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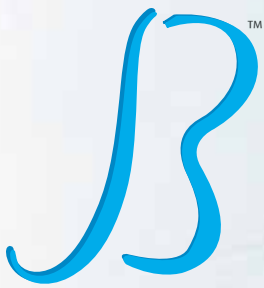
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# The Newsletter on BREAST HEALTH & BREAST CANCER



## AROUND THE GLOBE: BREAST HEALTH & BREAST CANCER

### East-West and the Lows and Highs of Breast Cancer Rates

Dramatic differences between the rates of breast cancer in women in different parts of the world have intrigued scientists, medical anthropologists, and sociologists.

Questions of nature (genetic variations in susceptibility to disease) versus nurture (lifestyle) arise. One way to address the question of nature versus nurture is to study breast cancer risk in women who migrated to other countries and either maintained their cultural practices or assimilated, adopting cultural practices of their new country.



For many years, scientists have recognized that ethnicity and national origin are some of the strongest predicting factors for risk of breast cancer.<sup>11</sup> Important medical and lifestyle risk factors for breast cancer include:

- Age
- Age at birth of first child
- Age at menopause
- Age of onset of menstruation
- Diet
- Number of children
- Body weight
- Exercise

A classic contrast in incidence (new cases) of breast cancer is represented by extremely high rates in the United States, and the relatively low rates of breast cancer in Asia, particularly Japan.<sup>11</sup> Also, annual mortality rates from breast cancer in Japan (11 deaths per 100,000 people) are much lower than in the U.S. (33 deaths per 100,000 people).<sup>12</sup>



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Japanese women who have emigrated to the U.S. experience higher rates of breast cancer than their female counterparts in Japan.<sup>11</sup> Such findings indicate the importance of lifestyle choices, including diet, in preventing breast cancer. International studies show that the risk of breast cancer varies with certain types of diets.<sup>13, 14</sup>

**Dietary Factors Associated with Higher Risk of Breast Cancer**

**Dietary Factors Associated with Lower Risk of Breast Cancer**

Animal products, including meat	Fish
Total fat, animal fat, and saturated fat	Nuts
Dairy products	Soy and other legumes
Refined sugar	Fruits
Alcohol	Whole grains
High number of total calories	Vegetables, including cabbage

**WHY DO WOMEN IN CERTAIN REGIONS OF JAPAN HAVE LOW RATES OF BREAST CANCER?**

Dietary factors may be an important reason for the relatively low rates of breast cancer in Japan. Furthermore, a long-term study of almost 22,000 women in Japan showed that frequent eating (at least 3 bowls daily) of miso soup (which is based on a paste made from fermented soybeans) and foods containing isoflavones (which are phytoestrogens found in high quantity in soy products) decreased the risk of breast cancer, especially in post-menopausal women.<sup>15, 16</sup> Merely eating soy foods, however, did not reduce the risk of breast cancer. Consumption of other traditional Japanese foods, such as eating more rice, vegetables, pickles, and fish, also was associated with a lower incidence of breast cancer. Women in Japan who never or rarely eat meat experienced an 8.5 times lower risk of breast cancer than did women who ate meat every day.<sup>14</sup>

A fascinating phenomenon of interest to scientists, anthropologists, and journalists throughout the world has occurred in Okinawa, Japan. Okinawa is a state (called a prefecture) consisting of 44 inhabited islands in Japan.<sup>17</sup> The island communities of Okinawa, Japan have an extraordinarily large number of healthy people at least 100 years old (centenarians).<sup>12, 17</sup>

In Okinawa, Japan, the annual incidence and mortality rates of breast cancer are very low, even for a region of Japan.<sup>12</sup> Mortality rates from breast cancer in Okinawa, Japan, are 82% lower than that experienced by women in the U.S.<sup>18</sup>


Geographic Region	Mortality Rate from Breast Cancer (deaths per 100,000 people per year)
Okinawa, Japan	6
Japan	11


Age of centenarians in Okinawa has been verified by the family register system, called koseki, which records birth, marriage, and death statistics of people in all cities, towns, and villages on the island.<sup>12</sup> Genetic characteristics, such as genes that confer lower

risk of autoimmune disease, contribute to the longevity and health of Okinawans.<sup>12</sup> However, the remarkable longevity and wellness of Okinawans has been attributed mainly to the features of the traditional lifestyle, including:


- Diet
- Physical activity and exercise
- Natural menopause
- Integrative medicine
- Psychological and spiritual well-being

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**Diet:**

Studies conducted at many research institutions have shown that low caloric intake increases life span in humans and animals.<sup>12</sup> Okinawans tend to eat until they are only 80% full, a practice known as hara hachi bu. The low caloric intake of the traditional Okinawan diet results in low circulating concentrations of free radicals, toxic molecules involved in the development of cancer.

Obesity is known to be a risk factor for breast cancer. Okinawan centenarians are lean and have a low body fat level.<sup>12</sup>

High consumption of alcohol is known to be a risk factor for breast cancer. Okinawan centenarians report only moderate use of alcohol.<sup>12</sup>

Major components of the traditional Okinawan diet are:<sup>12,18</sup>

- Cold-water fish, such as tuna, mackerel, and salmon, which contain high levels of omega-3-fatty acids that may reduce the risk of breast cancer



- Fruits
- Tofu, which is made from soy and contains isoflavones that may reduce the risk of breast cancer
- Grains
- Vegetables, including seaweed

**Physical activity and exercise:**

Elderly Okinawan women tend to remain physically active, cooking meals, gardening, working, walking, dancing, and practicing “soft” martial arts.<sup>12</sup>

**Natural menopause:**

Post-menopausal Okinawan women have higher levels of estrogen in their bodies than do post-menopausal women in the U.S.<sup>12</sup>

Geographic Location	Age of Women	Estrogen (pg/mL)
	70 – 100 years	Normal range = 0 - 35
U.S.	70 years	5.5
Okinawa, Japan	70 years	15.5
Okinawa, Japan	100 years	4.2

Peri- and post-menopausal Okinawan women, however, do not use hormone replacement therapy.<sup>12,15</sup> Due to the constituents of the traditional Okinawan diet, Okinawan women ingest a high level of phytoestrogens, such as flavonoids and lignans. For example, soy foods contain high levels of flavonoids, and grains (e.g., flax) contain high levels of lignans, and certain other vegetables (e.g., beans, peas, broccoli, and onions), also contain lignans. Phytoestrogens can minimize the hot flashes that are one of the symptoms of menopause.

**Integrative medicine:**

In Okinawa, Japan, the healthcare system integrates Western medicine and Eastern methods of healing, including the use of herbal tonics.<sup>12</sup>

**Psychological and spiritual well-being:**

Culturally, traditional Okinawans value moderation.<sup>12</sup> Elderly Okinawans express self-confidence, optimism, adaptable attitudes, and “an easy-going approach to life.”

In their views towards their lives, centenarians in Okinawa feel relatively unstressed, not particularly tense, nor carrying a sense of urgency with regard to time.<sup>12</sup> Elderly Okinawan women are very integrated into the social fabric of society and exhibit deep spirituality.

These social, psychological, and spiritual beliefs and practices in Okinawa, Japan, promote well-being of individuals and the communities.

**WHY DO WOMEN IN CERTAIN REGIONS OF THE U.S. HAVE HIGH RATES OF BREAST CANCER?**

As part of cancer surveillance programs in the U.S., rates of incidence (new cases) and mortality of various cancers are compiled and analyzed by federal and state registries. Incidence of breast cancer increased in women aged 50 and older during the period of 1986 through 2000 in the U.S., according to the American Cancer Society.<sup>M1</sup> During the period of 1996 through 2000 in the U.S., the incidence rate of breast cancer was estimated at 131.7 per 100,000 females (of various ages).<sup>M2</sup>

Within the U.S., the overall incidence (new cases) of breast cancer is higher in white women than in women of other races, such as Asian-Americans.<sup>M3, M4</sup>

Of women younger than 45 years of age in the U.S., however, African-American women have the highest incidence of breast cancer.<sup>M3</sup>

During the period of 1996 through 2000, the incidence rate of breast cancer per 100,000 females varied from

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104.5 in Mississippi to 145.2 in the state of Washington.<sup>M2</sup> When interpreting statistics, it should be noted that federal, state, and regional differences in incidence sometimes are attributed to different methods in the reporting and analysis of data over time.

Certain regions within the U.S., however, have been associated with particularly high rates of breast cancer. When data about geographic pockets of high incidence of breast cancer are published in newspapers or reported on television, women living in these areas understandably express concern with the possibility of environmental factors that might be responsible for the disease.

Marin County, California is an example of a relatively affluent community with a reportedly high incidence of breast cancer. In Marin County, the incidence of invasive breast cancer during the period 1997 through 2001 was found to be similar to that of San Francisco County and approximately 15% and 20% higher than that observed in other counties of California and the rest of the U.S., respectively.<sup>M4, M6</sup> For women in Marin County, the higher incidence of breast cancer, which seems to represent early-stage disease, was most apparent in women aged 40 to 69 years of age at the time of diagnosis.<sup>M5, M6</sup>

Also, Marin County represents a case study of collaboration by scientific, medical, political, and patient advocacy groups in order to explore the causes. Researchers involved in studies of the high incidence of breast cancer in Marin County include laboratory scientists, pathologists, oncologists, epidemiologists, and public health officials.

Most of the cases of breast cancer in Marin County women over the past decade were found to involve estrogen-

receptor-positive (ER-positive) tumors.<sup>M7</sup> ER-positive tumors may be preventable and are treatable by medications that work by blocking the effects of estrogen.

Furthermore, the reasons for the high reported incidence of breast cancer in Marin County seem due to a combination of data collection issues and social and demographic factors, rather than environmental factors. Previous reports of a jump in annual incidence of breast cancer in Marin County appear related to reliance on outdated population statistics from previous census determinations, yet use of contemporary methods of statistics in the cancer registries.<sup>M4, M8</sup> The census-based estimates of Marin County populations used in past calculations overestimated the number of women in certain age groups and underestimated the number of women in other age groups.<sup>M4, M6</sup>

A study of length of residence in Marin County failed to demonstrate an association with the level of risk of breast cancer.<sup>M9</sup> This finding suggests the absence of environmental toxins as a major reason for the high incidence of breast cancer in Marin County.<sup>M6, M9</sup>

Also, in a relatively affluent population, access to screening by mammography allows detection of breast cancer at an early stage of disease.<sup>M6</sup> Moreover, a constellation of socio-demographic factors of the relatively homogeneous population of female residents of Marin County represent several known breast cancer risk factors, including:<sup>M6- M10</sup>



- Predominantly white, non-Hispanic women
- High socio-economic status
- High level of education
- Late childbearing
- Giving birth to fewer children

Certain other groups of women in California and the U.S. share similar socio-demographic features, as well

as high rates of incidence of breast cancer.<sup>M7</sup> In 2002, the California Teachers Study demonstrated that female teachers and administrators in California experienced a higher incidence of breast cancer than did other women in California.<sup>M7</sup>

Research based on a study in Wisconsin revealed that living in affluent communities conferred a risk for breast cancer that was higher than the risk comprised of individual risk factors.<sup>M11</sup> Nevertheless, neither the financial status of women in Marin County nor the occupation of female teachers and educational administrators in California are believed to be directly responsible for higher incidence of breast cancer. On the other hand, higher socio-economic status and greater educational levels are associated with late childbearing, giving birth to fewer children, and use of hormone replacement therapy after menopause, all of which are considered risk factors for breast cancer. Because these medical and lifestyle characteristics result in a greater lifetime exposure to estrogen, they increase the risk of breast cancer, especially ER-positive tumors.

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When medical history and lifestyle characteristics of almost 600 Marin County women with and without breast cancer were compared, the Marin County women with breast cancer were found to be significantly more likely to report drinking at least 2 alcoholic beverages per day than the other women in the study.<sup>M9</sup> Marin County women who consumed 3 alcoholic drinks daily had an almost 4 times higher incidence rate of breast cancer, and Marin County women who consumed 2 alcoholic drinks daily had more than twice the incidence rate of breast cancer, than did Marin County women who drank less alcohol. According to the 2001 Marin Community Health Survey, women in Marin County drink significantly more alcohol than do women in the rest of California or the U.S.<sup>M12</sup> Daily intake of alcohol is another known risk factor for breast cancer.<sup>M9, M12</sup>

### HEALTHY ACTION STEPS, HEALTHIER ATTITUDES AND BODIES

Lifestyle choices impacting risk contribute to the variable incidence rates of breast cancer in different regions of the U.S and the world. Regardless of a woman's ethnicity and her past history of having or not having children, a woman can help improve her level of risk for breast cancer by currently adopting some lifestyle choices similar to those many women in Japan practice, including:

- Healthy diet
- Avoidance of frequent alcohol intake
- Exercise
- Stress reduction methods
- Using alternatives to hormone replacement therapy

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## Melatonin: Nights, Lights, and Breast Cancer

Melatonin is a hormone produced by the pineal gland (that is located at the base of the brain), in response to a lack of light. Although many people think of melatonin only as a sleep aid and a supplement to help with jet lag, melatonin may have a much larger role in maintaining wellness, especially in women.

Endocrinologists and oncologists have been fascinated with a possible role for melatonin in helping to prevent breast cancer. Women with pineal calcification, a common malfunction of the pineal gland and which results in less production of melatonin, have higher rates of breast cancer than do women with healthy pineal glands.



In healthy women, melatonin levels typically are low during the day. Our bodies produce melatonin during the darkest hours of the night. Levels of melatonin increase during the night and peak between 2 a.m. and 4 a.m. Also, production of melatonin varies with the season of the year.

Even after studies have been performed in cells grown in the laboratory, experiments have been conducted in mice and rats, and clinical studies have been explored in women, the role of high levels of melatonin in preventing breast cancer remains controversial. Circumstances that increase a woman's risk of breast cancer, possibly due to interference with the normal nocturnal rise in melatonin include:

- Exposure to higher levels of magnetic fields
- Exposure to light at night or nighttime loss of sleep. Experiments in mice and rats demonstrate that prolonged exposure to light suppresses nocturnal peak release of melatonin. Clinical studies have investigated the phenomenon in humans. Sighted women tend to have lower levels of melatonin and higher rates of breast cancer than do blind women.<sup>1</sup> Also, women who sleep in the brightest bedrooms exhibit an increased risk of breast cancer, according to a study of approximately 800 women in the Seattle area.<sup>2,3</sup>

Furthermore, in the study that could be nick-named, "sleepless in Seattle," women who work the night shift experience increased risk of breast cancer.<sup>2</sup> Moreover, the risk of breast cancer increased with each additional hour of night-shift work performed per week.<sup>2</sup> In certain occupations (such as flight attendants, radio and telegraph operators, and nurses), women who work night shifts have higher rates of breast cancer.<sup>4,5</sup> For example, in the Nurses' Health Study of over 78,000 women, female nurses who worked rotating night shifts

(defined as a work schedule including at least 3 night shifts per week) for at least 3 decades prior had a 36% increased risk of breast cancer, compared to that of female nurses who had never worked the night shift.<sup>4,5</sup>

Several mechanisms have been offered as explanations for the protective effects of melatonin on breast cells:

- Melatonin levels are believed to be inversely related to estrogen levels. For example, when melatonin levels are low, estrogen levels are believed to be high, and vice-versa. Therefore, if nighttime sleep loss, light-at-night, or high levels of magnetic fields suppress the normal nightly rise in melatonin, estrogen levels would be increased. Because increased levels of estrogen are hypothesized to raise the risk of breast cancer, an inhibition of melatonin production might increase the risk of breast cancer.

Constant light exposure of female mice that possess the HER-2/neu gene (that codes for estrogen receptors on the surface of breast cells) hastened the development of mammary tumors, compared to that of mice exposed cyclically to light and dark.<sup>4,6</sup>

Furthermore, nightly treatment of the mice with melatonin (dissolved in drinking water) significantly prevented the development of mammary tumors.

Women who experience early onset of menstruation, are obese, or are older tend to have lower levels of melatonin and higher rates of breast cancer than do other, non-obese, or younger women.<sup>1</sup>

- Melatonin interferes with the action of estrogen receptors on breast

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cells, inhibiting cell replication in response to estrogen and other factors that might otherwise promote the growth of breast tumors.<sup>7</sup>

- Melatonin helps protect breast cells against damage from chemical carcinogens (substances that can cause cancer), free radicals (toxic chemicals produced by the body), and events induced by cortisol (a hormone produced by the adrenal gland).<sup>7</sup>
- Melatonin interacts with linoleic acid, a dietary fat that otherwise can stimulate the growth of breast cancer cells.<sup>8</sup>

### MELATONIN LEVELS IN WOMEN WITH AND WITHOUT BREAST CANCER

Although various studies have investigated melatonin levels in women with and without breast cancer, a drawback in interpreting retrospective studies (i.e., those that examine women who currently have or have never had breast cancer) is that they do not prove whether differences in melatonin levels contribute to the cause or arise as a result of breast cancer.<sup>9</sup> In one study, healthy women experienced seasonal variation in levels of melatonin, whereas levels of melatonin in women with breast cancer did not vary with the season.<sup>9</sup> In another study, women with breast cancer had lower levels of melatonin than did women without breast cancer.<sup>9</sup>

A recent prospective study (i.e., one that follows the health status of women over time) of the role of melatonin in preventing breast cancer was conducted in the U.K.<sup>10</sup> At the start of the study and at end of the study an average of 12 years later, the 24-hour urinary levels

of 6-sulfatoxymelatonin, the main urinary breakdown product of melatonin, were measured in pre-and post-menopausal women. No statistically significant differences in 6-sulfatoxymelatonin levels were observed in the 127 patients who developed breast cancer and the 353 women who did not develop breast cancer. Because the level of 6-sulfatoxymelatonin was “not statistically significantly associated” with the risk of breast cancer, the authors of the study concluded that the concentration of melatonin in the body does not appear to be strongly associated with the risk of breast cancer.<sup>10</sup>

Several limitations exist, however, when interpreting the results of the British study. Measurement of 24-hour urinary levels of 6-sulfatoxymelatonin does not provide information on possible differences in the nocturnal duration and peaks of secretion of melatonin in the women.<sup>11</sup> Also, the report from the scientists in the U.K. did not discuss the women’s night-time exposure to light, which is a major factor in influencing nocturnal production of melatonin.<sup>11</sup> Therefore, more clinical investigations of the potential role of melatonin in preventing breast cancer are needed.

### THE INS AND OUTS OF MELATONIN ENHANCEMENT AND SUPPLEMENTATION

Perhaps you “burn the midnight oil” studying, or you often are awakened by your infant crying in the middle of the night, or you have a night job, or you sometimes have difficulty sleeping. To increase your body’s production of melatonin, make sure that you regularly get adequate sleep in a darkened room.

Before taking melatonin supplements, consult with your integrative healthcare professional. Whether or not you are taking any estrogen-related drug, if you wish to use melatonin as a supplement, it is best to start with a very small dose (0.1 mg) of melatonin taken at bedtime.

Be aware that a potential side effect of too much melatonin is sleepiness. Also, due to the contraceptive activity of high doses of melatonin, pregnant women and women desiring to become pregnant should avoid taking melatonin.

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**Aromatherapy**

Although aromatherapy often is associated with New Age culture, the practice has been popular since ancient, likely even prehistoric, times.

Almost 6,000 years ago, the famous Egyptian physician, Imhotep, utilized aromatherapy.<sup>1</sup> Many Biblical references extol the use of oils for anointing and incense. Similarly, the renowned Greek physician, Hippocrates, utilized aromatherapy, as did the ancient Romans.<sup>1</sup>

The term, aromatherapy, however, first was applied to the practice in 1930 by the French chemist, Rene Maurice Gattefosse. In later decades of the 20th century, French surgeons (e.g., Dr. Jean Valnet) and therapists (e.g., Madame Marguerite Maury) made aromatherapy commonplace in their practices. For women of the 21<sup>st</sup> century, aromatherapy is a delightful way to promote the well-being of body, mind, and spirit that helps to prevent breast cancer and other illnesses.

**SWEPT AWAY BY SCENTS**

In Marcel Proust’s *Remembrance of Things Past*, certain scents and tastes could evoke memories so potent, that the protagonist was transported to another time, another place:

“And suddenly the memory revealed itself. The taste was that of the little piece of madeleine... This is why the best share of our memory is out of us, in a rainy breath, the musty smell of a room or the odor of a first blaze, everywhere where we find us – same as our intelligence...the last reserve of the past, best, that which, when all our tears seem dried up, can make us still cry.”

If aromatherapy is envisioned in the broadest sense as the use of scents to create well-being, then lingering to breathe in the scent of an open blossom or a pine forest, applying perfume to your pulse points, bathing in frothy bubbles of flowery aromas, burning incense, lighting scented candles, putting a bowl of potpourri in a room, spraying lavender water on linens before ironing, or placing scented sachets in an armoire of clothing all are familiar forms of aromatherapy.

**THE SCIENCE OF AROMATHERAPY**

If one focuses on the contemporary therapy part of the practice, aromatherapy utilizes either inhalation or topical (skin) application of highly concentrated, distilled oils (known as essential oils) from plants to promote healing, increase vitality, and reduce stress. Botanical sources of the approximately 150 essential oils include flowers, fruits, seeds, bark, other parts of trees, grasses, and other plants.<sup>1</sup>

The essential oils, which are not the same as perfumes or flower essences, have psychological (e.g., antidepressant effects), physiological, and therapeutic (e.g., antiseptic, antiviral, anti-inflammatory, and pain-relieving) properties.<sup>1</sup> In aromatherapy, the essential oils are not intended for internal use.



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Inhalation of essential oils stimulates the olfactory nerves, thereby affecting the central nervous system. Because every natural, essential oil contains up to 100 different chemicals, the essential oil is capable of strongly influencing emotions.

### THE ART OF AROMATHERAPY

Essential oils may be used individually or in combination with other essential oils. Based on which essential oils are involved, you may enjoy aromatherapy via one of the following methods:<sup>1</sup>

- Carefully sprinkle 4 drops of the essential oil on a tissue, cloth handkerchief, or cotton ball; close your eyes; visualize pleasant images; and directly inhale the aroma of the oil.
- Carefully sprinkle drops of the essential oil in a bowl of warm or room temperature water; close your eyes; visualize pleasant images; and inhale the rising vapors of the oil.
- Place 50 drops of a blend of essential oils in a diffuser, aroma lamp, or vaporizer in a room, close your eyes, visualize pleasant images, and passively inhale the aromas.
- Massage the external skin with a mixture of 7 to 10 drops of essential oils diluted in 5 teaspoons to 1 fluid ounce of either olive oil, other vegetable oil, or massage cream.
- Add 5 to 10 drops of a one type of or blend of essential oils to a warm to hot bath, stir the bath water well with your hands to mix the oil throughout, enter the tub, and enjoy soaking in the aromatic bath for 20 minutes.



### THE PSYCHOLOGY OF AROMATHERAPY

Depending on which essential oils are used, and which of the chemicals predominate in the particular essential oils, aromatherapy can change your mood. Some essential oils are considered to be “adaptogenic”, because the oils purportedly can affect physiology and mood in response to your body’s needs.<sup>1</sup> As a testament to the power of aromatherapy to affect mood and behavior, Japan is utilizing engineers to install aroma systems to modulate productivity of employees and moods of customers in newer business buildings.

#### **B**™ INVIGORATED

Oils from certain plants have the ability to stimulate the mood and behavior of animals. For example, mice who were hyper-excited (by ingesting caffeine) became irritable from the scent of certain components of orange oil that were sprayed into their cages.<sup>1</sup> As a more familiar and more pleasant example, cats respond friskily to the plant, catnip.

Moods and behavior of people are stimulated by the scent of oils from certain plants. At teller counters in Japanese banks, the aromas of lemon and eucalyptus are used to promote alertness by the bank tellers.<sup>1</sup> Studies of keyboard entry operators in Japan have demonstrated that uplifting, refreshing, and stimulating scents can reduce errors by 33% to 54%.

Aromatherapies that aid in relieving depression and stimulating an energized, optimistic, uplifted mood include:<sup>1</sup>

Angelica	Lemon grass
Basil	Mint
Black pepper	Myrrh
Cardamom seed	Myrtle
Cedarwood	Orange
Clove	Orange blossom
Coriander	(also called
Cumin	Neroli)
Cypress	Patchouli
Eucalyptus	Rose
Frankincense	Rosemary
Garlic	Rosewood
Geranium	Sandalwood
Ginger	Savory
Grapefruit	Spruce
Jasmine	Tarragon
Lavender	Tea tree
Lemon	Thyme
Lemon balm	Ylang-ylang
(also called	
Melissa)	

“Inspiration could be called inhaling the memory of an act never experienced...”

— MARCEL PROUST

#### **B**™ TRANQUIL

Oils from certain plants have the ability to calm the mood and behavior of animals, including humans. For example, mice who were hyper-excited (by ingesting caffeine) were calmed by the scent of lavender and other oils that were sprayed into their cages.<sup>1</sup> Studies of keyboard entry operators in Japan have demonstrated that the scent of lavender oil can reduce errors by 20%. Also, in customer areas of certain new business buildings in Japan, the aromas of lavender and rosemary are used to promote calmness in the

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waiting customers. Elderly patients who previously had difficulty sleeping at night achieved restful sleep when the scent of lavender oil was diffused in their bedrooms nightly.

Aromatherapies that aid in relieving depression caused by loss, diminishing anger, reducing stress and tension, lowering anxiety, providing soothing relaxation, and achieving tranquility and a sense of inner peace include:<sup>1</sup>

Basil	Immortelle	Patchouli
Bay	Jasmine	Peppermint
Cedarwood	Lavender	Rose
Chamomile, such as blue chamomile and Roman chamomile	Lemon balm (also called Melissa)	Rosemary
Comfrey	Marjoram	Sandalwood
Cypress	Nutmeg	Tagetes
Frankincense	Orange blossom (also called Neroli)	Vanilla
Geranium		Yarrow
Hyssop		Ylang-ylang

If you wish to do aromatherapy to help you sleep at night, you can:<sup>1</sup>

- Use calming types of essential oils diluted into bath water, and take the relaxing bath just prior to bedtime.
- Sprinkle 1 to 2 drops of a relaxing type of essential oil on a tissue, cloth handkerchief, or cotton ball; and tuck the scented sachet into your pillow.

### ESSENTIALS OF PRECAUTIONS

As with all medications, keep essential oils and aromatherapy diffusers, aroma lamps, and vaporizers out of the reach of infants and young children.

Before using any essential oil for inhalation or topical application, check the label and instructions for precautions. Even though “natural” essential oils come from a botanical source, the essential oils are highly concentrated. As most essential oils are too strong for use undiluted on skin, these essential oils must be either diluted in vegetable oil before topical application, or diluted in bath water.<sup>1</sup>

Too high single or cumulative doses, either via respiratory or topical exposure, to some essential oils may cause side effects in some people. In fact, some essential oils have such potent (and potentially dangerous) properties that they are not suitable for aromatherapy. Possible side effects of some essential oils include:<sup>1</sup>

- Allergies
- Rashes and dermatitis
- Headaches
- Insomnia
- Liver toxicity
- Side effects in pregnant women
- Side effects on nursing mothers

Because of the possibility of allergic reaction, if you plan to apply an essential oil topically via massage or bathing, test a drop of the essential oil diluted in

carrier (massage or vegetable) oil on a small area of your skin, before exposing a larger area of your skin to the diluted essential oil.<sup>1</sup>

If you feel a burning, inflammatory-like sensation after exposure of your skin to essential oils, apply olive oil or other vegetable oil to the area.<sup>1</sup> If you accidentally spill essential oil on your skin, immediately wash off the essential oil with whole milk. The fat in the whole milk diminishes the potential for skin irritation by the essential oil.

Regardless of whether you are inhaling essential oils or applying them to your skin, avoid getting essential oils in your eyes.<sup>1</sup> During inhalation of essential oils, keep your eyes closed. If you accidentally get essential oil in your eyes, immediately wash off the essential oil with whole milk. The fat in the whole milk diminishes the potential for irritation to the eyes by the essential oil.

In aromatherapy, the essential oils are not intended for internal use. If you accidentally ingest essential oil, you should immediately drink a lot of milk, eat soft bread, and go to the closest poison control center for treatment.<sup>1</sup>


When used properly, aromatherapy can be very pleasant and safe. Ideally, check with your integrative healthcare professional prior to exploring aromatherapy with essential oils.



#### REFERENCE ON AROMATHERAPY

1. Aromatherapy. Accessed at [www.holisticonline.com](http://www.holisticonline.com).

NEW HORIZONS IN  
DIAGNOSIS & TREATMENT

Each issue of  highlights promising advances in technology and medicine that are being studied by scientists and physicians to improve quality of life and extend survival for breast cancer patients.

Exciting new developments in the diagnosis and treatment of breast cancer include:

- New methods for very early diagnosis that employ imaging with fluorescent probes to detect small clumps of precancerous cells with abnormal expression of receptors on the cell surface
- Personalized tests of breast cancer cells to determine which patients are likely to need chemotherapy after surgery
- Drugs that interfere with the cell cycle and multiplication of breast cancer cells
- Treatments targeted to reduce the growth of new blood vessels that could otherwise nourish breast cancer
- Other therapeutic agents targeted to fight breast cancer cells and not harm healthy cells
- Gene therapies
- Immunological therapies, including vaccines, to prevent and treat breast cancer.

Scientists developed an experimental vaccine against mammaglobin-A, a protein present in 80% of breast cancers and either absent or present at low levels in most healthy breast cells.<sup>1,2</sup> When mice with actively growing, mammaglobin-A-positive breast cancers were vaccinated with a special type of white blood cells (cytotoxic T lymphocytes) reactive against mammaglobin-A, the treatment resulted in statistically significant reduction of the size (i.e, shrinking) of the tumors. If studies in animals and humans prove that the vaccine is effective and safe, vaccination against mammaglobin-A eventually may be used both to prevent breast cancer in women at high risk and to treat breast cancer.

REFERENCES FOR NEW HORIZONS IN DIAGNOSIS & TREATMENT


1. K. Narayanan, A Jaramillo, ND Benschhoff, LG Campbell, et al. Response of established human breast tumors to vaccination with mammaglobin-A cDNA. *Journal of the National Cancer Institute*. 2004; 96(18):1388-1396.
2. J. Warner. New breast cancer vaccine passes first hurdle. WebMD with AOL Health. 09/15/04. Accessed at [www.aolsvc.health.webmd.aol.com](http://www.aolsvc.health.webmd.aol.com)

For more information on breast health and breast cancer, visit our website at [www.healthsearches.org](http://www.healthsearches.org).

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- We invite readers to email questions to: [B@healthsearches.org](mailto:B@healthsearches.org).
- In future issues of , selected questions will be answered in a Q&A format in this regular column.

 INSPIRED

“Just to be is a blessing.  
Just to live is holy.”

— RABBI ABRAHAM HERSHEL