Issue 121 • August/September 2015

Upfront U Kaiora

OFFERING INFORMATION, HOPE AND INSPIRATION TO THOSE AFFECTED BY BREAST CANCER

Increase Selenuim, **lower risk?**

The primary prevention of cancer

The case for THERMOGRAPHY

+ Is one child enough?

HAS NZ REALLY GOT CANCER CONTROL SORTED?

All the latest news in international and national breast cancer research

contents

from the **editor**

Several months ago I was invited by the Cartwright Collective to be a panelist at the day-long forum that they hosted on the 7th of August, *The Future of Cancer Screening in New Zealand: balancing the benefits and risks.*

The forum was divided into four sessions; one each on cervical, breast and colorectal screening, and the last session of the day on primary prevention. I was honoured to be invited to participate in a forum that gathered together some of the most prominent people in the cancer and medical community in New Zealand.

Most of our readers will be aware that there is ongoing international debate regarding the benefits and risks of cancer screening, in particular, in breast screening. The four breast screening panelists – Associate Professor Diana Sarfati, Emeritus Professor Charlotte Paul, Dr Marli Gregory clinical Leader of BreastScreen Aotearoa, and myself – brought a wide spectrum of views to the table, as did the panelists in the other three sessions.

Despite the sometimes disparate views presented, I was really impressed that speakers and attendees seemed to genuinely be interested in hearing others' view points, and finding a way forward in a way that makes cancer detection and diagnosis safer for all and leads to better outcomes. I know we have a long way to go to achieve true consensus, but I felt that most people were there in the interests of open and honest debate.

As a counter to my optimism for the future, I was angered to learn that the Minister of Health, Jonathan Coleman has, in his infinite wisdom, seen fit to disestablish Cancer Control New Zealand; the official end came the day after the forum. Long time readers will know that I have been quite critical of the CCNZ (see page 7 this edition), but I still absolutely believe that such an agency is necessary. While I believe it fell somewhat short of being the independent advisory agency that it was supposed to be, and certainly fell a long way short of taking action on one of the most important cancer control strategies of primary prevention, cancer is a million miles away from being under control in this country, and we need to have an independent advisory group to direct the response to these diseases.

The disestablishment of CCNZ, and the Minister's claim that we have made so much progress in cancer control that we no longer need the CCNZ is in stark contrast to the views presented in the primary prevention session at the forum, in particular those presented by Sandra Coney, whose talk we have published in this edition on page 5. She makes a good argument for the need for strong public policy to support the sorts of lifestyle decisions people need to make to reduce their risk of cancer, as there have been in the fight to reduce smoking.

In an effort to finish on a more positive note, I do hope that in the near future I can organise to interview the other panelists from the forum's breast screening session. Rather than just summarise what was said at the forum, I want to present the views of the various stakeholders in a series of articles so that readers may develop a better understanding of New Zealand's direction in cancer detection and diagnosis, and in the context of what is happening internationally.

Sue Claridge

Breast Cancer NETWORK NZ

BCN VITAL STATS
Breast Cancer Network (NZ) – established in 1993 is an organisation for women with breast cancer and their friends and families. It aims to promote increased efforts to prevent and cure breast cancer – by advocacy, education, information and networking.

WEBSITE www.bcn.org.nz

EMAIL admin@bcn.org.nz

MAGAZINE EDITOR
Sue Claridge

ADMINISTRATOR
Julianne O'Brien

PATRON
Dame Lois Muir

HONORARY LIFE MEMBERS
Wendy Steenstra-Bloomfield (1934-2014), Barbara Holt, Dell Gee, Jenny Clark, Gillian Woods and Barbara Mason.

COMMITTEE MEMBERS
Heather Moore, Anne Iosefa, Violet Lawrence, Robyn Kingdon-Mason, Louise Bobbitt, Kaytee Boyd, Karen Gow-Campbell, Julianne O'Brien, Tracey McGall, Sandra Nicholson.

BCN gratefully accepts any bequests. For more information please contact the office.

The opinions expressed in the various UPFRONT U KAIORA articles are not necessarily those of the Breast Cancer Network (NZ) Inc.

REPRINTS
Kindly contact us for permission before using newsletter material.

DESIGN
Debra Tunnicliffe, od Creative

UPFRONT U KAIORA IS PRINTED WITH THE ASSISTANCE OF NEVILLE NEWCOMB REPROGRAPHIC CENTRES

ISSN 1174-894

Increase Selenium, Lower Risk?

By Sue Claridge

Selenium is a vitally important trace mineral that has a critical role in the immune system, in normal thyroid function and metabolism, and as an anti-oxidant, protecting fats in the body from damaging oxidation. Research has shown it has an important role in the prevention of numerous degenerative diseases and diseases that we associate with high mortality (cardiovascular disease and cancer), yet fails to get any coverage in the mainstream media compared with minerals such as calcium and iron, or even iodine.

Selenium is necessary for the formation and function of at least 13 proteins[1] and it is an essential part of glutathione peroxidase, which protects cells from damage and DNA from mutations. As DNA damage is a critical component of carcinogenesis, preventing that damage leads to a reduced incidence of cancer.

Selenium was discovered in 1817 by Jons Jacob Berzelius; its essential nutritional role for animals was discovered in the 1950s and for humans in 1973.[2]

In 1988, Dr Walter Willet of the Harvard School of Public Health, wrote of the "long and tortuous history" of the link between selenium and cancer.[3] While selenium toxicity was understood and high doses of selenium were found to induce cirrhosis and liver tumours, it was not until after 1949 that better designed and more extensive studies showed that the correct intake of selenium resulted in fewer rather than more tumours.

In 1969, "Shamberger and Frost showed that mortality from cancer in the United States was inversely correlated with selenium concentrations in forage crops."[3] Then, in 1976, Shamberger and colleagues reported that mortality from cancer was inversely correlated with selenium concentration in forage crops, particularly in relation to breast and colon cancer. They wrote that "In the states with high selenium levels, there was significantly lower mortality in both males and females from several types of cancer…"[4]

The greatest evidence of a causal link between selenium deficiency and cancer is in areas where selenium is naturally low in the soil, such as China. For example, in a prospective study carried out over five years, and involving 29,584 healthy adults aged 40 to 69 years from four Chinese communes, it was found that those with the highest intake of selenium developed oesophageal and gastric cancers at half the rate of those with the lowest intake.[1]

In 2011, the Cochrane Collaboration reported on a meta-analysis of 13 studies, and found a reduced cancer incidence and mortality with higher selenium exposure. The risk of cancer was "31% lower in the highest category of selenium exposure than in the lowest, the risk of death from cancer was 45% lower."[5] However, the association was greater in men than women, and in the studies they considered, they found no association between selenium and breast cancer risk.

The research on the link between selenium and breast cancer has been contradictory. However, a number of studies over the last 12 years have found that selenium is a promising agent for both breast cancer prevention and for treatment.

A meta-analysis published in 2014, which investigated selenium levels in toenail and blood samples and the relationship with breast cancer, found that there was a significant correlation between selenium concentration and breast cancer in serum measurements but not in toenails. The researchers found that there was "a significant decrease in the risk of breast cancer associated with

CONTINUED ON PAGE 4

THE BREAST CANCER NETWORK THANK THEIR SPONSORS: COGS, Lottery Grants Board, Neville Newcomb, Peter McInnes Pty Ltd (for Kitchen Aid Appliances), Lion Foundation, Marion Morris, Manning Funerals, Julie Lamb & Associates, Gibbs Foundation, Trillian Trust, New Zealand Chefs Association, Archetype Ltd.

CONTINUED FROM PAGE 3

high levels of selenium" in serum samples.[6]

Korean researchers reporting in the *Annals of Surgical Treatment and Research* found that their laboratory study indicated the combination of selenium with chemotherapy agent docetaxel (Taxotere) inhibits breast cancer cell proliferation through apoptosis and cell arrest.[7]

They also suggested that selenium may reduce the adverse effects of docetaxel by countering the increase in free radicals and related oxidative damage, saying that research had shown that "selenium compounds have been suggested as toxicity antagonists that prevent side effects related to chemotherapy." [7]

Research has also shown that selenium may be "a useful agent in controlling and alleviating lymphedema." [7] They conclude that all these positive effects of selenium show that this trace element may be a beneficial treatment option in breast cancer patients. [7]

The exact mechanisms by which selenium might reduce cancer risk and assist in treatment are not well understood. Recent research suggests that the form that the selenium takes is important, and so too may be the characteristics of a woman's breast tumour and her genetic make-up.

Researchers from Brazil, found that, while selenite and methylseleninic acid both markedly inhibited the proliferation of breast cancer cells in the laboratory, methylseleninic acid did so by causing programmed cell death (apoptosis), and selenite caused cell necrosis and induced cytotoxicity; each markedly different actions for prohibiting cancer cell growth.[8] The researchers concluded that their research reinforced the view that the anti-breast cancer potential of selenium is dependent on its chemical form.

In a study reported in 2015, three different forms of selenium – sodium selenite, methylseleninic acid and methylselenocysteine – were used in laboratory experiments on a canine breast cancer cell line. The researchers found that all three selenium compounds, especially methylseleninic acid, could significantly inhibit the viability and growth of the breast cancer cell line, partly because they induced apoptosis (cell death) and regulated tumor angiogenesis (formation of blood vessels).[9]

Other studies have found that selenium induced greater cell death in oestrogen-receptor positive breast cancer cells than oestrogen-receptor negative cells[10, 11]. Another recent study found that selenium was associated with a decreased risk of breast cancer but that the beneficial effect was limited to women with a specific MTHFR genotype (CC genotype of MTHFR rs1801133).[12]

The research on the role of selenium in both preventing and treating breast cancer may be inconclusive, but there is compelling evidence that selenium deficiency raises the risk of breast cancer, and that this trace mineral may have an exciting role in future treatment. It is clear that further research is urgently needed to clarify the role and importance of selenium in cancer prevention, particularly for inhabitants of areas in which soils are deficient.

New Zealand soils are deficient in selenium and we have the fourth highest cancer incidence rate in the world. While we are a long way from confirming that selenium deficiency among New Zealanders is causative or even contributory, improving dietary intake of selenium to at least the recommended daily level may be a way to reduce the risk of not only breast cancer but other cancers, in particular gastric cancers, as well. However, it is important to note that selenium toxicity may have an opposite effect and increase the risk of cancer. (For more information see Food For Thought: Selenium the protector on page 10).

References for this article can be found on the BCN website at www.bcn.org.nz.

The Primary Prevention of Cancer

By Sandra Coney

This article is Sandra Coney's presentation at the recent Future of Cancer Screening forum held by the Cartwright Collective. The last session of the day was Primary Prevention: The Other Tool in the Toolbox. While much of what Sandra had to say has been covered in *Upfront U Kaiora*, Sandra has deftly placed primary prevention in a political context.

Little attention in cancer control has gone into primary prevention. Primary prevention is the first goal of the New Zealand Cancer Control Strategy, 2003:

"Reduce the incidence of cancer through primary prevention."

The strategy defines primary prevention as "reduce exposure to cancer-causing risk factors". However, implementation of the strategy has focused more on screening, treatment and palliative care, while little priority has been given to primary prevention. Even then, primary prevention is seen as being about education for lifestyle change.

It is approached as a matter for individuals to change behaviour to reduce risk. Primary prevention is depicted as difficult, too hard to do.

The World Health Organisation estimates that, with what we know about cancer, we could prevent one-third of all cancers. In New Zealand, it is estimated that – looking at alcohol-related cancers alone – around 240 cancer deaths could be prevented every year. About one in seven breast cancer diagnoses could be prevented if women did not drink.

So, primary prevention is worth doing.

In addition, the same strategies that would prevent cancers also have other health benefits, for individuals and at a population level; that is, there are other health gains to changing diet, increasing physical activity, weight reduction, reduction in alcohol use and other primary prevention approaches.

New Zealand's success at reducing lung cancer deaths should show us that strategies aimed at educating individuals about risk and supporting cessation, need to be backed by political interventions aimed at creating healthy environments and ensuring healthy choices are easy choices.

In the case of tobacco, the Government legislated to ban advertising and sponsorship, controlled the visibility of brands and products, enforced bans on young people's access to products, created smokefree workplaces and environments, and increased cost markedly through taxation. These widespread changes impacted on the tobacco industry, retailers, the advertising industry and media, employers, clubs and so on.

The same case for such widespread intervention can be made for alcohol.

Alcohol consumption is implicated in the

causation of a number of cancers as well as other major causes of morbidity and death, such as coronary heart disease and stroke, and harm through traffic crashes and violence to women and children.

Yet we have not seen any significant moves to control alcohol in the same way we saw with tobacco.

Despite a Law Commission report in 2008 that made some useful recommendations, little was done. In late 2014, an Independent Review Forum on advertising and sponsorship made recommendations to the Government, but the Government has yet to respond.

It is interesting to look at the Forum's recommendations and ponder the programme of intervention that the Labour Government pursued around tobacco. The Forum recommends strong constraints around alcohol sports sponsorship and advertising, and events sponsorship, but not a complete ban. It is mainly aimed at youth, as though people stay that age, and as though, if we try to de-normalise drinking for youth, they will be impervious to the lure of alcohol as adults.

The current situation is that alcohol advertising and sponsorship are barely controlled in the media or at the point on sale. Successive governments have shied away from increasing the age of availability, and under-age access to alcohol is rife. There is very little control on where alcohol can be consumed and the number of alcohol outlets has mushroomed, despite strong opposition from many communities. Alcohol is cheap, and forms designed to appeal to a young audience have proliferated.

Speaking as a local government elected member, we are finding that the controls on alcohol under our jurisdiction, such as liquor bans in public places, and opposition to new outlets and extended hours, are more difficult to achieve under the newest regimes. For example, our local board was expected to defend existing liquor bans and proposed new liquor bans with actual documented evidence of harm – data which we found is often not collected – rather than represent the wishes of the community, which is our role under local government law.

The silence of the Government on the Forum's recommendations mirrors the Government's response in the early 1990s, when the then Public Health Commission confronted the alcohol and food industries. The Government response then was to disband the Commission.

While controlling tobacco was a big task, we did not have the big homegrown players that exist around alcohol and food. But we do need to tackle them – we will not get far relying on individual restraint.

Finally, I want to say something about gender.

In primary prevention of cancers, a feminist gender analysis is absent in New Zealand's national policy. For example, at every age, more men (about 10% more) are physically active than women, but that has not made women a priority in programmes.

The burden of preventing cervical cancer sits entirely with women, despite the fact that men infect women with HPV* and, indeed, can contract genital cancers themselves. Women are expected to take responsibility for screening, and for vaccination, despite vaccination being effective in young males.

There is little encouragement for young women to think through and decide for themselves what forms of sexual activity they will take part in, at what age they will begin sexual activity and how many partners they

CONTINUED ON PAGE 6

CONTINUED FROM PAGE 5

will have. Condoms offer some protection against HPV and against other STDs, but the trend for young women is to promote the most surefire methods of contraception for eugenic reasons, rather than looking at the young woman's wellbeing overall .

Sexuality, as promoted through media and pornography, normalises forms of sexual activity that can have health and other consequences, rather than encouraging young women to make informed choices that are under the woman's control. This could involve declining or delaying sex, declining particular forms of sexual activity, or requiring the use of condoms.

With regard to breast cancer, women's best protection is seen as mammography screening, whereas there are numerous modifiable risk factors. I have mentioned alcohol, weight reduction, and diet. The use of post-menopausal oestrogens also increases breast cancer risk, as well as carrying other health risks.

There is also solid evidence that early full-term pregnancy and breast feeding reduce breast cancer risk. In recent years we have seen social and economic conditions change so that women are encouraged to delay starting a family until around 30 years of age or later. The amount of household income that goes on housing and work travel, has made the two-parent earning household the norm. Women try to gain some workforce experience before taking time off to have children.

New Zealand's paid maternity leave provisions are shameful. We have not increased the period of paid leave since 2004. It is still 14 weeks at around 58% of the average salary. If we want women to be able to choose motherhood and breast feed as long as possible, the Government needs to align us with nations of similar socio-economic status which provide half a year, or even a year of paid maternity leave.

Like other primary preventions, this will have other benefits for women and for their children.

In summary, primary prevention of cancers has not been seriously pursued in New Zealand, but primary prevention has much to offer in the way of multiple health benefits.

*HPV – human papilloma virus which is believed to cause the majority of cervical cancers.

Weightloss, Vitamin D and Cancer

Research has long shown that being overweight is a risk factor for breast cancer, and increasingly research indicates that low vitamin D status also contributes to breast cancer risk, and having an optimum vitamin D at diagnosis is associated with better survival outcomes.

In new research, researchers at the Fred Hutchinson Cancer Research Center in Seattle, have found that weight loss, in combination with vitamin D supplementation, has a greater effect on reducing chronic inflammation than weight loss alone. Chronic inflammation is known to contribute to the development and progression of some cancers.

Previous studies have shown that weight loss can reduce overall levels of inflammation, and there is some evidence vitamin D supplements can have a similar effect. However, it has not been known whether combining the two would further boost this effect.

Dr Catherine Duggan and colleagues recruited 218 healthy, overweight older women who had lower-than-recommended levels of vitamin D (less than 32 ng/mL). The women took part in a 12-month diet and exercise program (including 45 minutes of moderate-to-vigorous exercise five days a week). Half of the study participants were randomly selected to receive 2,000 IU of vitamin D daily for the duration of the year-long

trial, and the other half received a placebo. Biomarkers of inflammation were measured at the beginning and end of the study.

At the end of the study, all of the participants had reduced levels of inflammation, regardless of whether they took vitamin D, "which highlights the importance of weight loss in reducing inflammation," Dr Duggan said. However, those who had the most significant decline in markers of inflammation were those who took vitamin D and lost 5 to 10 percent or more of their baseline weight. These study participants had a 37% reduction in a pro-inflammatory cytokine called interleukin-6 (IL-6), compared to those in the placebo group, who had a 17.2% reduction in IL-6. Elevated levels of IL-6 are associated with an increased risk of developing certain cancers.

Overweight or obese people exist in a state of chronic inflammation.

"It is thought that this state of chronic inflammation is pro-tumorigenic, that is, it encourages the growth of cancer cells," Dr Duggan said. There is also some evidence that increased body mass "dilutes" vitamin D, possibly by sequestering it in fat tissue.

"Weight loss reduces inflammation, and thus represents another mechanism for reducing cancer risk," Duggan said. "If ensuring that vitamin D levels are replete, or at an optimum level, can decrease inflammation over and above that of weight loss alone, that can be an important addition to the tools people can use to reduce their cancer risk."

Source: Weight loss, combined with vitamin D, reduces inflammation linked to cancer, chronic disease: Fred Hutchison Cancer Research Center Press Release, 24 June 2015.

Has NZ Really Got Cancer Control Sorted? By Sue Claridge

Cancer Control New Zealand (CCNZ – formerly the Cancer Control Council) has been disestablished by the Minister of Health, Jonathon Coleman. The announcement was made in early July with little fanfare; in fact, I could find no reference in New Zealand's mainstream online media except for a press release posted on the Scoop website.

Jonathan Coleman's press released said that "The independent Ministerial advisory committee is being disestablished as its role has been superseded by the progress made in improving cancer services for New Zealanders."

He went on to say that

"Cancer Control New Zealand's advice was necessary ten years ago when there was limited planning and investment in cancer services, and a lack of central clinical leadership."

"Delivering better cancer services remains a top priority for the Government. We have made significant progress since 2008 and patients are getting better, faster cancer care. We have invested $63 million on the faster cancer treatment programme.

"The new 62-day faster cancer treatment target puts the lens right across the cancer pathway. It is a key focus of the NZ Cancer Plan which sets out the activities that need to happen over the next three years to ensure patients receive even better faster care."

The CCNZ officially ceased to exist on the 8th of August.

I have been critical of the CCNZ in the past* but we still need such a Government Agency. The former Cancer Control Council was established in 2005 to act upon the New Zealand Cancer Control Strategy launched in 2003. The first of six goals that make up the strategy was to reduce the incidence of cancer through primary prevention.

While progress has been made in some areas of cancer control, primarily in the area of better and faster treatment, the government has at best paid lip service to primary prevention, and at worst completely ignored the issue. Great strides have been made in reducing cigarette smoking and passive exposure to tobacco smoke, but the bulk of this work was done well before CCNZ was established, and sun safe messages have been around for three decades; any progress here can hardly be attributed to the CCNZ or any government over the last ten years or more. Since the mid-90s the age for alcohol consumption and purchase has been lowered, our binge drinking culture, especially among young women has worsened considerably, the obesity "epidemic" is spiralling out of control, and in 2011 we had the fourth highest cancer incidence in the world and the second highest cancer incidence among women.

In 2014, the Cancer Control Trust (CCT) called for an updated action plan for the 2003 cancer control strategy. Betsy Marshall, CCT's Executive Director, told *Upfront U Kaiora* that the role of CCNZ was to provide independent monitoring and advice.

"In our view this still was not happening," she said, "and the disestablishment of CCNZ means there is no body that can now be charged with this responsibility."

Responding to the demise of CCNZ, Associate Professor Brian Cox, Chairman of the CCT, said that "Without the leadership of experts we will continue to fail to reduce the gap between us and Australia, where cancer mortality rates are lower."

He pointed out that between 2000 and 2010 there was a 13% increase in the proportion of New Zealanders dying from cancer and "if Australia is anything to go by, we can expect the number of people developing cancer in the next five years to increase by about 17%."

In a press release issued on the 8th of July, the CCT said that "The Office of the Auditor-General recently found that the effect of the $63 million Faster Cancer Treatment Indicators, championed by the Minister, have not been monitored and involved complicated and ambiguous definitions which make measurements unreliable."

Is this the evidence that "we have made significant progress since 2008"? Certainly not in true cancer control, which must be measured by a reduction in incidence and mortality, not the speed at which cancer patients receive treatment or how much the government spends.

In April 2014 I spoke to then CEO of CCNZ, Mr Andrew Lesperance. In a letter in response to my questions he said that "Cancer Control agrees that prevention messages pertaining to core issues such as nutrition and physical activity, smoking, alcohol and tobacco are germane to cancer prevention as well as many other health issues."

Little more than a year down the track we no longer have a cancer control agency, and as far as I can see, absolutely no commitment from the Government, the Minster of Health or the Ministry of Health to true cancer control. No-one is taking any action to prevent the increasing number of cancer diagnoses in this country.

As a New Zealander this appals me and I ask if we should take this lying down? As a nation we need to stand up and demand that the Government address the serious issue of primary prevention of cancer; demand that it take action and implement policy that focuses on factors that are known to contribute significantly to cancer incidence.

No, we don't have cancer control sorted in this country, and in disestablishing Cancer Control New Zealand the Government has effectively said it has no interest in reducing our cancer statistics.

*see *Upfront U Kaiora* 114, April/May 2014; see also Issue 87 October/November 2009 for background information

Is One Child Enough? By Sue Claridge

In 2013*, 156 women under the age of 40 were diagnosed with breast cancer. In 2011 there were 33, and in 2012, 147. In 2011** there were a total of 633 women and girls, and 433 men and boys under the age of 40 diagnosed with any sort of cancer. Depending on their treatment, many of these people will face treatment-induced infertility.

Women diagnosed with breast cancer, and facing treatment-induced infertility, have a very small window of time between surgery (usually very soon after diagnosis), and when chemotherapy commences (ideally no less than three to six weeks after surgery and certainly within eight weeks), in which to decide upon and undertake any fertility preservation treatment. This usually involves egg freezing and storage. Stimulation of the ovaries and retrieval of eggs for freezing and storage, or for the creation of embryos, requires at least 10 to 17 days before the start of chemotherapy or pelvic radiotherapy.

Under the rules governing public funding for fertility treatment, fertility preservation treatment, including counselling, must be offered prior to any medical treatment that may permanently impair a person's future fertility.

The Current Eligibility Rules

Eligibility criteria apply to all New Zealanders with fertility problems who wish to access public funding for fertility treatment. That you must meet eligibility criteria is no different for those whose fertility has been or may be affected by cancer treatment. However, the actual criteria for oncology patients and non-oncology patients differs. In 2014, National Assisted Reproductive technology Services Tier Level Two Service Specifications were reviewed, and new eligibility criteria applied from February 2015.

Currently, women with infertility caused by cancer treatment or not, must be under the age of 40, have a BMI of under 32 and be non-smokers, to be eligible for publicly funded treatment to help them get pregnant and have a baby. Women whose fertility is caused by cancer treatment are ineligible for publicly funded treatment if they have ever had a child before, even within another relationship.

All women whose infertility is caused by cancer treatment are entitled to a publically funded First Specialist Appointment (FSA) to discuss their options, irrespective of whether or not they have had a child previously.

In a memo provided to *Upfront U Kaiora* by the Women's Health Planning and Funding Portfolio Manager for the Auckland and Waitemata district health boards, it is emphasised that two new services are now funded to support equity of service for women who meet the criteria:

- egg retrieval and freezing, defined as the surgical retrieval and freezing of eggs;
- annual storage of eggs, defined as annual storage fee for frozen eggs for women whose future fertility will be compromised by impending specialist medical or surgical treatment.

Previously men were funded for sperm freezing and storage, while women were not funded for egg freezing and storage.

All women with treatment-induced fertility are entitled to a funded appointment to discuss their options, but if they already have a child, fertility preservation treatment is not publicly funded.

Women who after treatment are found to be infertile, can have their eggs and/or embryos stored on public funding for up to ten years. If women wish to continue storage beyond 10 years they need to apply for an extension and pay for the storage privately.

Treatment of Cancer Patients is Inequitable

While the inequity between what was previously available to men and women cancer patients has been removed in the new eligibility criteria, there is one enormous difference between the way in which cancer patients are treated and the way in which those without treatment-induced infertility are treated.

People with biological infertility† can be funded to have fertility treatment. A couple is funded to have one IVF cycle; if that cycle is unsuccessful a couple may be funded for a second cycle. If during that cycle more than one embryo is created a couple may also be funded to have this embryo implanted. If a woman already has one child before developing secondary biological infertility, she may be scored as being eligible for a second child, but is likely to be scored less than a woman with no children.††

To be eligible for fertility preservation treatment (publicly funded), a couple must have no children but all other criteria and treatment options apply.

While there is theoretically nothing stopping a woman paying for her fertility treatment if she is denied public funding, this is just one more difficulty that a cancer patient has to deal with while coming to terms with diagnosis and treatment. Many women simply will not have the financial resources to privately fund the required fertility treatment between surgery and chemotherapy, not to mention the stress and trauma of the new eligibility criteria which adds insult to injury.

No-one asks to have cancer, just as no-one asks to be infertile. However, in a society that likes to think itself fair and just, and with equal opportunities for all, just how is it fair, just and equitable that cancer patients are told they may only have one child, while the rest of the population is enabled to have two children on public money?

* The latest year for which we have statistics for breast cancer.
** The latest year for which we have statistics for all cancer types.
† As opposed to treatment-induced infertility.
†† Having no children is only one factor taken in to account when women are scored to assess for eligibility for publicly funded fertility treatment. No children scores more than one child or multiple but other factors are also taken in to account, i.e. duration of infertility, cause of infertility.

We are interested in talking to women who have been or may be affected by the new fertility preservation criteria for public funding. Please get in touch with editor Sue Claridge by email if you would be happy to share your concerns or story; anonymity is assured if requested: **scladridge_bcn@clear.net.nz**

Prenatal DDT Exposure Quadruples Risk

Women who were exposed to higher levels of the pesticide DDT in utero – particularly a more estrogenic form, *o,p*'-DDT, found in commercial DDT – were nearly four times more likely to be diagnosed with breast cancer as adults than women who were exposed to lower levels before birth, according to new research by Dr Barbara Cohn and colleagues from the Public Health Institute in Berkeley, California.

Despite being banned by many countries in the 1970s, DDT remains widespread in the environment and continues to be used to combat malaria in Africa and Asia. In New Zealand DDT was used extensively in agriculture with some 500 tons being applied annually by 1959. By the 1970s its use was restricted and it was finally banned in 1989.

In the US many women were exposed in utero in the 1960s, when the pesticide was used widely, and are now reaching the age of heightened breast cancer risk.

"This 54-year study is the first to provide direct evidence that chemical exposures for pregnant women may have lifelong consequences for their daughters' breast cancer risk," said Dr Cohn.

Spraying the interior of Italian houses with 10% DDT and kerosene for malaria control during the Second World War. (Otis Historical Archives of National Museum of Health & Medicine).

"Environmental chemicals have long been suspected causes of breast cancer, but until now, there have been few human studies to support this idea."

The latest research found that:

• Independent of the mother's history of breast cancer, elevated levels of the more estrogenic form of DDT, *o,p*'-DDT, in the mother's blood were associated with a nearly four-fold increase in the daughter's risk of breast cancer. Among the women who were diagnosed with breast cancer, 83 percent had estrogen-receptor positive breast cancer.

• Exposure to higher levels of *o,p*'-DDT was associated with women being diagnosed with a more advanced stage of cancer.

• Women with greater exposure to *o,p*'-DDT were more likely to develop HER2-positive breast cancer.

Due to its effectiveness in killing mosquitoes, in 2006 the World Health Organisation began promoting the use of DDT in an attempt to stem the tide of malaria deaths globally – a controversial decision that continues to be debated.

"This paper shows that the risks of using DDT are likely greater than previously known, while the benefits remain the same," Dr Cohn said. "Policy makers should take this into account."

"This study calls for a new emphasis on finding and controlling environmental causes of breast cancer that operate in the womb," Dr Cohn said. "Our findings should prompt additional clinical and laboratory studies that can lead to prevention, early detection and treatment of DDT-associated breast cancer in the many generations of women who were exposed in the womb. We also are continuing to research other chemicals to see which may impact breast cancer risk among our study participants."

Mammography Benefits Outweigh Harms for Women 50–69

A group of 29 independent international experts from 16 countries, convened by the International Agency for Research on Cancer (IARC), has assessed the cancer preventive and adverse effects of various methods of screening for breast cancer. A summary of the results, published in the *New England Journal of Medicine*, provides an important update of the landmark 2002 *IARC Handbook on Breast Cancer Screening* in light of recent improvements in treatment outcomes for late-stage breast cancer and new data on screening practices and their outcomes.

After reviewing all published peer-reviewed scientific literature, the experts concluded that there is sufficient evidence that mammography screening is effective in reducing breast cancer mortality for women aged 50–69 years, and that the benefit of reduced mortality extends to women screened at age 70–74 years. An evaluation of data from about 20 cohort and 20 case–control studies conducted in high-income countries (in Australia, Europe, and North America) showed that women 50–69 years of age who attended mammography screening had a relative reduction in breast cancer mortality of around 40%.

Several studies showed that mammography screening of women aged 70–74 years also results in an important reduction in their breast cancer mortality.

Evidence for the effectiveness of screening women in the younger age group of 40–49 years was considered limited.

The most important harms of early detection of breast cancer by mammography screening are false positive results, over-diagnosis, and radiation-induced breast cancer. Regarding adverse effects, the Working Group came to the following conclusions:

• There is sufficient evidence that mammography screening detects breast cancers that would never have been diagnosed or caused harm if the women had not been screened.

• There is sufficient evidence that having a false-positive mammogram has short-term negative psychological consequences.

• There is sufficient evidence of an increased risk of radiation-induced breast cancer from mammography screening in women aged 50 years or older; however, this risk is substantially outweighed by the reduction in breast cancer mortality.

Source:

International Agency for Research on Cancer: IARC Handbooks of Cancer Prevention: Benefits of mammography screening outweigh adverse effects for women aged 50–69 years, Press Release, 3 June 2015.

food for thought By Heather Moore

Selenium the Protector

Heather Moore is a retired nutritionist, naturopath and medical herbalist.

According to a WHO report, adults in New Zealand have approximately 3 mg of selenium in their bodies compared with 14 mg in some Americans. This variation in selenium content in humans living in different parts of the world is testimony to the huge differences in selenium content in soils and crops, and subsequently human tissues. New Zealand is comparable with Finland as having some of the lowest soil levels of selenium in the world.

What has this got to do with breast cancer risk reduction?

Selenium deprivation reduces the activity of selenium-dependent enzymes, and low selenium status has been associated with:

- lowered immune status;
- increased risk of developing certain cancers including breast cancer. Populations who live in low-selenium environments and have lower selenium intakes tend to have higher cancer mortality rates;
- compromised thyroid hormone metabolism (particularly when iodine deficiency is also present);
- changes to drug-metabolising enzymes, including the cytochrome P450 system (liver detoxification) with some activities increasing and others decreasing.

So what does selenium do?

- It is critically involved in the making of glutathione in the body. Glutathione is an antioxidant you want to have plenty of if you want to prevent cancer.
- Studies have shown it be chemo-preventative. It works by inhibiting early steps in carcinogenesis – the process of uncontrolled cell division. This protective effect is strongest in those with the lowest selenium status – e.g. New Zealanders!
- Boosts the immune system by improving activation of B-lymphocytes and T-cells. Selenium concentrations decrease during periods of acute infection.
- Selenium is required for normal thyroid hormone synthesis, activation and metabolism.
- Selenium protects against toxicity of some heavy metals, e.g. cadmium, arsenic, lead and mercury.
- Low dietary intakes are linked to anxiety, depression and tiredness.

What are the best food sources of selenium?

In New Zealand, seafood, poultry, eggs and Brazil nuts are the main food sources of selenium. Organ meats (liver and kidney), muscle meats and brewer's yeast are also good sources. Grain products vary in their content depending on where they were grown. Levels in North Island adults increased between 1983 and 1997 because of an increase in the importation of Australian wheat and also increased supplementation of animal feeds.

What are the laboratory indicators of selenium status?

- Plasma and serum – the selenium content of plasma responds to short-term changes in dietary selenium.
- Whole blood – an index of long-term selenium status. Does not fluctuate from day to day.
- Possibly T4:T3 ratio.

Should I take a supplement?

If testing indicates sub-optimal levels, then clinical studies suggest 200 mcg per day of selenium for cancer prophylaxis. If a protective effect is to occur, the effect appears to develop slowly over several years of consistent intake.

Combs *et al.* (2001) suggest that a plasma selenium concentration of about 1.50 umol/L may be optimal for reducing the risk of at least some cancers. Relatively high doses of several forms of selenium may also serve as a source of anti-tumorigenic Se-metabolites, and thus protect against the progression of cancer (Combs *et al.*, 2001).

Are there any safety issues?

Long-term ingestion of excessive levels (>1000 mcg/day) may produce garlicky breath, metallic taste, fatigue, depression, irritability and hair or fingernail loss.

mind **body** spirit Guest column by Sue Dykes

Moment to Moment

Sue Dykes is a Clinical Psychologist and Mindfulness Practitioner. She has a private practice where she offers therapy and professional supervision. She is also a Co-Director of Mindfulness Auckland, where she teaches mindfulness-based stress reduction (MBSR) programmes, originally developed by Jon Kabat-Zinn. She has been teaching this programme for the Leukaemia and Blood Cancer Foundation to patients and their support people for several years.

Perhaps you have been advised, or discovered for yourself, to take your cancer journey "one day at a time." This can be a helpful approach, but sometimes it's necessary to take one *moment* at a time. When you're going through chemo, or waiting for more results; when you're feeling sick, sore, scared, or ripped off, there are different ways to be with the pain of these awful times.

But, how can we really take things one moment at a time? One simple way is to open our attention to include more of what is here in any given moment. This is not to make anything go away, because, as we know, things generally don't.

Opening and widening our attention to include more of our actual experience in any given moment can help diffuse the fear, or the pain, and to relate to it differently. Think of a teaspoon of salt in a glass, and think of that same teaspoon in a lake. Our awareness is a big place, and has huge potential to help us come through the hard times.

You can try now, while you're reading this, to feel your feet. Not thinking about them, but feeling them. Can you notice their temperature? The sensations of touch or of pressure? You might not feel anything when you focus here. If that's the case, try not to judge yourself, just notice what's going on when you try to focus on your feet.

You can look around the room, or out the window, or listen to the various sounds arriving into your awareness through your ears. At other times you can really look into the eyes and see the humanness of your partner, or the person changing your dressings, or sitting at the reception desk.

Throughout our lives, our breath is always here, steady and reliable, a constant in our changing lives. It can become a place to focus, and a reassuring presence, through scans, treatments, and the stresses of family living or work.

Try placing your hands at the base of your rib cage, just feeling the gentle expansion and retraction of your tummy, like a balloon. At the same time you might check your shoulders, and drop them a little, easing off any tension you might be holding here. You can count your breaths, perhaps up to five or ten, gently, over and over, or just say to yourself, "in... and... out." The Vietnamese Meditation teacher, Thich Nhat Hanh, suggests this mantra:

"Breathing in I calm,
Breathing out I smile.
Dwelling in the present moment
It is a precious moment."

You might like to try this, gently, and kindly, over and over, and see how it feels. Another way to influence this current moment is by gently directing your attention to the GLAD practice. This involves bringing to mind something you are *grateful* for today, something you have *learned*, something you have *achieved*, and something that has *delighted* you, no matter how small, and seemingly insignificant!

letter to the editor

Dear Editor,

I watched the programme about Breast Screening on 3D on TV3 on Sunday, the 2nd of August, and found it a rather poor introduction to the subject. An interviewer asked Sandra Coney: "Could it be that mammography is doing more harm than good?" It emerged that, by harm, they were talking about women having their breasts removed after being found to have DCIS *(ductal carcinoma in situ)*. The Clinical Director of BreastScreen Aotearoa, Dr Marli Gregory, then said few women diagnosed with DCIS have mastectomies.

A good point made was that doctors cannot tell which women with DCIS will go on to have invasive cancer. That problem was addressed by talk about informed consent. There were two brief clips of breast cancer specialists from overseas, but nowhere did I hear them say which groups of women new research showed had been let down by mammography. It was not clear whether it was all women found to have DCIS, or women under 50 found to have DCIS or all women screened.

With the present Government looking hard for more Government-funded programmes to cut, I think it may decide to scrap the breast screening programme, disregarding any research results. The Labour Government expanded the Programme to those aged 45 to 50 because of popularity for that idea among women, when local cancer researchers said there was no evidence mortality would decrease as a result. Dr Gregory said we are going to get New Zealand mortality figures at the end of this year, which will throw light on who should be screened. That was good news!

Sincerely,
Barbara Holt

risk reduction research briefs Compiled by Louise Bobbit

Being Fat and Inactive Raises Risk of Breast Cancer

Two recent studies have investigated the risk of breast cancer in post-menopausal women and its association with obesity.

In the first study, the incidence of invasive breast cancer in obese women (BMI greater than 30) was 58% higher than women with a normal weight (BMI between 18.5 and 25). Women with the lowest level of physical activity had a 40% higher incidence of post-menopausal breast cancer than those with the highest level of physical activity. Researchers concluded that "the incidence among the most obese and sedentary women was doubled compared with the most physically active women with normal weight".

The researchers in the second study had similar findings and concluded that obesity was associated with increased invasive breast cancer risk in post-menopausal women. The authors recommended that these findings should motivate programs for obesity prevention.

Source: Bellocco R, et al: *European Journal of Epidemiology*, 2015 Jul 1. [Epub ahead of print]

Neuhouser ML, et al: *JAMA Oncology*, Published online June 11, 2015.

Aspirin Blocks Growth of Breast Tumor Cells

Some studies have suggested that Aspirin reduces the risk of different cancers, including breast cancer, and that it could be used as a preventative against breast cancer. This in vitro (laboratory) and in vivo (in nude mice) study showed a strong beneficial effect of aspirin on breast carcinogenesis. Aspirin was found to prevent breast tumour cell growth and also significantly reduce the self-renewal capacity and growth of breast tumor cells, delaying the formation of a palpable tumor. In addition, it was found that Aspirin delays migration of breast cancer cells. The authors concluded that Aspirin has therapeutic or preventive potential in breast carcinogenesis.

Source: Maity G, et al: *Laboratory Investigation*, 2015 Jul; 95(7): 702-17.

German Group Updates Info on Risks, Diagnosis and Treatment

The Breast Committee of the German Gynecological Oncology Group has updated their recommendations for the diagnosis and treatment of patients with early breast cancer. The Group found that there is good evidence that modifiable risk factors could substantially reduce the individual breast cancer incidence and mortality, including lowering total fat intake and maintaining a healthy BMI, physical activity and preventing type II diabetes mellitus.

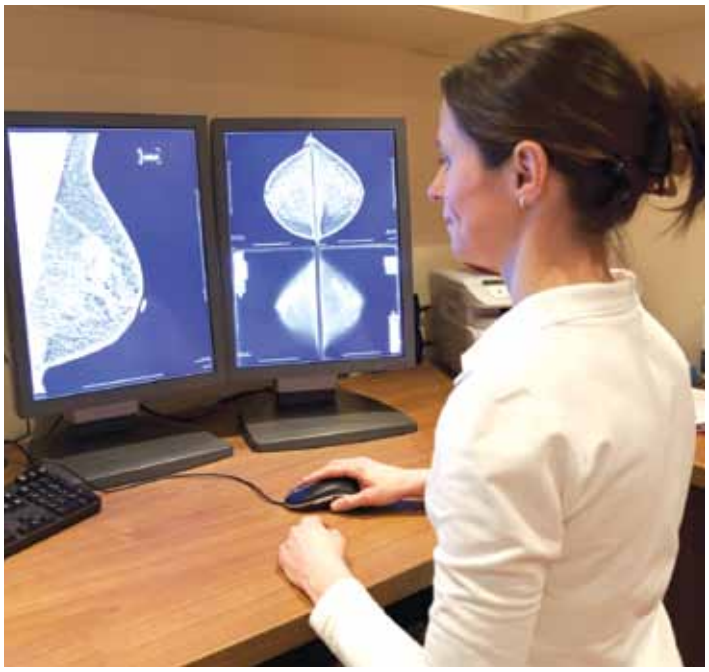
Regarding breast cancer diagnosis, the Group found that the detection of invasive breast cancer at an early stage offers the chance of survival from breast cancer with less treatment impairment and better quality of life. The guidelines recommend that all women be informed about the benefits and harms of screening tests, which include false positive and negative rates, over diagnosis and over treatment. These guidelines also clarify that "Contrary to persistent criticism (mostly based on the complexity of data analysis), all available evidence confirms that mammography screening is capable of significantly reducing breast cancer mortality".

Source: Hanf V, et al: *Breast Care*, 2015; 10: 189-197

Surveillance May be Better than Surgery for Low-grade DCIS

While the prevalence of ductal carcinoma in situ (DCIS) of the breast has increased substantially following the introduction of breast-screening methods, the clinical significance of early detection and treatment for DCIS remains unclear. This study investigated the survival benefit of breast surgery for low-grade DCIS. Of 57,222 cases of DCIS identified, 1,169 cases (2.0%) were managed without surgery and 56,053 cases (98.0%) were managed with surgery. With an average follow-up of six years, there were 576 breast cancer–specific deaths (1.0%). The ten-year survival rate was 93.4% for the non-surgery group and 98.5% for the surgery group. The degree of survival benefit among those managed surgically differed according to grade. For low-grade DCIS, the 10-year survival of the non-surgery group was 98.8% and that of the surgery group was 98.6%. The authors concluded that the "survival benefit of performing breast surgery for low-grade DCIS was lower than that for intermediate- or high-grade DCIS. A prospective clinical trial is warranted to investigate the feasibility of active surveillance for the management of low-grade DCIS".

Source: Sagara Y, et al: *JAMA Surgery*, Published online June 03, 2015.



New Research at the University of Otago

By Sue Claridge

Breast Cancer Cure, the New Zealand Breast Cancer Foundation and the Health Research Council have come together to fund two new breast cancer research projects. In its second year of funding, the joint partnership between the three organisations forms the Breast Cancer Research in New Zealand initiative. In 2014, the new initiative funded three projects, and this year will fund a further two projects at the University of Otago.

In June this year it announced the funding of these projects: the first, to identify breast cancer patients with relevant genetic mutations, and another to improve current knowledge on the role of aspirin in breast cancer treatment.

Cancer-causing Genetic Mutations

For quite some time, testing for BRCA1 and BRCA2 gene mutations has been available. However, testing is expensive and inefficient, with many women testing negative, indicating significant inefficiencies in selecting women for testing. Dr Logan Walker is leading a team that will aim to exploit a powerful new mRNA *in situ* hybridisation technology to develop an innovative method that will prioritise patients for screening who will most likely benefit from testing.

In addition, about 15 per cent of genetic tests identify a DNA sequence variant that is of unknown clinical significance, making counselling and clinical decision making challenging.

This study has the potential to identify tumours from both familial and sporadic forms of breast cancer that may respond to drugs targeting altered BRCA1/2 genes and related pathways.

The Role of Aspirin in Breast Cancer Treatment

Some two thirds of women diagnosed with breast cancer are oestrogen receptor positive, yet some patients obtain little to no benefit from targeted hormone treatment and their cancer returns. It has previously been shown that women with high levels of inflammatory immune cells in their tumours have poorer responses to anti-oestrogen therapy. In addition, aspirin has been shown to be associated with improved breast cancer outcomes in patients taking the drug for other reasons.

Dr Anita Dunbier will lead a team that will investigate whether the addition of aspirin to anti-oestrogen therapy will improve responses. They plan to examine the molecular changes that occur during treatment with aspirin and anti-oestrogen therapy. This analysis will indicate whether aspirin is likely to help patients in the long term and define biomarkers to identify which patients will benefit most.

This project is a continuation of a project that was funded by the Breast Cancer Research in New Zealand initiative.

Photo: Spflaum | Dreamstime.com

The Case for Thermography

By Dr Mike Godfrey

Breast thermography is an underutilised and generally less well-known method of assessing breast health and detecting breast tumours. Breast thermography offers women information that no other procedure can provide. However, breast thermography is not a replacement for, or alternative to, mammography or any other form of breast imaging. Breast thermography is meant to be used in addition to mammography and other tests or procedures. Breast thermography and mammography are complementary procedures; one test does not replace the other.

The technique is based on physiological principles and much technological improvement has occurred since the 1950s, in both detection and computerisation. In order to grow beyond a pin-head size, a cancer has to develop new feeder blood vessels, and with the breast being superficial, as opposed to inside a body cavity, the heat generated and the actual blood vessels can be readily detected by sensitive infra-red cameras linked to sophisticated computer software. The InfraMedic Mammovision camera and software, developed by Professor Berz at Frankfurt University in 2001, with 750,000 of Government funding, is also currently the only thermography system registered as a medical device in the European Union. It is possible with this system to accurately compare images with previous ones for any heat or vascular changes. This monitoring is equally valid for identifying deterioration or any improvements in breast health following naturopathic interventions. In this aspect, thermography is unique. There is no contact with a woman's body or ionising radiation, with standardised imaging taking less than 20 minutes in an air-conditioned room.

Thermography as a Screening Tool

Thermography appears to be an effective primary screening modality, as recently demonstrated in India where 1008 rural Indian women were screened. Forty-nine had markedly abnormal findings, with 40 being subsequently confirmed as having cancer following mammograms and ultrasounds, with the others having fibrocystic disease[1]. Interestingly, thermography also readily detects the effects of prolonged cell-phone contact with the breast. Notably, four cases of breast cancer from cell-phones in women between the ages of 21 and 39 have been published[2].

Logically, an actual tumour has to be present before the current standard method of breast screening – mammography – can detect it, although the presence of the micro-calcifications associated with DCIS indicate a greater risk of cancer being present at the time or subsequently. Once an abnormality is detected, ultrasound can then be used to confirm any mass, and whether solid or cystic, with the latter more likely to be benign.

In contrast, thermal imaging can detect deteriorating breast health long before the tumour is there. One does not go to sleep with healthy breasts on a Tuesday night and wake up the next day with a malignant breast lump.

In this regard, both Stark, and Gautherie and Gros, independently confirmed in the 1980s (with inferior technology) a 23-38%

CONTINUED ON PAGE 16

clean, green and healthy

Brazil Nut Bars

With low-selenium soils it is difficult to get enough dietary selenium from New Zealand grown produce. Brazil nuts are a great source of selenium, but if eating Brazil nuts on their own doesn't appeal, try these great nut bars to get a daily selenium boost. And don't forget that nuts are a really healthy snack. Recent research has found that eating more than 10 grams of nuts per day reduces the risk of death from cancer, diabetes, cardiovascular, respiratory and neurodegenerative diseases in men and women.

INGREDIENTS

FOR NUT MIXTURE:

- **1 cups whole roasted* unsalted almonds**
- **3/4 cup whole roasted* unsalted peanuts**
- **3/4 cup roasted* walnuts, coarsely chopped**
- **1 cup roasted* Brazil nuts, coarsely chopped**
- **1/2 cup puffed millet, rice (or other puffed whole grain; or crispy brown rice cereal)**
- **1 tablespoon flaxseed meal**

* **If nuts aren't already roasted: preheat oven to 180° C. Spread nuts on large baking sheet and bake for 10 min. until lightly toasted and fragrant.**

FOR SYRUP:

- **1/2 cup honey****
- **1/3 cup brown rice syrup (available in supermarkets)**
- **1/4 teaspoon salt**
- **1 teaspoon vanilla**

** **you can omit the honey and use all rice syrup**

METHOD

1. Grease/spray large bowl, 20 x 30 cm baking pan, wooden spoon or rubber spatula, and bottom of a drinking glass. Set aside.

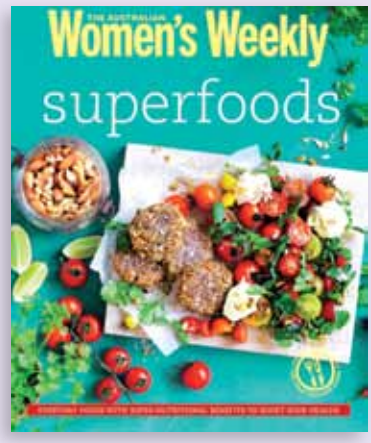
2. Add toasted nuts to large bowl. Add puffed rice/millet and flaxseed meal. Stir to combine; set aside.

3. In a 1.5 to 2 litre saucepan, combine honey, rice syrup, salt, and vanilla over medium-high heat. Cook, stirring frequently, until mixture reaches 260 degrees (hard ball stage) on a candy thermometer. Immediately, pour mixture over nut mixture, stir until evenly coated.

4. Quickly transfer to greased/sprayed pan using hands to spread mixture evenly in pan; press the mixture to close in holes and distribute evenly all over the pan. Using bottom of greased/sprayed drinking glass to tap and compact mixture in pan.

5. Let cool 20 minutes (pan should still be slightly warm). Invert pan on cutting board and tap until mixture falls out in one piece. Cut into 20 bars. (If they cool too much and become too hard or brittle to cut easily, put in warm oven for 1-2 minutes to soften; proceed with cutting.)

book briefs



Super Foods

By Australian Women's Weekly.

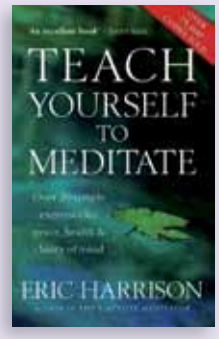
I really enjoyed this cook book; it features "super foods" as the "star" ingredient for added energy and well-being. It has a lovely, diverse, healthy range of recipes for family meals and entertaining. The use of grains, pulses, sea foods, nuts, herbs and spices, and much more invite you on every page to give it a go. The book is beautifully designed and colourful, and was available at my local library.

Reviewed by Robyn Kingdon-Mason

AWW Cookbooks I ISBN: 978-1-742-45473-3 I Available from Amazon and Fishpond

Teach Yourself to Meditate

By Eric Harrison



A guide for anyone who wants to learn how to meditate, this book explains what meditation is, how to do it and why it works, and contains the 10 core meditation practices which work best for everyone. With lots of positive reviews online, one reader described it thus: "This book is packed with knowledge, which is portrayed to the reader in a clear and concise manner. You'll learn a variety of meditations and how to incorporate them into your every day. But most importantly this book gives you understanding of what meditation is and its ability to positively transform your mind."

Piatkus Books I ISBN: 978-0-749-91328-1 I Available from the BCN Library, and from Amazon and Fishpond

supporter members

Breast Cancer Network (NZ) Inc is offering companies and like minded groups 'Supporter Membership'. This is an annual commitment of $250.00 plus GST for companies who believe in the objectives of Breast Cancer Network. For your investment we will advertise you as a supporter of the Breast Cancer Network in *Upfront U Kaiora*, under our supporter section, and also we will display your logo on our website www.bcn.org.nz with a link to your own website. We will allow you the use of our logo and link to promote the relationship established between both parties. We will also acknowledge all Supporter Members at our Annual General Meeting, and ask that our members to support you in turn. Breast Cancer Network (NZ) Inc is a registered charity. For further information contact our office or visit our website www.bcn.org.nz

Living Nature **Devonport Lingerie** **The New Zealand Alarm Shop** **Maree Louise Underfashions**
The Breast Centre **The New Zealand Chefs' Association** **Telephone Market Research Company Ltd**
Bertelsen Harry Waters Ltd, Chartered Accountants and Business Advisors **Naturalwear**

breast events to come

- **27 September – Lisa's Wish:** JUMP @ East Tamaki; start time 1pm, meet 12:45pm – free peer support activities for children of those patients with a cancer diagnosis. For information please phone 021 1322483 or email admin@lisaswishtrust.com30
- **30 September – Men's Group** at dove house, Riddell Road, Glendowie, at 6pm. Tim and Graham Southwell will lead a discussion on Advanced Care Planning. Light evening meal will be provided RSVP dove house 09 575 4555.
- **18 October– Lisa's Wish:** ZOO picnic; meet at the gates 11am – free peer support activities for children of those patients with a cancer diagnosis. For information please phone 021 1322483 or email admin@lisaswishtrust.com

Breast Cancer Support (BCS) Young Women's Group meets on the fourth Monday of the month, 7pm-9pm, at Domain Lodge, 1 Boyle Crescent, Grafton, Auckland. For more information please call BCS on 0800 273 222.

Breast Cancer Network would really like to help you publicise your event. The deadline for Breast Events for every edition of *Upfront U Kaiora* is now the 10th of the month before publication (*Upfront U Kaiora* is published in February, April, June, August, October and December each year). If you would like to be reminded prior to each issue of publication date, so that you can ensure your event gets in to Breast Events, please send the email address of the person who should receive the reminder to Sue at sclaridge_bcn@clear.net.nz.

Changes at BCN

We are sad to announce that we have farewelled Bonnie Reid, who has been our administrator for three and a half years. Bonnie has been a wonderful administrator and Committee member and we wish her all the best. Fortunately, another committee member, Julianne O'Brien has taken up the position and has already begun work.

As Julianne will be working from home at the other end of Auckland from Bonnie, the phone and PO Box have changed to: 09 413 7457 or 021 364 114 and P O Box 145, Greenhithe 0632. The email address remains the same: admin@bcn.org.nz.

We also have two new committee members, Tracey McGall and Sandra Nicholson, both of whom have had breast cancer.

Welcome to Tracey and Sandra, and we will try to give you a bit of a profile of our new Committee members in the October edition.

VISIT THESE SITES FOR MORE BREAST INFO! **www.bcn.org.nz** **www.breast.co.nz**

TO JOIN BCN To support the work of BCN and receive a regular copy of **UPFRONT U KAIORA** send your name and address to:
Breast Cancer Network NZ, PO Box 145, Greenhithe, Auckland 0632

☐ **Membership $40** ☐ **Institutional $100** **(Subscriptions include GST)**

Name: Miss/Mr/Mrs/Ms/Dr

Address:

City: Postcode

Phone: Home (0) Email

Amount enclosed: membership $ **donation $**

My payment has been credited to account **06-0284-0088795-00** (Please use your name as reference and mail this form to us)

A/c name: Breast Cancer Network NZ Incorporated, National Bank, Penrose Branch.

☐ I prefer to receive *Upfront U Kaiora* (in colour) by email ☐ I prefer to receive *Upfront U Kaiora* (black and white) by post

☐ Please tick here if you have experienced breast cancer. ☐ I am interested in helping with BCN activities

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

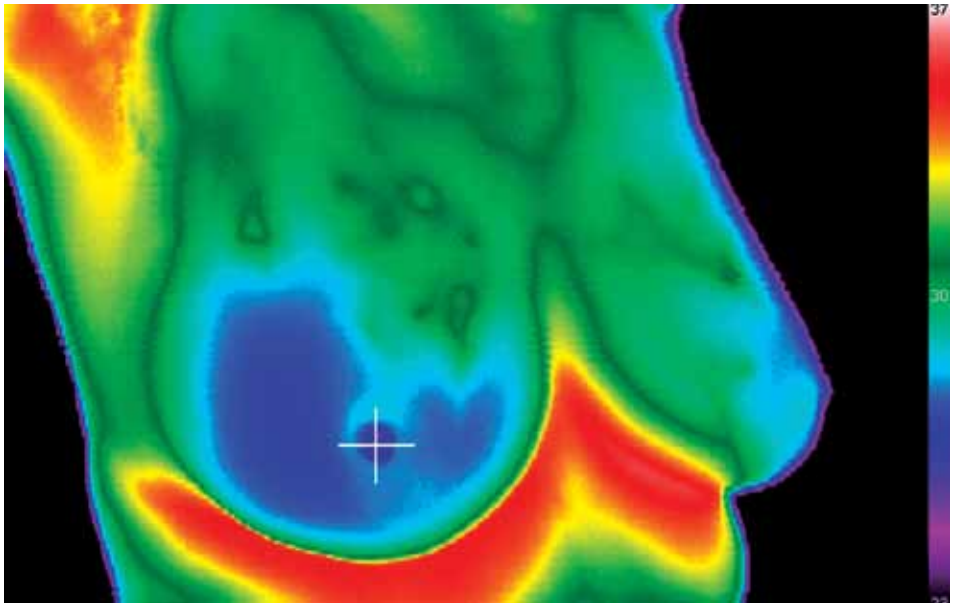
Age Group (Optional - Please circle applicable group) (Under 45) (45 – 49) (50 to 69) (Over 69)

Breast Cancer Network (NZ) Inc., P O Box 145, Greenhithe, Auckland 0632. Phone: 09 413 7457 or 021 364 114 Email: admin@bcn.org.nz Web: www.bcn.org.nz

CONTINUED FROM PAGE 13

confirmation of subsequent cancer within four to ten years respectively of abnormal thermograms[3, 4].

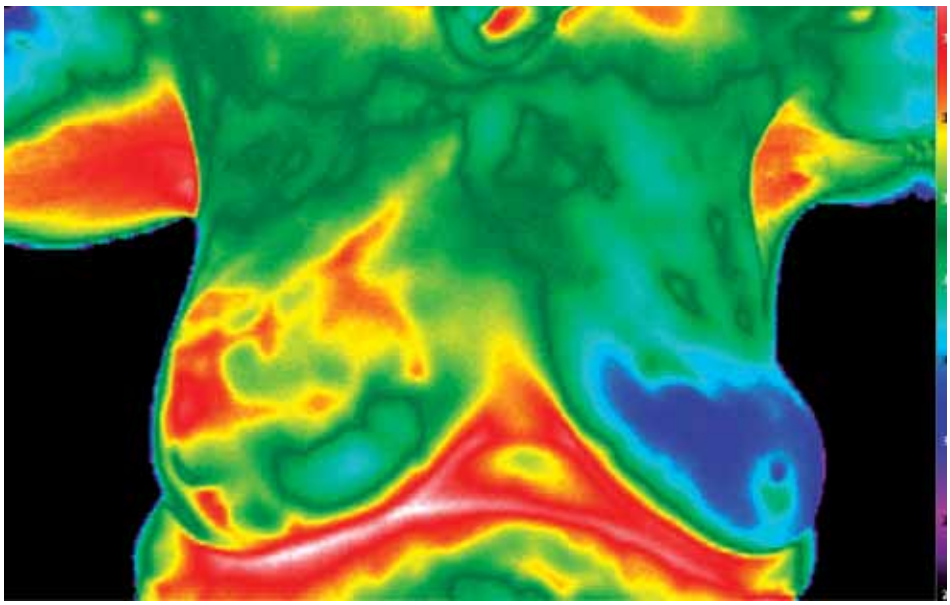
Breasts become unhealthy first with signs of increased blood flow; dilated vessels and increased heat, changes which are detectable by thermal imaging. These unhealthy signs in breasts result from toxic environmental influences, which have led to chronic inflammation and/or hyper-oestrogenic changes; fibrocystic disease and impaired lymphatic drainage are significant conditions which are often revealed by thermal imaging.



Thermogram of a normal healthy right breast.

Breast Health and Heavy Metals

Professor Ionescu in Germany identified statistically significant levels of metals including iron, nickel, cadmium, copper, zinc and mercury in breast cancers, compared with levels in benign breast tumours[5]. These metals catalyse inflammation and cellular damage. Notably, all are routinely used in dentistry and based on school chemistry, corrosion has to take place when different metals are placed in a salt or acid solution, as inevitably occurs in the mouth. The late Josef Issels, regarded by many as the most famous German oncologist of the 20th century, and who featured on a BBC Panorama documentary, treated over 12,000 patients with cancer, with an unequalled success rate. Issels reportedly found major contributing factors in the teeth, jaw and tonsils in over 95 per cent of those patients.



Thermogram of a breast with a breast tumour (right breast on the left of the image).

Breast Density

Breast density is a major problem with mammography. It has been compared to looking for a snowball in a snow-storm, with mammography sensitivity reduced from 88 to 55 per cent (or little better than 50/50) in the densest breast tissue frequently found in younger women[6]; this is one area where thermal imaging appears to be unsurpassed with breast density being irrelevant.

In this regard, Professor Claudia Baines commented in 1999 that: "*Everything possible should be done to identify the optimum biological conditions for enhancing mammographic accuracy. Even better would be a new imaging technology that would surpass the best that "modern mammography" can achieve."*[7]

Eight years later, whilst not specifically mentioning thermal imaging, Dr Norman Boyd stated: *"Annual screening in women with extensive mammographic density is not likely to increase cancer detection rate (due to masking)… Attention should be directed to the development and evaluation of alternative imaging techniques for such women."*[8]

A Breast Wellness Approach

In future, women could take a breast wellness approach from their early twenties, an age when many breast cancers first start. They could utilise an evidence-based lifestyle approach, to avoid risk factors and to encourage good breast health. Thermal imaging can then be used as one indicator of breast health in such an approach[3, 4]. Because thermograms in a healthy woman remain remarkably constant, serial thermograms can assess tissue changes over time. A healthy initial thermogram can therefore serve as a baseline against which to compare future thermograms.[6]

There is an urgent need for research into the role that thermal imaging could play in a breast screening programme, as an adjunct to mammography screening in women over the age of 50, in order to improve efficacy and to minimise harm from false negatives, false positives, over-diagnosis and over treatment.

References

1. Rassiwala M, et al: *International Journal of Surgery*, 2014; 12: 1439-1443.
2. West JG, et al: *Case Reports in Medicine* 2013: 354682.
3. Stark A: *European Journal of Surgical Oncology*, 1985; 11: 147-150.
4. Gautherie M & Gros CM: *Cancer*, 1980; 45: 51-56.
5. Ionescu JG, et al: *Neuro Endocrinology Letters*, 2006; 27(Suppl 1): 36–39.
6. Kennedy DA, et al: *Integrative Cancer Therapies*, Mar 2009; 8(1): 9-16.
7. Baines JC & Dayan RA: *Journal of the National Cancer Institute*, 1999; 91(10): 833-838.
8. Boyd NF, et al: *New England Journal of Medicine*, 2007; 356: 227-236.