prevention strategies include:

1. **Reduce or eliminate your processed food, fructose and grain carbohydrate intake.**

2. Normalize your **vitamin D levels** by getting plenty of **sunlight exposure** and consider careful supplementation when this is not possible. If you take oral vitamin D and have cancer, it would be prudent to monitor your vitamin D blood levels regularly.

3. **Control your fasting insulin and leptin levels.** (Improved insulin and leptin control is the natural outcome of reducing or eliminating fructose, grains, and processed foods from your diet.)

4. **Normalize your ratio of omega-3 to omega-6 fats** by taking a high-quality krill oil or fish oil and reducing your intake of most processed vegetable oils.

5. **Get regular exercise.** One of the primary reasons exercise works is that it drives your insulin levels down. Controlling insulin levels is one of the most powerful ways to
reduce your cancer risks. If you have limited time Peak 8 is your best bet but ideally you should have a good strength training program

6. Get **regular, good sleep**.

7. **Eat according to your nutritional type**. The potent anti-cancer effects of this principle are sorely underappreciated. However, some cancer specialists are now using nutritional typing as an integral part of their cancer treatments.

8. Reduce your exposure to **environmental toxins** like pesticides, household chemical cleaners, **synthetic air fresheners** and air pollution.

9. Limit your exposure and provide protection for yourself from EMF produced by cell phone towers, base stations, cell phones and WiFi stations. On May 31, 2011, the International Agency for Research on Cancer (IARC), an arm of the World Health Organization (WHO), declared that **cell phones are "possibly carcinogenic to humans."**

10. Avoid **frying or charbroiling your food**. Boil, poach or steam your foods instead.

11. Have a tool to permanently reprogram the **neurological short-circuiting that can activate cancer genes**. Even the CDC states that 85 percent of **disease is caused by emotions**. It is likely that this factor may be more important than all the other physical ones listed here, so make sure this is addressed. Energy psychology seems to be one of the best approaches and my particular favorite tool, as you may know, is the **Emotional Freedom Technique**. **German New Medicine** is another powerful tool.

12. Eat at least **one-third of your food raw**.