

Australian ALZHEIMER'S RESEARCH Foundation

Welcome to our September Newsletter

September is a special month designated as **World Alzheimer's Month** and an important time to reflect on how inclusive we are to people with dementia and what we can do to reduce our own risk of dementia and Alzheimer's disease.

We can all grow our knowledge of dementia and Alzheimer's disease and learn how to be more supportive to a person living with dementia and to the carer or family member of a person living with dementia.

At the Foundation's recent Annual General Meeting, we were delighted to host Maggie Beer AO, who spoke about the vital importance of a good diet as we age to the nearly 300 guests in attendance.

The importance of diet and brain health was also a theme at the Foundation's recent Public Lectures at the WA State Library. Diet has been identified as an important modifiable risk factor for reducing the risk of getting dementia.

At the AGM, Prof Colin Masters AO presented on the development of Alzheimer's disease in the brain 20+ years prior to symptoms becoming apparent, presenting a new opportunity to diagnose patients much earlier than previously thought.



September
2022

Prof Ralph Martins AO spoke about the work his research team are undertaking to develop a blood test to diagnose people well before symptoms appear. Prof Martins said

"An early diagnosis represents the best opportunity for prevention and treatments to be successful in beating this disease".



Become more knowledgeable about Dementia and Alzheimer's disease

The **Australian Alzheimer's Research Foundation** is supporting **research** into Alzheimer's disease, the most common cause of dementia, with a focus on understanding the disease process, identifying risk factors and opportunities for prevention, developing ways to diagnose Alzheimer's earlier and cost effectively, and participating in research into potential new treatments.

There are other groups that provide a wealth of information that can assist you to better understand the condition and support people with the disease and their carers and family members.

Alzheimer's WA are dementia care experts. They provide direct care, support, education and information to assist people living with dementia as well as their families and carers.

Dementia Australia are the national peak body for people impacted by dementia in Australia. They are a source of trusted information, have some excellent Fact Sheets and provide education and support services for people living with dementia, their families and carers.

Wicking Dementia Research and Education Centre provides educational programs to build knowledge and understanding of dementia within the community.

The Foundation supports medical research into Alzheimer's disease. We provide significant funding for researchers led by 2010 WA Australian of the Year, Professor Ralph Martins AO. We rely on the generosity of supporters who are equally committed to see better outcomes for people with dementia and future generations.

We encourage all of our supporters who need any form of support or information to get in touch with these organisations.

Alzheimer's WA

www.alzheimerswa.org.au
1300 667 788

Dementia Australia

www.dementia.org.au
1800 100 500

Wicking Dementia Research and Education Centre

www.utas.edu.au/wicking
1300 363 864

Brain Health

As we age, our bodies and minds change. While physical changes like hearing loss or joint pain are easy to identify, our cognitive abilities also start to decline.

Focusing on your body's health is incredibly important to keep it functioning well and is also important for your brain.

Physical activity increases blood flow and oxygen levels in all parts of the body, including the brain. People with a high level of physical activity have a lower risk of cognitive decline and dementia. Even a simple walk around the block can help.

Nutrition and diet can profoundly affect both body and brain health. A Mediterranean diet with minimal carbohydrates and sugar is recommended. A good diet has many benefits including reducing the risks of diabetes and inflammatory processes in the body which are linked to cognitive decline.

Sleep is important to rejuvenate the body but also plays an important role in clearing toxins that accumulate in the brain during the day, such as beta-amyloid. A good night's sleep is important for brain health and people getting insufficient good quality sleep have a higher risk of developing dementia.

Social activities and brain stimulation are also key areas for brain health. Elderly people who regularly engage socially with others are better able to maintain or improve cognitive and mental wellbeing.

Being socially active also requires increased motivation and organisation skills and can reduce the risk of depression. People who do more cognitively demanding activities such as chess, bridge, sudoku and crosswords tend to have better working memory and reasoning skills compared to those who don't.

Research has shown that when you use your brain in a different way, you can increase its neuroplasticity, the brain's capacity to continue growing, allowing us to learn new information and new ways of thinking. Try stepping outside of your routine to challenge your brain. This can be as simple as driving a different way to your local supermarket. A little change like this can promote neural flexibility which helps build change resilience and adaptive thinking and take us out of the 'autopilot' shortcuts we tend to fall into as we age.

Smoking is bad for the body and the brain. It is linked to heart and lung disease and is also linked to an increased risk of dementia. Smoking is a lifestyle choice and a risk factor that can be controlled.

While medical science cannot yet stop the progression of dementia or Alzheimer's disease, everyone can take steps to maintain their ability to think, problem solve and remember as they grow older and reduce their risk of getting dementia.

Research made possible by you

At the Australian Alzheimer's Research Foundation, we believe a world without Alzheimer's disease is possible.

Guided by some of the brightest minds in Alzheimer's disease research, we continually look for new and improved ways to prevent, detect and treat Alzheimer's disease. We back bold ideas – ideas that lead to breakthroughs and discoveries that help people with this complex disease and future generations.

In 2022, the Australian Alzheimer's Research Foundation, with the support of its donors, is providing funding for projects which include:

- Development of a blood biomarker panel for the early diagnosis of Alzheimer's disease
- Retinal imaging as a diagnostic tool for Alzheimer's disease
- Understanding the associations of dietary protein and fibre intake with brain and blood amyloid beta

These programs have the potential to provide tremendous health and social returns, and we look forward to keeping you updated on these programs.

“The support provided by the Foundation in funding key researcher positions and providing research facilities and support activities is absolutely invaluable, thanks to the generosity of all our supporters.”

Professor Ralph Martins AO



Pharmaceutical Clinical Trial - Myth Busting

Pharmaceutical clinical trials provide early access to potential treatments, contribute to medical knowledge about a condition, help guide future research, and have the potential to impact how people with the same condition are treated in the future.

Australia is a leader in clinical research and many Australians have questions about clinical trials and may hold misconceptions that prevent them from participating in them. We recognise that, for many people, the decision to participate in a clinical trial may be daunting, so we thought we'd take this opportunity to debunk a few common clinical trial myths.

MYTH

It's too late — the disease is too advanced to participate in a research study.

FACT

There are clinical trials for people in mild to moderate stages of Alzheimer's. Participating in a trial could have a potentially measurable impact on the disease.

MYTH

If I join a clinical trial, I won't receive the same quality of care that I currently receive from my doctor.

FACT

Participants in clinical trials continue to see their regular doctor whilst participating in a clinical trial. Your doctor will be advised of any results that may require further investigation by them. Participants receive a very high standard of care through the trial and have access to testing (such as brain imaging) at no cost.

MYTH

If there is a clinical trial that could help me, my doctor will tell me about it.

FACT

With hundreds of clinical studies being conducted across Australia, your doctor may not be aware of what research studies are in your area. We are constantly updating our website with our new trials, with the eligibility details listed.

Have some more questions?

Call the Clinical Trials Division on (08) 9389 6433 or email aarfctd@alzheimers.com.au

UPDATE

In 2021, the US Food and Drug Administration (FDA) approved its first Alzheimer's drug in almost 20 years. Although the approval of **aducanumab** was not without controversy, the approval has strengthened interest in developing new treatments for Alzheimer's disease.

Aducanumab was submitted to the Australian Therapeutic Goods Administration (TGA) in 2021, but has since been withdrawn and more data is being collected to support its use.

So are **lecanemab** and **gantenerumab** next?

After reviewing what it considered promising data, the FDA decided to speed up the agency's evaluation process of Biogen and Eisai's lecanemab and Roche's gantenerumab.

These drugs are all 'monoclonal antibodies' that may prevent beta-amyloid from clumping into plaques or remove beta-amyloid plaques that have formed and help the body clear the beta-amyloid from the brain.

The Clinical Trials Division team at the Australian Alzheimer's Research Foundation are trialling new interventions to try to find a treatment for Alzheimer's disease. You may like to get involved!

We partner with pharmaceutical companies worldwide including some top companies in the industry



Janssen

Novo Nordisk

Roche

EISAI

Biogen

Want to see if you're eligible for one of our Clinical Trials?
Scan the QR Code below!

Scan me with
your smart
phone camera



The Alzheimer's Association International Conference

The Alzheimer's Association International Conference (AAIC) was recently held in San Diego, California and is the largest gathering of researchers from around the world focused on Alzheimer's and other forms of dementia.

Associate Professor Stephanie Rainey-Smith attended the conference and was proud to see three of her PhD students present at the Conference in August. Having been selected by the Alzheimer's Association, US, to give their first international conference presentations, the students presented on the following topics:



- Louise Pivac (co-supervised by A/Prof. Belinda Brown and A/Prof. Hamid Sohrabi, MU) presented on **sleep and rates of brain beta-amyloid accumulation**
- Kelsey Sewell (co-supervised by A/Prof. Belinda Brown and A/Prof. Jeremiah Peiffer, MU) presented on the **benefits of physical activity for cognitive health**
- Cheyenne Chooi (co-supervised by A/Prof. Brandon Gavett and A/Prof. Michael Weinborn, UWA) presented on **sex differences in cognitive reserve**

The presentations were very well received, and all three students should be proud of themselves. Much of the research is undertaken at the Australian Alzheimer's Research Foundation facilities, and the Foundation is proud to be providing a PhD scholarship for Louise Pivac in conjunction with Murdoch University.

Associate Professor Rainey-Smith was also invited to co-chair a conference session on **longitudinal imaging marker trajectories** with Professor Prashanthi Vemuri (Mayo Clinic, US). There were many conference highlights with advances in **blood-based biomarkers** a particularly hot topic this year.



CATHRYN MCKENZIE CLINICAL NEUROPSYCHOLOGIST

Cathryn is a Clinical Neuropsychologist at the Australian Alzheimer's Research Foundation and also attended the Alzheimer's Association International Conference in San Diego.

Cathryn presented her research on **cognitive reserve**. It is believed that cognitive reserve is a characteristic of the brain that allows some people to cope better with Alzheimer's disease than others. In other words, it can prevent dementia even when there is Alzheimer's disease in the brain. The research Cathryn presented suggests that cognitive reserve protects against Alzheimer's disease by modifying glucose metabolism in the brain.

For me, a highlight was an all-day workshop focused on social determinants of health and social factors that affect one's risk for developing Alzheimer's disease. These included air pollution, the built environment, barriers to healthcare, and psychosocial stressors.



Our new hope for a blood test which can diagnose Alzheimer's disease 20 years prior to symptoms

Measuring blood for insights into what is happening in the brain.

Prof Ralph Martins AO has been leading a research team which has been making giant leaps towards creating an accessible method for the early diagnosis of Alzheimer's disease.

The Australian Alzheimer's Research Foundation, and its community of benefactors, has been a keen supporter of the research to develop a blood biomarker for Alzheimer's disease.

A key driver of this work has been researcher Dr Pratishtha Chatterjee at Macquarie University (who prefers to be known as Rimi) and PhD candidate Steve Pedrini at Edith Cowan University.

The new work builds on the already well-established findings that abnormal beta amyloid plaques appear in the brain **up to 20 years prior to the onset of Alzheimer's symptoms**. The team's published results showed that individuals with these brain plaques (but still before any signs of dementia) had increased levels of three protein markers in samples of their blood.

A Worthy Ideal

Changes in the brain begin decades before clinical symptoms of Alzheimer's disease appear, however this can only be detected by a brain scan – not an everyday event.

The team's research findings open the prospect of a blood test that would detect Alzheimer's disease decades prior to the appearance of any symptoms. It is important to mention that two other partnered research groups in Europe are also finding similar patterns and this adds significant weight to the work.

The importance of gaining an early dementia diagnosis is critical. Why? Because, in Rimi's words, "Knowing that we have these blood markers will encourage us to more whole heartedly act now, to better prepare us and ultimately to change the diagnosis or the trajectory before any cognitive changes take place."

There are many modifiable risk factors of dementia that we can control and as soon as we know that we could be at risk, we need to take action. These include improving our neuroplasticity (focusing on new activities to drive formation of synapses), building up brain connections to create 'cognitive reserve,' as well as increased physical exercise, ensuring a healthy diet and maintaining good social connections – to mention just a few.

A new normal?

Imagine a new normal whereby a yearly blood test could check whether you need to focus more on your brain health in the future.

Dementia (including the 70% majority that Alzheimer's comprises) is the 2nd leading cause of death in Australia and those with Dementia make up most of the clients in aged care facilities.

This research provides the largest possible window of opportunity within the diagnosis of Alzheimer's disease to reduce the risk and improve the quality of life for older Australians as they age, and ultimately to allow older adults the opportunity to age in their own home with healthy brain function.

Connections Matter

Professor Martins and his cross-institutional research team are further partnered with several large collaborations, who focus on gathering information to understand and improve early diagnosis of Alzheimer's disease. These networks provide access to all the patient samples required to make this discovery and validate the results.

Even with these parts in place, there is still more research in optimising the best blood markers to be done; a fine tuning if you like, to validate the test in larger and different cohorts and turn these discoveries into a blood test that is available to all of us.

The impact

This research could well redefine current dementia diagnosis from the well-known three stages of: early, middle, and late to something entirely new. In the brain this is termed the pre-clinical phase but in a 'new normal' blood diagnosis - decades before symptoms arise, perhaps **'preventative'** stage is more fitting.

The remaining block is one of funding, and the Australian Alzheimer's Research Foundation community is committed to providing support in these crucial last stages.

We hope you will join us on this journey. Your support for this work is incredibly important.



Professor Ralph Martins AO

CogSleep Centre for Research Excellence Annual Symposium

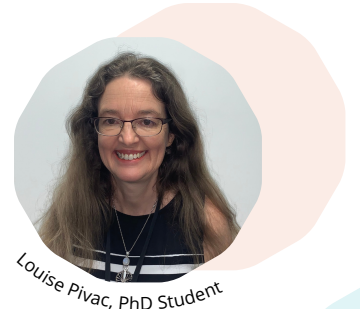
The CogSleep Centre for Research Excellence Annual Symposium was held in Sydney at the start of September.

Associate Professor Rainey-Smith was invited to open the Symposium, giving a keynote address on her Sleep and Alzheimer's disease research program. PhD student Louise Pivac gave a presentation on work from her PhD studies and was recognised by winning the Student Research Excellence Presentation Award!

Louise has also been selected as a finalist for this year's Sleep Health Foundation Emerging Sleep Hero Award.

The final takes place on September 29th – good luck, Louise.

We will be watching and voting for you!



Louise Pivac, PhD Student

Congratulations

WE ARE RECRUITING

Healthy Volunteers

AU ARROW is a study into lifestyle interventions to reduce the risk of dementia and is currently recruiting healthy volunteers!



WHILE TAKING PART IN THIS STUDY YOU WILL RECEIVE

- Free access to expert health professionals
- Detailed health assessments
- The opportunity to potentially prevent cognitive decline through lifestyle interventions

If you'd like to know more about AU-ARROW, please contact the team at (08) 6304 3966 or email trial@alzheimers.com.au

PLEASE NOTE: To participate you must live within 10kms of one of the following suburbs: Nedlands, South Perth, Willagee or Canning Vale. The team can advise the areas in Sydney that are supported.

Thank you Grill'd Claremont!

The Foundation has been selected to participate in Local Matters at Grill'd Claremont Quarter this October!

We would love your support in receiving the \$300 donation. Simply head to Grill'd Claremont Quarter during October for a burger and pop your Local Matters token in our jar. The group with the most tokens at the end of the month receives the largest donation.

It's a simple (and delicious) way to show your support!



Thank you for supporting the Australian Alzheimer's Research Foundation.

Whether it's \$2 or \$200,000, any funding the Australian Alzheimer's Research Foundation receives takes us a step closer to our vision – a world in which Alzheimer's disease no longer exists.

If you are able please make a donation you can do so by

Calling **(08) 6457 0253**

Or on our website **www.alzheimers.com.au**

Or by mailing the completed form in the envelope provided to:
PO Box 963, Nedlands WA 6909

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