

BLUE SKY NEWS

ISSUE 81 | MARCH 2022 EDITION

Managing side-effects

**SEX AFTER
PROSTATE
CANCER**

New counselling service

**BREAKING
DOWN HEALTH
BARRIERS**

Theranostics in practice

THE NEW AGE OF NUCLEAR MEDICINE

Learn more about emerging treatments and the Aussie men who are beating aggressive prostate cancer

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Send somebody you love an Interflora bouquet or hamper and 5% of all purchases from the Prostate Cancer Foundation of Australia Gift Collection will go to our work.

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Jeff Dunn and Steve Callister

TOGETHER WE ARE STRONGER

Welcome to the March 2022 edition of Blue Sky News. In this edition, we take an in-depth look at a new research project in the field of nuclear medicine, which offers great promise that we are getting closer every day to unlocking a cure to prostate cancer.

We also announce five new research grants for Australia's best and brightest prostate cancer researchers, showcasing their work in areas such as epigenetics, tumour targeting, immune signaling pathways, and exercise medicine.

In parallel, we are delighted to continue the expansion of our specialist nursing services with the launch of Australia's first specialised prostate cancer counselling service, in a major step forward towards recognising the great unmet needs of men with prostate cancer.

These achievements are made possible by your generosity, and we thank you.

With your Will, we can find a way.

If prostate cancer has impacted your life, please consider leaving a gift in your Will to PCFA.

When you make the decision to leave a gift in your Will to PCFA, your legacy will help to save the lives of our fathers and sons, funding Australian prostate cancer research and investing in a future free from the pain of prostate cancer.

Find out more by calling our team today on 1800 22 00 99.

Adjunct A/Prof Steve Callister
National Board Chairman

Professor Jeff Dunn AO
Chief of Mission and Head of Research

➔ Email enquiries@pcfa.org.au to request a free Wills guide.

NEW COUNSELLING SERVICE BREAKING DOWN BARRIERS



ENDING THE PAIN OF PROSTATE CANCER



1 IN 5
SUFFER
ANXIETY



1 IN 4
GET
DEPRESSION

70%
HIGHER RISK OF
SUICIDE DEATH



**PROSTATE CANCER
COUNSELLING
SERVICE URGENTLY
NEEDED**



While survival rates for prostate cancer are high, the diagnosis of prostate cancer is a major life stress.

Before and after prostate cancer treatment, up to one in four men experience anxiety and up to one in five report depression, with an increased risk of suicide.

To help address these concerns, Prostate Cancer Foundation of Australia is launching Australia's first specialised prostate cancer counselling service.

The service will be available to men and their loved ones at no-cost and staffed by a specially trained clinical psychologist and nurse counsellors.

Head of the service, Bernard Riley, says the service will be a game-changer.

"It's a troubling statistic that men impacted by prostate cancer have a 70 per cent increased risk of suicide. We've created this new service to catch them before they fall.

"And while every man will have a different experience of prostate cancer, a high number of men experience treatment-related symptoms that can heighten psychological and emotional distress, impacting their day-to-day lives."

The service will be offered by phone by a team of three specialist prostate cancer

counsellors during business hours from Monday to Friday, with access via PCFA's Telenursing Service on 1800 22 00 99.

"About 40 per cent of patients will experience poorer physical and mental quality of life and lower life satisfaction 10 years or more after their diagnosis and treatment," Bernard says.

"The fact is that prostate cancer changes lives in ways many can't imagine, which is why this new counselling service is so critical to men's long-term mental health and quality of life.

"We expect to see demand for this service grow quickly, with a great many men in need of support that only we can offer."

➔ Phone **1800 22 00 99** or email **telenurse@pcfa.org.au** to make an appointment.

THE NEW AGE OF NUCLEAR MEDICINE:

**TRANSFORMING CARE
AND SAVING LIVES**



44-year-old Will McDonald was diagnosed with advanced prostate cancer two years ago. Advances in nuclear medicine could help defeat his disease.

An Australian man with a potentially life-threatening form of prostate cancer has become one of the first patients in the world to start treatment in a clinical trial using a new form of nuclear medicine.

Researchers say if it proves effective, the investigational treatment could extend the lives of thousands of Australian men each year, preventing avoidable deaths from prostate cancer.

Prostate Cancer Foundation of Australia Chief of Mission and Head of Research, Professor Jeff Dunn AO, says Australia is leading the world in prostate cancer research.

“Australia has one of the highest rates of prostate cancer in the world – with more than 18,000 Aussie men diagnosed each year. While the disease enjoys a relatively high survival rate, research like this will help us cover the last mile to a cure.”

Professor Dunn, who is also President-Elect of the Union for International Cancer Control, says new research harnessing nuclear medicine and theranostics could be key to cracking the code that will help us to defeat prostate cancer.

“Impressively, this world-leading trial is being driven by an Australian-based company and led by Australian-based

researchers, using diagnostic imaging and therapeutic agents in novel combinations.

“We are on the verge of a complete transformation in prostate cancer treatment, giving men with the most aggressive and deadly forms of this disease a greater hope of survival.

“Australia is a global pioneer in this field and our hope is that more Australian men will survive their disease as a result.”

At a broad level, the researchers are investigating the emerging field of nuclear medicine known as PSMA theranostics.

The Phase I study, sponsored by Telix Pharmaceuticals and known as ProstACT SELECT, will be a multi-centre trial involving patients from around Australia.

Telix Chief Medical Officer for the Asia Pacific region, Dr Danielle Meyrick, says the pace of prostate cancer research is rapidly advancing.

“Theranostics combines therapy and diagnostics to improve our understanding of each man’s prostate cancer, and how it can be most effectively treated.

“The therapeutic agent we are trialling has an affinity for Prostate Specific Membrane Antigen, a protein found on the surface of prostate cancer cells. After being injected into the blood stream, the investigational drug can track down rogue prostate cancer cells in other parts of the body.

“This research is seeking to establish the accuracy and efficacy of our new therapeutic agent in tracking and treating deadly tumours, using a unique nuclear medicine radiotracer that attaches itself to the PSMA and deploys a form of targeted radiation to find and destroy the killer cancer cells.

“Notably, this trial will be the first test of a novel therapeutic agent using an antibody as a targeting molecule.

“Until now, nuclear medicine therapies like this have generally relied on small molecules, which have required higher dosages compared to using an antibody as the targeting molecule.

“The objective of the study is to determine the distribution of the agent to the body’s organs and ensure good uptake to the tumours. The study will also evaluate therapeutic efficacy.

“We’ll also monitor patients in the trial to see whether the antibody results in fewer

side-effects than other therapies, and survey patient quality of life throughout the study.

“An antibody approach reduces excretion of the agent in the patient’s urine, as well as preventing salivary gland toxicity, which can be an unpleasant side-effect of nuclear medicine therapies based on small molecule targeting agents.

“If this trial demonstrates the efficacy of the nuclear medicine agents our team is developing, it will represent significant progress in the treatment of advanced prostate cancer.”

“My cancer isn’t curable. Yet.”

Will McDonald and his partner, Samantha Kelly, with their dog Rupert.



PROSTATE CANCER IN AUSTRALIA



49 MEN
diagnosed every day.



9 MEN
die every 24 hours.



18,110
Australian men are diagnosed each year.



1 IN 6
Australian men will be diagnosed with prostate cancer in their lifetime.



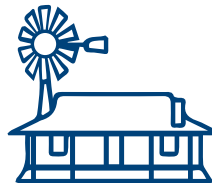
230,000
Australian men are alive today after a diagnosis of prostate cancer.



3,323
Australian men die from prostate cancer every year.



Prostate cancer causes an estimated
12%
of all male deaths from cancer.



Men living in regional or rural areas of Australia have a
24%
increased risk of death from prostate cancer compared to men in urban areas.



Treatment of the disease in Australia is expected to reach
\$500M
per year by mid-decade.



1 IN 35
Australian men are likely to die from prostate cancer by age 85.



Prostate cancer is the leading cause of cancer-related hospitalisations in Australia, accounting for nearly
1 IN 10
of all hospitalisations.



Worldwide, more than
1.4 MILLION
men are diagnosed with prostate cancer each year and more than 375,000 die from the disease.

SEX AFTER PROSTATE CANCER: OVERCOMING ERECTILE DYSFUNCTION

This is the second article in our series based on the new book *Your Guide to Prostate Cancer: The disease, treatment options and outcomes* (4th Edition) by Associate Professor Prem Rashid.



With new treatments, the outlook for men with prostate cancer has never been better.

However, the treatment of prostate cancer continues to have side-effects that can diminish sexual function, and many men rate this as the number one cause of concern in the days, weeks, and months after their initial diagnosis.

So what can you do about it, and will you recover?

MEDICATIONS

Many men with erectile dysfunction benefit from tablets such as Viagra (Sildenafil), Levitra (Vardenafil), Spedra (Avanafil), or Cialis (Tadalafil). These work by increasing blood flow to the penis, but are not suitable for men with heart disease or on medication for angina.

Viagra and Levitra begin to work about one or two hours after ingestion and last for five or six hours. Cialis starts working after one or two hours and lasts 36 hours, and Spedra works within about an hour and lasts for around 10 hours.

Before taking any of these drugs, talk to your GP. Based on your doctor's advice, begin with the maximum dose and wait for at least an hour before attempting to have sex, directly stimulating the penis to enhance your erection. Limit alcohol beforehand and take the tablets on an empty stomach, either 30 minutes before a meal or two

hours afterwards. Try at least six to eight doses over a period of time to see whether this medication works for you.

INJECTION THERAPY

When tablets don't work on their own, you might choose to try injection therapy with Caverject Impulse, which contains a naturally occurring compound called prostaglandin which has a hormone-like effect. There are also mixtures made by some compounding chemists called Trimix which have a combination of drugs that can be injected similarly.

Because injection therapy does not rely on intact penile nerves, it can be effective in the early months after surgery. The drug is injected into one side of the penis shaft about 10 or 20 minutes before sexual activity, causing the blood vessels to expand and the muscles to relax, providing a firm erection. The injection will cause an erection without any stimulation and the erection should last around 30 to 60 minutes.



Based on your doctor's advice, begin with a low dose in order to avoid a prolonged erection, which can be painful. Injection therapy is usually safe to use from about one month after surgery and many men find it a successful long-term option with a good result.

VACUUM DEVICES AND PENILE RINGS

Most vacuum enhancement devices have a plastic cylinder, a pump, and a flexible ring. The cylinder is placed over the lubricated soft penis and held firmly to create an airtight vacuum, which then pumps air out of the cylinder, drawing blood into the penis.

Once an erection has been achieved, the rubber ring is positioned at the base of the penis to maintain the erection by preventing the blood from recirculating. The ring can remain in place for 30 minutes and must be removed immediately following sex.

Vacuum devices are considered safe and effective, but can cause side-effects such as numbness or mild bruising.

PENILE IMPLANTS

Men who don't find other treatments effective may choose to have a penile implant, with three main types to choose from – malleable rods (the Tactra Malleable Implant), simple inflatable devices, or complex inflatable devices (AMS 700 products).

A penile implant is usually offered one or two years after surgery, when other treatments have not worked. The advantage of an implant is that it provides a reliable and firm erection, with no need for ongoing medication. It can also be activated immediately and maintained for as long as necessary.

Implant cylinders expand in length and girth and after implantation sexual activity can commence about six weeks after surgery.

For more information about erectile dysfunction after prostate cancer treatment, phone 1800 22 00 99 and ask to talk to a PCFA Clinical Nurse Specialist who is specially trained in management of concerns with sexual function.

Associate Professor Prem Rashid is the President of the Urological Society of Australia and New Zealand and a urologist with over 25 years of clinical experience in treating men with prostate cancer.



To buy the book, call PCFA on 1800 22 00 99 or click here to order online.

All proceeds go to research and support.

AUSTRALIA'S BEST AND BRIGHTEST:

**FUNDING THE RESEARCH
THAT SAVES LIVES**



*Professor Lisa Butler,
Chair of PCFA's
Research Advisory
Committee*

We have just awarded new research grants to Australia's most promising prostate cancer researchers, funding five projects that could help us unlock the key to curing the disease.

Adding to nearly \$30 million invested in clinical research by PCFA over the past five years, new grant funding will go to five of Australia's best young researchers under PCFA's community-funded Priority Impact Research Award Scheme (PIRA).

The Chair of PCFA's Research Advisory Committee, Professor Lisa Butler, congratulated the pre-eminent researchers for their contribution to PCFA's mission. The awards were made under PCFA's PIRA Future Leaders Grant Scheme.

"It is our strong belief that by harnessing their knowledge to accelerate medical and scientific progress, we can unlock the mysteries of what causes prostate cancer and how we can beat it."

"PCFA's community-funded research grants are creating Australia's next generation of research leaders, standing on the shoulders of science pioneers who have helped us lift survival rates from 61% thirty years ago to 95% today."

"Without a doubt, the projects being funded by the PCFA community will help us save lives."



Dr Shanice Mah
The University of Adelaide

Precision medicine approaches for targeting fatty acid oxidation in prostate cancer

Dr Mah's project aims to identify novel strategies to improve outcomes for men with advanced prostate cancer. Despite recent progress in the clinical management of advanced disease, therapy resistance remains unavoidable and men with aggressive forms of deadly prostate cancer do not have any curative options, yet. Prostate cancer progression is associated with alterations in metabolic pathways, many of which are regulated by the androgen receptor, known to be the key driver of prostate cancer.

This project will help to develop novel and safe therapeutic strategies to delay progression to more aggressive disease by targeting key metabolic enzymes. Although there are a range of agents that treat metabolic diseases, very few agents have been investigated clinically for cancer management. Major challenges include building our knowledge of toxicity associated with targeting metabolic pathways, metabolic heterogeneity within and between patients, and the lack of preclinical models that can effectively predict clinical efficacy and biomarkers to guide treatment decisions.

This project will investigate these critical issues by employing three innovative strategies: (1) use of patient-derived explants and xenograft models that recapitulate clinical tumour heterogeneity and microenvironment to enable testing of drug candidates; (2) drug repurposing to ensure rapid and safe clinical translation; and (3) development of a circulating metabolic biomarker assay to select the 'right treatment at the right time' for each patient.

Continued on next page →



Mr Oliver Schumacher
Edith Cowan University

Exercise medicine for men with prostate cancer during radiotherapy

A rising star in the field of exercise oncology, Oliver Schumacher's latest project will seek to discover more about the role of exercise in helping to reduce the risk of prostate cancer recurrence and improve survival, in addition to developing greater knowledge about whether exercise can influence a patient's response to cancer treatment itself.

His research will focus on identifying which prostate cancer symptoms can be managed by exercise, and then translating the findings into clinical and community practice. The project will evaluate the effect of a single session of around 10 to 15 minutes of moderate to vigorous intensity step exercise on tumour blood flow, as a potential means to improve prostate cancer tumour oxygen levels in men scheduled for radiotherapy using dynamic contrast-enhanced magnetic resonance imaging.

The project builds on Schumacher's prior work, developing greater knowledge of the role oxygen plays in the effectiveness of radiotherapy. If exercise can be harnessed to help overcome oxygen deprivation in the prostate tumours of study participants, the clinical outcomes of radiotherapy may be enhanced.

The men who enrol in the study will also be offered an aerobic exercise and resistance training program for the duration of their radiotherapy, allowing Schumacher to investigate the impacts of the exercise program on improving and/or maintaining physical function, as well as monitoring the side-effects commonly associated with radiotherapy treatment.

Participants will undergo the exercise sessions immediately before radiotherapy fractions, with the findings expected to be translated rapidly into practice.



Dr Katie Owen
The University of Melbourne

The development of preclinical models of advanced prostate

cancer for radiotherapy and tumour-immune targeting during radiotherapy

Dr Owen is a previous recipient of a PCFA Young Investigator Grant and has been recognised nationally and internationally for her research quality, scientific innovation, and leadership potential in the field of prostate cancer research.

This project will involve the collection of prostate tumours which have metastasized to the bone, matched with blood samples from consenting patients, to create an urgently needed platform to categorise and profile bone-metastatic tissues.

The project continues Dr Owen's pioneering research into advanced prostate cancer, which has identified that an immune signaling pathway, normally intact in less aggressive prostate cancer cells, is suppressed when cancer cells move to bone.

Loss of this pathway makes the tumour cells invisible, allowing evasion of immune detection and subsequent growth. This project will leverage these pathway changes to identify men most at-risk of bone metastasis and explore how blocking this pathway loss in tumour cells can be used to prevent prostate cancer from spreading to the bone.

Dr Owen has assembled a strong, multidisciplinary team for the project. Together they will develop organoid models of metastasis to drive preclinical drug discovery.

The findings could help to test and activate critical immune signaling pathways and uncover new strategies that are likely to enhance prostate cancer cell visibility in sites such as bone, which could have major implications for prostate cancer treatment and management, to improve overall survival.



Dr Pierre-Antoine Dugué
Monash University

Prostate cancer subtyping and prediction of outcomes using genome-wide tumour methylation data

Dr Dugué leads the Precision Medicine Molecular Epidemiology team in the School of Clinical Sciences at Monash University. This community-funded PCFA grant will enable Dr Dugué to continue his vital work on projects to better understand how tumour DNA can be used to predict how different prostate cancers will grow, allowing clinicians to develop more targeted treatments for the disease.

Dr Dugué's work focuses on DNA methylation, one of the most promising areas of epigenetics in the field of prostate cancer research. While research into genetics involves heritable changes in gene activity or function caused by altered DNA sequencing, epigenetics involves the examination of heritable changes in gene activity or function that are not associated with changes to the DNA sequence itself.

Research into epigenetics plays a key role in understanding altered gene expression in different cells and tissues in the body, including prostate cancer tumours. The work of Dr Dugué's team investigating genome-wide prostate cancer tumour methylation data is therefore vital to clinical decision making, and can help specialists to improve the accuracy of their clinical prognosis and the effectiveness of treatment pathways and precision care for the individual patient.

This fellowship builds on a large Australian epidemiological and clinical prostate cancer research resource that includes prostate tumours, which can make an important, internationally competitive research contribution for translation into clinical practice.

By capturing and subtyping epigenetic information on a large scale, Dr Dugué and his team can help to improve predictions of prostate cancer recurrence and survival, contributing to national efforts to lengthen survival time and prevent mortality.



A/Prof Haitham Tuffaha
University of Queensland

The value of genetic testing for prostate cancer

Associate Professor Tuffaha's project will co-develop and evaluate prostate cancer genetic testing and counselling strategies to help provide the urgently needed evidence about the value for money of genetic testing in prostate cancer. The findings from the project will inform policy and reimbursement decisions towards the subsidisation of testing and the listing of targeted drugs on the Pharmaceutical Benefits Scheme.

The implementation of these strategies could result in a paradigm shift towards personalisation and precision in the management of prostate cancer in Australia.

The change in current practice could include early cancer screening of men who test positive for a mutation, and the use of targeted therapies to improve treatment outcomes and reduce unwanted adverse events in men with advanced disease.

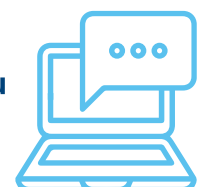
The project will result in significant research outputs including publications in leading journals and presentations in national and international conferences.

A/Prof Tuffaha's work will help to inform national and international guidelines for prostate cancer screening, early detection and clinical management to harness the benefits of personalised and precision medicine in prostate cancer care.

LEARN MORE

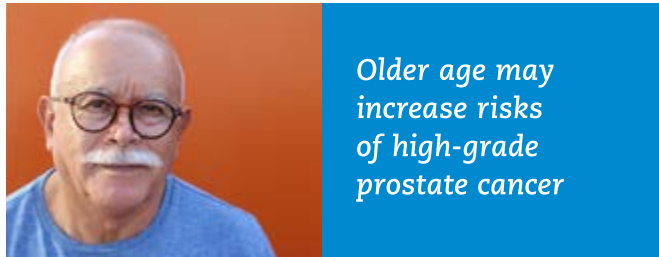
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Latest news on prostate cancer: PROGRESS FROM AROUND THE WORLD

We are proud to be part of a worldwide community working to combat prostate cancer. Every day, our work helps to inform new developments in the diagnosis and treatment of prostate cancer at home and abroad. Read more about what's in the news right now.



Older age may increase risks of high-grade prostate cancer

A European study of 7,625 men has found the risk of being diagnosed with Gleason score 3+4 or higher cancer, compared to lower-grade prostate cancers, increases 11% with each year of increased age. The researchers conclude that age 70 "is probably too early" to cease PSA testing, in yet the latest finding in support of our call for a review of Australia's Clinical Practice Guidelines for PSA Testing.

[Click here to read more](#)



PSMA PET/CT may provide predictive biomarker for prostate cancer

In the latest findings to be reported from the PCFA co-funded TheraP clinical trial, researchers have found PSMA PET/CT can help to predict the likelihood of a favourable response to Lu-PSMA treatment. The study compared differences in predictive and prognostic biomarkers in men with advanced prostate cancer who underwent PSMA PET/CT scans and FDG PET scans, observing that higher uptake and observed intensity of PSMA was predictive of a higher likelihood of a more favourable response to Lu-PSMA than cabazitaxel chemotherapy.

[Click here to read more](#)



Gut bacteria may help fight advanced prostate cancer

A new study by researchers in the UK has found that the presence of a certain bacteria in the gut could contribute to prostate cancer growth. The researchers found that hormone therapy may trigger gut bacteria to produce androgen hormones, whereby eliminating the gut bacteria in mice slowed the growth of prostate cancer and the development of treatment resistance. The findings could lead to the creation of foods enriched with favourable bacteria, to maintain treatment response and improve survival outcomes.

[Click here to read more](#)



Exercise may slow disease progression in advanced prostate cancer

Research by Professor Rob Newton and a team at Edith Cowan University has found preliminary evidence that routine vigorous multimodal exercise over a six-month period may help enhance the expression of anti-cancer agents and tumour-suppressive effects in men with metastatic castration resistant prostate cancer. Ongoing research is needed to understand the findings.

[Click here to read more](#)

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PROSTATE CANCER SPECIALIST NURSING SERVICES

Your service, our support

Australia's only provider of wholly integrated specialist nursing services



100,000

occasions of contact delivered by hospital-based Prostate Cancer Specialist Nurses each year.



64%

of contacts receive follow-up care.



21,000

hospital-based clients are new to the service each year.



MORE THAN 1,000

Australians supported by our Telenursing Service within its first nine months.



35,082

minutes devoted to time on the phone by our Specialist Telenurses.



3,274

calls from men and others concerned.



1 in 2

callers in need of support for psychological distress.



71%

of calls from men with prostate cancer.

VISION 2022 & BEYOND

This year we will continue the ongoing expansion of our Specialist Nursing Service, introducing Australia's first Prostate Cancer Counselling Service, a new Clinical Specialist Nurse with expertise on sexual function, and conducting a ground-breaking pilot project to evaluate the effectiveness of a specialist nurse-led intervention to improve support for men on hormone therapy. These services are led by our Director of Nursing, Adjunct Professor Sally Sara, and her team.





**EVERY 30 MINUTES, ONE OF
OUR FATHERS, SONS, OR BROTHERS
HEARS THE NEWS THEY HAVE
PROSTATE CANCER**

Go Dry this July
to help save their lives.

DRYJULY.COM/PCFA

