

Dear Doctor,

Your patient has given you a copy of this chapter with my blessings and permission. My publisher and I have given it to the public domain so that the vital information it contains on curcumin's value in prevention and treatment of a wide range of cancers can be broadly circulated.

I have spent more than 20 years researching the chemo-preventive and treatment properties of curcumin. I've published more than 200 studies on various aspects of health and cancer, including the health benefits of complementary and alternative medicine. I am convinced that curcumin can offer broad benefits to prevent, treat, and perhaps even cure cancer with virtually no side effects.

Of course, I am not the only researcher investigating curcumin's benefits. More than 8,200 studies have been published on curcumin's medical benefits, most of them within the last 15 years. A search of the electronic database of the National Institutes of Health (NIH) called PubMed (available at pubmed.gov) on curcumin and cancer returns 3,132 results as of this writing. Many of these studies are well constructed and highlight the scientific merit for this natural medicine.

In brief, this is what we've learned about curcumin and its effects on cancer cells and the genes that govern them:

ANTI-INFLAMMATORY

Curcumin is one of the most potent plant-based, naturally occurring, anti-inflammatory substances known to science. It has virtually no side effects or toxicity, even when taken in large amounts. As a side note: Cancer rates in my native India are very low, which may largely be due to the universal dietary consumption of curcumin (as turmeric) and other spices with medicinal properties. Curcumin:

- Inhibits the COX-2 and NF-Kappa B inflammatory pathways, preventing chronic inflammation.
- It scrubs away the free radical oxygen molecules inhibiting the production of inflammatory arachidonic acid.
- It controls cytokine production.
- It slows or stops production of other enzymes, including protein kinase.

EPIGENETICS

This relatively new field of science investigates gene expression in cancer and confirms that lifestyle and environmental changes can restore healthier and more balanced genetic expression, preventing and treating cancer. Curcumin:

- Helps control the expression of important genes that causes cancer to spread.
- Reactivates quiescent tumor-suppressing genes and downcycles tumor-promoting genes.
- Controls the expression of many miRNAs that control the growth and behavior of cancers-causing genes.

APOPTOSIS, ANGIOGENESIS, METASTASIS

Programmed cell death, prevention of angiogenesis to nurture cancer cells, and prevention of metastasis are essential to all forms of cancer treatment today. Curcumin:

- Induces apoptosis through a variety of pathways.
- Inhibits angiogenesis signaling pathways more effectively than angiogenesis inhibitors.

- Inhibits EGFR and VEGF pathways that control cancer spread.
- Anti-metastatic natural medicine.
- Blocks inflammatory pathways, including metastasis in advanced cancers, including pancreatic, liver and colorectal.

CANCER STEM CELLS

Cancer stem cells are largely responsible for recurrence months or even years after treatment. Curcumin:

- Disrupts signaling pathways, prevents communication with other cancer cells and prevents recurrence.
- Increases the ability of chemotherapy to kill cancer stem cells.

CHEMO-RESISTANCE

In my experience, almost every cancer patient develops chemo-resistance at some point in the treatment cycle. Curcumin:

- Helps overcome chemo-resistance, enhancing the effectiveness of chemotherapy drugs.
- Neutralizes cancer cellular survival mechanisms.

CHEMO-SENSITIZER

The other side of the same coin, curcumin has been shown to “open” cancer cells to chemotherapy treatments. Curcumin:

- Sensitizes cancer cells and cancer stem cells to a variety of chemotherapy drugs.
- Improves effectiveness of commonly used chemotherapy agents, including 5-FU.

- Enhances the effectiveness of several drugs used to treat advanced colon cancers, including irinotecan, FOLFOX, gemcitabine, celecoxib and paclitaxel for breast cancer.
- Improves effectiveness of chemotherapy drugs in a variety of cancers: breast, colon, pancreas, gastric, liver, blood, lung, prostate, bladder, cervix, ovary, head and neck. This includes advanced cancers that are considered inoperable.
- Activates miRNAs to overcome chemo-resistant cancer stem cells.
- Protects healthy organs, especially liver, kidney, heart and oral mucosa from toxic effects of chemotherapy and radiation.
- Improves quality of life and increases survival time.

INTEGRATIVE THERAPY

Curcumin works synergistically in conjunction with many other natural substances. Curcumin:

- Enhances the effects of chemotherapy and protects surrounding tissue from damage caused by radiation and chemo drugs.
- Enhanced effectiveness when used in conjunction with a variety of other natural substances, including boswellia, Omega-3 fatty acids, vitamin D, resveratrol and green tea.

Research from Harvard and Massachusetts General Hospital confirms the effectiveness of a cocktail including curcumin could have “potent anti-tumor” effects, enhancing the effects of all types of therapies while reducing the toxicity of chemotherapy and radiation treatments. Ingredients in the cocktail: curcumin, oleic acid (found in olive oil), silibinin (from milk thistle), EGCG (from green tea), kaempferol (found in many foods, including onions and green tea), melatonin, enterolactone (plant lignans found in a wide

variety of foods including seeds, whole grains and legumes), withaferin A (an Ayurvedic herb) and resveratrol (from red grapes).

Curcumin has been studied and found effective for the following types of cancer:

- Colorectal
- Breast
- Pancreatic
- Liver
- Lung
- Melanoma
- Bone
- Multiple myeloma
- Prostate
- Head and neck cancers
- Chronic myeloid leukemia
- Brain (glioblastoma)
- Gall bladder
- Lymphoma
- And many other types of cancer

OTHER INFLAMMATORY DISEASES

Curcumin has been validated as an effective agent against a wide variety of other diseases, at least in part due to its anti-inflammatory properties.

Among them, in addition to cancer, other diseases include:

- Obesity
- Heart Disease
- Diabetes

- Arthritis and chronic pain
- Depression
- Dementia and Alzheimer's disease
- Digestive disorders including Crohn's disease, ulcerative colitis, irritable bowel syndrome, familial adenomatous polyposis, alcohol-induced liver damage

ALL CURCUMIN IS NOT CREATED EQUAL

It's important to note here the difference between turmeric and curcumin and the difference between various types of curcumin.

Turmeric is a culinary spice with definite health benefits if used in large quantities on a daily basis. Curcumin, if extracted properly from the turmeric rhizome, is highly bioavailable and highly therapeutic. In simple terms, turmeric is the spice, curcumin is the natural medicine, present in this spice.

Furthermore, I am often asked if all curcumin extracts are the same. The answer is simply, "no." It's important to pay attention to the quality of the extract, including whether it has higher absorption and does not contain any harsh, toxic chemicals used during its extraction from the turmeric rhizome. The BCM-95™ formulation, which I've used exclusively in my research, is extracted using non-toxic methods and has been well researched as the most bioavailable of all curcumin extractions on the market today. It is both absorbable and therapeutic and is prepared based upon traditional principles of Ayurvedic medicine.

I strongly urge you not only to encourage your patients to use curcumin, but to find a formulation that will have the most therapeutic effects for treating cancer and a broad range of other inflammatory diseases.

CONCLUSION

In my mind, curcumin is one of the most exciting substances we have found to prevent, treat and potentially even cure cancer. Not only does it affect more than 700 genes, curcumin also affects more than 100 different cellular pathways. Multiple studies have shown it to be safe in the treatment of all cancers with no toxicity even at high doses.

From [*Curcumin: Nature's Answer to Cancer*](#) by **Ajay Goel, Ph.D.** (Take Charge Books).