Test to predict dementia risk

Researchers from QIMR together with the Brain and Ageing Research Program at the University of New South Wales, have developed a memory stress test that can be used to predict those at risk of developing dementia.

Professor Michael Breakspear, Coordinator of QIMR’s Mental Health and Complex Disorders program said the team has shown for the first time that the brain’s response to increasing mental stress can predict a future decline in everyday functioning.

“This is an exciting finding because accurate detection of those at risk before they show clinical signs of dementia would allow for early, targeted preventive interventions,” Professor Breakspear said.

“We studied Australians aged between 70 and 85 with mild cognitive impairment, which is a known risk factor for dementia. They were given a series of memory tasks of increasing difficulty and their brain activity was monitored - think of a heart stress test but instead of running on a treadmill we make you think to the point of mental exhaustion and measure your brain activity.

“By using a brain imaging scanner, we were able to detect subtle changes in brain activity. We studied the patients again after two years and found their initial response to the stress test predicted whether their everyday functioning was stable or declined.

“We found that the level of accuracy when the brain is under stress is also a good indicator of future mental decline. Interestingly, other potential indices such as age, years of education, brain volume and their general cognitive function, did not predict outcome.

“Ultimately we hope our research may lead to a clinical tool to identify those at risk. This would allow early intervention, better targeting of the available medications and hence improve the lives of those living with this terrible condition.”

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Meet the new Council members

The new QIMR Council was announced by the Queensland Government on 9 September 2011.

QIMR Council Chair, Professor John Hay AC said the new Council will continue to govern and manage the operations of the organisation to reinforce QIMR’s position as one of Australia’s largest and most successful research institutes.

“QIMR is excited to welcome four new members to the Council including Mr Rod Wylie, Professor Alan Pettigrew, Mr Greg Baynton and Professor Nicholas Fisk,” Professor Hay said.

“Our new Council members bring a range of experience from both the academic and business sectors, helping ensure we have a strong team.

“These additional members join Professor Bryan Campbell, Mr Christopher Coyne, Professor Judith Clements, Associate Professor Paula Marlton and Dr Jeannette Young to help complete QIMR’s new Council.”

“I would like to sincerely thank former council members Mr Paul Fennelly and Professor Lyn Griffiths for their invaluable and tireless contribution to QIMR.”

The new Council forms at an exciting and busy time for QIMR.

“We are entering a phase of unprecedented growth and research achievements, with the Institute’s new research facility at Herston, scheduled for completion in early 2012,” Professor Hay said.

“This follows the appointment of Professor Frank Gannon as Director and CEO of QIMR in early 2011, heralding new leadership for the Institute.”

Funds raised from the Ride will support our ground-breaking research into a range of cancers including breast and ovarian cancer, bowel cancer, blood cancers such as leukaemia, brain cancer and skin cancers including melanoma.

The Ride was an amazing example of the generous support either through funds or time from which QIMR is lucky enough to benefit. And year after year we can continue our research of cancers, infectious diseases and mental health/complex disorders through the ongoing dedication of all our supporters.

I would like to take this opportunity to say a very big thank you to everyone who supported us throughout 2011 and wish you and your loved ones a very safe and merry Christmas. We look forward to welcoming you to our new facility in 2012.

From the Director

It’s been a very big year for QIMR, and 2012 looks to continue the trend as we prepare for the opening of our new 15 story state-of-the-art research facility.

QIMR will not only be increasing in physical size, we will also be increasing in numbers – with an additional 400 researchers expected to join us over the coming years and help cement our position as a leading translational research institute, not only in Australia, but internationally.

The New Year will herald an exciting phase of growth for the Institute as we welcome new researchers in all programs of QIMR: cancer; infectious disease; and mental health/complex disorders.

The support given to QIMR impacts all areas of the research we are engaged in. Mental Health is a growing and very important area for us and we continue to make major contributions to reducing the burden of infection. But particular focus this year has to be placed on cancer research at QIMR because some of our cancer research and research teams in the coming years will be a direct result of the recent Rio Tinto Ride to Conquer Cancer, held in August.

With over 1,340 bicycle riders and more than 300 volunteers participating, the Ride raised $4.7 million for cancer research at QIMR.

The Rio Tinto Ride to Conquer Cancer set a fundraising event record for Queensland, but more importantly it gave a real boost to improving the outcomes of those trying to overcome cancer.

Currently QIMR has 21 laboratories dedicated to cancer research which work to understand the genetic and environmental factors that cause cancer and investigate ways to improve the diagnosis, treatment and prevention of the disease.

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Professor Frank Gannon
Director - QIMR
Overcoming the cancer odds

Sonja Samson has always been up for a challenge and after triumphing over the Kokoda Trail and a 60 kilometre Logan to Gold Coast bike ride, the self-confessed gym junkie looked forward to participating in the inaugural two-day Rio Tinto Ride to Conquer Cancer in August.

However, during Sonja’s fundraising efforts and long training rides in the lead up to the big event she was given news that changed her world, but also gave new meaning to her participation in the ride.

“I had cysts so had always been aware of the importance of keeping an eye on any changes to my breasts, but after having some cysts drained it still came as a surprise to hear I had breast cancer,” Sonja said.

“This news sent me on the worst rollercoaster ride of my life, but I still consider myself one of the lucky ones.

“I underwent a mastectomy and reconstructive surgery, but managed to avoid chemotherapy and radiation, so I think of this as a small obstacle!

“My family were of course upset, but we supported each other and made sure we got on with things and kept enjoying life.”

Part of Sonja’s road to recovery was getting back on her bike and participating in the Ride.

“My reconstruction surgery had left me quite sore, but I was determined to do the Rio Tinto Ride to Conquer Cancer, much to my doctor's displeasure!” Sonja laughed.

“It was only 12 weeks after my surgery, so I couldn’t do all of it, but I managed to knock over 75 kilometres on my first day and will be doing the Ride in 2012 with about six of my friends.

“My mother battled breast cancer and I lost a friend way too early to another form of cancer, so I’ve always supported events that aim to raise funds for cancer research.”

Coordinator for QIMR’s Cancer Program and head of the Cancer Genetics laboratory, Professor Georgia Chenevix-Trench said that breast cancer is the most common cancer among Australian women.

“One in nine women will be diagnosed with breast cancer before the age of 85 and therefore further research into this disease is vital,” Professor Chenevix-Trench said.

“My lab team is currently studying mechanisms that predispose some women to develop breast cancer, the process that allows cancers to grow at distant sites such as the brain and lungs, and how DNA repair proteins are implicated.

“This work will allow development of new diagnostic tools and treatments with our ultimate aim being improved diagnosis for women with breast cancer.

“Through the support of fundraisers like Sonja and events like the Rio Tinto Ride to Conquer Cancer, QIMR aims to develop a better understanding of different types of cancers.

“With one in two Australians expected to be diagnosed with cancer in their lifetime, QIMR is working to understand the risk and genetics of the disease with the aim to improve the prevention, diagnosis and treatment of cancer.

“Supporting the 2012 Rio Tinto Ride to Conquer Cancer is an easy way to play an important role in improving the outcomes for people with cancer.”

Sonja is still recovering from her surgery but said she is about to start training for next year’s ride.

“My diagnosis was a big shock, but life is short and I don’t want to miss out on anything or have any regrets,” Sonja said.

“Now I’m one of the statistics too, I’m more determined than ever to do my part and participate in next year's Rio Tinto Ride to Conquer Cancer to help QIMR find more effective treatments and a cure for cancers.”
Queensland is the skin cancer capital of the world, but QIMR researchers are working hard to better understand the genetics, prevention and treatment of skin cancers, including melanoma, to keep our skin safe.

Since our partnership commenced in 2004, Suncorp has strongly supported QIMR skin cancer research through a number of fundraising initiatives.

Suncorp is committed to helping make protection from the sun part of our way of life.

For further information about the SunWise program visit www.suncorp.com.au/sunwise

Unravelling the melanoma mystery

As part of an international study, researchers from QIMR have discovered two genetic variants that increase the risk of melanoma.

The variants were discovered through a study examining the DNA of over 2,000 Australians with melanoma and over 4,000 people without the condition.

Melanoma is one of the most common cancers affecting young people in Australia, with Queensland showing the highest incidence of the disease worldwide.

Lead QIMR researcher, Dr Stuart MacGregor, said that finding these two genetic variants will help increase the ability to predict those individuals most at risk of developing the potentially deadly disease.

“This new finding is exciting as early diagnosis is critical in melanoma to improve the diagnosis of people who develop the disease,” Dr MacGregor said.

“Identifying these variants is an essential step toward determining accurate risk estimates for the disease.

“This in turn, means people will be better informed and can take the right precautions to avoid developing this increasingly common cancer.

“Unlike virtually all melanoma risk variants found to date, the two new genetic variants do not appear to act by simply changing skin pigmentation or mole count. One variant appears to play a role in how DNA is repaired following damage by UV radiation, while the other variant may play a role in tumour formation.”

Dr MacGregor said this study built on QIMR’s previous work on identifying melanoma associated genes.

“Discovering more about the genetic basis of melanoma may help us to better diagnose and treat melanoma in the future,” Dr MacGregor said.

“While we have identified further genetic links to melanoma, prevention is still our best defence.

“It is still important for people to take precautions such as sunscreen, wearing a hat, sunglasses and a long-sleeved shirt when in the sun all year round.”
Sun savvy in the Sunshine State

Australia may be the home of gorgeous beaches, picturesque rainforests and a great outdoor lifestyle, but it is also the skin cancer capital of the world.

Our country has the highest rates of melanoma and non-melanoma skin cancer in the world with more than 10,000 cases of melanoma diagnosed in Australia each year.

These are grim statistics, but that does not mean we should accept our fate.

QIMR is working towards understanding how skin cancers develop and can be prevented and has also found there are steps we can take as individuals to protect ourselves against this disease.

Dr Rachel Neale from QIMR’s Cancer and Population Studies laboratory said being sun smart must become a daily habit.

“Our research here at QIMR has proven, without a doubt, that the daily application of sunscreen can reduce the risk of skin cancer,” Dr Neale said.

“Along with sunscreen, you should be wearing a broad-brimmed hat, a long-sleeved shirt and good quality sunglasses.”

Sunscreen is just one weapon in your defence against skin cancers and melanomas.

“Putting on a 30 plus sunscreen needs to be a part of your routine every day, just like brushing your teeth, no matter what you have planned for your day.

“And while you might think a small amount is sufficient, it is important to apply your sunscreen thickly and evenly, making sure you don’t miss any spots. You should reapply every two hours to improve your protection against the sun.”

QIMR skin cancer DISCOVERIES:

• A diet with relatively low intakes of meat, fried foods and full-fat dairy products was associated with almost half the risk of new squamous cell carcinomas compared with a diet high in meat and fat intake.

• Eating sources of selenium, such as green, leafy vegetables, can reduce your risk of basal cell carcinomas by 40%.

• Two particular genes that, together, can double the risk of melanoma.

Skin cancer FACTS:

• Melanomas appear as a mole or freckle that changes colour, size or shape, but are the most dangerous type of skin cancer. They metastasise rapidly throughout the body and can cause tumours to grow in the liver and brain, resulting in a poor survival rate.

• 1 in 16 of us will develop melanoma in our lifetime.

• Moles are normal but you should seek advice from your doctor if you observe any changes in size, colour or shape. People with lots of moles are at a higher risk of developing melanoma and should therefore take extra care to avoid overexposure to radiation.

• In 2007, there were 10,342 new cases of melanoma, making it overall the fourth most common form of cancer in Australia.

Source: AIHW, 2010
De-mystifying malaria

QIMR is attracting international recognition for its world-first research into the lifecycle of the malaria parasite.

QIMR’s Associate Professors Don Gardiner and Katharine Trenholme, Professor James McCarthy and their team have attracted the attention and support funding from the National Institutes of Health (NIH) in the United States for their innovative research into the biology of the sexual stage of the malaria parasite and its transmission to the mosquito.

Associate Professor Don Gardiner said his team had secured the grant to carry out research on late stage gametocytes - the sexual forms of the malaria parasite, which become either male or female gametes within the stomach of the mosquito.

“This grant is invaluable as it is allowing us to perform the world’s first screenings on this stage of the malaria parasite’s life cycle, which has not been previously researched,” Associate Professor Gardiner said.

“These screenings will help find new compounds to kill these gametocytes and therefore block the transmission of the malaria parasite.

“Currently there is only one drug which can be used to eliminate gametocytes from the human host and it is not suitable for use in people with a common genetic disorder called G6PD deficiency which affects about 25% of the population in tropical countries – so we need to find alternatives.

“Malaria is a serious, worldwide health issue and looking at ways to stop the spread of this disease is an absolute priority if we are to eliminate it.”

MALARIA FACTS

Malaria is a major cause of disease and death throughout the world, particularly in the world’s poorest countries. Approximately 3.3 billion people, half the world’s population is at risk of contracting malaria.

According to the World Health Organisation, there are 250 million malaria cases and nearly one million deaths caused by malaria each year. This includes a child dying from the disease every 30 seconds.

Source: WHO, 2009

This project follows the team’s research into novel targets within the parasite which could prove an effective site for future anti-malarial drugs.
An international study featured in international medical journal, The Lancet, led by QIMR, has identified two new genetic variants that increase the risk of asthma.

Lead researcher, Dr Manuel Ferreira from QIMR said the findings suggest that a drug currently used to treat rheumatoid arthritis may be effective to treat asthma.

“Asthma impacts one in 10 Australians and can have a debilitating effect on their quality of life. Despite this, we still know very little about what causes asthma, which is essential to develop improved treatments,” Dr Ferreira said.

Dr Ferreira leads the largest Australian study of asthma genetics – the Australian Asthma Genetics Consortium – which has brought together the top asthma experts from across the country to try to identify genes that increase the risk of developing asthma.

“In this study, we compared the DNA of thousands of asthma patients with that of individuals who do not suffer from asthma,” Dr Ferreira said.

“After combining our results with other international studies, we identified two regions of the DNA that were consistently different between asthmatics and non-asthmatics: one is located in the interleukin-6 receptor (IL6R) gene on chromosome 1 and the other near a gene called GARP on chromosome 11.

“Of these two, the first is particularly interesting because interleukin-6 plays an important role in the immune system and inflammation. It is involved in many diseases, including rheumatoid arthritis.

“Together with previous findings, our results indicate that because of this genetic difference, asthma patients produce more interleukin-6 receptor than non-asthmatics which, in turn, contributes to airway inflammation.

“This suggests that a drug used to block the interleukin-6 receptor for treatment of rheumatoid arthritis could be considered for clinical trials to prevent or reduce the airway inflammation associated with asthma.

“Although it is too early to tell whether a safe and effective interleukin-6 therapy will indeed emerge in the near future, results from this study already provide key insights into the complex mechanisms that cause asthma.”

This study was funded by the National Health and Medical Research Council of Australia and includes researchers from QIMR and 13 other national and international institutes.

If you have been diagnosed with asthma by a doctor and are interested in participating in the study please call 1800 257 179 or visit www.asthma.qimr.edu.au.

FACTS

Asthma is a chronic disease of the airways. People with asthma have sensitive airways that react to triggers, such as mould, pollens, animal hair, and dust, by becoming inflamed. An episode of inflammation, called an asthma attack, makes breathing difficult to the point of being life-threatening.

Asthma death rates in Australia are almost three times the rate in Europe.

Asthma accounted for 385 deaths in Australia in 2007.

Asthma is a major problem among Indigenous Australians. Compared with non-Indigenous Australians, they have higher rates of hospitalisation and mortality due to asthma.

Source: AIHW, 2010
Our first major fundraising event, the Rio Tinto Ride to Conquer Cancer was held on 20th and 21st August this year. We would like to sincerely thank all the sponsors, the riders, the volunteers and each and every person who supported them for making this event such a resounding success. We look forward to another great event in 2012. To register to ride or volunteer please go to www.conquercancer.org.au

Over 1,300 riders took off on the two day adventure
The bikes settle in for the night

Director Professor Frank Gannon wishes everyone a safe journey at the emotional opening ceremony

Tent city at beautiful Lake Somerset

A big THANK YOU to all the volunteer bike technicians

The sign says it all!

The amazing Team Rio Tinto – 100+ riders

We made it!

To be part of this great event call 1300 11 RIDE (7433) or visit www.conquercancer.org.au

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Walking on Sunshine dinner

The sixth Walking on Sunshine fundraising event held in August was a huge success with over 450 guests enjoying the festivities at Royal on the Park, Brisbane.

Organiser extraordinaire, Anne Stanton was diagnosed with choroidal malignant melanoma in the 1980s and continues her courageous fight against cancer today and believes her fundraisers are a true source of hope.

4BC’S Loretta Ryan performed as Master of Ceremonies, while guests were entertained by singer Pete Murray and band Whosyadaddies. Rupert McCall also paid tribute to Anne with two of his inspiring poems.

QIMR greatly appreciates the ongoing support we receive from Anne and acknowledge her family and friends who also ensured this wonderful night was possible.

Greg Vogler Golf Day

It has been two years since Leigh-Anne Townsley lost her father, Greg Vogler to cancer but she continues to work hard to ensure his memory lives on by raising funds for cancer research.

“My dad was a mad-keen golf fan, so the Greg Vogler Golf Day is a great way to honour his memory and help raise funds for QIMR’s cancer program,” Ms Townsley said.

We would like to sincerely thank Leigh-Anne for all her efforts in hosting her second fundraising event. The Greg Vogler Golf Day was held in August at the Ipswich Golf Course and raised almost $2,000 for QIMR.

Mrs Benson’s legacy

Mrs Patricia Benson from the Sunshine Coast obviously shared our vision of a healthier nation, for both this generation and the next.

She left a considerable bequest to QIMR that has secured the means for vital cancer research to continue into the future. For many years, QIMR has benefited from the generosity of people who have made provision for QIMR in their Wills and we are extremely grateful.

“The true meaning of life is to plant trees, under whose shade you do not expect to sit”.

Great Gatsby Picnic

A sunny day in September was a perfect match for the ninth annual Great Gatsby Picnic run by the Queensland Vintage Vehicle Association (QVVA).

On behalf of the team at QIMR, we extend our sincere thanks to QVVA and especially to Graham Porter and Clint Frater who work hard each year to make this event such a unique and wonderful fundraiser for our medical research.
24 Hour Golf Challenge

At 5.55am on 24 September, Josh Marris accomplished his goal of playing 10 rounds of golf in 24 hours and raised over $4000 for QIMR’s cancer research.

Josh secured the generous support of Victoria Park Golf Course, who generously provided Josh with the special requirements for this unique challenge such as, lighting and fluoro golf balls to see in the dark hours of the night.

Josh was playing a pro-am in Perth when his mother rang him and broke the news she had breast cancer. “It was so traumatic because my aunty had just finished chemo for breast cancer and I’d seen what she’d been through,” he said.

“After hearing my Mum’s diagnosis, I decided I needed to do something.”

QIMR is so grateful for the time and extraordinary effort Josh made to support cancer research.

Fitton Insurance Charity Race Day

This year’s spring-themed Fitton Insurance Charity Race Day was held in September and was a very successful night. In excess of $25,000 was raised, through charity auctions, lucky door prizes and raffle ticket sales for QIMR and RACQ CareFlight.

QIMR is very proud of the support it has received from the Fitton family for over 11 years. We would like to acknowledge Del Fitton OAM, Ron Fitton and Mary Wagner who all worked very hard to ensure the event was possible.

Carmel Farrow Annual Walk for Ovarian Cancer Research

The Carmel Farrow Annual Walk for ovarian cancer research was held in Mapleton in September to honour the memory of local artist Carmel and to raise funds for ovarian cancer research at QIMR.

Sadly, Carmel was diagnosed with ovarian cancer in 2002 and battled this disease before she passed away in January 2010.

QIMR would like to sincerely thank and acknowledge the organisers, Ken Farrow and Francis Nelson for making this event possible.

SQUIDS musical

The Southeast Queensland Independent Dramatic and Musical Society (SQUIDS) have been a busy bunch, performing well known musicals over the past year with proceeds donated to QIMR. This year, SQUIDS have performed the “King and I”, “Man of La Mancha” and most recently “Nunsense”.

Information on SQUIDS’ upcoming musicals can be found online at www.squids.org.au

Riverside Centre Charity Golf Day

We would like to extend our heartfelt thanks to Riverside Centre Management for supporting QIMR through their annual Riverside Centre Charity Golf Day held at Brookwater Golf Course in August.

This year’s event was an outstanding success with many of Brisbane’s Riverside Centre corporate tenants taking time out for charity to play a round of golf.

The hard work of organisers, Bob Rice and Robyn Bailey paid off with a staggering $27,950 raised for QIMR.
Put QIMR under the microscope

Did you know that QIMR offers a free Guest Speaker and Tour Program?

If you belong to a club that invites in guest speakers or if your club is interested in a group outing, please keep QIMR in mind. We can send out a speaker to come to your next meeting, or we can provide tour opportunities at QIMR for groups of up to 30 people.

We can also cater free tours for smaller groups of individuals, their family members and friends.

Please call our toll free number 1800 993 000 to find out more information on any of our free community engagement programs, or to make a booking. It’s a great opportunity to learn about the latest in medical research.

Donate today

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☐ I am considering providing for QIMR in my Will – please send me information.

☐ I would like to take a free tour of QIMR.

Please post this form (no stamp required) to:
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ROYAL BRISBANE HOSPITAL QLD 4029

A receipt will be sent to you shortly.

Thank you.
Your generosity is appreciated.