

Herbal Management of Breast Cancer

Definition

According to Mosby's Medical, Nursing and Allied Health Dictionary, breast cancer is defined as "a malignant neoplastic disease of breast tissue." (Anderson et al 1994) The National Health and Medical Research Council (NHMRC) National Breast Cancer Centre further distinguishes early breast cancer from metastatic breast cancer. Early breast cancer is defined as cancer that is contained in the breast and may or may not have spread to the lymph nodes in the breast or armpit. Metastatic breast cancer is the term used to describe cancer that has spread from the original site in the breast to other organs or tissues in the body. Another name for metastatic cancer is secondary cancer or advanced cancer. (NBCC 2001)

Breast cancer is classified by the kind of tissue in which it starts and by the extent of its spread. The breast has several lobes, which are divided into lobules and end in the milk glands. Tiny ducts run from the many tiny glands, connect together, and end in the nipple.

- ☞ 80% of breast cancers occur in these ducts and the condition is called infiltrating ductal cancer.
- ☞ Cancer developing in the lobules is termed infiltrating lobular cancer. About 10-15% of breast cancers are of this type.
- ☞ If the cancer cells are contained within the ducts of the breast, it is known as ductal carcinoma in situ (DCIS).
- ☞ In the same way, if the cancer cells are contained within the lobules of the breast, it is known as lobular carcinoma in situ.
- ☞ If the cancer cells spread outside the ducts or lobules of the breast into the surrounding tissue, it is called invasive breast cancer. Invasive breast cancer may be localised, where it is confined to the breast, or it may be metastatic, where it has spread to other parts of the body.
- ☞ The most common place for breast cancer to metastasise is into the lymph nodes under the arm or above the collarbone on the same side as the cancer. Other common sites of breast cancer metastasis are the brain, the bones, and the liver. (Berkow et al 1997; NBCC 2001)

Signs and Symptoms

Early breast cancer has no symptoms and is not painful. Most breast cancers are discovered before symptoms are present, either by finding an abnormality on mammography or feeling a breast lump. In more than 80 percent of breast cancer cases, the woman discovers the lump herself.

Signs and Symptoms that may indicate Breast Cancer:

- ☞ A lump or thickening that feels distinctly different from other breast tissue or that does not go away
- ☞ Swelling that does not go away

- ☞ Changes in the skin of the breast, which includes redness, changes in texture, and puckering or dimpling of the skin
- ☞ Scaly skin around the nipple
- ☞ Changes in the shape of the breast or nipple
- ☞ Nipple inversion and other changes in the nipple
- ☞ Discharge from the nipple; discharge is most concerning if it is from only one breast or if it is bloody (Beirman et al 2003; Berkow et al 1997; Porth 1994)

N.B. These symptoms do not necessarily mean that a woman has breast cancer. However if a woman presents with them, she should seek medical advice.

Causative Factors

The exact cause for breast cancer is unknown. However, studies have identified some risk factors that may increase a woman's chance of developing breast cancer. Nonetheless, having one or more risk factors does not mean that a woman will definitely develop breast cancer. In fact, some women with one or more risk factors may never develop breast cancer. On the contrary, about 50% of women who develop breast cancer have no obvious risk factors other than age and gender.

Gender: Sex is the biggest risk because breast cancer occurs mostly in women. Less than 1 percent of all diagnosed cases occur in men.

Age: Increasing age is another critical risk factor. Although breast cancer may occur at any age, about 60 percent of breast cancers occur in women over 60 years old. (Berkow et al 1997; NBCC 2001)

Early onset of menstruation and late menopause: Onset of the menstrual cycle before age 12 and menopause after 55 causes increased risk of developing breast cancer. Conversely, being older at the first menstrual period and early menopause tend to protect from breast cancer. (Beirman et al 2003; Berkow et al 1997)

Late or no pregnancies: Having a child after the age of 30 years or not having children may increase the risk for developing breast cancer. (Beirman et al 2003; Berkow et al 1997)

Not breastfeeding: The more months that a woman spent breastfeeding, the lower her risk of developing breast cancer. The December 1997 issue of the American Journal of Epidemiology provides a study involving 1,313 women which showed that premenopausal women had a 50 percent lower risk of breast cancer if they had breast-fed for at least 20 months, compared to women who had at least one baby and had not breast-fed. (Freudenheim et al 1997)

Family history of breast cancer: Patients with a family history of breast cancer in a first degree relative – mother, sister, daughter – are at increased risk by two to three times for developing the disease. Breast cancer in more distant relatives increases the risk only slightly. The risk is highest if the affected relative developed breast cancer at a young age. Women with a significantly positive family history of premenopausal breast cancer should

begin screening mammography a decade sooner than their family member was diagnosed. However 85% of women with breast cancer have a negative family history. (NBCC 2001; NBCF)

Breast cancer gene: Recently two separate genes for breast cancer have been identified. *BRCA-1* is an abnormal gene which, when inherited increases the risk of breast cancer to a lifetime risk of almost 85%. Women with this gene also have an increased risk of developing ovarian cancer. Women who have the *BRCA1* gene tend to develop breast cancer at an early age.

BRCA-2, another abnormal gene, increases the risk of developing breast cancer but not ovarian cancer. (Beirman et al 2003)

History of previous breast cancer: Patients with a prior history of breast cancer are at increased risk for developing breast cancer in the other breast. After removing the diseased breast, this risk is about 1% per year or a lifetime risk of 10%. (Berkow et al 1997)

Fibrocystic breast changes and those diagnosed on biopsy as proliferative or hyperplastic, may also predispose women to the later development of breast cancer. Carcinoma of the endometrium or ovary are also risk factors. (Beirman et al 2003)

Prolonged use of hormone replacement therapy: Most studies indicate that taking oestrogen after menopause for 10 to 20 years may lead to a slight increase in risk for developing breast cancer, while prolonged use of oestrogen and progestin together increases the risk to 24 percent. (WHI) Once a woman ceases to use hormone replacement therapy (HRT) for more than five years, the risk of developing breast cancer decreases to the same rate as in women who have not used HRT. (Trickey 2003)

Prolonged use of oral contraceptives: While oral contraceptives have not been clearly shown to increase the lifetime risk of breast cancer, prolonged use may be a risk factor. However, this appears to only increase the risk during the period of taking the pill; the risk reduces after the woman stops taking it. (NBCC 2001; NBCF)

Radiation exposure: Patients who have had therapeutic irradiation to the chest are at increased risk for developing breast cancer approximately 10 years later. For example, women who received radiation therapy to the upper body for treatment of Hodgkin disease before 15 years of age have a significantly higher rate of breast cancer than the general population. (Beirman et al 2003)

Obesity: Breast cancer is found to be more common in women who are obese. (Beirman et al 2003)

Lifestyle factors: Breast cancer is associated with diets high in saturated fat, smoking and excessive alcohol intake. (Beirman et al 2003; NBCF)

Orthodox Treatments

In breast cancer, the preferences of a patient and the doctor play a major role in decisions regarding treatment. Treatment depends on a large number of factors, including the type of breast cancer, the hormone receptor status of the tumor, the stage of the cancer, the size of the breast, and the person's general health, age, and menstrual status. There are two broad categories of orthodox treatment: local treatment or systemic treatment.

Local/Regional Treatment

"Local" treatment refers to anything that is targeted to a specific area of the body; in the case of breast cancer, it refers to the breast and the lymph nodes. Treatment to the lymph nodes near the breast is also called "regional" treatment, because the nodes are located in the region around the breast. In the case of metastatic breast cancer, local treatment may be given to specific areas of metastasis such as the bones or lungs. The most common local treatments are breast surgery and radiotherapy. (Berkow et al 1997; NBCC 2001)

Breast Surgery – Surgery for breast cancer involves breast conserving surgery or mastectomy. While radical mastectomy used to be a common procedure in the treatment of breast cancer, the goal now is precise, targeted surgery that aims to preserve as much of the healthy breast and surrounding tissue as possible. The main decision whether to remove the whole breast or to only remove the tumour and some healthy tissue around it will depend on how much breast tissue is affected.

Breast conserving surgery/Lumpectomy

Lumpectomy is presently the most common form of breast cancer surgery. The surgeon removes only the part of the breast containing the tumour and some of the healthy tissue that surrounds it. Following the surgery, most women then receive five to seven weeks of radiation treatment. This is to eliminate any cancer cells that may be present in the remaining breast tissue. The combination of lumpectomy and radiation is commonly called breast-conserving therapy. Its advantage over mastectomy is mainly cosmetic; this surgical option may help preserve body image. (Berkow et al 1997; NBCC 2001)

Mastectomy

In a simple mastectomy, the surgeon removes the entire breast but leaves the underlying axillary lymph nodes intact. Muscles are not removed from beneath the breast, and usually there is sufficient overlying skin remaining to cover the wound. Simple mastectomy is often the treatment of choice for invasive cancers that have spread extensively within the milk ducts as they often recur if breast conserving surgery was used. (Berkow et al 1997; NBCC 2001)

A modified radical mastectomy removes the entire breast and includes a procedure called axillary dissection, in which the axillary lymph nodes in the underarm area are also removed. (Berkow et al 1997)

When the entire breast, all underarm lymph nodes, and chest wall muscles under the breast are removed, it is called a radical mastectomy. Although common in the past, radical mastectomy is now seldom performed as modified radical mastectomy has proven to be equally effective and less disfiguring. This form of mastectomy is now recommended only when the cancer has spread to the chest muscles under the breast. (Berkow et al 1997)

Radiation Therapy – Radiation therapy or radiotherapy is often recommended after breast conserving surgery, and less commonly after mastectomy. It is used to kill cancer cells that may be left in the breast and surrounding areas, including nearby lymph nodes, after surgery. (Berkow et al 1997; NBCC 2001) In 1995, a report published by the Early Breast Cancer Trialists' Collaborative Group concluded that the addition of radiotherapy to surgery resulted in a rate of local recurrence that was three times lower than the rate with surgery alone. (EBCTCG 2000)

Nonetheless with any form of exposure to radiation, there will be side-effects. Those that may be encountered by a woman who receives radiation therapy after a lumpectomy or a mastectomy include:

- ☞ Tiredness, lassitude or fatigue during or following treatment
- ☞ Local effects including redness or soreness of the skin, discomfort and pain
- ☞ Lymphoedema
- ☞ Cardiac and vascular damage leading to increased mortality
- ☞ Osteitis of the ribs leading to spontaneous fracture
- ☞ Acute radiation pneumonitis
- ☞ Brachial plexopathy
- ☞ Second malignancy (NBCC 2001)

Systemic Treatment

Systemic treatments, also known as adjuvant treatments or additional treatments, work on the whole body to remove cancer. It is used to get rid of any cancer cells that may have spread outside the breast and armpit area to another part of the body. It may be used even if there is no direct proof that cancer has spread. If the cancer has in fact metastasised elsewhere, systemic treatment can help shrink the cancer, which can hopefully lead to remission. The main types of systemic treatments include hormonal therapy, chemotherapy and immune therapy.

Hormonal Therapy – In hormonal therapy, drugs are used to block the effects of hormones such as oestrogen and progesterone. This is because certain breast cancers especially those that have ample oestrogen or progesterone receptors are often sensitive to changes in hormones, which have the potential to promote the growth of the cancer. Hormonal therapies work by reducing the amount of hormones in the body, blocking the receptors so as to stop the cancer cells from binding to the hormones, or eliminating the receptors. (Porth 1994)

Hormonal therapies include:

- ☞ anti-estrogens
- ☞ ovarian treatments
- ☞ aromatase inhibitors

Anti-estrogens

Anti-estrogens work by stopping cancer cells from binding to oestrogen. The most commonly used anti-estrogen is Tamoxifen, a synthetic anti-oestrogen compound that competes with endogenous oestradiol for oestrogen receptors. It also lowers prolactin

levels. (Trickey 2003) According to the NHMRC National Breast Cancer Centre, Tamoxifen has been associated with a reduced risk of breast cancer recurrence after surgery, a smaller likelihood of breast cancer developing in the other breast, less risk of cancer metastasis from the breast to other parts of the body, and an increased likelihood of surviving breast cancer. (NBCC 2001) However, the use of this drug has also been found to cause several side-effects in those who use it. These include hot flushes, menstrual irregularity, nausea, headaches, fluid retention, and vaginal dryness or irritation. The use of Tamoxifen may also lead to endometrial hyperplasia, polyps and cancer, venous thrombosis, stroke and pulmonary embolus risk. (Trickey 2003)

Ovarian Treatment

Ovarian treatment, also called ovarian ablation, work by inhibiting the production of oestrogen from the ovaries. This may be achieved through procedures like radiotherapy to the ovaries, surgery to remove the ovaries or the injection of drugs called LHRH analogues under the skin of the abdomen. Ovarian treatments are usually recommended for women who are premenopausal and who have oestrogen or progesterone receptors on their cancer cells. The side-effect of ovarian treatment is that it can lead to temporary or permanent menopause. (NBCC 2001)

Aromatase Inhibitors

Aromatase inhibitors such as anastrozole, letrozole and exemestane, work by stopping estrogen from being produced, thus lowering the amount of oestrogen available to stimulate the receptors. Aromatase inhibitors are sometimes used as an alternative to anti-estrogens for women with early breast cancer who are already post-menopausal. (NBCC 2001) In fact, recent data from the ATAC (Arimidex, Tamoxifen Alone or in Combination) study presented at the December 2001 San Antonio Breast Cancer Meeting demonstrated that an aromatase inhibitor Arimidex (anastrozole) is significantly more effective than the current treatment standard, Tamoxifen, as an adjuvant treatment in postmenopausal women with early breast cancer. After an average of 2.5 years of treatment, the group treated with Arimidex alone showed a 17% reduction in breast cancer as compared to those taking Tamoxifen. The incidence of hot flushes and weight gain were also significantly reduced. (Buzdar 2002) The side effects of aromatase inhibitors are still being studied in clinical trials. Among them may be an increased risk of pains in joints and bones, and also a greater potential for fractures. (NBCC 2001)

Chemotherapy – Chemotherapy consists of the administration of drugs that destroy cancer cells or inhibit their growth. Chemotherapy is effective against cancer cells because the drugs target rapidly dividing cells. This infers that some normal cells that are also rapidly dividing can be damaged; this includes cells in the blood, mouth, intestinal tract, nose, nails, vagina, and hair. However, normal cells generally recover from damage more efficiently than cancer cells. (Berkow et al 1997; NBCC 2001; Porth 1994)

Chemotherapy may be the chief form of treatment or it can be used as an adjunct to other forms of treatment. In breast cancer, three different chemotherapy strategies are employed. Adjuvant chemotherapy is given to people who have undergone curative treatment for their breast cancer, such as breast surgery and radiation therapy. It is given to delay the return of cancer and prolong survival. Presurgical chemotherapy is given to shrink a large tumour and to kill stray cancers cells. This increases the likelihood that surgery will eradicate the cancer completely. Regular chemotherapy is routinely administered to those with breast cancer that has metastasised beyond the breast and the surrounding tissues. (Donegan et al 2002; NBCC 2001; Porth 1994)

Treatment with several chemotherapy drugs has been found to be more effective than treatment with a single drug. Chemotherapy is usually given in cycles. Each cycle consists of a period of intensive treatment, which can last a few days or weeks, followed by a period of recovery. The total course of chemotherapy usually lasts from three to six months. Most chemotherapy agents are given intravenously, some are given orally in pill, capsule, or liquid form. (Donegan et al 2002; NBCC 2001; Porth 1994)

The side effects of chemotherapy are well known. Depending on the type of drugs used, some common side effects include:

- ☞ nausea and vomiting
- ☞ fatigue
- ☞ hair loss
- ☞ diarrhoea
- ☞ constipation
- ☞ weight gain
- ☞ weight loss
- ☞ depression
- ☞ anxiety
- ☞ temporary or permanent menopausal symptoms
- ☞ sexual difficulties
- ☞ mouth ulcers
- ☞ skin problems (NBCC 2001)

Some side-effects are less common or rare, but can be serious. If these develop, the patient should seek immediate medical advice. These side-effects include:

- ☞ feeling vague
- ☞ nerve and muscle problems
- ☞ infection due to a low level of white blood cells
- ☞ bleeding or bruising
- ☞ kidney or bladder problems
- ☞ heart problems (with anthracycline drugs only)
- ☞ bone marrow problems
- ☞ allergic reactions (NBCC 2001)

Immune Therapy – Immune therapy is a new sphere of medicine that endeavors to use or imitate the body's own immune system for fighting and defeating cancer. There are two main objectives for immune therapy: to achieve active immunity and/or passive immunity. Active immunity aims to stimulate or trick the body's defenses into inhibiting or counteracting the activity of cancer cells. This includes vaccinations. Conversely, in passive immunity, the body is given antibodies that it lacks so that the immune system can function to fend off the cancer. (Donegan et al 2002)

At present, only one immune therapy, Herceptin, is widely available. It is an antibody against the HER2/neu protein, a protein responsible for cancer cell growth in about 30% of breast cancers. It is only advised for women with advanced breast cancer and who have a HER2/neu gene that is overactive or is being over-expressed. Herceptin stops or slows the growth of certain breast cancer cells by attaching itself to the HER2/neu receptors on the cancer cells, blocking them from receiving growth signals. Stopping the protein action helps to bring cancer cell growth under better control. Herceptin can also alert the immune system to destroy the cancer cells it attaches to. On the downside, administration with Herceptin may lead to the development of ventricular dysfunction, congestive heart failure, angioedema, severe hypersensitivity reactions including anaphylaxis, and pulmonary events like dyspnoea or acute respiratory distress syndrome. (Genentech 2002)

Non-Pharmacological Measures

In addition to surgery, radiotherapy and drug therapy, it is also essential for breast cancer patients to address other areas of their lives in order to strengthen or regenerate the immune system so as to fight off the disease and increase the likelihood of survival. This could mean making dietary changes, adopting an appropriate fitness regime and seeing to their emotional and spiritual needs during this time of upheaval. Some patients may even integrate complementary or alternative therapies into their treatment program. These are usually directed at the whole person – including mind, spirit and body – and aim at helping the body to heal itself. Through modalities like herbal medicine, acupuncture, massage, biofeedback, hypnosis, visualization, laying on of hands, prayer and meditation, the goal of complementary therapies is to lift blocked energies and correct imbalances in the person's makeup so as to bring him or her back to a state of equilibrium and wellness.

Dietary

Diet is a major factor in cancer. While it may not be the primary cause, a diet that is high in saturated fats has been associated with breast cancer. Cancer can also develop from free radicals that cause damage to our body; the production of these free radicals may be triggered by sources like chemical toxins and trans fatty acids in the diet. Some examples include the nitrosamines derived from foods containing nitrites such as bacon, hot dogs, salami and sausages, as well as saccharin found in most sugar-free foods. In the case of breast cancer, one causative factor may be high levels of oestrogen in the blood. Meat, poultry and dairy foods may be contributing factors for these high oestrogen levels as they often contain traces from the animals that were given the hormone to promote growth. Pesticides and industrial pollutants also contain xenoestrogens. (Dunne 2002; McIntyre 1994)

In addition to not further assaulting the immune system, good nutrition is especially important for people with cancer because cancer and the treatments used can have adverse effects on the nutritional status of the patient. Some nutritional problems that may arise include:

- ☞ anorexia with progressive weight-loss and malnutrition
- ☞ taste changes leading to depressed or altered food intake
- ☞ changes in carbohydrate, protein and fat metabolism
- ☞ impaired food intake as a result of mechanical bowel obstruction
- ☞ malabsorption associated with deficiency of digestive enzymes
- ☞ metabolic abnormalities like hypercalcaemia, osteomalacia, hypoglycaemia and hyperglycaemia
- ☞ electrolyte and fluid problems
- ☞ organ dysfunction with nutritional implications (Shils et al 1994)

Eating well while undergoing cancer therapy can help the patient to feel better, maintain strength and energy, and maintain weight and the body's supply of nutrients. It can also help the patient to better tolerate treatment-related side effects and reduce the risk of infection while helping them to heal and recover quickly.

Some basic dietary guidelines include:

- ☞ Increase intake of vegetables and fruits, preferably raw and organic.
- ☞ Choose whole grains in preference to processed refined grains and sugars.
- ☞ Replace red meat with deep sea oily fish.
- ☞ Drink at least two litres of water per day.
- ☞ Eat plenty of high-fibre foods.
- ☞ Avoid frying, grilling, broiling and barbecuing foods as these produce carcinogenic chemicals.
- ☞ Avoid salt-cured, smoked, and pickled foods.
- ☞ Avoid drinking alcohol.
- ☞ Reduce intake of saturated, fatty foods.
- ☞ Choose a variety of foods from all the food groups.

In addition to the basics, the patient may also adopt more specific dietary habits to support the cancer treatment. This can involve increasing the intake of:

☞ **Antioxidants**

Antioxidants are substances that may protect cells from the damage caused by free radicals. Free radical damage may lead to cancer. Antioxidants are abundant in fruits and vegetables, as well as in other foods including nuts, grains and some meats, poultry and fish. The list below describes food sources of common antioxidants. (LPI)

- Beta-carotene is found in many foods that are orange in color, including sweet potatoes, carrots, cantaloupe, squash, apricots, pumpkin, and mangos. Other sources that are rich in beta-carotene include green leafy vegetables like collard greens, spinach, and kale. (LPI)
- Lutein, commonly associated with promoting eye health, is abundant in green, leafy vegetables such as collard greens, spinach, and kale. (LPI)
- Lycopene, a potent antioxidant, can be obtained from tomatoes, watermelon, guava, papaya, apricots, pink grapefruit and blood oranges. (LPI)
- Selenium, a mineral which is a component of antioxidant enzymes, can be found in common plant foods like rice and wheat, as well as brazil nuts, brewer's yeast and garlic. (LPI)
- Vitamin A found in liver, sweet potatoes, carrots, milk, egg yolks and mozzarella cheese. (LPI)
- Vitamin C, also called ascorbic acid, can be obtained from many fruits and vegetables and is also found in cereals, beef, poultry and fish. (LPI)
- Vitamin E, also known as alpha-tocopherol, is found in almonds, mangos, hazelnuts and broccoli, as well as many oils including wheat germ, safflower, olive, sunflower, corn and soybean oils. (LPI)

☞ **Omega-3 Fatty Acids**

Omega-3 fatty acids are important nutrients that are involved in many human biological processes. They are termed essential fatty acids (EFAs) because they are critical for good health but the body cannot make them on its own. For this reason, omega-3s must be obtained from dietary sources or from supplements. Three fatty acids compose the Omega-3 family: alpha-linolenic acid, eicosapentaenoic acid, and docosahexaenoic acid. (Erasmus 1999; Pizzorno et al 1999)

Studies in animals have found that fish fats rich in omega-3 fatty acids suppress cancer formation. Researchers believe that omega-3 fatty acids protect against the spread of cancers that are related to hormone production, particularly breast cancer, and that they inhibit the growth of colon, pancreatic, and prostate cancers. Fish oils seem to exert this anti-cancer effect by changing carcinogen metabolism and altering prostaglandin synthesis. (Pizzorno et al 1999) Among the most significant findings in a large epidemiological study of 23 dietary factors in countries with high and low risks of cancer, it was found that the consumption of fish was associated with a depressed risk of developing breast cancer. (Kaizer et al 1989)

Omega-3 fatty acids may also help to reduce cachexia that can take place during later stages of some cancers, as well as protect against cardiovascular disease and heart attacks, arthritis, and kidney failure. (Erasmus 1999; Pizzorno et al 1999)

High concentrations of omega-3 fatty acids can be found in oils from fish like sardines, salmon, herring, mackerel, halibut, striped bass, tuna, shark and cod. Oil from flaxseed is another source; it contains more alpha-linolenic acid than any other known plant source. Other sources of omega-3 fatty acids include great northern beans, kidney beans, navy beans, and soybeans. (Erasmus 1999; Pizzorno et al 1999)

☞ **Soy Isoflavones**

Both epidemiological and case-control studies have shown that the regular intake of soybean products in the diet is protective against breast, prostate, colon, and lung cancer. The effects of soy are considered to be due to the isoflavones that many soy products contain. Isoflavones, also called phytoestrogens, are believed to reduce the risk of hormone-stimulated cancers like breast cancer through its anti-estrogenic effect. One mechanism of action of isoflavones is to stimulate sex-hormone binding globulin (SHBG) synthesis in the liver. (Pizzorno et al 1999; Trickey 2003) SHBG functions to regulate the bioavailability and activity of hormones, and studies have shown that in breast cancer cells, SHBG downregulates oestradiol. (Fortunati et al 1996)

Soy's cancer-protective effect does not seem to be completely oestrogen-dependent. There are several other mechanisms by which phytoestrogens reduce the risk of cancer. Genistein and daidzein, both soy isoflavones, have been shown to have protective effects. Increased urinary excretion of equol, a metabolite of daidzein, has been associated with a reduced risk of breast cancer. In vitro studies with human breast cancer cells have demonstrated that regardless of oestrogen receptor status, genistein is a potent inhibitor of cell growth. The mechanism of inhibition was achieved through arresting the cell cycle at critical points as well as via induction of apoptosis. Other phytoestrogens like quercetin and genistein show weaker growth inhibition. (Pizzorno et al 1999; Trickey 2003)

Other protective mechanisms include antioxidant effects, and inhibition of protein tyrosine kinases and DNA topoisomerases to regulate cellular division and differentiation. (Pizzorno et al 1999; Trickey 2003)

☞ **Coenzyme Q₁₀**

Coenzyme-Q₁₀ (ubiquinone) is a vitamin-like compound that plays a critical role in generating energy within the mitochondria of cells; it is a highly potent antioxidant that counteracts damaging free radical activity. Interest in coenzyme Q₁₀ as a potential therapeutic agent in cancer was stirred by an observational study that found that individuals with breast cancer have significantly lower blood levels of coenzyme Q₁₀ than healthy controls (Folkers et al 1997).

Preliminary research also suggests that coenzyme Q₁₀ supplementation may be beneficial as an adjunct to conventional therapy for breast cancer. In one study, 32 patients with breast cancer who were classified as "high-risk" because their tumors had metastasized to their lymph nodes, were given 90 mg/day of coenzyme Q₁₀ in addition to standard surgery and chemotherapy. They also received vitamin C, vitamin E, beta-carotene and essential fatty acids. After 18 months, six of the patients showed partial tumor regression, none of the patients died during the study period (the expected number was four), none of the patients showed signs of further distant metastases, and the quality of life was improved (no weight loss, reduced use of pain killers) in all the patients studied. After 24 months, all the patients were still alive. (Lockwood et al 1994)

Other reports found that after treatment with coenzyme Q₁₀, the numerous metastases in the liver of a 44-year-old patient disappeared, with no signs of metastases found elsewhere, a 49-year-old patient revealed no signs of tumor in the pleural cavity after six months and her condition was excellent, and a 75-year-old patient with carcinoma in one breast after lumpectomy showed no cancer in the tumor bed or metastases. (Lockwood et al 1995)

Hence while there is a lack of controlled clinical trials, considering the positive results obtained so far and the fact that coenzyme Q₁₀ is practically free of side-effects, empirical treatment of breast cancer with coenzyme Q₁₀ seems warranted.

Exercise

Studies show that 70 percent of cancer patients experience fatigue during chemotherapy and radiation therapy or after surgery. In addition, those who survive cancer commonly report a loss of energy after treatment. This impairment in physical fitness may in turn severely limit normal daily activities and lead to a decreased quality of life in cancer patients. Contrary to the previous belief that cancer patients ought to rest and limit their daily activities, recent studies have shown that participating in some form of physical activity after treatment may in fact help reduce fatigue and help speed up the healing process.

A study published in the May 1, 1997, issue of *Cancer*, found that compared to patients who did not exercise, those who participated in an aerobic exercise program after undergoing chemotherapy were shown to have better physical performance, increased hemoglobin levels, and less fatigue. With physical activity, these patients were also able to keep their muscles in shape, and hence were more equipped to perform everyday tasks than those who do not exercise. In addition, exercise generates secondary benefits like improved states of mind and mood, increased self-confidence, decreased depression, and higher levels of physical independence. (ACS)

Another study in which 20 post-treatment cancer patients participated in two 10-week sessions of a wellness program also showed an increase in strength and endurance in the patients. While the exercise program achieved its aim of re-establishing strength and flexibility, and helping to integrate the patients back into everyday activity, the benefits were even more far-reaching. In addition, the patients also exhibited an improvement in attitude, a renewed feeling of empowerment, and an enhanced self-image and core strength. (Durak et al 1998)

For the above mentioned reasons, it is vital for a cancer patient to remain as physically active as possible. Not only does exercise help to keep muscles functional, physical activity also helps reduce side-effects associated with long-term bed rest. These include stiff joints, breathing problems, constipation, skin sores, poor appetite, and mental changes.

The patient is encouraged to:

- Perform as many daily tasks by themselves as possible
- Take a walk every day
- Try to do some light exercise after having consulted with the doctor (ACS)

The patient should not:

- Stay in bed with little movement
- Let others do for her what she can do for herself
- Perform any exercises without first consulting the doctor
- Move any joint that is painful (ACS)

In addition to aerobic-type exercise, some alternative forms of exercise that may also be beneficial in the treatment of breast cancer and other cancers include:

☯ **Yoga**

Yoga is a form of non-aerobic exercise that involves a program of precise posture and breathing activities. It is promoted as a system of personal development and is based on the Hindu philosophy that combines ethical standards, dietary guidelines, physical exercise, and meditation to create a union of mind, body, and spirit. Yoga is said to improve posture, increase the intake of oxygen, and enhance the functioning of the respiratory, digestive, endocrine, reproductive, and elimination systems. In addition, emotionally, it is believed to calm the mind, attune practitioners to the environment, and diminish insomnia caused by mental restlessness. There is no scientific evidence that yoga is effective in treating cancer; however, it may improve the patient's quality of life.

☯ **Tai Chi**

Tai Chi is an ancient Chinese system of slowly flowing movements and shifts of balance that strengthens the legs while conditioning the tendons and ligaments of the ankles, knees, and hips, increasing their range of motion and making them more resilient, less prone to injury. The constant weight shifts train balance and body awareness, leading to an ease of movement within the form and in everyday life. Research has found that tai chi can reduce stress, increase oxygen uptake and utilisation, decrease blood pressure, and lessen the risk of heart disease. In addition, it is also linked to an improved immune function, and heightened mood states. Supporters claim tai chi balances the flow of vital energy or life force; this in turn helps to prevent illness, improve general health, and extend life.

Emotional and Spiritual

In addition to diet and exercise, breast cancer patients will no doubt be in need of addressing the emotional and spiritual aspects of the disease. In fact, recent findings in psychoneuroimmunology suggests that the persistence of cancer cells partially depends on internal body controls that restrain or stimulate tissue growth. These internal controls are in turn regulated by psychological factors through neurological, hormonal, and immunologic pathways. These mind/body links could play a major role in determining a person's ability to survive cancer and mind/body therapies should be employed to alleviate these psychological factors.

Emotionally, those with cancer need a great deal of help and support. This may be obtained through counselling, psychotherapy or perhaps even psychiatry, which may help individuals and their families understand and deal with their reactions and emotions. Additional methods for the management of stress include relaxation therapy and guided imagery. For motivated patients, benefits from such techniques may include a reduction in anxiety, relief from symptoms of fatigue, tension, or sleep disturbance. The patient's active participation in such programs may also enhance her sense of control over the disease.

The road to recovery for cancer patients is a multi-faceted one; the treatment procedure itself may be detrimental to the emotional and spiritual well-being of the patient. As such, many breast cancer patients are also turning to complementary and alternative therapies to obtain a more holistic form of treatment. While many of these therapies are still under evaluation, most have supporters who believe they have added a positive aspect to their treatment and care, cope better with the physical symptoms and side effects of standard treatment, as well as with the complex and often distressing emotions that cancer can bring.

Some of these complementary and alternative treatments include (but are not limited to):

- Herbal medicine
- Meditation
- Visualisation
- Homeopathy
- Bach flower remedies
- Crystal healing
- Acupuncture
- Polarity therapy
- Reiki
- Hypnotherapy
- Music therapy
- Colour Therapy
- Light therapy
- Breathing techniques
- Massage
- Traditional Chinese medicine
- Ayurveda
- Art therapy

Herbal Management of Breast Cancer

Herbal medicine is often used as an adjunct to cancer treatment and management. In addition to improving the patient's overall wellbeing, it can also help alleviate some of the side-effects from chemotherapy and radiation such as nausea and vomiting, and it can promote general recuperation and convalescence.

Classes of Herbal Medicine

Alterative

An agent used to improve elimination of metabolic waste and in so doing restores normal body functions. With breast cancer treatment, metabolic waste could include the residues of pharmaceuticals used in chemotherapy. Alteratives also increase blood flow to tissues, detoxifies, aids assimilation, and stimulates metabolism.

Examples: *Berberis vulgaris*
Cimicifuga racemosa
Apium graveolens
Harpagophytum procumbens
Trigonella foenum-graecum
Guaiacum officinale
Chondrus crispus
Smilax spp.

Lymphatic

An agent that supports the health and activity of the lymphatic system, and thus increases the body's immunity to pathogens, very useful in chronic diseases like cancer.

Examples: *Galium aparine*
Calendula officinalis
Echinacea spp.
Phytolacca decandra
Trigonella foenum-graecum
Viola odorata
Trifolium pratense

Immune stimulant

An agent that helps to enhance the body's own immunity function and thus fend off pathogenic invasions. This is especially important in cancer patients whose immune system is very much compromised not just by the cancer, but also all the chemotherapy and radiation they are going through.

Examples: *Echinacea spp.*
Picrorrhiza kurroa
Withania somnifera
Astragalus membranaceus
Azadirachta indica (Neem)
Schisandra sinensis
Phytolacca decandra
Tussilago farfara

Antineoplastic

An agent that inhibits or destroys tumours.

Examples: *Viola odorata*
Lonicera japonica
Withania somnifera
Phytolacca decandra
Arctium lappa
Allium sativum

Nervine

An agent that tones and strengthens the nervous system. These would probably be indicated in cancer patients who are no doubt going through a lot of emotional upheaval.

Examples: *Centella asiatica*
Avena sativa
Valeriana officinalis
Hypericum perforatum
Caullophylum thalictroides
Cimicifuga racemosa
Tanacetum parthenium
Matricaria recutita

Vulnerary

An agent used to hasten the healing of wounds, including those from surgery and those that are caused by the cancer itself.

Examples: *Calendula officinalis*
Symphytum officinale
Plantago major
Trifolium pratense
Prunella vulgaris
Viola tricolour
Arnica montana

Hepatic

An agent used to strengthen, tone and stimulate bile secretions, improving liver function. Hepatics would be important in cancer treatment as the liver would be working extra hard to detox the body of toxins from chemotherapy and radiation.

Examples: *Cynara scolymus*
Silybum marianum
Bupleurum falcatum
Chionanthus virginica
Solidago virgaurea
Berberis vulgaris
Schisandra chinensis
Curcuma longa

Bitter

An agent that has a bitter taste that promotes digestive function and improves the appetite.

Examples: *Berberis vulgaris*
Picrorrhiza kurroa
Chionanthus virginica
Gentiana officinalis
Hydrastis canadensis
Salix alba

Anodyne

An agent used to soothe or ease pain.

Examples: *Nepeta cataria*
Harpagophytum procumbens
Matricaria recutita
Verbascum thapsus
Passiflora incarnata
Zanthoxylum americanum
Scutellaria lateriflora
Gaultheria procumbens

Anti-inflammatory

An agent that soothes inflammation or reduces the inflammatory response of the tissue directly. Inflammation could be one of the signs of breast cancer; it may also arise from surgical procedures.

Examples: *Filipendula ulmaria*
Populus tremuloides
Thymus vulgaris
Salix alba
Curcuma longa
Harpagophytum procumbens
Smilax spp.
Tanacetum parthenium

Phytoestrogenic

An agent that contains phytoestrogens, which are naturally occurring compounds in plants that are structurally and functionally related to 17 β -oestradiol or that produce oestrogenic effects, thus helping to restore hormonal balance, which is thought to be one cause of breast cancer.

Examples: *Cimicifuga racemosa*
Dioscorea villosa
Aletris farinosa
Trifolium pratense
Angelica sinensis
Paeonia lactiflora
Chamaelirium luteum
Foeniculum vulgare

Adaptogen

An agent that helps the body adapt to stress or changes from any source. In breast cancer patients, this would include not just the physical stress on the body, but also the emotional and mental stress that they are faced with.

Examples: *Glycyrrhiza glabra*
Withania somnifera
Astragalus membranaceus
Schisandra chinensis
Eleutherococcus senticosus
Ganoderma lucidum

Anti-emetics

An agent that helps to control nausea and vomiting, side-effects that commonly occur with cancer treatment. McIntyre suggests taking these in the form of teas. (McIntyre 1994)

Examples: *Zingiber officinale*
Mentha piperita
Matricaria recutita
Cinnamomum zeylanicum

Botanical Name: *Phytolacca decandra*



Common Name: Poke Root

Family: Phytolaccaceae

Parts Used: Root (Chevallier 2001, Hoffman 2000)

Habitat: It grows in damp soils and shady places in eastern North America and is naturalised in the Mediterranean region. (Chevallier 2001, Haughton 2003)

Constituents: Triterpenoid saponins (phytolaccasides), alkaloid (phytolaccine), resins, phytolaccic acid, tannin, formic acid, sugars, proteins, lectins, lignans, mucilage. (Chevallier 2001, Haughton 2003, Mars 1997)

Actions: Lymphatic Decongestant, Alterative, Anodyne, Anti-fungal, Anti-inflammatory, Anti-rheumatic, Anti-tumor, Cathartic, Emetic, Purgative, Immune Stimulant, Laxative, Molluscidal, Spermicidal, Anti-catarrhal, Parasiticide. (Chevallier 2001, Haughton 2003, Hoffman 1987, Mars 1997)

Indications: Cancer, Herpes, Leukaemia, Liver Cancer, Lymphatic Infection, Mumps, Rheumatism, Swollen Glands, Tonsillitis, Tumours, Bedsores, Boils, Breast Cancer, Carbuncles, Chickenpox, Eczema, Fungal Infection, Haemorrhoids, Herpes, Mastitis, Measles, Melanoma, Psoriasis, Ringworm, Scabies, Shingles, Wounds. (Chevallier 2001, Haughton 2003, Hoffman 1987, Mars 1997)

Dosage: Dried root: 0.06 – 0.3 g or by decoction tds
Liquid Extract: 1:1 in 45% alcohol, 0.1 – 0.5 ml tds
Tincture: 1:10 in 45% alcohol, 0.2 – 0.6 ml tds

Contraindications/Cautions:

- The fresh plant is poisonous, and in large doses, the dried root is an irritant, emetic and cathartic.
- It should be used only as prescribed by a qualified practitioner, and the recommended dosages should never be exceeded.
- The seeds in the berries are poisonous and have caused fatalities in children.
- It may cause foetal abnormalities, so should not be used during pregnancy. (Chevallier 2001, Haughton 2003, Hoffman 1987, Mars 1997)

Combinations:

- With *Iris versicolor* and *Galium aparine* for lymphatic problems. (Hoffman 1987)
- With *Guaiacum* and *Zanthoxylum americanum* for rheumatic conditions.
- With *Commiphora molmol* resin and *Echinacea spp.* for tonsillitis. (Haughton 2003)

Botanic Name: *Echinacea spp.*

Common Name: Purple Coneflower

Family: Asteraceae

Parts Used: Roots, rhizomes, flowers (Chevallier 2001, McIntyre 1994, Mills 1991)



Habitat: Native to North America and is cultivated in Europe. (Chevallier 2001, Fletcher 1996, Weiss et al 2000)

Constituents: Mucopolycaccharides, caffeic acid esters (echinacoside and cynarin), echinaceine, echinolone, alkamides (isobutylamides), linoleic and palmetic acids, glycosides, inulin, polyacetylenes, sesquiterenes, betaine, phenolics, volatile oil (including humulene and caryophyllene), resins, vitamin C. (Chevallier 2001, Haughton 2003, Mars 1997, McIntyre 1994, Mills 1991)

Actions: Antibacterial, Antifungal, Anti-inflammatory, Antiseptic, Antitumor, Antiviral, Astringent, Carminative, Diaphoretic, Depurative, Digestive Tonic, Sialagogue, Stimulant, Vulnerary, Immunostimulant, Peripheral vasodilator, Anti-microbial, Antibiotic, Anti-allergenic, Lymphatic tonic, Warming alterative, Anti-infective. (Chevallier 2001, Haughton 2003, Hoffman 2000, Mars 1997, McIntyre 1994, Mills 1991, Weiss et al 2000)

Indications: Abscess, Acne, Allergies, Blood Poisoning, Boils, Cancer, Candida, Chickenpox, Colds, Eczema, Fever, Flu, Gangrene, Herpes, Insect Bites, Measles, Mumps, Nasopharyngeal catarrh, Scarlet Fever, Sore Throat, Tonsillitis, Typhoid, Urinary Infections, Gingivitis, Infection, Psoriasis, Pyorrhoea, Septicaemia, Snakebites, Toothache, Wounds. (Chevallier 2001, Haughton 2003, Hoffman 2000, Mars 1997, McIntyre 1994, Mills 1991, Weiss et al 2000)

BHP: Boils, carbuncles and abscesses

Dosage: Dried herb: 1 g or by infusion or decoction tds
Liquid extract: 1:5 in 45% alcohol, 0.5 – 1 ml tds
Tincture: 1:5 in 45% alcohol, 1 – 2 ml tds (Haughton 2003)

Contraindications/Cautions:

- Excessive use can cause throat irritation, nausea, dizziness and excessive salivation. (Chevallier 2001, Mars 1997)

Combinations:

- With *Achillea millefolium* or *Arctostaphylos uva-ursi* for cystitis.
- With *Arctium lappa* root or *Iris versicolour* for boils.
- With *Baptisia tinctoria* and *Commiphora molmol* resin for pharyngitis or tonsillitis. (Haughton 2003)

Botanic Name: *Hypericum perforatum*

Common Name: St. John's Wort

Family: Hypericaceae

Parts Used: Aerial parts, flowering tops

Habitat: It grows throughout Britain and Europe and well into Asia and prefers open, sunny situations and dry calcareous soils. (Chevallier 2001, Haughton 2003)



Constituents: Naphthodianthrones (including the red pigment hypericin, pseudohypericin and their biosynthetic precursors), flavones and flavonols (quercetin glycosides including quercitrin, rutin, quercetin, kaempferol, luteolin), carotenes, essential oil, resin, tannins, pectin. (Chevallier 2001, Duke 1986, Haughton 2003, Hoffman 2000, Mars 1997)

Actions: Alterative, Anodyne, Antibacterial, Antidepressant, Anti-inflammatory, Antispasmodic, Astringent, Antiseptic, Antiviral, Astringent, Cholagogue, Expectorant, Nervine, Sedative, Vulnerary. (Chevallier 2001, Duke 1986, Haughton 2003, Hoffman 2000, Mars 1997)

Indications: AIDS, Anxiety, Cough, Depression, Diarrhoea, Dysmenorrhoea, Fatigue, Flu, Gout, Grief, Herpes, HIV, Hydrocephalus, Insomnia, Irritability, Jaundice, Menopause, Neuralgia, Rheumatism, Ulcers, Viral Infections, Arthritis, Backache, Bruises, Burns, Electric Shock, Haemorrhoids, Hysteria, Paralysis, Sciatica, Sunburn, Tumours, Varicose Veins, Wounds. (Chevallier 2001, Duke 1986, Haughton 2003, Hoffman 2000, Mars 1997)

BHP: Menopausal neurosis

Dosage: Dried herb: Dose 2 – 4 g or by infusion tds
Liquid Extract: 1:1 in 25% alcohol. Dose 2 – 4 ml tds
Tincture: 1:10 in 45% alcohol. Dose 2 – 4 ml tds (Haughton 2003)

Contraindications/Cautions:

- Not to be used in marked depression.
- It may potentiate pharmaceutical MAO inhibitors.
- May cause photosensitising in fair skinned individuals. Therefore, excessive exposure to bright sunlight should be avoided whilst taking the herb.
- Some susceptible individuals may experience contact dermatitis from the plant. (Hoffman 2000, Mars 1997)

Combinations:

- With *Hamamelis virginiana* water as a lotion for contusions and as an application for haemorrhoids.
- With *Calendula officinalis* as a lotion for contusions or as a mouthwash. (Haughton 2003)

Botanical Name: *Trifolium pratense*

Common Name: Red Clover

Family: Fabaceae

Parts Used: Flower

Habitat: It is widespread throughout the world in grassy areas and thrives in the more humid upland areas. (Chevallier 2001, Haughton 2003)



Constituents: Carbohydrates, phenolic glycosides (including trifoliin), isoflavonoids, flavonoids, saponins, salicylates, coumarins, cyanogenic glycosides, volatile oil, fats, mineral acids, resin, vitamins. (Chevallier 2001, Haughton 2003, Hoffman 1990)

Actions: Alterative, Anti-inflammatory, Antispasmodic, Antitumor, Antitussive, Diuretic, Dermatological agent, Expectorant, Nutritive, Phytoestrogenic, Relaxant, Vulnerary. (Chevallier 2001, Haughton 2003, Hoffman 1990, Mars 1997)

Indications: Acne, Arthritis, Blood Clots, Bronchitis, Breast and Ovarian Cancer, Cough, Eczema, Gout, Menopause, Phlebitis, Psoriasis, Tuberculosis, Whooping Cough, Burns, Conjunctivitis, Insect Bites, Lymphatic Congestion, Tumours, Vaginitis, Wounds, Chronic skin eruptions (Chevallier 2001, Haughton 2003, Hoffman 1990, Mars 1997)

BHP: Eczema, psoriasis

Dosage: Dried root: 4 g or by infusion tds

Liquid Extract: 1:1 in 25% alcohol, 1.5 – 3 ml tds

Tincture: 1:10 in 45% alcohol, 1 – 2 ml tds (Haughton 2003)

Contraindications/Cautions:

- Avoid use in pregnancy.

Combinations:

- With *Rumex crispus* and *Urtica spp.* for skin problems. (Hoffman 1990)

Botanic Name: *Calendula officinalis*

Common Name: Marigold

Family: Asteraceae

Parts Used: Flowers



Habitat: It is a native of Egypt and the Mediterranean, but has become naturalised throughout temperate regions of the world, often in previously cultivated land. (Chevallier 2001, Haughton 2003)

Constituents: Triterpenoid saponins (sapogenin: oleonolic acid), carotenoids (pro-vitamin A), bitter glycosides, a yellow resin calendulin, volatile oil, sterols, flavonoids, mucilage, carotenoid pigments. (Chevallier 2001, Haughton 2003, Hoffman 1990, Mars 1997, McIntyre 1994)

Actions: Alterative, Antifungal, Anti-inflammatory, Antiseptic, Antispasmodic, Astringent, Diaphoretic, Vulnerary, Sedative, Anti-haemorrhagic, Styptic, Cholagogue, Emmenagogue, Menstrual regulator, Detoxifying, Oestrogenic, Bitter tonic, Diuretic. (Chevallier 2001, Haughton 2003, Hoffman 1990, Mars 1997, McIntyre 1994)

Indications: Candida, Cervicitis, Chickenpox, Conjunctivitis, Glandular Swelling, Haemorrhoids, Herpes, Measles, Mumps, Ulcers, Earaches, Inflammation, Insect Bites, Sinusitis, Wounds, Sunburn, Bleeding gums, Mouth ulcers, Gingivitis, Pharyngitis, Epistaxis, Acne, Furunculosis, Varicose veins, Varicose ulcers, Eczema, Psoriasis, Vaginal pruritis and dryness, Bedsores, Bruises, Minor burns, Gastric and duodenal ulcers, Cholecystitis, Cholangitis, Raised cholesterol and triglycerides, Irregular menstruation and dysmenorrhoea, Vaginal discharge, Sebaceous cysts, Hypertension and arrhythmias in menopausal women, Adjunct to cancer treatment. (Chevallier 2001, Haughton 2003, Hoffman 1990, Mars 1997, McIntyre 1994, Stevenson 2001)

Specific Uses: Enlarged or inflamed lymph nodes
Sebaceous cysts
Duodenal ulcer
Inflammatory skin lesions (Stevenson 2001)

Dosage: Dried florets: 1 – 4 g or by infusion tds
Liquid Extract: 1:1 in 40% alcohol, 0.5 – 1 ml tds (Haughton 2003)
Tincture: 1 – 4 ml tds (Hoffman 1990)

Combinations:

- With *Althaea officinalis* and *Geranium maculatum* for digestive problems.
- With *Ulmus fulva* and *Chondrus crispus* an external soothing application for cuts, bruises, burns and scalds.
- With *Hydrastis canadensis* and *Commiphora molmol* as an antiseptic lotion. (Hoffman 1990)

Botanic Name: *Arctium lappa*

Common Name: Burdock

Family: Asteraceae

Parts Used: Roots, leaves, seeds.



Habitat: It grows on roadsides and waste places and around field boundaries throughout Britain, Europe and North America; it is cultivated in Japan. (Chevallier 2001, Haughton 2003)

Constituents: Root: up to 50% inulin, polyacetylenes, volatile acids (acetic, propionic, butyric, isovaleric), non-hydroxyl acids (lauric, myristic, stearic, palmitic), tannin, polyphenolic acids. Seeds: 15-30% fixed oils, a bitter glycoside (arctiin), chlorogenic acid and vitamins A and B₂. Leaves: contain flavonoids and antibacterial substances, arctioid, fukinone and taraxasterol. (Chevallier 2001, Haughton 2003, Hoffman 1990, Mars 1997, Mills 1991)

Actions: Alterative, Antibacterial, Antifungal, Anti-inflammatory, Antitumor, Aperient, Aphrodisiac, Choleric, Demulcent, Diaphoretic, Diuretic, Febrifuge, Galactagogue, Hypoglycemic, Laxative, Mucilaginous, Nutritive, Rejuvenative. (Chevallier 2001, Haughton 2003, Hoffman 1990, Mars 1997, Mills 1991)

Indications: Abscess, Acne, Anger, Cancer, Candida, Chickenpox, Colds, Cough, Cystitis, Dandruff, Eczema, Edema, Fasting, Fever, Flu, Gout, Hives, Hypoglycemia, Indigestion, Irritability, Jaundice, Keratosis, Lymphatic Congestion, Measles, Mumps, Obesity, Pain, Pneumonia, Psoriasis, Rheumatism, Scabies, Sore Throat, Sprains, Staphylococcus, Urinary Infections, Uterine Prolapse, Bruises, Glandular Swelling, Joint Pain, Oily Skin, Ringworm, Sprains. (Chevallier 2001, Haughton 2003, Hoffman 1990, Mars 1997, Mills 1991)

BHP: Eczema, especially dry scaling type, and psoriasis.

Dosage: Dried root: 2 – 6 g or by infusion tds
Liquid Extract: 1:1 in 25% alcohol, 2 – 8 ml tds
Tincture: 1:10 in 45% alcohol, 8 – 12 ml tds
Decoction: 1:20, 500 ml per day (Haughton 2003)

Contraindications/Cautions:

- Excessive use may precipitate a symptomatic crisis in severely toxic conditions or where eliminatory channels are deficient. Dosage should be cautious initially and gradually increased. (Haughton 2003)
- Avoid seeds during first trimester of pregnancy. (Mars 1997)

Combinations:

- With *Rumex crispus*, *Trifolium pratense* or *Galium aparine* for skin problems. (Hoffman 1990)

Support Services and Information

Recommended Reading

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Shockney L, 1999. Breast Cancer Survivors' Club: A Nurse's Experience. Windsor House, Austin, TX.

Weiss MC, Weiss E, 1998. Living Beyond Breast Cancer: A Survivor's Guide for When Treatment Ends and the Rest of Your Life Begins. Times Books.

Web sites

Breast Cancer Network Australia

<http://www.bcna.org.au/>

Breastnet – NSW Breast Cancer Institute

<http://www.bci.org.au/>

National Breast Cancer Centre

<http://www.nbcc.org.au/>

The Cancer Council NSW

<http://www.cancercouncil.com.au/>

National Breast Cancer Foundation

<http://www.nbcf.org.au/>

Breast Cancer Institute of Australia

<http://www.bcia.org.au/>

Breast Screen Australia

<http://www.breastscreen.info.au/>

Organisations

Australian Women's Health Network

Women's health advocacy, information and lobbying.

PO Box 400, Dickson ACT 2602.

Phone: (02) 6249 3584

Breast Screen Australia

National mammographic screening program, helping women over 50 years detect breast cancer early.

Phone: 132 050 (National) or (02) 9845 6728 (NSW)

Cancer Information Service

Australia wide telephone counseling and information service on all cancer related issues. Available to people diagnosed with cancer and their families and friends. Available to students and health professionals.

Phone: 131 120 (National information line)

Life Force Foundation

Non-profit organization providing emotional and psychosocial support for people with cancer through support groups, group therapy, meditation, counseling, workshops and retreats.

PO Box 1663, Bondi Junction NSW 2022.

Phone: (02) 9389 3834

Look Good... Feel Better

Community service for women undergoing cancer treatment, dedicated to teaching women beauty techniques to help restore their appearance and self-image during chemotherapy and radiotherapy.

Phone: 1800 650 960 (National)

Multicultural Breast Cancer Information Service (MBCIS)

Confidential telephone information and support service about breast health, breast cancer and other breast problems in Arabic, Cantonese, Mandarin, Greek and Italian. Contact the NSW Cancer Council.

NSW Breast Cancer Institute

Clinical research into breast cancer treatments and quality of life for women with breast cancer.

C/o Westmead Hospital, Westmead NSW 2145.

Phone: (02) 9845 6728

NSW Cancer Council

153 Dowling Street, Woolloomooloo NSW 1340.

Phone: 131 120 (National Information Line)

1800 422 760 (National)

(02) 9334 1900 or (02) 9334 1865 or (02) 9334 1936 (after hours)

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