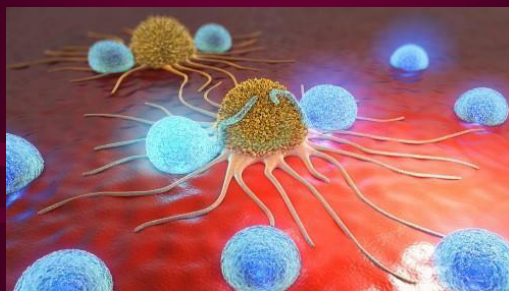


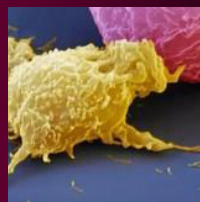
Blocking the Biology that Fuels Cancer



Leonard L Gibbons, DrPH, MPH, HT, RD
Lifestyle Intervention Specialist

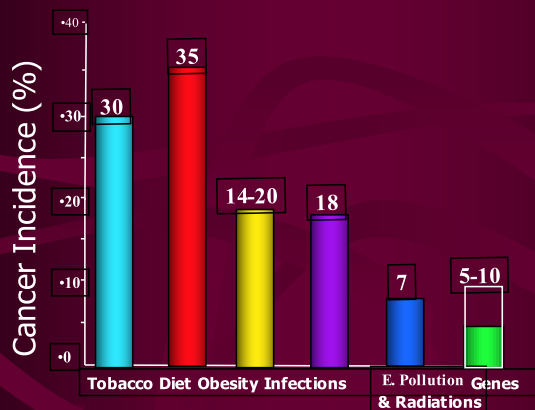
What is Cancer?

Cancer is a “disease” in which some **of the body's cells grow uncontrollably and spread** to other parts of the body.



Cancer is **not an isolated group of rogue cells** waiting passively to be annihilated by a wonder drug. It is **caused by lifestyle factors and genetic and molecular glitches**.

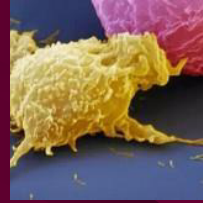
Cancer Is a Preventable Disease



Anand P, Harikumar K and Aggarwal BB. *Pharmaceutical Research*, 2009

Conventional Cancer Therapies Have Major Deficiencies

A tumor is merely the most obvious symptom of an **altered, unbalanced system.**

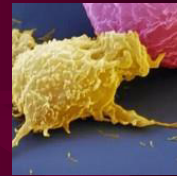


That's why both the new targeted therapies and the older weapons of surgery, radiation, and old-line chemotherapy so **often fail to prevent the spread or recurrence** of the disease.

Conventional Cancer Therapies Have Major Deficiencies

They don't:

- Pick up renegade cancer cells (e.g., cancer stem cells)
- Strengthen the body's biological balance
- Reach all of the underlying molecular accidents that initiated cancer in the first place
- Include NEWSTART whole person solutions



Even if the original tumor is gone, **this biological imbalance creates an environment for cancer to recur.** Tumor cells use the body's own healthy resources to grow and multiply.

Study Reports 5-Year Survival for Most Cancers using Chemotherapy is 2.1%

Table 2 – Impact of cytotoxic chemotherapy on 5-year survival in American adults

Malignancy	ICD-9	Number of cancers in people aged >20 years*	Absolute number of 5-year survivors due to chemotherapy†	Percentage 5-year survivors due to chemotherapy‡
Head and neck	140–149, 160, 161	5139	97	1.9
Esophagus	150	1521	82	4.9
Stomach	151	3001	20	0.7
Colon	153	13,936	146	1.0
Rectum	154	5533	189	3.4
Pancreas	157	3567	–	–
Lung	162	20,741	410	2.0
Soft tissue sarcoma	171	858	–	–
Melanoma	172	8646	–	–
Breast	174	31,133	446	1.4
Uterus	179–182	4611	–	–
Cervix	180	1825	219	12

Clinical Oncology (2004) 16: 54960

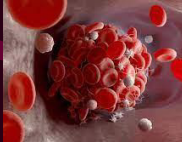


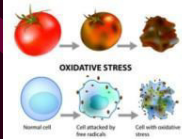

Study Reports 5-Year Survival for Most Cancers using Chemotherapy is 2.1%

Clinical Oncology (2009) 16:342-350

Ovary	183	3032	269	8.9
Prostate	185	33242	—	—
Testis	186	989	373	37.7
Bladder	188	6667	—	—
Kidney	189	3722	—	—
Brain	191	1824	68	3.7
Unknown primary site	195-199	6200	—	—
Non-Hodgkin's lymphoma	200 + 202	6217	653	10.5
Hodgkin's disease	201	846	341	40.3
Multiple myeloma	203	1721	—	—
Total		154971	3306	2.1%

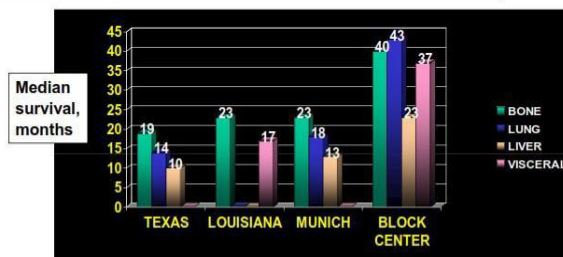
Chemotherapy can shrink tumors down, relieving pain and pressure—but that doesn't tend to translate into living any longer.

The NEWSTART Solution Blocking the Biology Fueling Cancer

Excessive Blood clotting	Elevated Blood Sugar Level	Chronic Inflammation	Low Vitamin D Levels
			
Excessive Free Radicals Reactions	Compromised Immunity	Estrogen Dominance	Chronic Stress Overload
			

Metastatic Breast Cancer Patients Longitudinal Consecutive Cohort at Block Center

N=90; Stage IV relapsed patients
Received Block Center Integrative Program with chemotherapy.
Comparison historical studies from Texas, Louisiana cancer centers;
Similar populations, chemo only; Munich database results.



Block et al, Breast Journal. Pub date July/August 2009.

© Block Center for Integrative Cancer Treatment

Nutritional Solutions Consulting Group

Jeanne M. Wallace, PhD, CN www.nutritional-solution.net

Survival Data

Selected Cases
1999-2009

Ovarian Cancer

Age	Dx	Survival
55	IV	>14 yrs. 2mth
57	lllc	>11 yrs.8 mth
54	lllc	>10 yrs.5 mth
55	lllc	>9 yrs.1mth
57	llc+BrCa	>9 yrs. 2mth
38	lllc	>7 yrs.1.0mth
67	lllc	>6 yrs. 4mth
47	lllc	6 yrs. 1 mth
53	lllc	6 yrs.
70	IV	5 yrs. 9 mth

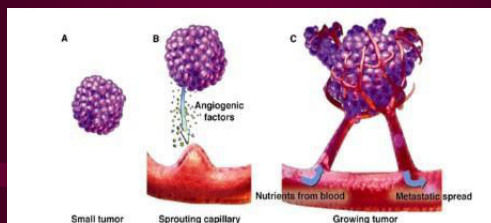
Colon Cancer

Sex	Age	Dx	Survival
F	58	IV	>9 yrs. 5mth
M	36	II	>9 yrs. 5mth
M	49	IV	>6 yrs. 9mth
F	61	IV	>6 yrs. 9mth
F	46	IV	5 yrs.
M	76	III	>4 yrs. 9mth
M	46	IV	4 yrs. 3mth

Pancreatic Cancer

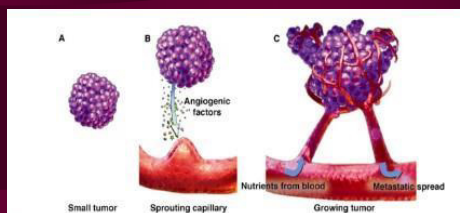
Sex	Age	Dx	Survival
M	70	III	4 yrs. 1mth
F	50	IV	>3 yrs.1.0mth
M	66	IV	>3 yrs. 3mth
F	59	I	>3 yrs. 2mth
F	64	IV	>2 yrs.1.3mth
F	54	III	2 yrs. 9mth
M	54	IV	2 yrs. 9mth
M	58	III	2 yrs. 3mth

Cancer Cells Need A Blood Supply To Survive



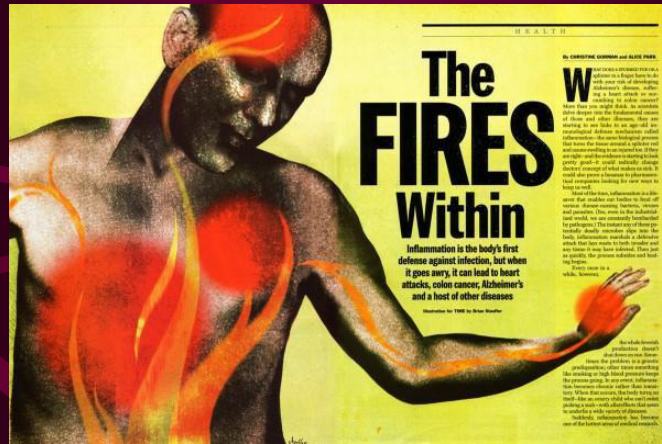
All of us have cancer cells in our bodies. However, **cancer cells cannot grow beyond the size of the tip of a pen without a blood supply.** *Modulation of angiogenesis by dietary phytoconstituents in the prevention and intervention of breast cancer. Reuben et al. Mol Nutr Food Res. 2012 Jan;56(1):14-29.*

Plants Block Cancer Growth Factors



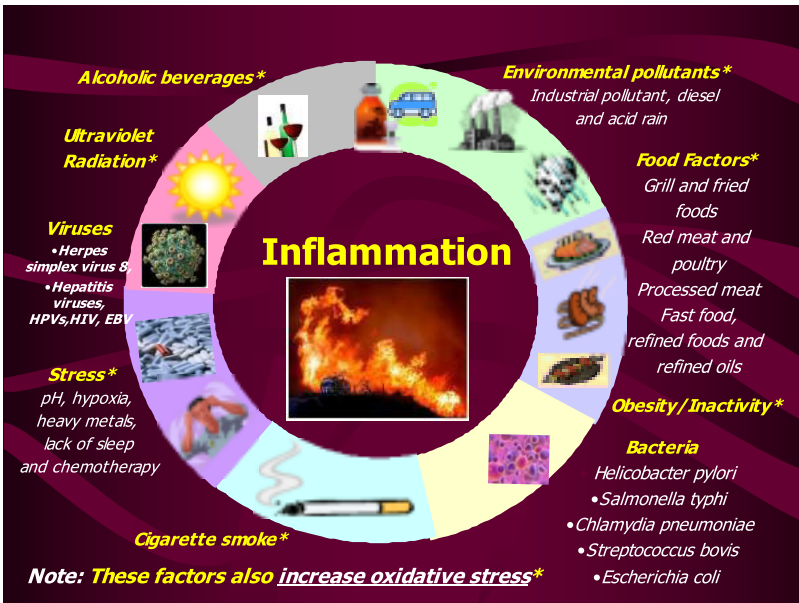
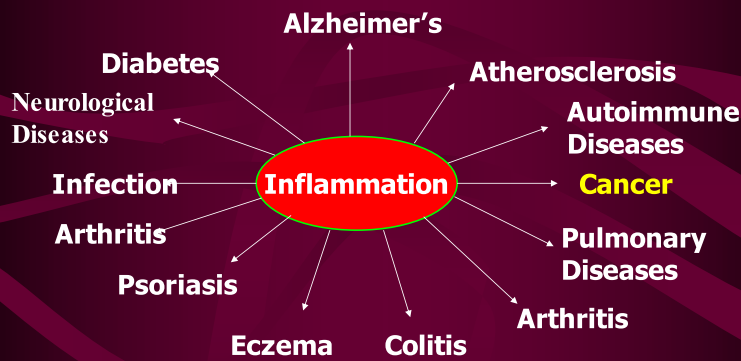
Cancer cells release chemicals that cause blood vessels to sprout into the tumor and grow. However, **plants** contain many powerful chemicals that **block cancer growth factors, the biology that fuels cancer.** *Modulation of angiogenesis by dietary phytoconstituents in the prevention and intervention of breast cancer. Reuben et al. Mol Nutr Food Res. 2012 Jan;56(1):14-29.*

1 - Chronic Inflammation



TIME Feb. 23, 2004

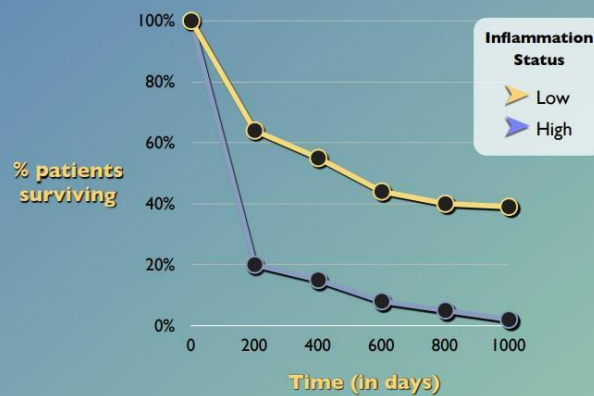
Chronic Inflammatory and Disease



Lifestyle Carcinogens/Risk factors



Inflammation & Cancer Survival



SOURCE: McMillan DC, et al. Measurement of the systemic inflammatory response predicts cancer-specific and non-cancer survival in patients with cancer. *Nutr Cancer*, 2001;41(1-2):64-9.



Patients with high inflammation (CRP) experience...

- ◆ **Toxicity of Chemotherapy** ↑ risk of severe low blood counts during chemo
- ◆ **Cachexia (wasting syndrome)** Poorer appetite, ↑ muscle wasting and ↑ weight loss
- ◆ **Greater Fatigue** ↑ fatigue and poorer quality of life

SOURCES: Alexandre J, et al. Evaluation of the nutritional and inflammatory status in cancer patients for the risk assessment of severe haematological toxicity following chemotherapy. *Ann Oncol*, 2003;14:36-41.

Mohmoud FA, Rivera NI. The role of C-reactive protein as a prognostic indicator in advanced cancer. *Curr Oncol Rep*, May 2002;4(3):250-5.

Scott HR, et al. A prospective study of the impact of weight loss and the systemic inflammatory response on quality of life in patients with inoperable non-small cell lung cancer. *Lung Cancer*, Jun 2003;40(3):295-9.

C-Reactive Protein Levels and Cancer

High CRP levels are an indicator of **reduced long-term survival** in patients with the following cancers, independent of race, tumor stage, and body mass index:

- Breast Cancer, Colorectal Cancer, Ovarian Cancer
- Lung Cancer, Oral Cancer, Pancreatic Cancer
- Heart Attacks and Strokes (3 to 10x higher risk of these problems)
- Diabetes (4x risk of developing type II diabetes)

CRP Levels

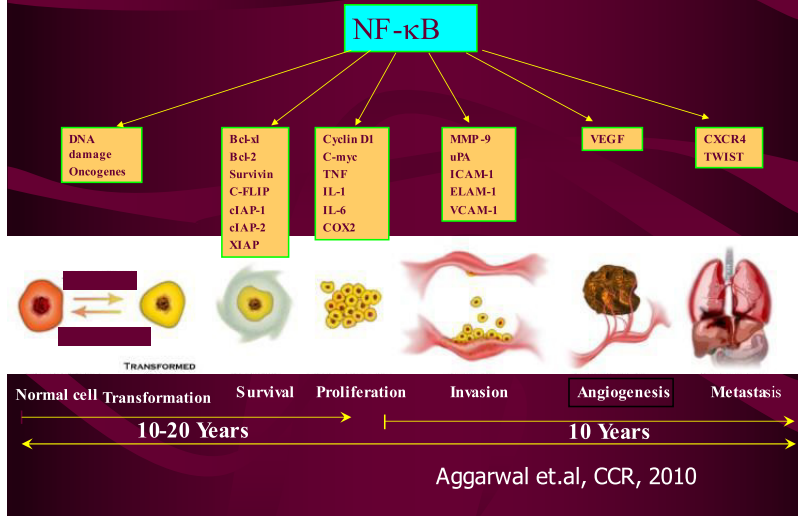
Less than 0.5 mg/L – ideal

0.5 to 1.0 mg/L – safe

1.0 mg/L to 3.0 mg/L – danger

>3.0 mg/L – Extreme danger

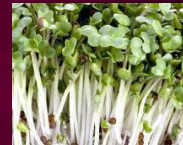
Inflammation and Tumor Growth



Anti-inflammatory Rich Fruits and Veggies

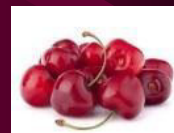
Aim for at least **1 to 2 cups a day** of these vegetables:

Artichokes, spinach, broccoli, onions, sweet potatoes, cucumbers, tomatoes, zucchini and parsley.



Aim for **1 to 2 cups a day** of these fruits:

Apples, cranberries, apricots, prunes, blackberries, raspberries, blueberries, red grapes, cantaloupe, strawberries, cherries and tart cherries.



Anti-inflammatory Rich Herbs

The **best sources** of anti-inflammatory compounds are in the **whole-leaf or unground form** of:

Basil, bay leaves, oregano, rosemary, gingerroot (fresh), sage, mint, thyme and turmeric.



Anti-inflammatory Supplements



Dietary Supplements to Help Address Inflammation

AGENT	COX	LOX
Boswellia		✓
Bromelain	✓	
Curcumin	✓	✓
Tart Cherry Concentrate – Yes Yes		
Ginger	✓	
Quercetin	✓	
Stinging Nettle Leaf Con. Yes		----
Resveratrol	✓	✓
Alpha-lipoic Acid Yes		----

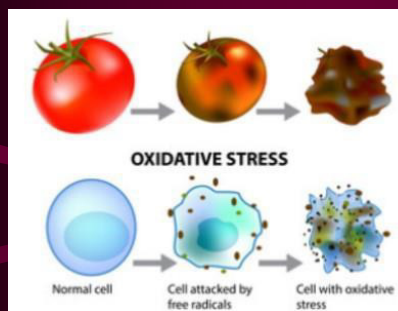
Screen carefully for interactions / contraindications!

Target Range: hsCRP ≤ 1.0mg/L.




[Adv Pharmacol Sci_v.2016; 2016 PMC4877453](#)

2 - Excessive Free Radical Reactions



“**Internal rusting**” or free radical reactions can **damage DNA**, **promote cancer** development and **accelerate the aging process**.

One single puff of tobacco creates about 100 billion free radicals!

Antioxidants Protect Against Damaging Free Radicals

Antioxidants slow down the aging process, **block angiogenesis** and **prevent cellular damage that can lead to cancer** and many other diseases.



The average antioxidant content of **plant foods is 1,157** (umol/10g). The average antioxidant content of **animal products is only 18** (umol/10g). **Plants on average are 64 times more potent than animal products in anti-cancer antioxidants.**



Antioxidant Rich Foods

The antioxidant capacity of **oregano** is more than:

- **40 times** the level of an **apple**
- **10 times** the level of an **orange**
- **4 times** the level of **blueberries**
- The **whole-leaf** or **unground versions** have the **highest antioxidant power**.



Other high-ORAC seasonings:

Dill, fresh garlic, fresh gingerroot, turmeric, parsley, basil, rosemary, sage, cumin and paprika.

Antioxidant Supplements

Grape Seed Extract: 50-150 mg

Alpha-lipoic Acid: 300-800 mg

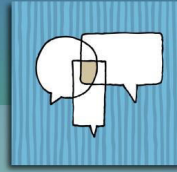
Vitamin C with citrus
bioflavonoids: 500 -1000 mg

Aged garlic extract: 500-1,800 mg

Lycopene: 7-10 mg



3 - Estrogen Dominance



Modulating Gene Expression

Breast, ovarian, uterine, prostate and colorectal cancers can all be fueled by excess estrogen.

Protective Factors - Estrogen Cancers

Agent / Approach	Rationale	Citation
Avoid Dietary Estrogens	residues of agricultural hormones found in commercially raised meat & dairy foods	Epstein SS: Int J Health. 1990; 20 (2):277-80. • Qin et al., Nutr Cancer. 2008;60(4):505-10.
Reduce Exposure to Xenoestrogens	aromatic hydrocarbons, organochlorides, metalloestrogens: potent estrogen mimics, estimated 10 ³ ↑ potency	Reviewed in Hall: Appl Nutr Sci Rep. 2001.
Curcumin	↓ stimulating effects of xenoestrogens on BrCa cells in vitro	Verma et al: Biochem Biophys Res Commun. 1997;233(3):692-6.
DIM/Crucifers	improve 2(OH)E:16(OH)E ratio	Dalesandri et al: Nutr Cancer. 2004;50(2):161-7.
Flaxseed meal	improve 2(OH)E:16(OH)E ratio, enterolactone ↑ SHBG	Haggans et al., 2000, 1999; Brooks et al., 2004
D-glucarate	support glucuronidation: key Phase II hepatic detoxification pathway for estrogens	Altern Med Rev. 2002;7(4):336-9.
↓ Constipation	↓ enterohepatic recirculation of estrogen	Manuti et al: Cancer Epidemiol Biomark Prev. 2008;17(7):1746-50.
Probiotic	displace unfavorable flora (↓ colonic β-glucuronidase, ↓ deconjugation of estrogen, ↓ enterohepatic recirculation of estrogen)	Kumar et al: Int J Food Sci Nutr. 2010, Feb 26; epub ahead of print.

D-glucarate is found naturally in the body and in oranges, grapefruit, apples, and broccoli. **DIM/Crucifers** is found in broccoli, cauliflower, cabbage, kale, Bok choy, arugula, Brussels sprouts, collards, watercress & radishes.



XENOESTROGENS

What Are They and Where Are They Hiding

- Water (tap water and bathing)
- Pesticides, herbicides and insecticides
- Cleaning products (home and industrial)
- Plastics (food, beverages, storage containers)
- Canned foods
- Dental sealants
- Receipts
- Air and dust
- Air fresheners
- Laundry products (detergent, fabric softener, dryer sheets, etc.)
- Home furnishings (including furniture, carpets, window drapes, mattresses/foams, bedding)
- Hair dyes
- Nail polish and nail polish removers
- Cosmetics
- Personal care products (shampoo, deodorant, moisturizer, body wash, etc.)
- Perfume
- Sunscreen
- Medical devices
- Birth control pills
- Toys
- Building materials
- Photocopiers and printers
- Artificial food dyes



MeghanTelpner.com | @MeghanTelpner

Protective Factors - Estrogen Cancers

Diet & Nutrition Modulation of Estrogen

Agent / Approach	Rationale	Citation
Address Metabolic Syndrome	↓ activation of aromatase; ↑ SHBG	Cowey & Hardy: Am J Pathol. 2006 Nov;169(5):1505-22.
↓ Stress	• cortisol ↑ expression of aromatase • stop progesterone depletion for cortisol synthesis	Reviewed in Hall: Appl Nutr Sci Rep. 2001.
Melatonin	• ↓ HPR axis (↓ circulating estrogen levels) • blocks activation of ER (SERM activity) • ↓ expression/activity aromatase, sulfatase and 17β-hydroxysteroid dehydrogenase • ↑ estrogen sulfotransferase	Cos et al: Curr Cancer Drug Targets. 2008 Dec;8(8):691-72.
Vitamin D3	↓ expression aromatase, ↓ expression ER-α	Krishnan et al: J Steroid Biochem Mol Biol;2010 Feb. ePub ahead.
Avoid Alcohol Intake	alcohol ↑ circulating estrogen levels; ↑ ER signaling	Seitz & Maurer: Alcohol Res Health. 2007;30(1):42-3.

Prostate Cancer

Nutrition Can Change Gene Expression

Prostate Cancer

- ◆ Men with prostate cancer not electing treatment (surgery, radiation, hormone therapy) enrolled
- ◆ Gene expression compared after 3 months on diet
- ◆ Expression of **500+** genes changed!
- ◆ Oncogenes were down-regulated



Ornish D, et al: Changes in prostate gene expression in men undergoing an intensive nutrition and lifestyle intervention. *Proc Natl Acad Sci U S A*.

Protective Factors - Estrogen Cancers

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Ornish D, et al: Changes in prostate gene expression in men undergoing an intensive nutrition and lifestyle intervention. *Proc Natl Acad Sci U S A*.

Diet and Prostate Cancer

A total of **93 patients** with serum **PSA levels from 4 to 10 ng/ml** and cancer Gleason scores less than 7 were assigned to a lifestyle change group plus a **vegan diet** or a no change **meat based diet** group for a period of **one year**.

None of the vegetarian group but **6 of the meat eating group** underwent conventional treatment due to an increase in PSA and/or progression of disease.



Diet and Prostate Cancer

PSA levels decreased 4% in the vegetarian group but **increased 6% in the meat eating group**.

Blood from patients on the vegan diet and blood from patients on the meat eating diet was added to a petri dish containing prostate cancer cell. The blood in persons that ate only **plants inhibited cancer cell growth by 70%** vs only **9% by the blood of the meat eaters**.



Dean Ornish et al. Intensive Lifestyle Change May Affect The Progression of Prostate Cancer. *The Journal of Urology*. Vol 174, 3, pp 1069-070, September 2005.

Pomegranate and Prostate Cancer

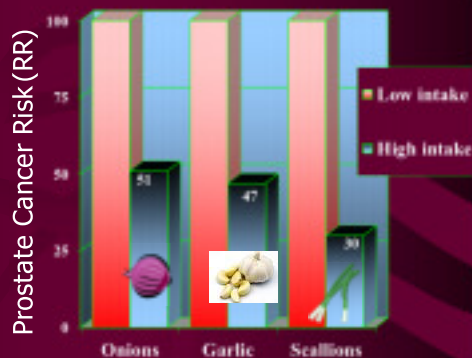


Patients with rising PSA levels after surgery or radiotherapy were treated with **8 oz. pomegranate juice daily**. Mean **PSA doubling time** significantly increased with treatment from a mean of **15 months at baseline to 54 months post-treatment**.

Phase II Study of Pomegranate Juice for Men with Rising ProstateSpecific Antigen following Surgery or Radiation for Prostate Cancer

Onion Family and Prostate Cancer

A China study. Those people who ate the **most onion family** foods (top third) had from **49 to 70% less prostate cancer** compared to those eating the least (bottom third).



J Nat Cancer Inst, Nov 6, 2002

Vegetable Intake

Eggs, Chicken and Prostate Cancer

Harvard researches wanted to discover which animal products increased the risk of prostate cancer progressing. What did they discover?

Eating less than 1 egg a day doubled (2X) the risk of prostate cancer progression.

Eating less than 1 serving of chicken a day quadrupled (4x) the risk of prostate cancer progression.



Intake of meat, fish, poultry and eggs and risk of prostate cancer progression. Evan L Richman et. al.

IGF-1 in Vegans and Prostate Cancer

Insulin like growth factor 1 (IGF-1) promotes the growth of prostate, breast, colon & other cancers.

People with the **highest levels** of **IGF-1** have **4.3 times the risk** of developing **prostate cancer** than those with the lowest levels.



High Insulin Levels and Cancer

High insulin levels (linked to refined carbs and ↑blood sugar levels) when compared to people with normal levels have **2.5 time risk of prostate cancer** if of normal weight and **8.5 times risk of prostate cancer** if obese. National Cancer Institute, May of 2001

Breast Cancer patients (N=512) with highest insulin levels **doubled (2x)** the **recurrence** of cancer after treatment and **tripled (3x)** the risk of dying



Figure 288. High Cancer Risk 288:115-288
From: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC115288/>

Methionine, Longevity and Cancer

Methionine is an amino acid. **Animals with the lowest concentration of Met in their tissues live the longest.** Too much Methionine acts as a **pro-oxidant** which accelerate aging, cellular damage and diseases such as cancer.

Cancers of the colon, breast, skin, ovaries and prostate are **dependent on Methionine** for survival or they will die.



Methionine, Longevity and Cancer

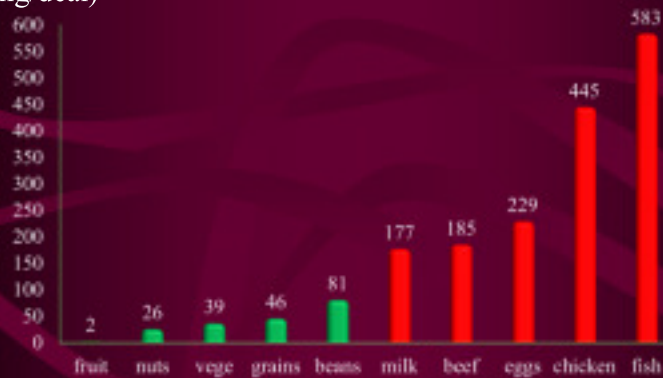
Normal healthy cells thrive without methionine.

Chemo-drug companies are working on drugs to block Met absorption. A better solution to fight cancer may be to eat only foods low in Met. What are these foods?



Methionine, Longevity and Cancer

(mg/dcal)



Medical Hypothesis 72(2009) 125-128; Cancer Treatment Reviews 38(2012) 726-736; Biochimica et Biophysica Acta 1780(2008)1337-1347; Pro Nat. Acad. Sci. USA 71(4) 1133-1136, April 1974; Expert Opin. Biol. Ther. (2012) 12(1)

Master Cancer Switch - NFκβ



NFκβ: Cancer's "Master Switch"

- ◆ Regulates 400+ genes involved in proliferation, anti-apoptosis, angiogenesis, invasion, & metastasis
- ◆ Triggered by carcinogens, oxidation, viruses, inflammation, radiation, chemotherapy, and stress
- ◆ How do we switch off NFκβ? ...

SOURCES: Aggarwal B, et al: Nuclear Factor-κB: A holy grail in cancer prevention and therapy. *Curr. Signal Transduc Ther*, 2006;1:25-52.

Sethi G, et al: Nuclear factor-kappaB activation: from bench to bedside. *Exp Biol Med* (Maywood), Jan 2008;233(1):21-31.

Van Waas C: Nuclear factor-kappaB in development, prevention, and therapy of cancer. *Clin Cancer Res*, Feb 15, 2007;13(4): 1076-82.

Spices Inhibit NFκB



The reasoning
for seasoning?
To talk to
your genes!

Spices Inhibit NFκB

anise	cumin	mint
basil	fennel	
	fenugreek	
caraway	flaxseed	oregano
cardamom	garlic	parsley
	ginger	rosemary
cinnamon	Holy basil	saffron
	lemongrass	tamarind
coriander	licorice	turmeric

SOURCE: Aggarwal B & Shishodia S. Suppression of the nuclear factor-kappaB activation pathway by spice derived phytochemicals: reasoning for seasoning. *Ann NY Acad Sci*, Dec 2004;1030:434-41.

Aromatase Inhibitors



SOURCE: Duke J.
Phytochemical and
ethnobotanical database.
www.ars-grin.gov/duke

Phytonutrients Reported to Inhibit Aromatase

Phytonutrient	Sources
Acacetin	ginkgo biloba
Albanol-A	mulberries
Biochanin-A	red clover, mung beans, baptisia
Chrysin	sour cherries, baikal skullcap
Galangin	galangal (Thai ginger-like root)
Kaempferol	cruciferous vegetables, saffron, thyme, mint, oregano, parsley, marjoram, basil
Luteolin	celery, celery seed, thyme, mint, oregano, parsley, basil, marjoram
Naringenin	grapefruit, caahewa, sour cherries, mung beans, tarragon, licorice, oregano, milk thistle
Secoisolariciresinol	flax seeds (not oil)
Ursolic acid	Greek sage, rosemary, lavender, thyme, marjoram, oregano, savory, basil

Aromatase inhibitors inhibit the production of estrogen, a promoter of several different cancers.

Breast Cancer Protective Factors



“ Up to 50% of breast cancer cases can be prevented.”

World Cancer Research Fund

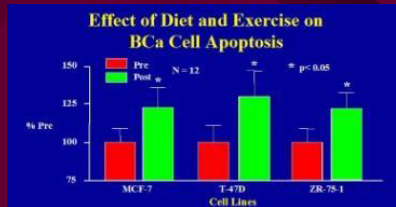
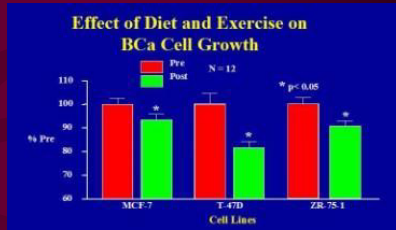
Diet, Exercise & Breast Cancer in 2 Weeks

Blood was tested on 3 BCa cell lines before and after low fat plant based diet and exercise.

Estradiol was reduced.
Insulin and **IGF-I** were reduced while **IGFBP-1** was increased.

Growth of the 3 BCa cell lines was reduced from 6.6% to 18.5%.

Apoptosis was increased from 20% to 30%. Nutr Cancer 2006;55(1):28-34.



Highest Cancer Preventive Veggies Allium & Cruciferous families

Extracts from **Brussel sprouts, cabbage, curly cabbage, garlic, green onions, leeks** and **spinach**.

Inhibited cancer cell line for **prostate, stomach, brain, breast, lung, pancreatic and kidney cancer** by more than 50%.

Leeks and garlic by 95 to 100% in all of these cancers.



Food Chemistry 112 (2009) 374-380

Breast Cancer Protective Factors



Vitamin D3 (1100 IU) daily for four years. Vitamin D supplements *Am J Clin Nutr.* 2007; 85(6):1586-91.



Decreased cancer occurrences for a number of cancers (including breast cancer) by over 50 %

Consume 30 mg of lycopene a day



Interferes with IGF-1 ability to stimulate the growth of cancer cells

Breast Cancer Protective Factors



Regular exercise



Reduced onset of breast cancer by 20 -30% (48 studies)

Block Center for Integrative Cancer Treatment

Cabbage family – kale, broccoli, Brussels sprouts, bokchoy and cauliflower >5/wk (or 200 to 400 mg of indole-3-carbinol/day)



Turns toxic estrogen into a non-toxic compound

Breast Cancer Protective Factors



Breast feeding

Lower exposure to hormones during amenorrhea, strong exfoliation of breast tissue during lactation, and massive apoptosis of epithelial tissue at the end of lactation, could decrease risk by elimination of cells with potential DNA damage.



3% decrease for every 5 months of total breast feeding

Meta-analysis of 55 case-control studies

Inhibits the growth of breast cancer cells up to 70% decrease risk in women with CPY 17 Gene

Ground flaxseed 2

T/day Benefits women with high risk CPY 17 gene



Maintain a healthy body weight



17% decrease risk of getting breast cancer

NEWSTART Factors that Decrease Breast Cancer Recurrence or Enhance Survival



Breast Cancer Survival Factors



Walking 3 to 5 hr./week

Obs study N= 2987 Stage I -III Breast Cancer



50% reduced risk of dying

Holmes et al. JAMA 2005; 293(20): 2479 -86

LOW FAT DIET 20% (33g)

Calories As fat Vs 30% (51g)
2,437 study participants



24% ↓ risk recurrence (all)

42% ↓ in Estrogen (-)

cancer *Chlebowski RT, Blackburn GL, et alis. Phase III Women's Intervention Nutrition Study (WINS). 2005 ASCO Annual Meeting, Abstract #10 WINS STUDY*

Carotenoids (Markers for fruit and vegetable consumption) Breast cancer during the early stage



33 to 43%

Cancer Epid Biomarkers Prev 2009; 4869; Rock et al. J Clin Oncol 2005; 23 (27) :6638



Breast Cancer Survival Factors



Premenopausal breast cancer survivors who consumed more soy



23% reduced risk of recurrence

Breast Cancer Res Treat. 2009 Nov;118(2):395-405. Epub 2009 Feb 17.

Soy Breast cancer, TAM users



62% (HR = .48) LACE Guha, *Breast Cancer Res Treat 2009; 118:345-405*

Mind-body intervention

Andersen, B. et al, Cancer, 2008 114 Intervention + Assessment, 113 Assessment only



Reduced breast cancer mortality by 56%, and breast cancer recurrence by 45%



Breast Cancer Survival Factors



WHEL tamoxifen study Women who ate the most cruciferous vegetables. Chemical that halt growth of breast cancer and increase excretion of estrogen



52% lower recurrence rates. No difference was found in the After Breast Cancer Pooling Project

HEAL study. African Americans and Hispanics with early-stage breast cancer. Those that ate less calories and added less sugar, alcohol, and saturated fat to the diet



60% lower risk of all - cause mortality and 88% lower risk of breast cancer related mortality



Breast Cancer Survival Factors



Women who ate the fewest dietary calories from fat → 516 postmenopausal breast cancer survivors (average at 80 months postdiagnosis)

2413 women who fasted over night for 13 + hrs. compared with women who fasting less than 13 hours. → JAMA

Oncol. 2016;2(8):1049-1055



3 fold ↑ survival on low fat diet. Higher fiber (48% higher survival rate), higher vegetables (57%) and higher fruit (63%).

36% decrease risk of recurrence and 21% decrease risk of death from cancer.

Oral Cancer and Black Raspberries

It one study subjects with pre-cancerous lesions (sores) in the mouths rubbed an **oral gel of black raspberries** into the lesions 4 time a day for 6 weeks.



Effects of a Topical Applied Bioadhesive Berry Gel on Lose of Heterozygosity Indices in Premalignant Oral Lesions. Brian S Shumway et al.

Oral Cancer and Black Raspberries

The response to this treatment ranged from **modest improvement to complete clinical regression**, meaning the growths disappeared.

In fact, **tumor suppressor genes were turned back on**, inhibiting cancer growth. Amazing!



Effects of a Topical Applied Bioadhesive Berry Gel on Lose of Heterozygosity Indices in Premalignant Oral Lesions. Brian S Shumway et al.

Esophageal Cancer and Strawberries

In another study, subjects with mild to moderate **pre-cancerous lesions** (sores) of the Esophagus consumed 60 gram/day of freeze-dried strawberry powder mixed in water for six months. This is about **1 pound of fresh strawberries**.



Randomized Phase II Trial of Lyophilized Strawberries in Patients with Dysplastic Precancerous Lesions of the Esophagus. Tong Chan et al. American Association of Cancer Research

Curcumin

Part used: Root
Actions: Anti-inflammatory, antibacterial, anti-mutagenic, chemosensitizer and radiosensitizer for tumors, chemoprotector and radioprotector for normal organs, suppresses multiple cancer cell signaling and survival pathways, anti-oxidant



Turmeric (Curcumin extract)



Curcumin

Cancer Research:

Colorectal Cancer – Preventing aberrant crypt foci, inducing apoptosis, inhibiting cancer cell growth

Cervix Cancer - Eradicating HPV+ cancer cells without affecting non-cancerous tissue, inhibiting the proliferation and inducing apoptosis, inhibiting tumor growth and angiogenesis



Curcumin

Breast Cancer – Inhibiting MCF-7 breast carcinoma cells, cell invasion, and sensitizing cancer cells to retinoic acid

Prostate Cancer – Targeting AR and histone modification, inhibiting the proliferation and growth

Lung Cancer - Inducing apoptosis and DNA damage; inhibiting proliferation, migration, and growth of cancer; decreasing cell growth and viability; inhibiting expression of DNA-repair

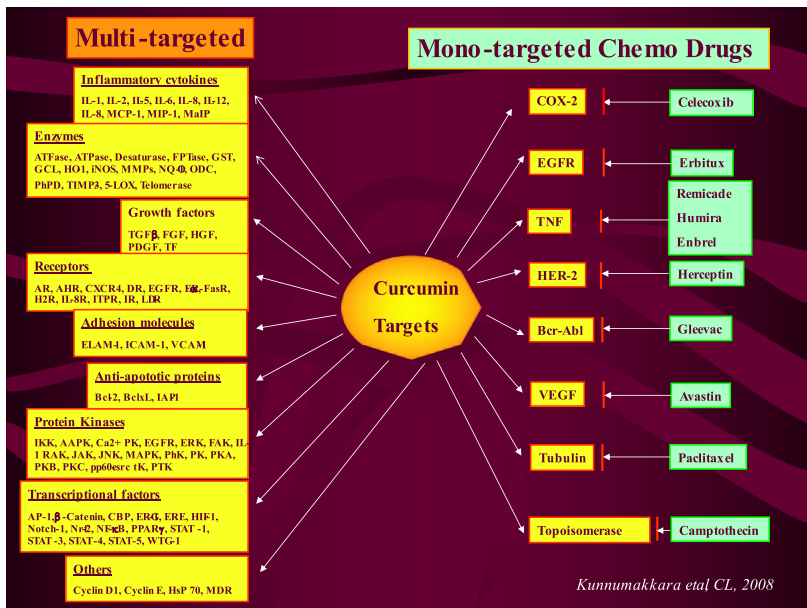


Curcumin

Liver Cancer - Inhibiting the growth of hepatoma cells, inhibiting and reversing diethyl nitrosamine induced hepatocarcinogenesis

Stomach Cancer - Inhibiting proliferation and invasion, promoting apoptosis, suppressing lymphatic vessel density, inhibiting cell growth

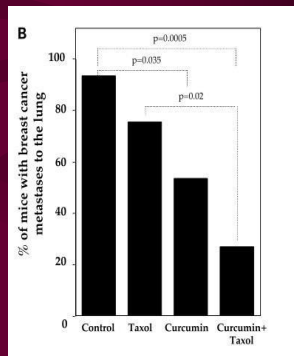




Breast Cancer Metastasis to the Lung in Mice

Curcumin is a chemosensitizer and radiosensitizer for tumors and chemo-protector and radio-protector for normal organs.

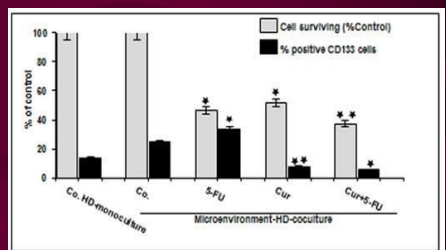
Goel A, and Aggarwal BB. Nutrition and Cancer 2010 Oct;62(7):919-30.



Curcumin Compared to Chemo Drug 5-FU

A culture was treated with either 5-FU, BCM-95 Curcumin, or a combination of 5-FU and BCM-95 Curcumin.

5-FU ↑ the growth of cancer stem cells.
Curcumin killed most of the stem cells.



Curcumin Compared to Chemo Drug 5-FU

Cancer stem cells can hide from chemo-therapy, survive treatment and cause cancer to reoccur, sometimes years later.

BCM-95 Curcumin started before starting 5-FU sensitized the cancer stem cells to chemotherapy treatment and reduced the amount of 5-FU needed to inhibit cancer cell growth.



Curcumin Compared to Chemo Drug 5-FU

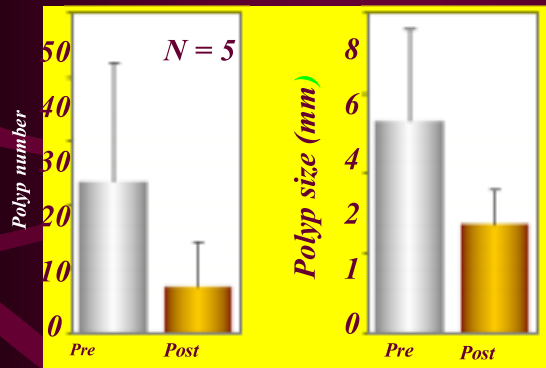
Dr. Goel the study researcher recommends **500 mg to 1 gram** of **BCM-95 Curcumin** and **250 to 500 mg of BosPure Boswelvia** daily for prevention and doubled for cancer patients (consult MD or specialist in this field).



Curcumin & Cancer Clinical Trials



Curcumin and Quercetin in Adenomas in Familial adenomatous polyposis (Colon growths)



After six months, the mean percent decrease in the number and size of polyps from baseline was 60.4% and 50.9%, respectively

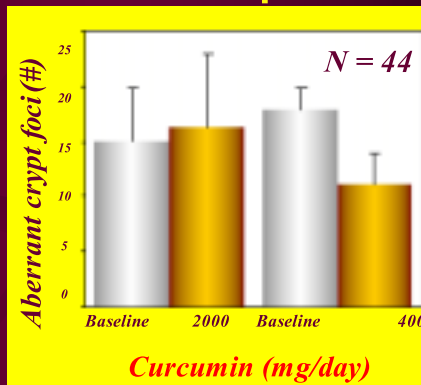
Curcumin (1440 mg/day)

Carroll et al., 2011, Cancer Prevention Research

Phase IIa Clinical Trial of Curcumin for the Prevention of Colorectal Neoplasia

Forty-one subjects completed the study (30 days).

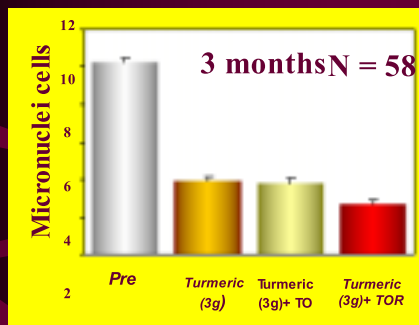
A significant 40% reduction in ACF number occurred with the 4-g dose, whereas ACF were not reduced in the 2-g group



Curcumin (mg/day)

Carroll et al., 2011, Cancer Prevention Research

Turmeric Oil and Turmeric and Oral Submucous Fibrosis



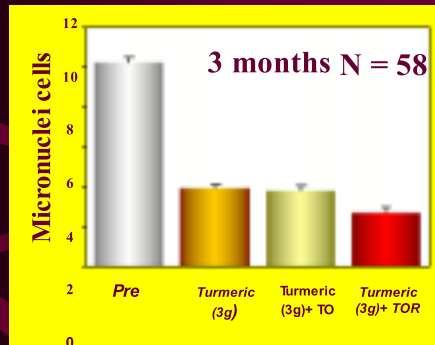
Hastak et al., 1997, CancerLett

Oral dose of turmeric oil (600 mg mixed with 3 g turmeric per day).

Turmeric oleoresin (600 mg + 3 g turmeric/day) and 3 g turmeric/day as a control for 3 months.

Micronuclei are commonly seen in cancerous.

Turmeric Oil and Turmeric and Oral Submucous Fibrosis



Hastaket et al., 1997, CancerLett

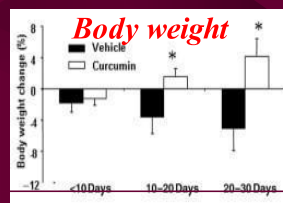
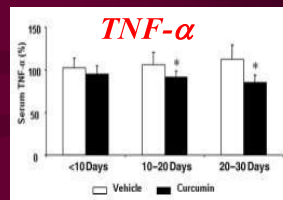
All supplements significantly decreased the number of micro-nucleated cells both in exfoliated oral mucosal cells and in circulating lymphocytes.

Curcumin & Colorectal Cancer Patients

126 patients took 360 mg curcumin 3 times day.

Body weight and TNF alpha (inflammatory marker) changes over time.

(He et al, 2011)

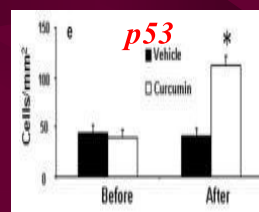
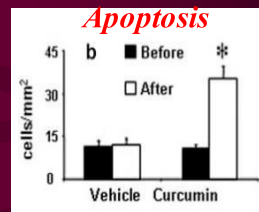


Curcumin & Colorectal Cancer Patients

Apoptosis – cell suicide

P53 – tumor suppressor genes

(He et al, 2011)



Phase II Trial of Curcumin in Patients with Advanced Pancreatic Cancer

Chemo-drugs **Gemcitabine** and **erlotinib** benefit **less than 10%** of patients. The **5 year survival rate** of pancreatic cancer is **only 3%** and the average survival is less than 6 months



Patients were treated with **8 grams of curcumin** (Sabinsa Corp.) daily by mouth **for two months** and evaluated radiographically using the RECIST criteria.



Clin Cancer Res 2008;14(14) July 15, 2008

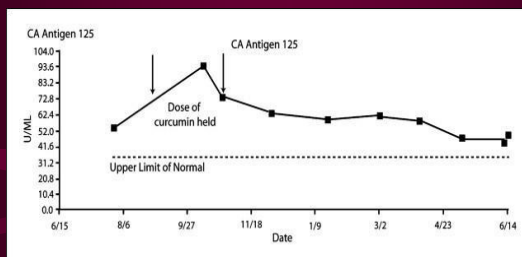
Phase II Trial of Curcumin in Patients with Advanced Pancreatic Cancer

RESULTS: Eleven patients were evaluable for response. **One had ongoing stable disease for >18 months** and **one patient had a brief partial remission** (73% reduction in tumor size for 1 month).



Clin Cancer Res 2008;14(14) July 15, 2008

Phase II Trial of Curcumin in Patients with Advanced Pancreatic Cancer



This patient had **ongoing stable disease for >18 months**. They experienced a brief increase in tumor markers when not taking the turmeric.

Clin Cancer Res 2008;14(14) July 15, 2008

Phase II Trial of Curcumin in Patients with Advanced Pancreatic Cancer



Patient had a brief partial remission (73% reduction in tumor size for 1 month).

Clin Cancer Res 2008;14(14) July 15, 2008

Radical Remissions: Surviving Cancer Against All Odds

Kelly A. Turner Ph.D., a cancer research, analyzed the clinical data on **more than a 1000 cases in print of cancer patients** and interviewed in person approximately **100 cases**.



They were sent home to **die from cancer but all of them became cancer free against all odds**.

What was even more shocking about most of these cancer survivors, was that **know one was seriously investigating** their stories or tracking down these survivors.

Radical Remissions: Surviving Cancer Against All Odds

While **their doctors** were happy for their amazing results they **didn't want them to share what they did with other patients**.



Dr. Turner determined to find out what these patients did and then share it with the public.

What did they do? **Dr. Turner uncovered 9 lifestyle changes** that most of them followed.

1 - They radically changed their diet

They:

- Greatly reduced or **eliminated** sugar, meat, refined foods and dairy products
- Greatly **increased** fruit and vegetable intake including freshly made juices
- Ate more **organic** food
- Drank **filtered** water



2 - They took control of their health

The **word patient** comes from the Latin word "pati" which means "to suffer" "to allow" or "to submit"



Health Professional are viewed more like **well respected consultants**

Taking control of your health **is essential to the healing process** –It's the opposite of being overly passive, not standing up for ones self and always trying to please others

Type C personality or **feeling helpless** decreases immunity and decrease survival rates

Take control of your health

Be willing to evaluate your current habits and **make** changes even if the **changes** are very **difficult** – diet, stressful job, activity level, toxic relationships etc



Stand your ground against criticism for adding non-conventional treatment options to your recovery plan. **Refusing to accept** any pronouncement that you have a defined period of time left to live - "You have 5 months left to live"

3 - They followed their intuition (Internal voice)

"And **thine ear shall hear a voice** behind you saying, **this is the way, walk ye in it**, when you turn to the right hand and when you turn to the left"

If prayer is you talking to God, then intuition is God talking to you.
-Dr. Wayne Dyer

Pray with complete confidence in Gods promises for your situation, search the **bible for promises** that can never fail, speak with **persons who have earned your trust** and **never attempt to control or dictate your actions**

4 - They used herbs and supplements

A number of **specific herbs and supplements** have been demonstrated to effectively **counteract the biological factors that drive the growth and spread of cancer**



5 - They released suppressed emotions

Stress, fear, anger, regrets, losses and trauma from the past that we hold on to **suppress our immune system**, **keep us in a fight or flight mode** and **prevent us from experiencing the rest and repair mode**.



"To forgive is to set a prisoner free and discover that the prisoner was you." Lewis Smedes.

Forgiveness is making a conscious choice **to release someone** who has wounded us **from the sentence of our judgement**, even **while the behavior remains condemned**.

8 - They deepened spiritual connections

Engage in **positive small group** bible studies, weekly church **services**, mid-week prayer meeting services and personal and **family bible study** which include the **promises of Gods word** regarding health and healing and how God wants us to respond to the changes of everyday life.



9 - They had a strong reason for living

"But ye *are* a **chosen** generation, a **royal** priesthood, an **holy** nation, a **peculiar** people; that ye should **shew forth the praises of him** who hath called **you out of darkness into his marvelous light..**" I Peter 2:9



Blocking the Biology the Fuels Cancer - Session 2 Quiz

1. Cancer is not a highly preventable disease because genetics plays a major role in most cancers. T F
2. 50% or more of cancer patients who get treated with chemotherapy will be alive five years later. T F
3. Four of the eight biological factors that fuel the growth of cancer according to the course materials include: elevated blood sugar levels, excessive blood clotting, chronic inflammation and low levels of the hormone estrogen. T F

4. Cancer cells cannot grow beyond the size of the tip of a pen without a blood supply. T F
5. One study revealed that after 200 days, 80% of the cancer patients who had died had high levels of systemic inflammation; while only 40% of cancer patients who had low levels of systemic inflammation died over the same time period. T F
6. High CRP levels are an indicator of increased long-term survival in patients with a wide range of different types of cancers. T F
7. One single puff of tobacco creates about 100 billion free radicals. T F
8. Plants on average are 64 times more potent than animal products in anti-cancer antioxidants. T F
9. Fresh garlic, fresh gingerroot, turmeric, parsley, basil and rosemary contain high levels of antioxidants or "anti-aging" plant chemicals. T F
10. Breast, ovarian, uterine, prostate and stomach cancers are all fueled by excess estrogen. T F
11. In one study, the blood from persons who ate only plants inhibited cancer cell growth by 70%, while the blood of meat eaters inhibited cancer growth by only 9%. T F
12. Eating less than 1 egg a day doubled (2X) the risk of prostate cancer progression in one study. T F
13. Flaxseed, garlic, ginger, tumeric and rosemary inhibit the master cancer switch, NFKB. T F
14. Extracts from leeks and garlic inhibited the growth of cancer cell line for prostate, stomach, brain, breast, lung, pancreatic and kidney cancers from 95 to 100%. T F
15. Walking 3 to 5 hours a week may decrease a women's risk of dying from breast cancer by up to 50%. T F
16. In the HEAL study, African Americans and Hispanic women with early-stage breast cancer and who ate less calories and added less sugar, alcohol, and saturated fat to the diet, had an 88% lower risk of dying of breast cancer. T F
17. In one study, esophageal cancer progression reversed in 80% of patients who ate the equivalent of one pound of fresh strawberries per day for six months. T F
18. In one study the chemotherapy drug 5-FU increased the growth of cancer stem cells while curcumin in the same study killed most of the cancer stem cells. T F
19. After a six-month study treated the subjects with curcumin and quercetin for pre-cancerous colon polyps, the mean percent decrease in their number and size was 60.4% and 50.9%, respectively. T F
20. Against all odds, more than a 1000 documented cancer cases recovered after adapting most of 9 lifestyle-related changes when sent home to die by their medical doctors. T F