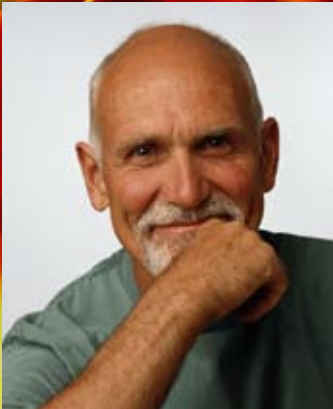




Caregiver's Guide



Cancer Risk Management & Support Program



Supportive Care™

Nutritional Support for Oncology Patients

Fourteen Capsules Contain:

Indole-3-Carbinol complex.....	600 mg.
Green Tea extract (leaf) (Camellia sinensis) (80% total Polyphenols)	1,500 mg.
Quercetin	1,000 mg.
Quercetin Chalcone.....	500 mg.
L-Carnitine	1,000 mg.
Calcium Ascorbate	2,200 mg.

SFSC / 240 Capsules

Dosage: 7 capsules qd to bid



Supportive Care II™

Nutritional Support for Oncology Patients

Ten Capsules Contain:

Vitamin A palmitate	10,000 IU.
Mixed carotenes	40,000 IU.
Thiamine	40 mg.
Riboflavin (Riboflavin 5' Phosphate)	10 mg.
Niacinamide	100 mg.
Pantothenic acid	400 mg.
Folate (as Folinic Acid from Calcium Folate)	800 mcg.
Vitamin B6 (Pyridoxal 5' Phosphate).....	50 mg.
Vitamin B12 (Methylcobalamin).....	1000 mcg.
Biotin	1000 mcg.
Vitamin D	2000 IU.
Vitamin E (d-alpha tocopheryl)	1200 IU.
Calcium (citrate-malate)	300 mg.
Magnesium (citrate-malate)	500 mg.
Zinc (Picolinate)	15 mg.
Selenium (from yeast)	200 mcg.
Chromium (Ultrachrome)	200 mcg.
Molybdenum (Picolinate).....	100 mcg.

SFSD / 300 Capsules

Dosage: 5 capsules bid

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure or prevent any disease.

The New Generation of Cancer Support Products

In 2001, Thorne Research pioneered the manufacturing of products made especially for physicians assisting patients dealing with cancer. Based on published research, the product formulations were designed for three contingencies – protection for patients at higher risk of cancer, support against recurrence after surgical removal of a malignancy, and support for patients currently undergoing conventional treatment for cancer.

As more research accumulated on the biochemistry of cancer cells, it became desirable to update our formulations, allowing us to streamline the oncology support product line and reduce potential confusion concerning use of the previous products – Colon-Guard, Breast-Guard, Prostate-Guard, and Supportive Care.

The new formulations have been simplified and now consist of two central products used together. The dosage protocols for these products vary according to a patient's unique needs – prevention of occurrence, prevention of recurrence, or direct support against cancer. Other supplements have been added to the protocols for specific types of cancer (see below for details).

Supportive Care is a combination of botanical and nutrient agents provided in amounts that scientific studies have found helpful in prevention of cancer, prevention of recurrence, and in slowing growth of existing cancer.

Supportive Care II is a multiple vitamin-mineral combination formulated specifically for the cancer patient, and contains nutrients in doses supported by the scientific literature. This supplement avoids the use of nutrients the scientific literature has suggested might increase the growth of malignancies. Supportive Care II eliminates the need for a separate multiple-vitamin supplement.

Depending on the type of malignancy and conventional treatment being used, the supplements listed to the right may also be used, and will be discussed further.



Fractionated Pectin Powder
Lycopene
Vitamin K2 Liquid
Super EPA
Co-Q-100 or Lipoquinone-100
(coenzyme Q-10)
Melaton-5 (melatonin)
L-Glutamine Powder
Cysteplus (N-acetylcysteine)
Curcumin



Cancer Specific Prevention and Treatment Protocols

The outcomes of the “War on Cancer,” first declared over three decades ago, are in many ways disappointing. Death rates continue to be high and conventional treatments continue to be expensive and often toxic. However, much new understanding of cancer physiology has occurred over this period as well. Thousands of research articles have appeared in the mainstream cancer literature describing the use of nutrients and botanicals in the prevention and treatment of cancer. By utilizing this more current information, Thorne Research has been able to revise and improve its line of nutritional supplements for the oncology patient.

The products described in this booklet have been designed by Drs. Davis Lamson and Matthew Brignall, naturopathic physicians specializing in the supportive treatment of cancer patients. These products are a composite of Dr. Lamson’s “Cancer-Clear” program, a program that has been successful in the treatment of advanced cancers or reducing recurrence risk after successful solid tumor resection.

The main goals of these cancer support products are:

- To help replete nutritional deficiencies commonly seen in cancer patients.
- To provide nutritional and botanical agents that support normal cell division pathways.
- To provide multiple antioxidants for cell protection and reduction of adverse events associated with conventional cancer therapeutics.

Based on current research, Thorne Research has compiled comprehensive strategies for individuals at risk of, or being treated for, three major cancer types: colon, breast, and prostate. These strategies include the use of Supportive Care and Supportive Care II, as well as dietary changes and specific nutrients and botanicals for at-risk individuals and for the adjunctive treatment of advanced malignancies.

Colon Cancer Prevention Program

The colon cancer prevention program has been developed for individuals with an increased risk of colon cancer. Some risk factors for colon cancer are well defined and include individual or family history of colonic adenomas (polyps), a history of ulcerative colitis or Crohn's disease, a high meat/low fiber diet, family history of colon cancer, and past history of surgical removal of colonic malignancy. Colon cancer prevention strategies may also be used for prevention of other common tumor types (e.g., lung, stomach, pancreas) where prevention strategies are less well known.

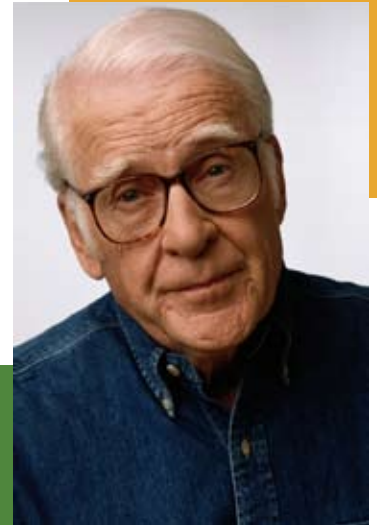
A lifestyle program to reduce colon cancer risk should include dietary modifications that reduce consumption of red meat, saturated fat, refined grains, and refined sugars. The diet should include high amounts of fiber, fresh fruits and vegetables, and fish, and moderate amounts of low-fat dairy. Proper hydration and bowel function should be ensured. Exercise, moderate alcohol intake, and smoking cessation also have protective effects. People over the age of 50, or younger if risk factors exist, should have regular colonoscopy and yearly stool occult blood testing.

For optimal results, the following supplements are advised:

1. **Supportive Care:** 7 capsules daily (may be taken in divided doses)
2. **Supportive Care II:** 5 capsules twice daily
3. **Medibulk:** 1/2 scoop in 8 oz. water or dilute fruit juice in the evening to start, working up to 1 scoop 2-3 times daily. Recent studies have shown the importance of an adequate amount of fiber in colon cancer prevention. Specifically, fiber intake above 20-25 grams daily has been demonstrated to be protective. If this amount cannot be obtained from the diet, a fiber supplement such as Medibulk should be used. Each scoop provides 8 grams of dietary fiber.
4. **Folic Acid Liquid:** 1 teaspoon (5 mg) twice daily. Research suggests high doses of folic acid (5-10 mg) provide protection against colon cancer.
5. **Super-EPA:** 1-2 capsules three times daily. Research has shown omega-3 fatty acids from fish slow the overgrowth of colonic epithelium in patients with a history of colon polyps.
6. **Curcumin:** 1 capsule twice daily.* In test tube studies, curcumin shows beneficial effects on a number of different cell growth pathways. It has also been shown to lead to regression of some precancerous lesions in preliminary human studies.
7. **Cysteplus:** 1 capsule twice daily.** N-acetylcysteine can protect against polyp recurrence by reducing colonic epithelium proliferation.
8. **Lycopene:** 1 capsule (10 mg) twice daily. High dietary intakes of lycopene have been associated with decreased risk for colon cancer, especially noted in smokers.

*WARNING: As curcumin has been shown to reduce the therapeutic efficacy of cyclophosphamide (Cytoxan) in animal studies, the concurrent use of these two agents should be avoided.

**WARNING: As N-acetylcysteine may reduce the effectiveness of the chemotherapy drugs doxorubicin and cisplatin, the concurrent use of Cysteplus with either of these medications should be avoided.





Breast Cancer Prevention Program

The breast cancer prevention program has been developed for individuals with an increased risk of breast cancer. While risk factors for breast cancer are still being determined, they currently include history of previous breast cancer, family history of breast cancer, history of “hyperplasia with atypia,” early menarche or late menopause, high exposure to environmental estrogens (risk highest for lobular breast cancer), high meat or low fiber diet, low 2/16-hydroxyestrone ratio on lab test, history of high alcohol intake, obesity, and possibly smoking at a young age. Although the most efficient screening for breast cancer is still controversial, it seems prudent to include regular mammography and self and physician breast exams.

Breast cancer prevention strategies may also serve as a basis for prevention of cervical cancers. While risk factors for cervical cancers are less defined than breast cancer, they do include human papilloma virus (HPV) infection, abnormal findings on PAP smears, smoking, alcohol consumption, and multiple sex partners. Women should have regular PAP smears to screen for cervical cancer and HPV screening as determined with their physician.

A lifestyle modification program to reduce breast cancer risk should include dietary changes that reduce consumption of red meat, saturated fat, dairy, refined grains, and refined sugars. Such a diet should also include high amounts of fiber (from food or a supplement), fresh fruits and vegetables, and cold-water fish. Exercise, moderation of alcohol intake, weight loss, and smoking cessation are likely to have protective effects. A body mass index between 20 and 25 should be aggressively targeted.

For optimal results, the following supplements are advised:

1. **Supportive Care:** 7 capsules daily (may be taken in divided doses)
2. **Supportive Care II:** 5 capsules twice daily
3. **Folic Acid Liquid:** 1 teaspoon (5 mg) twice daily. Research suggests high doses of folic acid (5-10 mg) provide protection against breast cancer, particularly in women who consume alcohol.
4. **Super EPA:** 1-2 capsules three times daily. Low tissue concentrations of omega-3 fatty acids (those found in fish oils) have been identified in the fatty tissue of breast cancer patients.
5. **Curcumin:** 1 capsule twice daily.* In test tube studies, curcumin shows beneficial effects on a number of different cell growth pathways. It has also been shown to lead to regression of some precancerous lesions in preliminary human studies.
6. **Lycopene:** 1 capsule (10 mg) twice daily. Lycopene at high levels in fat tissue has been associated with a decreased risk of breast cancer.
7. As some research shows environmental toxins are associated with breast cancer occurrence, testing for exposures should be considered. For more information on this subject, refer to the series of articles by Dr. Walter Crinnion in *Alternative Medicine Review*, and to Thorne’s Detoxification Program.

*WARNING: As curcumin has been shown to reduce the therapeutic efficacy of cyclophosphamide (Cytoxan) in animal studies, the concurrent use of these two agents should be avoided.

Prostate Cancer Prevention Program

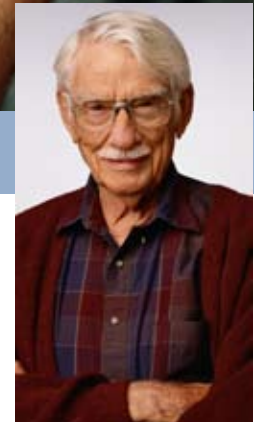
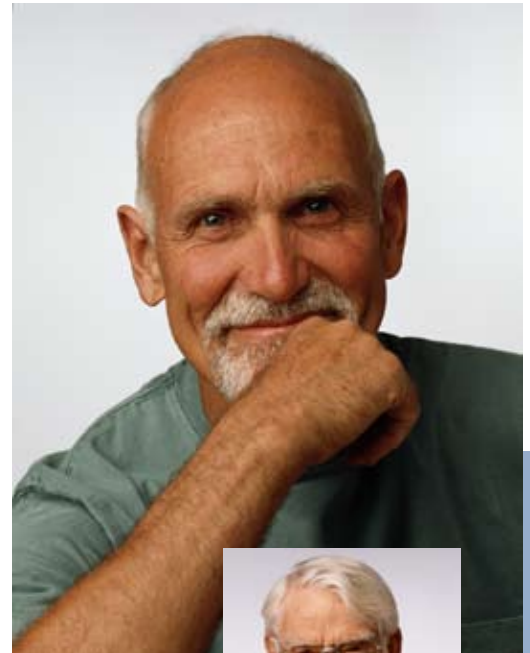
The prostate cancer prevention program has been developed for men with increased risk of prostate cancer. Risk factors include personal or family history of prostate cancer, history of rising PSA levels, age over 50, African-American ethnicity, a high saturated fat or red meat diet, high dairy intake, a history of high alcohol intake and/or smoking, and possibly obesity. The most efficient screening for prostate cancer includes a yearly digital rectal exam and PSA level.

A lifestyle modification program to reduce prostate cancer risk should include dietary changes that reduce or eliminate red meat, saturated fat, dairy, refined grains, and refined sugar consumption. Such a diet should also include fiber, fresh fruits and vegetables, and fish. Since the body's response to high blood sugar has been linked to prostate cancer promotion, proper blood sugar levels should be ensured. Exercise, only moderate alcohol intake, weight loss, and smoking cessation should also be suggested.

For optimal results, the following supplements are advised:

1. **Supportive Care:** 7 capsules daily (may be taken in divided doses)
2. **Supportive Care II:** 5 capsules twice daily
3. **Lycopene:** 1 capsule (10 mg) three times daily. Lycopene supplementation has led to evidence of tumor regression in men with existing prostate cancer.
4. **Super EPA:** 1-2 capsules three times daily. Research suggests omega-3 fatty acids are supportive of normal cell growth and protective against cancerous growth.
5. **Curcumin:** 1 capsule twice daily.* In test tube studies, curcumin shows beneficial effects on a number of different cell growth pathways. It has also been shown to lead to regression of some precancerous lesions in preliminary human studies.
6. **Fractionated Pectin Powder:** 1 scoop (6.5 grams) three times daily, away from meals. In men with elevated PSA under diagnostic workup, inclusion of modified citrus pectin is advisable.

*WARNING: As curcumin has been shown to reduce the therapeutic efficacy of cyclophosphamide (Cytosan) in animal studies, the concurrent use of these two agents should be avoided.



Supportive Cancer Treatment Program

With conventional cancer care, the patient typically experiences trauma and toxicity in the form of surgery, radiation, and/or chemotherapy. It is imperative these patients receive the best supplemental nutrients to offset the negative effects of these treatments and to optimize their efficacy. This oncology support protocol has been designed to work in combination with, not in place of, conventional cancer management strategies. While strides are being made in the management of many cancers, treatments are still widely considered to be imperfect in terms of efficacy and toxicity. Fortunately, research shows that targeted nutrient and botanical interventions can reduce the likelihood of toxicity of conventional treatments and potentially increase their efficacy.

Although the use of antioxidant compounds concurrent with radiation and chemotherapy remains controversial, the preponderance of evidence indicates the combination of antioxidants with radiation or chemotherapy may be extremely beneficial. The few published exceptions to this conclusion, e.g., the potential for reduction of the effect of cyclophosphamide by curcumin, have been avoided in the formulation of these oncology support products.

In addition to addressing the efficacy and toxicity of conventional treatments, supportive oncology care should also focus on weight maintenance, infection control, and improving the patient's quality of life. Thorne's program has been designed with these goals in mind.

A number of ancillary supportive measures have been identified as beneficial. The focus of dietary intervention should be reduction of saturated fat and linoleic acid (vegetable oils) intake (without reduction in caloric intake), identification and removal of food allergens, reduction of sugars and refined grains, increase in fish and whole fruits and vegetables, and elimination of dietary factors known to enhance specific tumors. In the case of significant weight loss, elimination of dietary staples should be avoided until weight loss is arrested. Proper hydration should be ensured, especially during chemotherapy. Exercise programs should be individually tailored to increase quality of life without leading to excessive fatigue. Psychosocial interventions should be used as appropriate.



For optimal results, the following supplements are advised:

1. **Supportive Care:** 7 capsules twice daily
2. **Supportive Care II:** 5 capsules twice daily*
3. **Super EPA:** 2-3 capsules three times daily. Research suggests omega-3 fatty acids are supportive of normal body weight and immune function in cancer patients. The literature also suggests supplementation with marine oils can support proper immune function in advanced cancer patients.
4. **Melaton-5:** 4 capsules (20 mg) nightly at bedtime. The research literature demonstrates that melatonin can improve survival of cancer patients, regardless of solid tumor type. Melatonin has been shown to be effective with standard therapeutics, with immunotherapies, and as a sole intervention. Melatonin also helps to support normal weight and to protect blood cell counts.
5. **Curcumin:** 1-2 caps twice daily.** In test tube studies, curcumin shows beneficial effects on a number of different cell growth pathways. It has also been shown to lead to regression of some precancerous lesions in preliminary human studies.
6. **CoQ100 or Lipoquinone-100:** 1-4 capsules daily. High doses of CoQ10, as part of a comprehensive integrative medicine treatment protocol, have been associated with improved survival and tumor response in patients with breast and prostate cancers.
7. **Fractionated Pectin Powder:** 1 scoop (6.5 grams) three times daily, away from meals. Modified citrus pectin (fractionated pectin) has been shown in animal studies to reduce metastases of certain tumor types, and should especially be emphasized at the time of surgical excision or biopsy. Fractionated pectin has also been demonstrated to slow the rate of PSA rise in patients with metastatic prostate cancer in two clinical studies.
8. **L-Glutamine Powder:** 2 scoops (7.6 grams) of L-glutamine powder three times daily between meals. The most abundant amino acid in the blood and the primary fuel for cells of the small intestine, L-glutamine protects against neuropathic and gastrointestinal side effects of conventional therapies. L-glutamine should be particularly emphasized during radiation and treatment with nerve-damaging chemotherapies (e.g., Taxol).
9. **Vitamin K2:** 15 drops three times daily.*** Vitamin K2 has been found to have an apoptotic (cell destroying) effect in several human cancer cell lines. For further information about vitamin K derivatives and malignancy, see the article cited in the "References." Vitamin K2 has also been reported to be beneficial in the treatment of osteoporosis resulting from aggressive cancer treatment.
10. **Lycopene:** 1 cap (10 mg) three times daily. Lycopene supplementation has led to tumor shrinkage in men with prostate cancer.



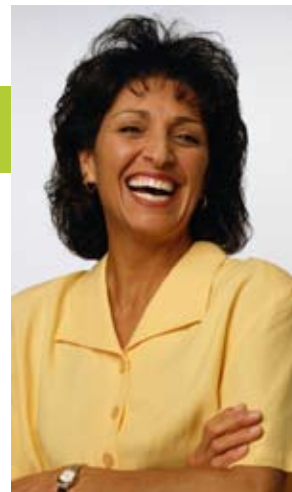
*WARNING: Because Thorne's Supportive Care II product contains folic acid, it should not be used concurrently with methotrexate cancer therapy.

**WARNING: As curcumin has been shown to reduce the therapeutic efficacy of cyclophosphamide (Cytoxan) in animal studies, the concurrent use of these two agents should be avoided.

***WARNING: As vitamin K interferes with the effect of anticoagulant drugs (like coumadin), the concurrent use of these agents should be avoided.

Key Constituents in Supportive Care Products

- Vitamin A is important for normal cell growth and differentiation, as well as normal immune function. Retinoids have been studied in many different animal and human models as cancer preventive and treatment agents.
- Mixed carotenes consist of several molecules with specific actions that are not mimicked by synthetic beta-carotene. In addition to antioxidant activity, carotenes increase the expression of the gene that controls gap junction cellular communication.
- Lycopene has been shown to reduce DNA damage in human lymphocytes by 50 percent. Lycopene supplementation was found to be beneficial in a short-term human prostate cancer study. High-lycopene diets have also been associated with reduced risk of breast cancer. Lycopene suppresses the growth of breast cancer cells *in vitro*.
- Vitamin C is a potent, water-soluble antioxidant. It enhances collagen formation and inhibits hyaluronidase, helping to “wall off” the tumor and prevent metastasis.
- Folic acid is necessary for normal DNA replication and cell division. Supportive Care II utilizes folic acid, an active form of folic acid. **WARNING:** Because Thorne’s Supportive Care II product contains folic acid, it should not be used concurrently with methotrexate cancer therapy.
- Vitamin E is a fat-soluble antioxidant. It induces cell cycle arrest and increases T helper/suppressor ratios. Vitamin E reduced incidence of prostate cancer in a human study.
- Vitamin D encourages normal cell division and inhibits abnormal proliferation and metastasis in neoplastic cells. Vitamin D supplementation slows the progression of prostate cancer and increases the therapeutic effect of certain chemotherapy agents.
- Selenium (from yeast) is necessary for the function of glutathione reductase, an enzyme necessary for antioxidant protection. Yeast-based selenium supplementation reduced incidence and mortality of several types of neoplastic disease in a prospective trial.
- Calcium reduced epithelial proliferation rates in patients with a history of colon polyps in two human studies. It is also important for maintenance of bone mineral density in women who have been treated with chemotherapy for breast cancer.
- Magnesium is depleted by many medications used in cancer treatment. Loss of magnesium has been theorized as one of the mechanisms of cancer fatigue.
- Green tea polyphenols are potent antioxidants that increase glucuronidation, a liver detoxification pathway for estrogens and other hormones. Green tea polyphenols inhibit 5-alpha-reductase, an enzyme in the prostate gland that synthesizes dihydrotestosterone (a form of testosterone that has been implicated in prostate cancer).
- Indole-3-carbinol (I-3-C) up-regulates phase I and II detoxification enzymes, and increases the ratio of 2-hydroxy/16-hydroxy estrogens. The 2-hydroxy estrogens are more rapidly eliminated from the body. I-3-C has also been shown *in vitro* to block a key mechanism of chemotherapy resistance.
- Quercetin has a number of potential antiproliferative mechanisms, including cell cycle arrest, tyrosine kinase inhibition, and down-regulation of mutant p53 and p21. It is also an antioxidant. Quercetin chalcone, a water-soluble form of quercetin, exhibited statistically significant tumor growth inhibition in an animal study.
- L-carnitine has been found to reduce cancer-related fatigue in a human study. Animal studies suggest L-carnitine helps protect against heart damage from adriamycin and related agents.
- Iron, copper, boron, and manganese have been left out of Supportive Care II because of their potential angiogenic (copper; iron), steroidogenic (boron), and poor liver clearance (manganese) effects.



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Murray M, Birdsall T, Pizzorno JE, Reilly P. *How to Prevent and Treat Cancer With Natural Medicine*. New York: Riverhead. 2002.



Resources

Beating Cancer with Nutrition

by: Patrick Quillin, PhD, RD, CNS
Nutrition Times Press, Inc. ISBN 0-9638372-8-1

Dr. Gaynor's Cancer Prevention Program

by: Mitchell L. Gaynor, MD, and Jerry Hickey, RPh
Kensington Books, Inc. ISBN 1-57566-526-3

What to Eat if You Have Cancer: A Guide to Adding Nutritional Therapy to Your Treatment Plan

by: Maureen Keane, MS, and Daniella Chace, MS
Contemporary Books, Inc. ISBN 0-8092-3261-8

What to Eat if You Have Cancer Cookbook: Over 100 Easy-to-Prepare Recipes

by: Maureen Keane, MS, and Daniella Chace, MS
Contemporary Books, Inc. ISBN 0-8092-3129-8

The Cancer Recovery Eating Plan: The Right Foods to Help Fuel Your Recovery

by Daniel W. Nixon, Jane A. Zanca, and Vincent T. DeVita.
Times Books.

Because of ongoing research, development, clinical experience, and the rapid accumulation of information relating to the subject matter in this Caregiver's Guide, the reader is urged to carefully review and evaluate the information provided herein. The information contained herein cannot be warranted as being accurate and complete in every respect because new research and clinical experience continue to expand and broaden the knowledge pertaining to the subject matter of this Guide. Therefore responsibility is disclaimed for any adverse effect resulting from the use or application of any of the information contained in this Guide. The use or application of the information contained in this Guide is at the sole discretion and risk of the intended health-care professionals who read it.

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through licensed health-care practitioners.

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