



Breast Cancer Research Will Save Lives – Thanks to You!

Research supported by you allows a world-class team of researchers to dedicate their days and nights to fighting a heartbreaking disease that continues to devastate Australian families - breast cancer.

This research team, based at the Basil Hetzel Institute for Translational Health Research (BHI), is driven by passionate leaders who are tackling breast cancer from two different key angles – prevention and treatment. Thank you for making this research a reality!

Associate Professor Wendy Ingman and Dr Pallave Dasari along with their team at the Breast Biology and Cancer Unit at the BHI are focused on gaining a better understanding of breast cancer risk factors and how these can be tackled to a reduce a woman's risk of this disease.



“More women are diagnosed with breast cancer than any other cancer. We are focused on understanding what is happening in the breast that would cause a woman's risk to be higher or lower,” A/Prof Ingman said.



Prevention

With numerous projects underway, A/Prof Ingman is exploring important research areas such as investigating the window of breast cancer risk that opens up during a woman's menstrual cycle, how pregnancy affects diagnosis and the role of mammographic breast density.

“We've been working with a number of PhD students on understanding what actually happens in the breast at that particular time of the menstrual cycle,” she said.

“We're also investigating why a woman who goes through their first full term pregnancy at an early age actually halves their risk of being diagnosed with breast cancer during their lifetime. We have exciting findings on this that we'll be able to inform you of in the future.

“Our other main interest is mammographic breast density. Our research is exploring the cause of high density and the increased breast cancer risk associated with this, and we are looking at ways to reduce this risk. We have

also been working hard at raising public awareness of breast density because high density can hide tumours on a mammogram.”

Treatment

In collaboration with A/Prof Ingman, Professor Andreas Evdokiou leads his group at the Breast Cancer Research Unit at the BHI as they investigate new ways of stopping the spread of breast cancer and targeting and treating breast cancer that has spread to other areas of the body, such as the bone

“Amongst our other projects we are currently collaborating with researchers in the Netherlands on the production of a gel substance. This gel can be mixed with cancer fighting cells so after surgery it can be injected directly in the local area where the fighting cells are slowly released killing any cancer left behind,” Prof Evdokiou said.

“Sometimes you can't actually get to the tumour to surgically remove it because it is next to a crucial structure or patients are too fragile to handle radiotherapy and chemotherapy. This is where the gel would be helpful and we're so excited to be able to continue this research with the support of you through Australian Breast Cancer Research.”

With so much vital research underway thanks to you, we are on the way to stopping breast cancer from devastating families in the future, like it has to young mum Nyrie Contor and her three beautiful children. You may have met Nyrie in a recent letter from us. She is battling stage 4 secondary breast cancer that has unfortunately spread to the bone. Recently visiting A/Prof Ingman and Prof Edvokiou at the BHI, Nyrie was humbled to see how many researchers are behind the scenes fighting to improve the lives of women like her. You can feel proud knowing you are supporting research to save the lives of people like Nyrie and end this heartbreaking disease once and for all.



Image right: Nyrie with A/Prof Ingman (L-R).

Shooting for the Moon

Joe Wrin, PhD candidate

So here I am, sitting at my desk and typing on my aging MacBook, surrounded by my burgeoning pile of breast cancer papers and a litter of coffee cups. I have just started my PhD with Associate Professor Wendy Ingman, a project that will see me probing the interactions of the immune system with breast tissue. A few months ago, I sat at a different desk, working on a different cancer. So, how did I get here? Let me tell you my story...

I always loved nature as a kid so it was natural to study science at university. After a stint at a California biotechnology company, I crossed the Pacific to start work in Adelaide. About a year into my stay, a woman appeared at the laboratory bench opposite mine. We talked about dogs and horses, she had an infectious laugh. We fell in love. Her name was Leeanne.



We started our life together on a property in Strathalbyn with three horses and as many dogs, and duly commuted each day to Adelaide. When we added two children to the mix, we said goodbye to our little farm and moved back to Adelaide. The years passed, as they do, and Leeanne took a year off work to spend more time with the children. I took advantage of this opportunity to visit my parents in California. Next thing I knew, our lives began falling apart.

Leeanne sent me a text when I arrived at the airport: could I get a cab home? Alarm bells started ringing. I arrived home to find her experiencing intense joint pain, she could hardly stand it. Her blood test came back: something was wrong with her bone marrow. Could it be leukaemia? With a tightening throat, I took her to a haematologist and he spelled out our future. Lee had a breast lump, and it was cancerous.

We began living a nightmare, a series of events that couldn't be happening. The doctors were wonderful but they couldn't do a lot for her. The disease had gone too far, it had metastasised to her bones. There is no cure for metastatic breast cancer, chemo would only offer limited control of the disease and help relieve her pain. She was given twelve to eighteen months to live. She endured the chemo: a beautiful orange solution, but so terribly toxic. Coming out the other end of the chemo cycles, a little miracle happened. Lee's tumour shrank and disappeared. It was almost like she was normal again. We enjoyed a golden time together as the meds controlled the residual disease in her bones. She was only out of bed about half the time – her bones hurt if she tried anymore...but it was a precious time for us.

Eventually, her tumour marker began to spike, the disease

was progressing. Different chemo, different medications, but the marker kept rising. The disease started appearing in her lungs, her liver, her brain. Then there was radiotherapy. Lee became bed-ridden. Her pain grew until it was out of control. I couldn't look after her adequately anymore, she was suffering too much.

I moved her to hospice care and she was kept heavily sedated. The doctor advised: tell her to let go. Lee died the next day, one month shy of her 50th birthday. She lived three and a half years past her diagnosis. And that's the short version of why I'm here. Following Lee's death, I returned to work, researching colon cancer therapy and working with patients. It was worthy work and quite satisfying, but my heart kept urging me to do breast cancer research.

So this year I started PhD study, working on immune interactions during breast cancer onset, and will do everything I can to help defeat breast cancer.



My work here is only possible thanks to your kind and generous support. And I am shooting for the moon: a future in which no woman will ever have to suffer the tragedy of breast cancer.



“My heart kept urging me to do breast cancer research.”

Image above: Joe in the lab at the BHI.

Image left: Joe and his beloved Leeanne.

SHARE

Do you have a story like Joe's you would like to share? We would love to hear from you! Contact us at contactus@abcr.com.au or **08 8445 2453**

Breast Density Matters!

Thanks to you, as part of our generous donor community, we are very proud to support Associate Professor Wendy Ingman's important research into the area of breast density.

Did you know that almost eight per cent of women have extremely high breast density, which can make it harder for health professionals to detect breast cancer on a screening mammogram? These women are also more likely to develop breast cancer in the future.

In October 2016, A/Prof Ingman, Lead Researcher, Breast and Biology Unit at the Basil Hetzel Institute for Translational Health Research, led a collaborative national announcement as part of a group called INFORMD (INformation FORum on Mammographic Density). Their important announcement, which reached 7 million people across Australia, aimed to raise awareness of the importance of breast density, in the hopes of improving cancer diagnosis and health outcomes for Australian women.

"We've grown concerned that Australian women are not aware of the significance of breast density in the diagnosis and prevention of breast cancer," A/Prof Ingman said.

On a mammogram, breast density is shown as white and bright regions. But unfortunately, potential tumours are also shown as white and bright on a mammogram.

“**Breast cancer is more likely to develop in women with dense breast tissue, but not many women know if they have dense breast tissue. We believe it's important to inform women about breast density so they can make the right choices for their health.**”

"With the technology currently available, it is harder to see tumours in breasts with denser tissue on a mammogram. The danger is that these women are at risk of having tumours missed at the time of screening," A/Prof Ingman said.

Currently, no single method or tool for measuring breast density has been agreed upon within the medical and medical technology communities. However, A/Prof Ingman and her colleagues at INFORMD say breast density can't be assessed based simply on how breasts feel during a self-exam or a doctor's physical exam.

A/Prof Ingman does point out that although dense breast tissue is a risk factor for breast cancer, not all women with dense breasts will develop breast cancer.

As a supporter of Australian Breast Cancer Research, you can feel proud that A/Prof Ingman is so passionate about her area of research and with your help, she is able to further her research into breast density.

A/Prof Ingman and her research team are investigating why the underlying cellular mechanisms of the breast



Image above: A/Prof Ingman analysing a breast with high density.

are susceptible to cancer in the hopes of preventing the disease from affecting other women in the future.

By increasing prevention and early detection of breast cancer, and by increasing the understanding and better utilisation of breast cancer screening in Australia, we can help lower the impact of this heartbreaking disease. Thank you for your support!

WHAT CAN YOU DO NOW?



Mammography remains the gold standard for breast cancer screening. The researchers encourage women to use the opportunity to have free regular mammograms through BreastScreen services across Australia.



Women can have their breast density assessed through a mammogram, which can be arranged through their GP.



Supplementary screening methods, including ultrasound and MRI, are available for women to be used in addition to mammography. However, it is important that women consider the costs, both emotional and financial, and the risk of false positive results associated with these other technologies.



Be breast aware. All women, regardless of age, can be familiar with their breasts and check them regularly. Any changes should be reported to their doctor.

For more information please visit INFORMD.org.au.

G - FRESH™



GARDEN FRESH



Finding a Cure Together

We are thrilled to announce an exciting new partnership for ABCR, joining forces with the passionate team behind Australian business G-Fresh! Garden Fresh herbs, spices and seasonings can be found in independent supermarkets across the country and from February 2017, they'll be undergoing a makeover. You won't be able to miss their tantalising products, which will be branded in pink with part proceeds going to support vital breast cancer research through ABCR.

Buying and using these G-Fresh products is a fantastic way to help lend your support to our lifesaving research while supporting a 100% owned and operated Australian business. So the next meal you make, make it Garden Fresh.

Be Breast Aware –
Thank you Intimo!

#BEBREASTAWARE



This Breast Cancer Awareness Month we were thrilled to partner with lingerie company Intimo for the third year in a row!

By hosting their own fundraiser styling session during October and encouraging women to make the pledge to check their breasts regularly, Intimo's Be Breast Aware campaign raised an incredible \$13,284.00 to advance breast cancer research through ABCR.

100% of these funds have been directed to our breast cancer research teams who are working on prevention of breast cancer and the spread of the disease. Thank you once again to Intimo and their team!

INTIMO

World-First Study Investigating Breast Cancer in Young Women

Any breast cancer diagnosis is life shattering, but for young women who have a family or are wanting to start one, this adds a huge burden to an already trialling time.

Today breast cancer is not just a disease affecting older women. Currently 25 per cent of women who are diagnosed with breast cancer are premenopausal and research shows cancer in these women is typically more aggressive and more likely to spread to the bone.

Despite this, few studies have been undertaken looking at how a premenopausal woman's menstrual cycle could affect a breast cancer diagnosis. This is where PhD candidate Sarah Bernhardt's project comes in, launching her world-first study at the Basil Hetzel Institute for Translational Health Research (BHI) earlier this year.

"Most of the past studies used to develop the tests that currently diagnose breast cancer were performed in post-menopausal women. These are women who do not menstruate and therefore are not exposed to fluctuations in hormones," Sarah said.

A young woman herself with a strong passion for making a difference for her peers and future generations, Sarah's study is looking at how a premenopausal woman's menstrual cycle can affect a breast cancer diagnosis.

"During a woman's menstrual cycle the hormones oestrogen and progesterone are present and they fluctuate in a cycle," Sarah explained.

"These hormones are involved in the development of the normal breast and throughout your menstrual cycle your breast changes normally so it is expected that during this time the breast tumour will also change.

"What I want to know is if you diagnose a woman's breast cancer at one stage, for example when there is a lot of oestrogen present, is that going to be a different diagnosis to if it was diagnosed at a different stage say two weeks later?

"Then I want to see if this fluctuation in hormones affects the overall diagnosis of the breast tumour which in turn could affect what treatment is given."

Importantly breast cancer is not a single disease, it is categorised into five alternative sub types that are all different in their biology and what method of treatment is used to target the cancer.

"This means in diagnosing breast cancer you first need to understand what type of cancer it is so it can be treated in the best way," Sarah said.

"For example you've got oestrogen receptor positive diseases and you treat them with a certain drug because

it targets the oestrogen receptor, you can't then use the same drug on an oestrogen negative disease because it just wouldn't work."

Based on her findings Sarah will then determine whether a premenopausal woman's fluctuations in hormones affect the diagnostic tests used to conclude which type of breast cancer they have.



Image above: Sarah's world-first study will save lives.

"As current diagnostic tests were developed in post-menopausal women, we don't yet know whether the hormones in premenopausal women will affect the tests.

"I am trying to discover if the breast tumour changes as the hormones fluctuate. We'll also be taking biopsies of women who have cancer at two different times, so one when they are diagnosed and the next about two weeks later when it is surgically removed.

"This should be at a different phase of their menstrual cycle so we can look at the tumour and see if it has changed at all and if this affects how it responds to treatment.



**This particular part of the study will be a world-first!
No one has yet looked at how the breast cancer changes
in paired samples of premenopausal women.**



Eager to see a future free of breast cancer, Sarah's findings will assist in improving diagnosis and treatment for young women who are diagnosed with breast cancer at some of the most important stages of their lives.

"When these young women are diagnosed with breast cancer it's the rest of their lives that can be impacted," she said.

"I have such a passion for this research! Being a woman it's the cancer I can relate to the most. With one in eight women affected by the disease in their lifetime, we're guaranteed to know someone who is going to go through it now or in the future."



**Your support enables breast cancer research at the
BHI to be world-class! Thank you for your support!**

You're Bringing Hope to Researchers!



In a recent letter you may have received, we asked you to send a message of hope to your breast cancer researchers on a piece of bunting. Thank you for your words, these messages are now up on display at the Basil Hetzel Institute for Translational Health Research where your researchers are located! With stories from those touched by cancer, motivating quotes and words of support – these messages are the first thing your researchers read when they start their day. Thank you!

Will you join a Community who Care?



“.....
I'm proud 100% of
my donations are
fighting breast
cancer.
.....”

Image above: (L-R) Our Donor Relations Specialist Bonnie Stewart with Denise and her grandsons.

You can join a group of inspiring people who are proud to say they make our breast cancer research possible! Our Community of Care is made up of generous individuals who make automatic monthly donations to do all they can to improve treatments, prevent and cure breast cancer! Will you join them?

Denise Dellit is one of these inspiring people proud to be part of our Community of Care. Having had a number of friends touched by breast cancer, Denise who also has six grandchildren began giving back to research for a future free of cancer for her family and friends.

As a valued member of our Community of Care, Denise joins many others who make regular monthly donations to ensure research undertaken now can be translated to patients in the future as soon as possible!

So why should you join Denise as a regular supporter of breast cancer research?

Your donation will be deducted automatically each month and these regular donations reduce our administration costs meaning we can focus on supporting the breast cancer research you make a reality! 100% of your donations will go directly to breast cancer research (yes it's true!) and the amount and how often you choose to donate is entirely up to you! What's more, every financial year you'll receive a tax receipt for your donation that year.

If you like the sound of joining a group of passionate people who all want to end this heartbreaking disease, you can fill out the enclosed form and send it back in the reply paid envelope. Alternatively you can contact our Donor Relations Specialist Bonnie Stewart on **(08) 8445 2453** – she is here to help you!

Alternatively, please visit our website for more information: www.abcr.com.au

Do you have a story you would like to share? We would love to hear from you! Get in touch with us at contactus@abcr.com.au