The Beat

Edition 2 2016

AUSTRALIAN HEART RESEARCH
beating heart disease

Top 3 Healthy Heart Tips

Did you Know?

One Australian dies from heart disease every 12 minutes. With your help, we can change this!

Improving Treatments With Your Support

We're delighted to announce Professor John Beltrame at The Queen Elizabeth Hospital is the recipient of our recent grant funding in partnership with The Hospital Research Foundation.

Prof Beltrame's research has the ability to improve treatment for heart conditions and you've made this a reality! Thank you!

This $100,000 grant will provide Prof Beltrame and his talented team with funding support to conduct research into Coronary Microvascular Dysfunction, a heart disease that manifests as disabling chest pain due to spasm of microscopic blood vessels in the heart.

"I am honoured to receive this highly competitive grant that will make a real difference to patients who suffer with coronary microvascular disorders. The team and I are so grateful for your support," said Prof Beltrame.

This research has impact on a global scale, complementing the work undertaken by the Coronary Vasomotion Disorders International Study group, co-founded by Prof Beltrame. It also involves a direct collaboration with the Cedars-Sinai Medical Centre in Los Angeles and you can be very proud of supporting this type of collaborative local research that aims to deliver a global impact!

"Coronary Microvascular Dysfunction is a unique field to research since we cannot visualise the microscopic blood vessels with currently available clinical diagnostic techniques," Prof Beltrame explained.

"Consequently many of the routine tests are normal and affected patients are incorrectly diagnosed with 'non-cardiac chest pain' and therefore not treated appropriately.

"Our research studies use a variety of approaches to determine if the microscopic vessels are dysfunctional with the most detailed being the expensive and invasive studies undertaken in this new grant."

Prof Beltrame says these studies are important to educate clinicians that these patients do have abnormal microscopic vessels and therefore do require treatments directed at the microvessels.

"Unfortunately not only do we have difficulty in diagnosing this condition but also the current treatments are of limited benefit. This is an area in need of development and more research is required to identify better therapies to improve treatments for people with this condition."

We look forward to updating you on the progress of this important research in the near future!

TaKing Heart Research Across the Globe

Thanks to your support, Nathan is jetting off on a research adventure, determined to help beat heart disease.

Dr Nathan Procter is taking local heart research supported by you to the next level, heading to the UK to undertake his Post-Doctoral studies.

We caught up with Nathan before he left on his big research adventure to find out about the exciting findings he plans to continue investigating at the University of East Anglia in Norwich, which is in the top one percent of world leading research institutions.

According to Dr Procter, while living a healthy style and eating your greens, especially spinach, can help you to maintain a healthy blood pressure and prevent heart disease, research in this area is still a critical area to improve the health of our community.

"While the development of heart disease can be determined largely by your lifestyle, we still have so many people with heart disease and heart failure and it's an area of research I'm really passionate about and excited to start my post-doctoral studies in the UK," he said.

Dr Procter recently published a review on prostacyclin and nitric oxide signalling (molecules that influence cell behaviour) and their role within platelets (tiny blood cells that help your body form clots to stop bleeding).

Continuing this work, he will be investigating the role of nitrite in cardiovascular disease. Dietary nitrates, particularly rich in foods such as spinach and kale, gets broken down in the body into nitrite. Nitrite, in turn, under certain circumstances can be further broken down into nitric oxide.

"Once in the body, nitric oxide can help lower blood pressure and improve heart health," Nathan said.

"This finding could lead to an introduction of a supplement for people to help prevent heart disease."

"It's still important to remember that eating a healthy diet which is full of nutritious vegetables such as spinach, beetroot and also fish, can help minimise the risk of heart disease, help regulate your blood pressure and also help to minimise inappropriate platelet clotting."

Now off to the UK, Dr Procter explains some more of the research he will be undertaking there under the supervision of a leader in the field, Professor Michael Frenneaux.

"Under normal conditions the heart tends to use fatty acids as its primary source of fuel, despite it requiring more oxygen to do so. This is because your body preserves glucose for the brain."

"One of the treatments used in heart failure patients aims to increase the amount of glucose the heart uses as fuel, allowing it to work more efficiently. One of the areas I'll be investigating is the potential benefit of nitrite supplementation in these patients."

So what does this mean for you and your family? Thanks to your support, this type of heart research currently underway here in Australia and now collaborating with the UK could change clinical practice and improve treatment options relatively quickly!

"We could see changes in clinical practice in this area in the next five years, and that's really exciting."

Australian First Research - Supported by You!

With your help, Clementine Labrosciano is undertaking Australian-first research investigating how and why many patients will return to hospital after an initial admission for a heart condition or procedure.

As a PhD candidate based at the Basil Hetzel Institute for Translational Health Research under the supervision of Dr Isuru Ranasinghe and Professor John Beltrame, Clementine is hopeful her research will lead to an improved quality of care for you and your family. **Thank you for supporting this important 'bench to bedside' research!**

"There are a number of studies that suggest nearly a quarter of cardiac patients are unexpectedly re-admitted to hospital within 30-days of being discharged from hospital. This is not only unfortunate for patients, it also places a burden on our health system," Clementine said.

The new component of Clementine's PhD is that her research is not only looking at hospital readmissions, but also the number of patients re-presenting to emergency departments, who are treated and released back home.

"Currently if a patient presents to an emergency department after being in hospital for a heart condition or procedure and are treated and discharged home (without being admitted to hospital), these emergency cases are not counted in our health system's data. This means that we may be substantially underestimating how many patients unexpectedly seek hospital-based care soon after discharge," Clementine explained.

"If we can demonstrate that many patients unexpectedly return to emergency departments, in addition to readmissions, we might be able to change the process at a hospital-level to reduce the burden on emergency departments."

"Despite their intitial admission being for a heart condition, many patients come back to hospital with a wide range of illnesses that are often different to their initial heart condition. For example in heart failure, approximately 50 per cent of patients represent to hospital with a different condition and at this stage we don't know why or how patients acquire these 'new' conditions."

In addition to looking at the Australian statistics, Clementine hopes to research the impact of sleep deprivation in hospital – one of the causes believed to contribute to readmissions and why patients seemingly acquire 'new' conditions.

Her PhD will explore sleep deprivation of patients with heart conditions during their first hospitalisation and determine if this increases the risk of a patient returning to hospital.

This study is the first of its kind looking at whether the disruption of patient's sleep is a risk factor for patients returning to hospital.

"Sleep helps patients heal and if they aren't getting enough sleep it may impair their recovery and may make them vulnerable to other conditions such as infections."

As part of her PhD, Clementine will recruit patients in a small trial and use four different pieces of equipment to assess the amount and quality of sleep in hospital.

"I will then give them a follow up call to see how they think they've been sleeping and if they have been readmitted to hospital or emergency care for any reason," she said.

Clementine is in the first year of her PhD research project and is very thankful to you, as a generous supporter of Australian Heart Research, helping her conduct this important research and enabling her PhD to become a reality.

Living with Congenital Heart Disease

Meet Peter Gallagher. He knows all about life-saving medical research!

Born with Congenital Heart Disease (CHD), Peter, now 43 years old, has amazingly experienced five open heart surgeries in his lifetime. CHD is a birth defect that exists in the heart structure and disrupts normal blood flow through the heart.

For Peter, surgery has become a way of life. He had his first operation when he was only 13 years old to stretch open his aortic valves. Following this at age 17 and again at 27 Peter had his aortic valve replaced with a mechanical valve, a routine part of suffering from CHD.

"For me it is normal, I don't feel any different to anyone else on the planet - I just have a bad heart," Peter said.

Being a rare feat to endure five open heart surgeries, Peter is a direct example of the life-saving benefits research into heart disease offers life-long sufferers.

"I have witnessed and benefitted incredible improvements in technology and treatment for CHD over the last 40 years – this is because of critical medical research. It's saved my life!"

"By funding this research, we are ensuring technology keeps improving and people continue to have more opportunities now and in the future."

Want to know more? You can read Peter's full story on our website – visit **www.ausheartresearch.com.au**

If you would like to support research into conditions like CHD, fill in the enclosed coupon and 100% of your donation will go directly to our researchers!

Will you be a Heart Hero?

***Hero (noun):* a person who is admired for their courage, outstanding achievements, or noble qualities.**

Heart disease is the single leading cause of death in Australia. We need heroes to help us beat heart disease. We need you to help us save lives. Do you want to be a Heart Hero?

You can join our group of Heart Heroes who provide monthly support for vital research to support medical research into disease prevention, early detection and developing new therapies to eliminate heart disease.

Research does take time. It also takes dedication, skill and continued support. As a valued Heart Hero you will provide the assistance that our world-class research teams need to progress their research outcomes from labs to people as soon as possible. We would love for you to join us!

You may already support us regularly and if you do, thank you! Signing up to be a Heart Hero will make giving regularly to us even easier for you! Your monthly gift will be deducted automatically and you will receive one receipt in July each year to help you claim your tax deduction. Your monthly gift also allows us to reduce our administration costs, supporting more research to beat heart disease!

To join become a Heart Hero, please fill in the enclosed form and send it back in the reply paid envelope or phone Bonnie Stewart, your Donor Relations Specialist on **08 8244 0591**.

We can't wait to have you join our valued community of Heart Heroes! ♥

Did you Know?

Heart disease is the single leading cause of death in Australia. You can help!

Australian Heart Research
www.australianheartresearch.com.au
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