

Stop Cancer Where It Starts



A Breast Cancer Network programme aimed at reducing the risk of breast cancer.

REDUCE YOUR BREAST CANCER RISK Everyday actions for New Zealand women

Did you know that our country has one of the highest incidence rates of breast cancer in the world? Breast cancer is the most prevalent cancer among New Zealand women. One in nine women will develop the disease at some stage in their life.

A child who comes to New Zealand from a country that has a low incidence of breast cancer will, over time, develop the same risk as a person born in New Zealand. It's not absolutely clear why our breast cancer risk is so high, but there are clues within our western lifestyle and the wider environment.

What we are learning about breast cancer is that a normal breast cell may be damaged several times over decades by a variety of environmental impacts before the natural defenses eventually break down and it mutates into a fully-fledged cancer cell. The sensitive breast tissue environment around it can either be protective or encouraging to this process. Periods of rapid cell growth such as the neonatal period and adolescence are times when the immature breast cells are most vulnerable to environmental damage.

Certain lifestyle changes can reduce our risk to some degree. As consumers we make decisions every day that impact on ourselves, our families and our society. How we live, what we do with our time and what we consume has a flow-on effect. The more positive decisions we make, the better the life we are likely to lead. Increasingly, science is pointing to the importance of early life influences in reducing breast cancer risk. Our children's exposure to chemicals and plastics may be influencing their health later on. This is an area where we can make a positive difference.

Unfortunately not all decisions are ours alone. It's not easy for individuals to reduce the influence of chemicals and substances that surround us. Often we aren't even aware of such risk. This brochure focuses on areas that are often within the power of an individual to change.



Take the quiz

Find out how well informed you really are about breast cancer risk.

Tick the items on the list that might decrease your risk of breast cancer. Put a cross on items that might increase your risk.

- | | |
|-----------------------------|--------------------------|
| Drinking alcohol daily | <input type="checkbox"/> |
| Smoking | <input type="checkbox"/> |
| Exercise | <input type="checkbox"/> |
| Weight gain after menopause | <input type="checkbox"/> |
| Breast feeding | <input type="checkbox"/> |
| Olive oil | <input type="checkbox"/> |
| X-rays | <input type="checkbox"/> |
| Toxic chemicals | <input type="checkbox"/> |
| Green Tea | <input type="checkbox"/> |
| Teenage pregnancy | <input type="checkbox"/> |
| The Pill | <input type="checkbox"/> |
| Passive smoking | <input type="checkbox"/> |
| Being childless | <input type="checkbox"/> |
| HRT | <input type="checkbox"/> |
| Fruit and vegetables | <input type="checkbox"/> |
| Loss of ovaries | <input type="checkbox"/> |
| Early age for first period | <input type="checkbox"/> |
| Late age for menopause | <input type="checkbox"/> |
| Heating food in plastic | <input type="checkbox"/> |
| Nuclear fallout | <input type="checkbox"/> |
| Mother has breast cancer | <input type="checkbox"/> |
| Binge drinking | <input type="checkbox"/> |

Share the quiz with your friends and see how they fare. The more the message about risk factors is known, the more people can do something positive about it.

Read on to learn more about the risk factors for breast cancer and what you can do to reduce your risk.

What is the Breast Cancer Network?

Breast Cancer Network is a New Zealand-wide, independent group for those who have experienced breast cancer and their supporters. BCN promotes the issues and needs of those personally affected by breast cancer, works towards implementing their recommendations and advocates particularly for research into prevention of the disease. By means of our website and bi-monthly magazine, Upfront U Kaiora, we share information and provide a voice for women with breast cancer. Breast Cancer Network (NZ) Inc is a registered charity.

In a nutshell

Firm evidence

There is general agreement from the scientific community that the evidence about these factors is reliable. Even so, opinion may change as more research comes to hand. We list here those factors which can be influenced by lifestyle choices, leaving aside for now such factors as previous benign breast disease, family history, early age for onset of periods and high birth weight.

Increases risk

- Weight gain after menopause
- Drinking alcohol
- HRT
- Oral contraceptives for 10 or more years
- Childless
- Having children after 30
- Ionising Radiation (includes x-rays)

Decreases risk

- Full term pregnancy before 20 years
- Breastfeeding for as long as possible
- High level of exercise



Limited evidence

and the precautionary approach

This group of factors is supported by a reasonable degree of evidence - but insufficient yet to be called firm evidence. The position of these factors will eventually be clarified, but can we wait? It is likely that a number of factors combine to cause breast cancer and they can begin very early in life.

We are unashamedly promoting a "precautionary approach". This challenges the idea that there must be complete proof before taking action. "Act now - proof later", may be a maxim that will protect our daughters better than "wait for firm evidence," and this approach can only be beneficial.

Increases risk

- High fat and red meat diet
- High dairy intake
- Night work
- Toxic and hormone-disrupting chemicals
- Smoking and passive smoking
- Low Vitamin D
- Bisphenol A exposure (polycarbonate plastic)

Decreases risk

- Mediterranean diet including olive oil
- High vegetable/fruit diet
- Green tea
- Fish oils
- Regular exercise, especially when young

Chemicals which have been shown to alter breast cells in laboratory animals include components of plastics, food preservatives, timber treatments, fumigants, flame retardants, solvents, herbicides, pesticides, hormones, cosmetic additives, burnt food, dioxins, PCBs. They may act by directly causing cancers to develop, by stimulating the growth of existing cancer cells, or by disrupting cellular function causing higher cancer susceptibility.

How much effect do risk factors have?

There are several ways of expressing risk. Relative risk (RR) compares the incidence of a disease in people with a trait, with the incidence of the disease in people without the trait. People without the trait will have a RR of 1. If the RR is greater than 1 (RR>1) the risk is higher than the group without the trait. If the RR is less than 1 (RR<1) the risk is lower than the group without the trait.

All the factors below affect risk weakly to moderately, compared with strong risk factors such as certain patterns of family history, genetic susceptibility, exposure to high levels of radiation and certain previous breast diseases.

Relative Risk (RR)

Obesity and weight gain after 18	RR 1.2
Alcohol (moderate drinker)	RR 1.7
HRT (current use >3 years)	RR 1.5
Childless or first child over 30 years	RR 1.9
Breastfeeding total of >1 year	RR 0.8
Smoking	RR 1.46

Passive smoking (environmental tobacco smoke)	RR 1.68
Exercise >3 hours/week	RR 0.8

For comparison, previous benign breast disease has a RR 1.5 - 4.0 (depending on type of disease). Family history with first degree relatives has a RR 1.7 - 5.0 (depending on age at breast cancer diagnosis, and other factors). If you breastfeed your children for a total of 1 year or more the RR is 0.8, reducing the risk of getting breast cancer by 20%.

Probability of developing breast cancer within the next 10 years

By age 20.....	1 out of 1,985	By age 60.....	1 out of 26
By age 30.....	1 out of 229	By age 70.....	1 out of 24
By age 40.....	1 out of 68	Lifetime.....	1 out of 8
By age 50.....	1 out of 37		

Source: Among those cancer free at age interval. Based on cases diagnosed 2000-2002. "1 in" are approximates. American Cancer Society Breast Cancer Facts & Figures, 2005-2006. www.cancer.org/downloads/STT/CAFF2005BrF.pdf

Take a big breath, smile, and make a life time plan

Breast cancer incidence in young women is low, but the early environment and lifestyle choices influence risk of the disease later on. We suggest you develop a long term plan based on healthy choices. Start with good nutrition, regular physical activity, reduce alcohol, and reduce the chemicals in your food and home, skin, hair and cleaning products. Breastfeed your children and bring them up to regard healthy choices as natural.



Factors with firm evidence of increasing your cancer risk

OBESITY

Obesity after menopause raises breast cancer risk. This is thought to be associated with the increase in oestrogen produced by increased fatty tissue. Although obesity before menopause does not increase risk, there is good reason to avoid obesity for the sake of general health.

ALCOHOL

Risk increases with rising consumption. Even one standard drink per day raises risk a little.

HORMONES

The female hormone, oestrogen, has an important influence on breast cancer risk. If menstruation begins at earlier than 12 years and/or menopause is later than 55 years, exposure of breast cells to natural oestrogen is longer than usual and influences breast cancer risk. If a woman has no children or has them after the age of 30 years, exposure to oestrogen is increased and this influences risk.

There is an increased risk associated with having a larger birth size, possibly associated with longer exposure to oestrogen in the womb. There is not much we can do about this type of exposure with our present level of knowledge. But we can do something about synthetic hormones and endocrine disrupting chemicals.

Synthetic hormones - eg HRT, the Pill

Many women do not need any treatment at menopause. Symptoms may be short-term and mild, or alternative remedies such as evening primrose oil and black cohosh may be enough for relief. Caution

is advised with herbal treatments. It has been established that combination HRT treatment for menopause symptoms raises the risk of breast cancer and is best avoided. Short term use of HRT may still be recommended by doctors in some circumstances, for women who have not had breast cancer.

Taking the contraceptive pill for more than 10 years raises breast cancer risk slightly. For most women the risk is small so the pros and cons can be weighed up like any other medication. Women at risk of inherited breast cancer should discuss the safety of the Pill with a specialist.

Some past hormone treatments have been found harmful, particularly DES (diethyl stilboestrol) which was used to prevent miscarriage until the 1970s. Women given DES are at higher risk of breast cancer and their daughters are at risk of other cancers. If a doctor recommends a hormone treatment, ask about the breast cancer risk before accepting it.

There has been considerable interest in reported benefits of natural progesterone creams for menopause symptoms. As yet there is not much peer-reviewed information in the medical literature. Some breast cancer tumours are stimulated by progesterone, so it seems advisable if using these creams, not to put them on the breasts.

Use of oestrogen creams

Women often develop dry vaginal tissue after menopause or chemotherapy, making intercourse difficult. If lubricants such as Astroglide do not give relief and oestrogen cream is needed, ask for tablets or creams containing a less active type of oestrogen called oestriol and use just a little applied with the finger.

X-RAYS AND IONISING RADIATION

It is well established that x-rays can cause breast cancer. However, modern x-ray technology has made mammography, lung and dental x-rays and other simple x-ray procedures safer than in the past due to reduced exposure. Breast Cancer Network recommends women join the BreastScreen Aotearoa screening programme at the age of 45.

High dose procedures include CT or CAT scans and radiotherapy. Avoid repeated CT scans. There is no safe minimum dose for x-rays, but risk increases with higher doses. We advise women to ask for a lead apron to protect the upper body while other parts of the body are being x-rayed, and to insist if necessary. (Also see notes about children.)

PREGNANCY AND BREASTFEEDING

From pre-puberty until birth of the first full-term baby, a young woman's breast cells are immature and more susceptible to damage from outside factors such as x-rays, alcohol, hormones and chemicals. Such damage may initiate changes that lead to cancer many years later.

Although breast cancer can occur during pregnancy, a full term pregnancy before the age of 20 reduces breast cancer risk. Risk is not reduced if pregnancy occurs after 30 years. Before the age of 30 breast feeding for a total of 12 months or more reduces a mother's risk - it's great for babies and good for women.

It is a disgrace that breast milk worldwide contains environmental chemicals, but the great benefits of breast feeding to child and mother still mean that breastfeeding is best.

Factors with limited evidence of increasing your cancer risk

NUTRITION

There is much to gain by making the change to healthy foods. Not only will our risk of cancer be reduced, we look and feel better and have more energy. A wide variety of foods and plenty of fresh foods in season will provide the essential nutrients.

Breast Cancer Network recommends the following:

Grow your own fruit and vegetables, or look for certified organic food suppliers - especially for fruit and vegetables, cereals, grains, bread and tea. Otherwise, buy the best quality and freshest produce you can afford. Many homes have room to grow a few fruit trees, seasonal vegetables and herbs in the garden or pots and planters.

Eat at least 5 servings per day of fresh fruit and vegetables, but aim for 9 plus. See our sample menu if you think this sounds impossible. A serving is a cupped handful - so children's servings can be smaller. Home-made salads are easy and nutritious. Dressings can be made with lemon juice or cider vinegar with olive oil and seasonings. Sauces can be made

from low-fat, high-nutrition vegetables such as tomatoes, mushrooms, onions, with herbs and spices. Be sure to include highly coloured fruits and vegetables for their anti-oxidants and green leafy vegetables. Internet recipes abound and vegetarian cookbooks are helpful for ideas.

Meats, proteins and fats: Restrict smoked foods and preserved meats which contain nitrates or nitrites, such as bacon, corned meat, ham, sausages and deli items. Use chicken, fish, dried beans and lentils, free range eggs, nuts and seeds, a moderate amount of dairy products (low fat varieties for adults) and moderate use of lean red meat. Oily fish are high in healthy but hard-to-get Omega 3 fatty acids. Choose a variety of cold-pressed oils which contain natural anti-oxidants. Be moderate with saturated fats found in meats, dairy foods and coconut. Avoid trans (hydrogenated) fats and oils. Trans fats are not always listed on labels but are found in margarine, manufactured foods, cereals and baked goods. Trans fats and rancid fats or oils lead to harmful free radical formation in the body.

Fresh nuts and seeds are a rich source of protein and most have good fats. Brazil

nuts are rich in selenium, an anti-oxidant that is deficient in NZ soils. Two per day will provide enough selenium. Seeds are rich in minerals such as zinc and magnesium. Never eat stale or rancid nuts.

Choose less-refined grains such as rolled oats, millet, plain cereals without additives, wholemeal or grainy breads, brown rice. Try to find organic versions when possible. Keep stone-ground and organic flours in the fridge to slow down the process of rancidity that develops from the oily, nutritious germ of the grain.

Moderate use of soy foods may be beneficial, but soy has oestrogenic properties and the evidence for overall safety is not entirely firm. Choose whole soy foods rather than derivatives such as genistein, and look for GE free products.

A "Mediterranean" diet appears to be protective against breast cancer. This includes olive oil, fish, tomatoes, aubergines, pulses, capsicums, pasta, etc.

Reduce sugary foods. Use organic sugar, honey or maple syrup in preference to white sugar. The controversial chemical sweeteners, aspartame and saccharine, are best avoided or kept to a minimum.

OTHER FACTORS FOR HEALTHIER LIVING

These factors may not be sufficiently studied for many years to make firm claims relating to breast cancer risk, but they can make a positive difference to health and Breast Cancer Network does not hesitate to recommend them.

Avoid

- Food additives
- Preserved meats with nitrates eg, sausages, salami, ham
- Coloured foods and drinks
- Trans or hydrogenated fats
- Highly refined foods including white bread
- High intake of salt and sugar
- Charred meat, highly browned food
- Stale or rancid food
- Toxic hair dyes
- Use of plastics with hot food
- Cosmetics, skin, hair, bath products with phthalates, parabens, mineral oils
- Petrol fumes when filling up, vehicle exhaust
- Toxic chemicals
- Burning rubbish especially plastics
- Unnecessary x-rays
- Sunburn
- PVC eg in raincoats, shower curtains, toys
- Chemical sweeteners
- Plastic baby bottles especially polycarbonate

Use

- Organic or freshest possible food
- Nuts, seeds, pulses
- Fresh vegetables and salads
- Variety of cold pressed oils, olive oil
- Wholemeal breads, less-refined cereals
- Herbs, spices, turmeric
- Fish
- Plenty of water
- Highly coloured fruits and vegetables
- Steamed and baked vegetables
- Safer cosmetics - try a deodorant crystal
- Keep cars well tuned, care when refuelling
- Safe garden sprays and household cleaners
- Composting, recycling, re-using, safe disposal
- Ask for lead apron over rest of body during x-rays
- Short daily sun exposure at cooler times of day
- Meditation
- Dietary supplements, with professional guidance
- Glass baby bottles



Menu with 9+ servings of vegetables and fruit daily



Drink 6 - 8 cups of water and other fluids per day, such as green tea, water with squeeze of lemon, herbal teas, juice and miso, tea and coffee in moderation. Eat a wide variety of foods. Introduce new ideas and new foods gradually if you need to.



Breakfast

(2 servings fruit or vegetables)

- Small glass freshly squeezed juice.
- Muesli or porridge with yoghurt or milk and raw fruit or stewed fruit or prunes.
- or whole grain toast with organic peanut butter or sliced tomatoes or avocado
- or raw fruit salad and a serving of almonds or yoghurt
- or fruit smoothie made with yoghurt.



Morning tea

(1 serving of fruit or vegetable)

- A few brazil nuts and dried fruits such as apricots, dates
- or piece of fruit with home baked biscuit or muffin
- or crackers with peanut butter or cheese, and tomato or cucumber.



Lunch

(2 servings of fruit or vegetables)

- Canned salmon and salad sandwich or wrap with homemade dressing
- or salad with added eggs, salmon or chicken, sunflower seeds and bread roll
- or vegetable/lentil soup with whole grain toast or bagel
- Plus an orange/plum/carrot/half an apple, avocado, or tomato juice



Mid-afternoon or pre-dinner snack

(one serving of fruit)

- Children – select from marmite and walnut sandwich, organic fresh or dried banana, yoghurt and raw fruit, muffin with fruit smoothie
- or rice crackers/corn chips and hummus,
- or home-roasted peanuts, with tomato juice
- or carrot and celery sticks with homemade dressing or dip
- or pawpaw or melon with lemon juice
- or rice crackers, low-fat cheese and fruit juice.



Dinner

(3 or 4 servings of vegetables)

- Chicken, fish or lean meat with 3-4 baked and steamed vegetables such as potatoes, kumara, taro, pumpkin, broccoli, silver beet, bok choy, taro leaves
- or pasta with fresh or bottled/tinned tomato sauce with plenty of added vegetables, such as courgettes, peppers, onions, beans, garlic, and some chicken, meat, fish or cheese
- or meat casserole with onion, mushrooms, capsicums, served with greens, and potato or kumara
- or mixed stir-fried vegetables with chicken, fish, cashew nuts, or marinated tofu on basmati rice or egg noodles
- or egg dish such as frittata with vegetables, served with salad,
- or Ratatouille, with French bread and green salad,
- or vegetable lasagna, with bean sprout salad or green beans
- or Lima bean casserole with tomatoes, onions, peppers, etc served with cooked greens
- or Lentil and rice dahl and stir-fried or curried vegetables
- or barbecued meat or fish, not charred, with corn on cob, beetroot and salads
- or baked mixed vegetable platter, salsa and nut roast

Dessert - optional

(one or two servings of fruit)

- Raw/canned/cooked fruit (hot or cold) with topping eg yoghurt, crumble, egg custard etc.
- or healthy biscuit and fresh fruit slices,
- or baked stuffed apples, or pears poached in red wine,
- or summer pudding with berries
- or exotic dessert with fruit coulis,
- or crackers, cheese and grapes.

Taking the plunge

It takes commitment and effort to eat healthily. Mass-produced convenience foods can be cheap, fast and easy. Many though contain preservatives to extend their shelf life, and processing such as heating, refining and drying can reduce nutritional value. Vitamins and minerals may be added back in along with high levels of salt, sugar and unhealthy fats, and chemicals which artificially enhance flavour and colour.

“Choose fresh foods that don't keep well and use them quickly” - a slightly odd but sound principle for good nutrition.



Do we buy poor food because of seductive advertising, lack of knowledge, busy lifestyle, cheap prices, peer pressure or bad habits? If we understand the reasons, with some planning and learning we can do much better.

Read the labels - avoid additives if possible

Learn to understand food labels. You can find information about additive codes and additive safety from the internet. Additive charts are available in some bookstores, or on line at the New Zealand Food Safety Association website www.nzfsa.govt.nz.

Information is also available at <http://www.greens.org.nz/node/17192>

Chemical residues, endocrine disruptors, GE foods

There are chemical residues in New Zealand produce. While exported produce meets overseas residues standards, the domestic market is not required to, and testing is infrequent. Many agricultural chemicals are toxic in large doses and we cannot assume the safety of small amounts eaten unwittingly every day. Chemicals may be stored in body fat, including the breasts, for decades.

Imported fruits and vegetables are all fumigated. Don't buy them, or eat only on special occasions after washing thoroughly and removing the skin. Some agricultural chemicals are endocrine disruptors which can interfere with hormones in our bodies. Pesticide chemicals are absorbed into produce as well as being present on the skin. They get to the top of the food chain where we consume them in meat and animal products. The precautionary approach is to avoid them where possible. Let's aim to get the safest possible food - starting now.

The long-term effects of GE foods are unknown. GE components are widely used now and found in overseas manufactured foods, especially maize and soy products. It's best to avoid them while alternatives are still available. Organically certified food is GE free.

See the GE free food guide on the Greenpeace website www.gefreefood.org.nz

Use cold-pressed rice bran, extra virgin olive or avocado oils or modest amounts of butter for frying and grilling as they are less affected by heat than most oils. Avoid refined oils including light olive oil, and refrain from deep frying. Above all aim for the cooking and eating of food to be enjoyable, and for meals with family and friends to be happy times. The best food in the world will not help us much if we are too stressed to digest it properly.

When harm is suspected but is not yet proven, we can take a precautionary approach, "...in the absence of adequate data on humans, it is biologically plausible and prudent to regard agents and mixtures for which there is sufficient evidence of carcinogenicity in experimental animals as if they presented a carcinogenic risk to humans."

- International Agency for Research on Cancer (IARC) 1998.

COOKING AND FOOD STORAGE

Never heat or store hot foods in plastic containers, as chemicals such as plasticisers leach from plastics when hot.

Use glass and microwave-safe ceramics instead. Avoid plastic film in the microwave. Store food in glass, stainless steel and ceramics and minimize the use of plastics in the kitchen. Unfortunately tinned foods are now often in tins lined with plastic made with Bisphenol A.

Wash fruit and vegetables well and eat some raw daily. Steam or stir-fry vegetables - don't over-cook and destroy the nutrients. Bake scrubbed root vegetables in their jackets, or peeled and brushed with good oil.

Fish can be steamed, baked in foil or grilled. Avoid highly browned or seared meat and browned cheese as cancer-causing substances such as heterocyclic amines are produced during browning.

SUPPLEMENTS

Because our soils are lacking in some nutrients needed for human nutrition, and our diets are not perfect, many people wish to supplement their food intake to get a balance of minerals and vitamins. Note, however, that a high intake of fresh vegetables, fruit, nuts, and seed-based foods is an excellent basis for good nutrition.

The needs of each individual will vary depending on age, sex, health status, type of diet and other factors. Since vitamins or minerals work in combination with others, if you wish to use supplements you are strongly advised to see a registered practitioner - a clinical nutritionist, naturopath or dietician, for your personal needs to be assessed.

If you are to have prescribed medications or treatment for cancer it is important to let your doctor know what supplements you are taking as some interfere with clinical treatments.

PHYSICAL ACTIVITY

Most research has shown that regular physical activity in all stages of a woman's life reduces the risk of breast cancer, and improves the well-being of women who already have the disease. In 2004 a review found that women with the highest level of physical activity in adolescence and early adulthood had almost a 20% less risk of breast cancer when compared with women who had the lowest level of activity. The risk reduction appears to happen at all ages, both pre and post-menopause.

CHEMICALS

In the home

Gloves should be worn during use and hands washed thoroughly after household chemicals are used - cleaners, sprays, washing powders etc. Read the labels and observe safety precautions. Use commercial eco-friendly or home-made cleaners when possible. eg use vinegar in water for glass, polish with a cotton or microfibre cloth. Reduce the number of household cleaners in your cupboard. A mask is advisable if using aerosol sprays, sanding or spray painting. Find safer alternatives to insect sprays and plug-ins. Consider insect screens for your home for the long term.

In the garden

Find organic substitutes for chemical sprays. Common pesticides include endocrine-disruptors. Organisations such as Organic NZ have information about organic gardening and sprays. Carefully follow the manufacturers' safety advice on chemical products. Wash exposed skin thoroughly in cold water, throw away masks and wash protective clothes after use. Dispose safely of chemical containers.

SMOKING

There is evidence that smoking and exposure to cigarette smoke, particularly when young, affect breast cancer risk in pre-menopausal women. We strongly recommend stopping or reducing smoking and protecting children from exposure to tobacco smoke.

CLEANER AIR

You can reduce the level of insecticides, cigarette smoke, moulds, solvents and chemical perfumes in your home, and ventilate it well. Choose low toxicity paints for decorating.

Your furniture and carpet will have been treated with chemicals such as flame retardants and insecticides. Indoor plants with a cleansing effect on the air include the well-known Peace Lily and Mother-in-law's tongue. Check with your garden centre for others.

SKIN CARE

Avoid sunburn. Fifteen minutes daily exposure to the sun in the cool of the day will keep Vitamin D levels normal. Low levels of Vitamin D are associated with breast cancer and a supplement may be protective. Dietary sources of Vitamin D are oily fish and cod liver oil.

Labels on skin care products should be read carefully. Absorbed chemicals may be stored in fat and breast tissue. Some may influence breast cancer risk.

Cosmetics and baby oils sometimes include mineral oils which can be absorbed and can transport oil-soluble vitamins such as A, D and E out of the body. They may also be carcinogenic.

Cosmetics may contain numerous chemicals including phthalates and parabens. Parabens have been found in breast tumours although the significance is unclear. Phthalates are endocrine-disruptors. Cosmetics are available from health stores that contain more natural components.

Throw out cosmetics that don't smell fresh, as rancid components may be absorbed through the skin. The deodorant stone available from health stores has no additives and suits many people.

Most of us eat quite a bit of lipstick over a lifetime - yet there is no information on what is in lipsticks.

MEDITATION

Meditation can bring a range of benefits. It is accepted as a beneficial therapy, it costs nothing and does no harm. It quietens the mind, may decrease anxiety and depression, and improve some body functions. It may also raise melatonin levels and reduce free radicals, both of which could be helpful in preventing cancer and other diseases.

CHILDREN

Pregnant women should reduce their bisphenol A and phthalates intake by minimizing use of plastics around food, particularly polycarbonate with recycle number 7. Only use glass baby bottles or bisphenol A-free plastic.

Be creative in helping small children learn to enjoy healthy food, keeping high fat, high sugar or salty snacks for special occasions, and giving plenty of sliced raw fruit and vegetables - adding nuts and crunchy seeds when children are old enough. Use low sugar cereals or porridge, and wholemeal breads. Teach them to enjoy water rather than juice, sugary or artificially sweetened drinks, by your own good example. Make water more attractive by chilling, adding ice-cubes, slices of lemon or fruit, sprigs of parsley, mint or edible flowers, using special bottles and containers.

Introduce changes gradually. Set targets and congratulate yourself when you reach each milestone.

Watch that children use minimal fluoride toothpaste and rinse it away thoroughly. Fluoride-free is best for children who swallow toothpaste. Fluoride and other additives can be toxic.

Children are more susceptible to x-ray damage, so avoid x-rays on your children when possible. Ask if an x-ray result will affect the treatment choice or outcome. There will be times when x-rays are necessary. Ask for a lead apron to cover the rest of the body.

Check on the chemical sprays used on your child's school playgrounds and sports fields. Sprays can be absorbed through bare skin. Insist on signs to warn people when school grounds are sprayed.

Avoid PVC toys, especially teething toys, backpacks and clothing items. There are usually other choices. During manufacture, chemicals are added to PVC. PVC items may contain phthalates, lead and cadmium which can be released into the air during use and when the products are abraded or break down.

WATER

Reduce your intake of chemicals from town supply water by using a filter or reverse-osmosis process. Avoid polycarbonate drinking bottles. Be aware of hygiene - see www.nzfsa.govt.nz - Reuse of plastic bottles.

If I take all of these recommendations on board, will I be safe from breast cancer?

Your risk will be reduced and you will have done a great deal to benefit yourself and your family. As there are still unknown factors and things outside of our control, breast cancer risk cannot be completely eliminated.

The recommendations in this leaflet will improve overall health, reduce breast cancer risk and risk of other cancers, and contribute to a healthy environment for ourselves and our daughters and granddaughters.

Together, let's do this - let's aim to reduce breast cancer risk in New Zealand.

How did you get on with the quiz?

Drinking alcohol daily	<input checked="" type="checkbox"/>
Smoking	<input checked="" type="checkbox"/>
Exercise	<input checked="" type="checkbox"/>
Weight gain after menopause	<input checked="" type="checkbox"/>
Breast feeding	<input checked="" type="checkbox"/>
Olive oil	<input checked="" type="checkbox"/>
X-rays	<input checked="" type="checkbox"/>
Toxic chemicals	<input checked="" type="checkbox"/>
Green Tea	<input checked="" type="checkbox"/>
Teenage pregnancy	<input checked="" type="checkbox"/>
The Pill	<input checked="" type="checkbox"/>
Passive smoking	<input checked="" type="checkbox"/>
Being childless	<input checked="" type="checkbox"/>
HRT	<input checked="" type="checkbox"/>
Fruit and vegetables	<input checked="" type="checkbox"/>
Loss of ovaries	<input checked="" type="checkbox"/>
Early age for first period	<input checked="" type="checkbox"/>
Late age for menopause	<input checked="" type="checkbox"/>
Heating food in plastic	<input checked="" type="checkbox"/>
Nuclear fallout	<input checked="" type="checkbox"/>
Mother has breast cancer	<input checked="" type="checkbox"/>
Binge drinking	<input checked="" type="checkbox"/>

Sources

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Breast awareness and early detection of breast cancer

All women, even very young women, should become familiar with the appearance and feel of their breasts. Even though breast cancer is rare in very young women, it does occur. Any observed breast changes are a sign to visit your doctor without delay. (See list of breast changes below.) At about 30 years, women should ask to have their breasts examined regularly by a doctor, and discuss their personal risk level. Examination by a physician is more effective than self-examination. Sometimes a decision may be made to begin screening mammography early. Mammography can be done privately, but doctors can arrange that young high-risk women be screened free of charge at a DHB. BreastScreen Aotearoa provides free mammography screening every two years for women aged 45 to 69 years with no breast cancer symptoms.

We recommend women should join the programme when they are eligible, but continue to check their breasts for any changes, and continue to have regular checks by a doctor. Early detection is important. Currently mammography is the single most effective screening tool, but it is not perfect. Some breast cancers are missed. If breast tissue is dense, ultra sound should be used as well. Dense breast tissue is associated with raised breast cancer risk so women with this condition need to be vigilant at being checked regularly. At present BCN does not recommend the use of thermography instead of mammography for breast cancer screening.

If you notice a breast change

See your doctor without delay if changes are observed, such as a lump in the breast or armpit, thickenings, dimples, skin 'pleats or tucks', recent inversion of a nipple, nipple discharge, and particularly a rash that fails to heal quickly. Don't wait!

The earlier breast cancer is diagnosed, the more likely a good outcome. Tests will be done to establish if a lump or lesion is malignant and will include ultrasound and biopsy. There have been cases where insufficient testing has been performed on very young women, because their age group has a low risk of breast cancer. In such circumstances younger women may need to insist that they be fully tested.

THE BIGGER PICTURE

It is important that younger women hear about the steps they can take to reduce breast cancer risk with lifestyle changes. Could you pass this leaflet to a younger woman you know?

Our project, Stop Cancer Where it Starts, has a wide focus and includes the call to reduce chemicals in the environment. If you would like to talk with us about this project or obtain more copies of this brochure please contact us.

TO JOIN BREAST CANCER NETWORK NZ

To support Breast Cancer Network and receive a regular copy of Upfront U Kairora magazine, send this form to the address below. Individual members: \$25, unwaged \$20, health professionals, groups and libraries \$30

Name Miss/Ms/Mrs/Dr/Mr

Address.....

Phone.....

Amount enclosed: Membership \$..... Donation \$.....

I have experienced breast cancer I am interested in helping with BCN activities

I agree to BCN (NZ) Inc contacting me by occasional email with news, information and updates

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