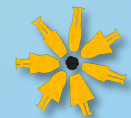


THE AUSTRALIAN MELANOMA RESEARCH FOUNDATION

EST. 2006

AUSTRALIA HAS THE HIGHEST INCIDENCE OF MELANOMA IN
THE WORLD

MELANOMA IS KNOWN AS AUSTRALIA'S NATIONAL CANCER



AUSTRALIAN
MELANOMA
RESEARCH
FOUNDATION

ABN: 26 429 861 213

OUR MISSION

The AMRF Mission is to significantly contribute to the prevention, early detection and treatment of melanoma in Australia by funding research towards improved outcomes.

OUR PURPOSE

- To support research into melanoma including prevention, disease management and treatment
- To reduce the incidence of melanoma and the impact on those living with melanoma

OUR VALUES

- Support research with measurable outcomes
- Ensure ethical practices in all our operations and in the research we support
- Collaborate and share information



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INTRODUCTION

While melanoma is estimated to account for only three per cent of all skin cancer diagnoses in Australia, it accounts for 65 per cent – almost two-thirds – of all skin cancer death. Every year, approximately 1,400 Australians lose their lives to melanoma.

Australia has led the way in both the prevention of melanoma since the 1980s and in the remarkable research breakthroughs in treatment of the last decade. Combined, substantial improvements in survival and quality of life have been realised. At the same time, there remains much more to be done to end the impact of melanoma for Australian families and communities.

Melanoma incidence is set to rise over the forward decade, with more than 205,000 Australians expected to be diagnosed with melanoma between now and 2030. Sadly, more than 18,000 of these Australians will lose their lives to melanoma within five years of their diagnosis. More than 136,000 years of life will be lost, equating to an economic loss of life of \$4.4 billion over the 2021-2030 horizon alone.

Source:
State of the Nation
A Report into Melanoma-
A National Health Priority
Insight Economics
February 2022

Survival rates of advanced melanoma



Research is saving lives.

CHAIRMAN'S MESSAGE

Melanoma is often described as “Australia’s national cancer”. One in three Australians will have some form of skin cancer in their lifetime. The least common but most dangerous form is melanoma. Melanoma kills more Australians each year than the national road toll.

Moreover, melanoma incidence is set to rise over the next 10 years. More than 200,000 Australians are expected to be diagnosed with melanoma before 2030.

And yet, with these statistics, melanoma is preventable and early detection is associated with high survival rates.

Research into the causes and treatment of cancers is now conducted by skilled teams of people in well equipped and well managed laboratories. In Australia, most research in melanoma is carried out at research institutes with a broad focus on cancer research. The AMRF has developed a Scientific Framework to guide us in our work to support research into melanoma. That Framework sets early career researchers as our priority for funding, allocating money in two categories - to assist post-graduate students researching in the field and to support young scientists with novel ideas for melanoma research. Both categories of researchers typically have a shortfall in funding available to them. AMRF funds make a big difference in the careers of these researchers and their contribution to reducing the impact of melanoma in the Australian population.

Complementing our Scientific Framework is our Research Advisory Committee who assist us in assessing the requests for research funding we receive. These are independent clinicians experienced in cancer research and health specialists external to the Foundation.

From its earliest days, the Foundation has been driven by people with their own personal experiences with melanoma and with confidence in the capacity of young, enthusiastic researchers to make a difference. We remain a low-cost organisation, without premises, with minimal but motivated staff and with board members determined to see the Foundation grow in its mission to significantly contribute to the prevention, early detection and treatment of melanoma in Australia.

In encouraging you to assist us in this mission, I assure you your funds will be very well used to assist this country’s young researchers in their pursuit of a better understanding of our “national cancer”.

Dr Wayne Harvey, **MSc, PhD, FRSSA, FAICD**

Chairman

WHAT IS MELANOMA?

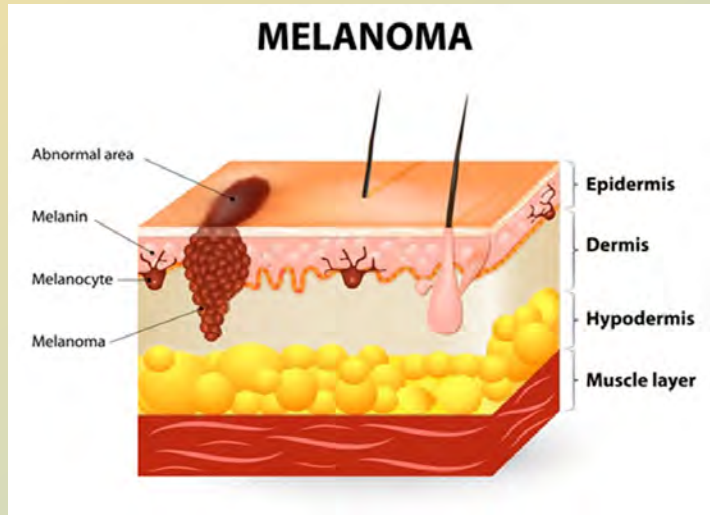
Melanoma is one of the three main types of skin cancer and begins in skin cells called melanocytes. Melanocytes produce a dark pigment (melanin) which helps protect the deeper layers of the skin from ultra violet radiation (eg. sunlight).

The amount of pigment that is produced varies with skin type. Darker skin tonings give greater protection from the sun - however even darker skinned people can get melanoma. It is when the melanocytes produce melanin in an unregulated or uncontrolled way that melanoma can develop.

As a melanoma begins to grow it is initially confined to the top layers of the skin, however, if left untreated can spread quickly through the deeper layers where it can then enter the lymphatic system or blood stream and travel to almost any part of the body, especially the lymph nodes, lungs, liver, brain and other areas of the skin. It is particularly dangerous when this metastasis occurs, and if surgery is not possible or is unsuccessful, the melanoma quickly becomes life threatening.

Melanoma can also arise on areas of the skin that are not exposed to the sun.


DEVELOPMENT OF MELANOMA



Ultra-violet (UV) radiation from sunlight (and tanning beds) plays a very important role in the development of melanoma and other skin cancers. Research has found that the rates of melanoma in Australia are higher near the coastline and it is reasoned that this is due to lifestyle factors, outdoor activity and greater sun exposure. The rates are also higher in Australia's northern states due to the greater intensity of the sun.


TYPES OF MELANOMA

Superficial Spreading Melanoma




Accounts for approx 70% of all diagnosed melanomas. It usually occurs in a previously non cancerous mole and is most commonly found on the trunk and back in men and on the legs and back of women. In the early stages it may look like a freckle or mole that is spreading sideways. Over time it can change in colour, itch or develop irregular borders. It can progress rapidly!

Nodular Melanoma




Accounting for around 15% of diagnosed melanomas, it is also the most aggressive. It may appear where a mole or lesion did not exist before. They tend to be darkly pigmented and spread rapidly in depth.

Acral Lentiginous Melanoma




Also called subungual melanoma only accounts for around 5% of melanomas but makes up 50% of melanomas in those with dark skin. Most commonly found on the palms of the hands, soles of the feet or under finger and toe nails. In the early stages it is often mistaken for a bruise, blood blister or streak in the nail.

Lentigo Maligna Melanoma




Accounts for around 10% of melanomas and often occurs on the face of middle aged to elderly persons who have suffered sun damage. For this reason it often mistaken for sunspots and goes undiagnosed or untreated making it very dangerous. It often has very irregular borders and varying shades of brown or black.

Amelanotic Melanoma




Literally means “without melanin”, which is what gives other melanomas their darker colour. Hence, these melanomas are often misdiagnosed or there is a delay in patients seeking treatment. They can appear as a lesion with little or no colour, pink or looking like a scar. Any lesion that is scar like or appears next to a previously treated melanoma should be examined immediately.

Ocular/Uveal Melanoma



Ocular/Uveal Melanoma is a rare and often aggressive type of melanoma that can arise within the eye. It arises from the melanocytes that give the eye its colour. The exact cause is unknown but risk factors include increased exposure to ultraviolet radiation, having light coloured eyes and being of Caucasian descent. Symptoms of an ocular melanoma tumour can include blurred vision, flashing lights and shadows. However it is not uncommon for a patient to experience no symptoms and be diagnosed during a routine eye check. The best strategy for prevention of ocular/uveal melanoma is to wear UV protective sunglasses and a broad brimmed hat.

Mucosal Melanoma



Mucosal Melanoma is also rare and accounts for only 1% of all melanomas. As with the skin, melanocytes are present in the mucosal surfaces of the body which line areas such as the sinuses, oral cavity, vagina, bowel and anus. Unlike melanoma of the skin, mucosal melanoma is not linked to sun/UV exposure. Because of location, many mucosal melanomas go undiagnosed and are often quite advanced once identified.

PREVENTION

Exposure to ultra violet (UV) light from the sun is one of the major risk factors for melanoma that you can control.

UV levels are highest in summer, late spring and early autumn. UV levels are not dependent on the temperature or cloud cover. A colder, cloudy day will still have high UV levels in summer. The following tips can help prevent melanoma:

Try and avoid prolonged periods out in the sun during the middle of the day (10 am to 4 pm) when UV rays are the strongest.

Wear protective clothing. This includes a hat with a brim to shade your ears and neck, a shirt with sleeves to cover your shoulders and arms. The best fabric for skin protection has a tight weave to keep sunlight out. Wear sunglasses with an EPF of 10 or make sure that they comply with the Australian Standard 1067.

Use a sunscreen with an SPF 50+ if you have to go into the sun. Look for a sunscreen that protects against both types of ultraviolet radiation in the sun's rays-UVA and UVB and apply this 20 minutes before going outside and re-apply regularly (approximately every two hours). Water resistant sunscreen is the best when being active or around water. Remember to cover all exposed skin as water reflects UV rays.

Use a higher SPF when you are at higher elevations, where UV is more intense.


Keep newborns out of the sun! A baby's skin is sensitive and can burn easily. Use an age appropriate sunscreen if outdoors as well as protective clothing and shade.

Avoid sunbathing and tanning salons. Studies suggest that UV rays from artificial sources such as tanning beds and sunlamps are just as dangerous as those from the sun. Tanning salons have now been banned in all states of Australia due to their proven link to melanoma.

MELANOMA IN AUSTRALIA

A SNAPSHOT

1. Australia typically has 250 days of sunny weather each year, with associated high levels of UV radiation. 21% of all adults reported sunburn from weekend activities during summer months. The incidence rises to 25% for young adults. The incidence is broadly even higher (to 50%) amongst adults and children residing in Queensland.
2. One in three Australians will have some form of skin cancer in their lifetime.
3. The least common but most dangerous form of skin cancer is melanoma.
4. Males tend to have a slightly higher incidence levels than females, particularly among older males.
5. The incidence of melanoma increases with age.
6. Melanoma is Australia's national cancer. Melanoma kills more Australians each year than the national road toll.
7. Melanoma incidence is set to rise over the next 10 years: More than 200,000 Australians are expected to be diagnosed with melanoma before 2030.
8. The survival rate from advanced melanoma has improved from 10% to 50% over the last decade - largely due to improvements in detection and treatment. Zero deaths from melanoma is possible in our lifetime.



The Australian melanoma research community has proven itself to be world-leading, with specialisations in melanoma biology, melanomagenesis, epidemiology, genomics, immunology, advanced therapies, novel detection and diagnostic technologies, and outcomes research.

Source:
State of the Nation
Insight Economics
February 2022

MELANOMA IN AUSTRALIA

A SNAPSHOT

9. The direct cost to our health system of treating melanoma is expected to exceed \$3 billion before 2030. The total cost to the Australian economy through family care and lost productivity is expected to exceed \$8.7 bn in the same period.
10. There is no current clinical standard for the consistent care of patients and survivors.
11. Melanoma is preventable.
12. Early detection is associated with high survival rates.
13. Enhanced treatments can eliminate death from melanoma.

Source:
State of the Nation
A Report into Melanoma-
A National Health Priority
Insight Economics
February 2022

ABOUT THE FOUNDATION

THE EARLY YEARS

The Australian Melanoma Research Foundation (AMRF) has its origins in 2006 when Graeme Marshall, an Adelaide accountant and businessman who had been diagnosed with melanoma, proposed that a Foundation to specifically fund research into melanoma be formed as a charitable institution. Progress in the development of effective melanoma treatments was very slow, and melanoma research was seriously underfunded by comparison with other cancers. Research into novel melanoma treatments such as immune based therapies that generally have a more benign safety profile than standard chemotherapy was lagging behind research into treatments of other cancer types.

In 2007 Tony Santin, an accountant and business colleague of Graeme Marshall, initiated the formation and registration of the 'Adelaide Skin Cancer and Melanoma Research Foundation' as an incorporated organisation. Tony unfortunately succumbed to melanoma before an effective therapy could be devised, but he was able to establish the Foundation Trust with a Board of directors in 2009. The Australian Tax Office subsequently conferred Tax Deductibility and Tax Exemption status for the organisation.

At that time the Foundation had 3 part time employees and a Board of volunteer directors.

Graeme Marshall and his family were the first significant donors to the Foundation.

Initial bequests and fundraising allowed the Foundation to fund research into the application of immune based therapies that have no or very low side effects to reduce or prevent the metastasis of melanoma.

ABOUT THE FOUNDATION

THE EARLY YEARS

The response by donors and researchers across the country to the new organisation was positive and in 2010 the ATO gave approval for the Foundation to use the name 'Australian Melanoma Research Foundation' as a trading name. The inclusion of 'Australian' provided broader access and application for all Australians but the focus was still on **Melanoma** and **Research**.

In 2017 the Board considered the advantages of moving from an Incorporated Association to a Company Limited by Guarantee as a way to engage at a national level. The Foundation was registered in September 2019 as a Company Limited by Guarantee.

Today the Foundation has 2 part time employees and a Board of volunteer directors located around the country. The Foundation continues to fund as much quality research as is possible, on a competitive basis and at minimal cost to the organisation.

THE FOUNDATION'S ACHIEVEMENTS

- Since 2006 the AMRF has awarded nearly \$0.5m for research projects aimed at furthering knowledge and offering better outcomes in the prevention, diagnosis and treatment of Melanoma.
- A total of 17 research projects have been supported by the AMRF since 2006. The Foundation's first beneficiary was Associate Professor Brendon Coventry to whom a number of grants were awarded for his pioneering work on Immunotherapies at the University of Adelaide.
- The AMRF's support has involved 8 educational facilities and hospitals in 4 Australian States.
- The AMRF's Research Advisory Committee has sought advice from a number of leading scientists and researchers in Australia who have volunteered their expertise and time to assist our research grants process. In 2023 a Medical Oncologist at the Alfred Hospital, Melbourne and a Medical Oncologist at the Prince of Wales Hospital Sydney, provided invaluable input in the assessment of the research grant applications.
- The Foundation has also been active in promoting awareness and prevention of melanoma and focussing on early detection and diagnosis. This has involved the development of a range of fact sheets, media appearances and using social media.
- The AMRF participates in various community events throughout Australia including hosting the Adelaide Melanoma March held in March each year and the AMRF Walk for Mela-No-More held in November during National Skin Cancer Action Week. These events help us raise funds to support our research grants program.
- The AMRF provides free skin checks and free sunscreen at various AMRF community fundraising events throughout the country.

THE FOUNDATION'S RESEARCH GRANTS PROCESS

The AMRF's primary objective is to support research aimed at furthering knowledge about, and securing better outcomes in the treatment of, melanoma. Following a strategic review in 2017-2018, the AMRF established its own criteria for supporting research in Australia. Those criteria ensure that all research funded by the AMRF is scientifically sound and conducted by skilled researchers in an accredited institution.

The internal review also identified a gap in the grants available to support Australian melanoma researchers.

The AMRF's grants program is designed to support high quality research that is not fully funded through other grant schemes or from other sources. Our intention is to make a difference through our grants.

The AMRF has developed a Scientific Framework to define the key research areas to optimize the value of the Foundation's grants program and the process used to identify them.

Applications to the AMRF for research grants are assessed against the following criteria:

- Publication history in melanoma (by the applicant and her/his supervisor)
- Evidence of scientific merit and clinical need within the national context
- Proposed dissemination of research findings to other researchers and clinicians
- Broader impact on education and awareness of melanoma
- Track record of researchers

The AMRF uses the scientific knowledge and experience of our Research Advisory Committee to assist in the review of grant applications.

THE FOUNDATION'S RESEARCH GRANTS PROCESS

The AMRF Research Advisory Committee evaluates each research proposal before funding recommendations are made to the AMRF Board. Evaluation criteria include:

- scientific merit
- innovative research with the potential for developments that could lead to high impact, near term clinical application in areas of melanoma prevention, diagnosis, staging and treatment
- medium-term measurable outcomes
- publication history in melanoma of the applicant and/or her/his supervisor

The Foundation has two grant categories:

- **Post Graduate Scholar Support Grant** to assist post-graduate students researching in melanoma;
- **Next Generation Scientist Grant** to support early career scientists¹ with novel ideas into melanoma research and no prior sources of funding;

Application for AMRF funds follows a two-staged process. A national call invites researchers to lodge an initial Expression of Interest with the Foundation. Each proposal received is assessed by the Foundation against the criteria listed above. Full applications are subsequently invited from short-listed applicants.

Researchers need to provide evidence of scientific merit and quality supervision. Research involving humans or animals must be approved by a relevant institutional research ethics committee. AMRF funds are paid to institutions where the research is to be undertaken.

AMRF funds are to be used for the direct costs of the research and not used for institutional overheads, infrastructure or other indirect costs.

The AMRF does not claim ownership of any intellectual property created from its funds.

¹ 'Early career' is defined as a minimum of 5 years of independent research in the field, demonstrated by a publication history, after the completion of post-graduate qualifications.

HIGHLIGHTS OF MELANOMA RESEARCH FUNDED BY THE FOUNDATION

AMRF Research Grant Recipient 2019

Ms Samantha Watson

PhD student at University of South Australia

“Investigating the potential for treating melanoma with a medicine that has successfully targeted oesophageal cancer cells in the laboratory.”



Ms Watson and Dr Pablo Garcia Valtanen

Dr Garcia Valtanen is a postdoctoral scientist at the University of South Australia.

Samantha provided a summary in 2021 of the progress with her work along with the team at the University of South Australia

Our work at the University of South Australia, in collaboration with industry partners, investigates the use of passive and active vaccination for the treatment of melanoma. Our laboratory has developed an antibody therapy, also known as passive vaccination, that targets a specific molecule found in some cancers.

Initially, we evaluated five melanoma cell lines, demonstrating that all five cell lines expressed this molecule on its surface at varying levels. Following this, we vaccinated the cells to determine whether these antibodies could degrade melanoma cells.

The data demonstrated that the treatment worked best where expression of the target molecule was highest, and had almost no therapeutic effect in some cells with lesser expression. As such, this data suggests that the antibody may have therapeutic potential, however only in cancers where this molecule is expressed highly.

While this type of passive vaccination relies on providing patients with the antibodies necessary to combat disease, active vaccination involves stimulating the immune system to produce its own disease-specific antibodies, as well as cell-mediated responses. To ensure we generate robust immune responses, we have constructed two novel therapeutic melanoma vaccines using an established platform technology, utilising an array of well-known melanoma antigens.

This vaccine technology has previously shown its safety in animal models and its ability to produce robust cell-mediated immune responses. We will soon begin evaluation of these vaccines, assessing the effectiveness of the active vaccines to reduce the size of both primary and metastatic melanoma tumours in animal models.

HIGHLIGHTS OF MELANOMA RESEARCH FUNDED BY THE FOUNDATION

AMRF Research Grant Recipient 2021

Rebecca Simpson (see photo opposite, on right)
PhD Candidate, Melanoma Institute Australia, Charles Perkins Centre, University of Sydney

Research into the role of the gut microbiome during immunotherapy

The microbes in our gut (microbiome) influence immune processes throughout the body. This includes how patients respond to immunotherapies. These therapies aim to reactivate a patient's own immune system to recognise and kill tumour cells. However, still, nearly 50% of patients with advanced melanoma die due to resistance. Furthermore, concurrent inflammatory side effects frequently cause severe morbidities, sometimes resulting in patients having to cease therapy.

My research looks at the role of the gut microbiome during immunotherapy. Specifically, how diet and intestinal microbes influence the efficacy and safety of treatment. Since diet can alter the microbiome thereby impacting gut "leakiness" and the inflammatory state of the immune system, we therefore hypothesise that changes to diet could beneficially alter the microbiome to improve both the effectiveness and safety of therapy.

With the support of the AMRF we will utilise a mouse model to test whether dietary changes are able to beneficially alter the microbiome and lead to favourable immune changes during immunotherapy. Understanding the interactions between diet, the microbiome and the immune system will inform the feasibility and design of dietary interventions in the clinic.



Diet patterns linked to success in immunotherapy for melanoma, research finds

By Gabriella Rogers Health Reporter Sep 23, 2022

Experts have found evidence that diet could make a crucial difference to someone's ability to fight melanoma.

For the first time, researchers have discovered a link between diet patterns and how well a patient responds to immunotherapy - the main treatment when melanoma spreads in the body.

The study, published in Nature Medicine, involved 218 melanoma patients from Australia, the Netherlands and the United States.

High-risk patients received immunotherapy before their cancer was surgically removed.

"We have known for some time that the microbiome of the gut shapes a patient's response to immunotherapy, however we haven't known what role diets plays in that," **Rebecca Simpson, Melanoma Institute Australia PhD student and study investigator**, said.

Researchers examined the dietary patterns of patients and stool samples were collected to profile their gut bacteria.

HIGHLIGHTS OF MELANOMA RESEARCH FUNDED BY THE FOUNDATION

AMRF Research Grant Recipient 2022

Dr Prachi Bhave
Peter MacCallum Cancer Centre, VIC

Unlocking the melanoma tumour micro-environment through novel spatial transcriptomics methodologies



This project has the potential to improve the survival of the thousands of Australians diagnosed with early stage melanoma each year.

Early-stage (stage 1-11) melanoma accounts for the largest proportion of new melanoma diagnoses, with a total number higher than all other stages combined. We aim to understand the mechanisms involved in melanoma recurrence after surgery by performing a comprehensive analysis of the clinical, pathological, molecular and genomic characteristics of early stage

melanoma with extreme clinical outcomes, such as very thin melanomas (<1mm) that recur rapidly after surgery.

We will harness new, cutting-edge technology such as spatial transcriptomics to create an architectural map of cells both within and surrounding a tumour.

Our project shifts the focus from treatment of advanced disease to prevention of advanced disease, upholding the age-old adage of prevention is better than cure.



Morgan Mansell Prize: Victorian Melanoma Researcher of the Year

Congratulations to Dr Prachi Bhave on winning the 2022 Young Victorian Melanoma Researcher of the Year. The prize was presented at Melanoma Research Victoria's Scientific Annual Meeting (November 2022 at the Peter MacCallum Cancer Centre). Dr Bhave's prize winning research was on efficacy of checkpoint inhibitors in acral melanoma (melanomas that occur on soles of feet, palms, nails and the most common melanoma in people with darker skin).

Dr Prachi Bhave - Winner of the Morgan Mansell Prize 2022

The Morgan Mansell Prize – Young Melanoma Researcher of the Year is awarded annually to the researcher judged to have produced the most outstanding research on melanoma and that all important cure, and is adjudicated on by Melbourne's top medical scientists (Professors Mark Shackleton, Victoria Mar and Grant MacArthur and others from Melanoma Research Victoria). The MRV includes the Peter MacCallum Cancer Centre; the Olivia Newton-John Cancer Institute, Austin Health; Alfred Hospital). The award will be made in perpetuity until a cure for melanoma is found.

HIGHLIGHTS OF MELANOMA RESEARCH FUNDED BY THE FOUNDATION

Identifying the gene expression signatures of tumour-specific CD8+ T cells in adjuvant anti-PD-1 treated stage III melanoma patients
Grace Attrill
The University of Sydney, NSW



"I feel very fortunate to receive the Warren Meanwell Melanoma Research Grant for 2023 for this exciting new study, which we hope will lead to more effective therapies for melanoma patients. Thank you very much!"

Early Career Research Scientist and Warren Meanwell Melanoma Research Grant recipient for 2023

Research into the identification of protein signatures and the use of scarless skin biopsies to achieve more reliable diagnoses through proteomic analysis
Dr Rachel Teh
The University of Sydney, NSW



"I'm grateful and honoured to be awarded by the AMRF. This means that I can continue my research towards improving the way we diagnose melanoma and develop a diagnostic tool which will help underserved communities. Thank you, AMRF."

Early Career Research Scientist and LEK Consulting Research Grant recipient for 2023

THANK YOU TO OUR SUPPORTERS

We are very grateful to the many supporters, including our dedicated community fundraisers who over the years since our inception have provided much needed financial support for our research and encouragement for the work that we undertake.

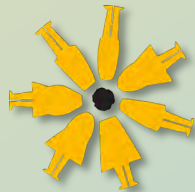
OUR CORPORATE PARTNERS



HOW YOU CAN SUPPORT THE FOUNDATION

If you would like to support the Australian Melanoma Research Foundation or, learn more about us, please contact

Kim at admin@melanomaresearch.com.au



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EST. 2006

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