



Cancer
Council
WA

**With your
support,
there is
hope.**



We are Western Australia's leading cancer charity, working with and for the community, for everyone affected by or concerned about cancer. It's not only patients who need a guide they can trust – we're here for carers, friends and family too.

We fund research that targets cancer from every angle. Every result helps us to understand cancer better, and find new ways to prevent, diagnose and treat it.

We are a community-funded organisation and rely on donations and fundraising to continue our vital work.

Thanks to your generosity, we contributed over \$2.4 million to support local cancer research in the 2022/2023 financial year.

Thank you for your incredible support.

With your help, we offer a range of practical and emotional support services, and cancer-related information. Our cancer nurses are available on 13 11 20, our cancer information and support line. We're here to listen, no matter your questions or concerns.



In the spirit of deepening relationships, Cancer Council WA acknowledge all the traditional custodians and owners of country throughout Western Australia and recognise their continuing connection to land, waters and community. We also pay our respect to their Elders and extend that respect to all Aboriginal peoples living and working in this area.



MESSAGE FROM OUR CEO AND PRESIDENT

Cancer will affect all of us at some point. That's why Cancer Council WA exists, to unite West Australians and their dedicated efforts, on all fronts.

As you know, it takes many hands to take on cancer. From WA's best and brightest researchers working on the next cancer breakthrough, to our generous donors, who make this all possible.

Thank you for supporting our vision of a cancer free future. With your help, we're providing hope for people locally, nationally and internationally.

It's all of us against cancer.

Yours sincerely,

Ashley Reid
Chief Executive Officer,
Cancer Council WA

Dr Ruth Shean AO
President,
Cancer Council WA



FUNDING OPPORTUNITIES

Student research scholarships

Scholarships are offered to full-time tertiary students.

Categories we fund:

- Student Vacation Research Scholarships: awarded to students for a short-term project over a vacation period, to experience working in a research setting.
- PhD Top Up Scholarships: awarded to high-achieving students running a cancer research project for their PhD studies.

Early-career funding

What is an early-career researcher?

A researcher with no more than five years postdoctoral experience.

Why do we fund early career researchers?

Early-career funding assists talented researchers to develop and advance their career in cancer research. This is achieved by enhancing their skills and the track record necessary to become competitive in the national research grant processes. We offer researchers both project and personal funding.

Categories we fund:

- Suzanne Cavanagh Early Career Investigator Grants
- Postdoctoral Research Fellowship

Early to mid-career funding

What is a mid-career researcher?

A researcher with more than five years and less than 10 years postdoctoral experience.

Why do we fund mid-career researchers?

We support early- to mid-career cancer researchers to build capacity and encourage collaboration. The scheme aims to improve research quality and increase the competitiveness of this group of researchers, by helping them to obtain preliminary data and build collaborative networks.

Categories we fund:

- Collaborative Cancer Grant Scheme: Project Funding

Open career funding

Why do we offer these?

We offer a number of funding opportunities for researchers and projects. This includes those which address specific research areas, to ensure we retain and support the most competitive cancer researchers in WA.

Categories we fund:

- Research Fellowships
- Research Project Grants
- Cancer Research Trust Enabling Grant
- Prostate Cancer Research Initiative
- Gastrointestinal Stromal Tumour Initiative (GIST)

Research excellence awards

Why do we offer these?

These are awarded to recognise and celebrate the achievements of Western Australia's best and brightest cancer researchers. They are an avenue to reinforce the importance of cancer research as a career choice, while encouraging the next generation of researchers.

Categories we fund:

- Early Career Cancer Researcher of the Year
- Cancer Researcher of the Year
- Professor Bruce Armstrong Cancer Research Career Achievement Award

INTRODUCING PETER O'SHAUGHNESSY

Peter O'Shaughnessy is a retired industrial chemist living in Eaton, WA. Nowadays, he is well-known as an author and artist, with a focus on bush poetry.

Born in Wiluna, a mining town in outback WA, Peter was raised in the famous Club Hotel. He has three lovely daughters, many grandchildren and great-grandchildren.

Peter is also a West Australian who has been impacted by a loved one's cancer diagnosis.

In retirement, Peter and his wife Deeny had done a lot of travelling. They visited 63 countries and did several trips around Australia, both tenting and in a small off-road caravan.

When Deeny was diagnosed with myeloma, a type of blood cancer, she was overwhelmed with negative emotions. Peter says; *"just the mention of the word cancer sent her into a dark place, from which she never fully recovered."*

After Deeny passed away, Peter was determined to give something back and became involved with Cancer Council WA's South West Support Centre - Dot's Place Bunbury. *"There has been wonderful people at Dot's Place who helped ease our way through an awful time. I began volunteering and helping to raise money for them"*, he shares.

Peter says; *"I had my first book launch at Dot's Place Bunbury to raise money and then went on to write the story of Deeny's cancer journey". "This rapidly sold out and I donated several copies to Dot's Place for their library"*, he shares.

During this challenging time for Peter and his family, he came to realise not only the need for support services, but for cancer research.

"Working as an industrial chemist over the years, I had worked in research and development myself, so I knew how difficult it was for young researchers to get funding. After discussions with Cancer Council WA, I began to make an annual contribution to young researchers and have continued to support the Research Program to this day", Peter shares.

Proceeds from his painting exhibitions, and the sale of books and poems have enabled Peter to keep this support going. Peter knows we must continue providing hope, that one day we will find the answers to a cancer free future.

"In any field, breakthroughs rarely happen in one blinding flash of discovery, but rather in a series of small steps. These steps take time and vital funds. That's why we should, all of us, continue to support cancer research", he shares.

Peter says; *"It gives me a wonderful feeling of involvement to select a project to support, meet the researchers and even get to visit their laboratories to see how it is all done. When I attended the annual Research Awards, it gave me great pleasure to re-meet some of them and even get a hug or two. It has been so rewarding to be a little bit involved and see the progress they are making. I am sure my Deeny would have been thankful and so proud of you all."*



FROM DONATION TO DISCOVERY

You don't have to wear a lab coat to help discover the next cancer breakthrough. Through the support of our generous community, from people like you, Western Australia's cancer survival rates are among the highest in the world.

Although we're making great advancements, there is still more to do.

Each and every dollar you donate is put to work, in the hands of hard working researchers. All donations are allocated in the most effective and efficient way possible. To uphold this, all applications for funding go through a competitive, peer-reviewed process to ensure we fund only the highest quality research.



A generous donation to research



Helps fund a student researcher exploring a new research idea



Allows a researcher to further investigate early findings



Supports a researcher taking their discovery through a clinical trial



New and better treatments for cancer patients





OUR RESEARCH FUNDING PROGRAM

Cancer Council WA funds research projects that have a real impact for the West Australian community. This includes lab-based research and clinical trials for treatment, prevention and care. Every result helps us to understand cancer better, finding new ways to prevent, diagnose, and treat it.

Our Research Funding Program aims to support cancer researchers at each step of their career, as well as develop and retain world-class cancer researchers in WA.

The importance of WA cancer research

Why do we fund cancer research?

Cancer Council WA aims to minimise the effect of cancer on our community through research. Thanks to numerous breakthroughs, today's survival rates for the most common cancers are more than 90 per cent. The overall five-year survival rate for those diagnosed with cancer is 69 per cent. Western Australia's cancer survival rates are among the highest in the world.

How do we achieve this?

By offering funding for research that is peer-reviewed and has the potential to advance local knowledge, we're ensuring a strong West Australian research culture. Projects must be led by researchers and research teams, and must include community representatives with the capacity to achieve improved outcomes for cancer diagnosis, treatment, or support for West Australians.

DR BELINDA GUO

RESEARCH PROJECT GRANT - BONE MARROW

Using platelets in the blood as a more accessible test to assess treatment response in patients with bone marrow cancer



Myelofibrosis is an aggressive bone marrow cancer that disrupts the production of blood cells. It is relatively rare, but is highly debilitating with increased infections, bleeding and lethargy. Patients are also at increased risk of developing acute myeloid leukaemia and bone marrow failure, and have a median overall survival of three to five years.

The only possible cure is a bone marrow transplant. However, this is a risky procedure and some patients will still relapse. We will address this using a new blood-based test we invented. With this test we can detect specific changes in the blood of patients diagnosed with myelofibrosis.

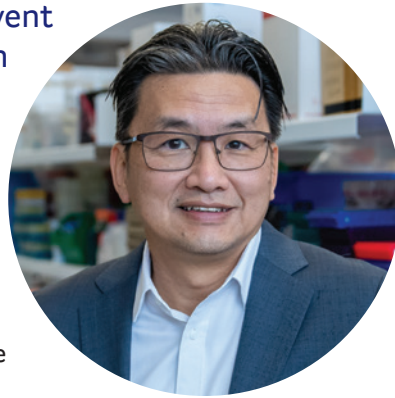
We aim to determine if these changes can be reversed by a transplant. We anticipate that if the changes disappear and the platelets are normal, that the patient has been cured. On the other hand, if the abnormalities remain, then this will indicate the cancer persists and more treatment is required.

Our blood test has the potential to be used as a much less invasive and painful monitoring tool than bone marrow tests. This will help attract and accelerate clinical trials, bringing more treatment options to patients in WA.

PROF GARY LEE RESEARCH PROJECT GRANT - LUNG/MESOTHELIOMA

Using prophylactic antibiotics to prevent infections of drainage tubes placed in cancer patients for removal of fluid

Practically all cancers can spread to the pleura (surface of the lung) generating litres of fluid within the chest. These malignant pleural effusions (MPEs) affect patients with mesothelioma (95 per cent), lung and breast cancers (30 per cent), causing distressing breathlessness and require painful fluid drainage procedures.



Indwelling pleural catheter (IPC) has revolutionised the care of MPE. Implanted between the ribs, this purpose-designed tube allows regular fluid evacuation without further invasive interventions or hospitalisations. The biggest concern of IPC use is infection (of the chest and skin), which occurs in one-in-five patients, often needing hospital admissions and interrupting cancer treatment.

IPC care shares many similarities with that of peritoneal dialysis (PD) catheters used for treating kidney failure. Research on PD found that mupirocin, a commonly-used topical antibiotic, can significantly prevent catheter-related infections. Our pilot data showed that applying mupirocin regularly is feasible and well-tolerated by IPC patients.

The application of mupirocin around the catheter is currently being examined in the Australasian Malignant Pleural Effusion (AMPLE) trial-4 to determine whether it reduces IPC infections in patients with MPE. The trial is led by a team of world leaders in MPE, IPC and PD care, with an outstanding track record of delivering practice-changing trials in MPE.

PROF FIONA PIXLEY RESEARCH PROJECT GRANT - BREAST

Targeting a single protein in immune cells to both diagnose and treat triple negative breast cancer

While newer therapies have greatly improved survival for women with breast cancers that are positive for hormone receptors or another type of receptor called HER2, these drugs do not work for women with triple negative breast cancer. If it has spread outside the cancerous lump, survival plummets, and new treatments are urgently needed. We have identified a protein, Hck with two functions in breast cancer: it increases growth of the cancer and it signposts precisely where invasion is occurring. We aim not only to target Hck to treat triple negative breast cancer but also to utilise it to detect invasive regions in breast cancer specimens.



Hck is only found in macrophages, an immune cell type found in large numbers in triple negative breast cancer. We have previously shown that the most dangerous macrophages are those that invade surrounding organs in the body and encourage cancer cells to follow them. Recently we have shown that active Hck turns on macrophage invasion while inhibition of Hck stops macrophages and accompanying cancer cells from invading. As macrophages are not routinely identified in pathology labs, our study will bring about significant change in how invasive triple negative breast cancer is diagnosed and stratified according to risk of recurrence.

A/PROF GEORGIA HALKETT RESEARCH FELLOWSHIP - HEAD AND NECK

Improving psychosocial support and education for patients diagnosed with brain, head or neck cancer and their carers

Being diagnosed with brain, head or neck cancer is distressing. There are low survival rates and often a large impact on people physically and/or mentally. It is essential education and support programs are developed and tested to reduce distress and unmet needs for people diagnosed with these cancers and their carers.



Two programs have been developed:

- 1. Radiation Therapy Prepare Program:** This program focuses on preparing people for radiotherapy. Receiving radiotherapy for brain, head or neck cancer may cause patient's distress. Wearing an immobilisation or safety mask for treatment may result in them experiencing side effects. Our team is proposing to develop training for radiation therapists to assist them in preparing patients who require immobilisation masks. We will test whether this intervention is effective in reducing patient distress and improving their preparation for radiotherapy.
- 2. Carer's Education and Support Program:** This program (Care_IS) focuses on reducing carer distress and improving their confidence to look after their loved one after a cancer diagnosis. During the program, a nurse conducts a telephone assessment, visits the carer at home, provides an individualised resource manual and follow-up telephone appointments for 12 months. We have demonstrated that this intervention improves carer preparedness to support their loved one following a brain cancer diagnosis.

Significance

Research into these two programs is essential to improve the education and support provided to individuals and their carers following a diagnosis with either brain, head or neck cancer. The team will also determine the cost of providing these programs and the impact they have on overall healthcare costs.

A/PROF RAELENE ENDERSBY RESEARCH PROJECT GRANT - CHILDHOOD BRAIN CANCER

Improving survival rates for children with aggressive brain cancer using their own, unique immune system

Brain cancer kills more Australian children than any other disease. We study ependymoma, which can occur in children and teens. Patients have few treatment options other than surgery and radiotherapy. Chemotherapy does not work and sadly, approximately 40 per cent will die from their disease. We urgently need more effective therapies.



A new cancer treatment is immunotherapy, which is very successful for some adult cancers, but not childhood brain cancer. This is likely because the immune system in childhood brain cancer is unique and existing immunotherapies:

- Rely on immune cells that are rarely found in the brain.
- Have been developed for adult cancers and tested in adult preclinical models.
- Have not been designed to work alongside existing paediatric front-line therapies.

To address these gaps in knowledge, we are investigating a novel immunotherapy drug called magrolimab, which harnesses immune cells abundant in children's brains. We have pioneered methods to grow and treat tumours in the brains of very young mouse models, to mirror cancer growing in a child's brain, significantly improving the accuracy of our laboratory experiments.

Initial investigations prove that the tumours and immune systems in children are different to adult models. When we combined magrolimab with radiation in these models it eradicated an aggressive brain cancer called medulloblastoma. In this project, we will determine if this treatment is also effective for ependymoma (another form of brain cancer). Our team brings together the laboratory and Perth Children's Hospital, as such we are uniquely placed to translate our findings into new international clinical trials that will benefit WA children first.

DR OLIVER SCHUMACHER POSTDOCTORAL FELLOWSHIP – PROSTATE

Exercise to reduce symptom burden and improve tumour blood flow to increase treatment efficacy

Radiotherapy is one of the main treatment options for prostate cancer. However, the biology of prostate tumours is complex, with many of the blood vessels surrounding the tumours being abnormally developed, limiting the ability to deliver oxygen to some parts of the tumour. This lack of oxygen is seen as a major limiting factor in the effectiveness of radiotherapy, with low levels of oxygen making cancer cells more resistant to radiotherapy.



This reduced oxygenation of tumours is also associated with the growth and spread of cancers, ultimately contributing to treatment resistance, cancer progression and mortality. In addition, some patients may experience side effects from treatment that negatively affect their daily activities and quality of life.

The purpose of this project is to investigate the effects of exercise on blood flow and oxygenation in tumours of men with prostate cancer, who are undergoing radiotherapy.

I will first examine if a single exercise session can improve tumour blood flow and oxygenation. Then I will examine the long-term effects of exercise training over the course of radiotherapy on tumour blood flow and oxygenation. Finally, I will investigate if exercise can reduce treatment-related side effects, such as bladder and bowel symptoms.

The impact of these results, if proven effective, is enormous. Reducing urinary side effects addresses a major issue for prostate cancer patients. Furthermore, by demonstrating the effects of exercise on tumour blood flow and oxygenation, I hope to highlight exercise as a low-cost therapy that can enhance the effectiveness of cancer treatment.

DR EMILY GOLDEN RESEARCH PROJECT GRANT – OVARIAN

Detection and treatment of a new aggressive subtype of ovarian cancer

Ovarian Cancer (OC) is one of the most deadly and devastating cancers. It is often discovered at a late-stage, and these patients have very few treatment options. Thus, the five-year survival for OC patients is only 48 per cent.



We discovered that 10 per cent of all OCs have extra copies of a new gene found in our laboratory, called AAMDC. These AAMDC positive patients have the worst survival, and their tumours are resistant to cisplatin - one of the only treatments available.

We aim to develop a clinically-relevant test to identify the patients who have the AAMDC repeat. The detection of AAMDC should identify the patients that develop treatment resistance.

We then aim to develop completely new targeted treatments that are specifically for this subset of patients. New treatments should improve the response of OC cells to cisplatin treatment. Our new agents are small versions of AAMDC, called AAMDC-interference peptides (AAMDC-iPEPs). We will test if the peptides kill the OC cells first in cell lines and then in pre-clinical studies.

DR LINDA WIJAYA

EARLY CAREER INVESTIGATOR - NEUROBLASTOMA

Investigating how chemotherapy shapes tumour-immune cell interaction in neuroblastoma (nerve cell tumour in children)

Neuroblastoma is a devastating and complex cancer in children under five years old. The average age of diagnosis is just one to two years old, and children with high-risk neuroblastoma have a 50 per cent chance of survival. Treatment for neuroblastoma consists of long, intensive, and toxic chemotherapy and radiotherapy treatments. Unfortunately, only 40 per cent of tumours respond to treatment, and among these 20 per cent will relapse.

Immunotherapy has revolutionised treatment for many cancers, but has had limited success in neuroblastoma. A low antigen signal in neuroblastoma tumours makes it difficult for the immune system to recognise the cancer cells. Some chemotherapy drugs have been shown to interact with tumours in a way that enhances the anti-tumour immune response. Combined chemo-immunotherapies are being explored in adult cancers. However, this option has not been explored in neuroblastoma, and successful integration of combined therapies requires an understanding of how chemotherapy affects tumour-immune cell interactions in neuroblastoma. The aim of this study is to understand how chemotherapy affects tumour-immune cell interactions in neuroblastoma with the goal to find new immunotherapy strategies that can synergise with current chemotherapy treatments.

Using cutting-edge immunostaining and imaging technology, we will stain and visualise different immune cells in tumour tissues from before and after chemotherapy treatment. We will identify the changes in immune cells and states and predict immune cell interactions with tumour cells by their locations. We will also stain the tissues with markers of anti-tumour immune response. Using this combined information, we can identify the immunotherapy strategies that are most likely to be effective and synergise with current standard-of-care chemotherapy for more successful treatment.



Striving towards a cancer free future

Since Cancer Council WA's Research Funding Program began in 1963, we have united Western Australia's best and brightest researchers with generous members of our community, who share our vision of a cancer free future. Together, we have contributed more than **\$60 million to 1266 local research projects.**

For a full list of research that is being funded, scan here:





**Cancer
Council**

WA

Together, we're all making a difference to save lives.

Currently, almost one in two Australians will be diagnosed with cancer by the age of 85. Every day, 36 West Australians are told, "you have cancer".

We're determined to change that, which is why we are working towards a cancer free future.

If you are interested in supporting cancer research, please contact our Philanthropy team on **08 9212 4333** or **donations@cancerwa.asn.au**.

Cancer Council Western Australia
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**To access vital cancer information
and support, please call our cancer
nurses on 13 11 20.**

cancerwa.asn.au

