



# HEART|MIND

Inside you will read about the Cardiac Wellbeing Program, an update on our research and publications, an update on our training and a discussion of a topic getting increasing publicity - inflammation, identified recently in one article as “the common culprit behind obesity, heart disease and depression”.



## From the Director

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In this issue of the Centre’s Newsletter I am pleased to bring you updates on our activities since the Autumn Newsletter, particularly what we are doing as a result of the generous bequest we received at the end of last year. Inside you will read about the Cardiac Wellbeing Program, an update on our research and publications, an update on our training and a discussion of a topic getting increasing publicity - inflammation, identified

We are well under way with the development of the Cardiac Distress Inventory. The Centre’s previous research has shown that while many patients make a good physical recovery from heart surgery or a heart attack, many experience changes in their mood and some difficulty in resuming usual activities after their cardiac event. No cardiac distress measure currently exists, although such measures exist in oncology and diabetes. The Cardiac Distress Inventory will be used in outpatient clinics and cardiac rehabilitation settings, and in primary care, to screen patients for referral to counselling with the Centre’s specialist psychologists.

University Hospital Geelong is the first hospital we are engaging with for the Distress Inventory project, and we look forward to working with them. We also welcome the collaboration of our colleagues Professor David Thompson and Associate Professor Chantal Ski from Queen’s University Belfast who will be assisting us with the development of this world-first clinical assessment tool.

Speaking of collaboration and partnership, I would like to acknowledge the strong partnership we have with **HeartKids Australia**, as we plan to rollout next year the Family Coping program for parents of a child with a congenital heart condition. **BeyondBlue** was a strong supporter of the Centre in funding the development of the Cardiac Blues resources for patients and health professionals. We look forward to forging a new, strong relationship with them in the coming months. We also look forward to developing a close working relationship with **Heartbeat Victoria**, and later, other state-based Heartbeat groups. They provide a very important state-wide peer support program for people recovering from a heart event or adjusting to living with heart disease or a heart condition. These sorts of partnerships are vital for helping us to continue our research translation efforts and to benefit from the valuable insights of end-user groups.

Professor Alun C Jackson  
Director



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# The Cardiac Wellbeing Program

The Cardiac Wellbeing Program is now offering a range of programs, including individual counselling for people wanting help with adjusting to their heart condition or who are experiencing post-event depression and anxiety.

## Why is specialist psychological support necessary?

Patients who are anxious or depressed after an acute cardiac event are at increased risk of a subsequent event and premature death. The Centre's research has shown that anxiety rates can be up to 44%, at the time of the event, 28% in early convalescence, and 27% in late convalescence; while depression rates can be up to 22%, 17% and 15% for the same periods.

People who have experienced anxiety or depression before their cardiac event are more at risk of post-event anxiety and depression.

People living with a heart condition may seek help for adjustment issues and mood disorders associated with their cardiac event quite soon after their heart attack or surgery, or after a longer period of trying to cope with their depression or anxiety.

## How can people access the specialist psychological support?

### Through a GP assessment and a mental health plan:

People can talk with their GP about their concerns. If the GP agrees that specialist psychological support would be useful and agrees to a mental health plan, you will be entitled to Medicare rebates for up to 10 individual or 10 group appointments with our psychological support staff. These are specialist clinical or health psychologists or accredited mental health social workers.

For some of our specialist psychologists, you may have to pay a gap fee. Concession card holders are bulk billed.

Although sessions are usually face to face, there is an option to provide skype sessions for people in rural and remote areas and in some metropolitan areas.

### Through a General Practitioner Management Plan (GPMP)

GPs are able to refer eligible patients with a chronic condition such as heart failure, to allied health practitioners as part of a team approach to managing your health, including your emotional wellbeing. Under this scheme, you can access one of our specialist cardiac psychologists for up to 5 sessions in any one year.

These sessions have to be face to face and cannot be done remotely by skype.

### Through direct contact with the Centre

If people are able to pay the fee and do not require either of these Medicare rebatable plans, they can call the Centre directly on 03 9326 8544 or contact by email at [heart@australianhearthealth.org.au](mailto:heart@australianhearthealth.org.au) to discuss their support needs.



### Who is available to see people?

We have a very experienced team of clinical and health psychologists including Associate Professor Rosemary Higgins, Dr Marlies Alvarenga, Dr Donita Baird, Dr Lyndel Shand and Ms Jodi Clarke. Associate Professor Vickie McKenzie is available to see parents and families of children with congenital heart conditions, while Ms Pamela Cohen is available to see people in Sydney. Check our website for more detail on our clinical team: [www.australianhearthealth.org.au](http://www.australianhearthealth.org.au).

**If you or anyone you know needs psychological support in relation to a heart condition, then please phone 03 9326 8544.**

# Our Research In Focus

## The Cardiac Blues

This time last year we were asking you to spread the word on the cardiac blues, to help those people having difficulty in adjusting after a cardiac event. We reminded you that the cardiac blues is a set of changes in people's emotions, behaviours and thinking after a heart attack or heart surgery. Although difficult to deal with, for most people the cardiac blues resolves, but for some it leads to a more persistent distress or depression.



The new Royal Australian College of General Practitioners (RACGP) report on General Practice shows that psychological issues are the most common health issue managed by GPs. As they are crucial in the management of people living with heart conditions, it is important that GPs know about the cardiac blues as a specific sort of cardiac-related mental health issue. It is also important that they are able to distinguish between the cardiac blues and depression.

We have been working with the RACGP to get this message to GPs and in May had an article on the cardiac blues published as a therapy update.

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CF CLINICAL FOCUS THERAPY UPDATE

### A GP's guide to managing the cardiac blues

Monitoring wellbeing is an essential part of recovery for this cohort of patients

16th May 2019

By Dr Barbara Murphy, Dr Rosemary Higgins, Eugene Lugg, Professor Alun Jackson

Every year, more than 55,000 Australians have a myocardial infarction, with many undergoing cardiac surgery.<sup>1</sup>

## World Mental Health Day

The Centre will mark World Mental Health Day on 10th October with a commissioned article appearing in the British Journal of Cardiac Nursing that takes up the issue of loneliness, social isolation and cardiovascular risk, that we first talked about in our Newsletter this time last year. This article provides an up to date review of what is known about the relationship between isolation, loneliness and cardiovascular risk including what we have learned from the Centre's research into this. We have learned that:

- Social isolation and loneliness lead to poorer outcomes in people who have had a heart attack or undergone coronary artery bypass surgery
- Those without a close confidante had an increased risk of depression while those who were unpartnered had an increased risk of anxiety
- Lack of a close confidante was a unique predictor of worsening depression over a six-month period of follow up
- Living alone was the single most important predictor of hospital readmission in the 30 days after discharge, even controlling for age and disease severity.

## A 25-year follow up of patients

In an important paper led by Dr Marian Worcester, founding Director of the Centre and now an Honorary Principal Fellow, it was reported that depression was a significant predictor of death, independent of age and severity of myocardial infarction, at 5, 10 and 15 years but not at 20 or 25 years. Interestingly, patients with mild depression had greater mortality than those with low or moderate to severe depression.

This means that early identification of depression, including milder levels, is important since patients remain at increased risk for many years. They require ongoing monitoring and appropriate treatment.

Heart, Lung and Circulation (2018) xv, 1-7  
1443-9506/04/\$36.00  
<https://doi.org/10.1016/j.hlc.2018.11.013>

ORIGINAL ARTICLE

## Mild Depression Predicts Long-Term Mortality After Acute Myocardial Infarction: A 25-Year Follow-Up

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# Training Update

In June we ran our Flagship training course, the 5-day intensive program on **Cardiac disease, rehabilitation and secondary prevention**.

The program attracted 35 people from all over Australia, including a large contingent of health professionals from the Royal Flying Doctor Service. A notable outcome of the course has been the number of trainees who have engaged with the Centre since completion of the course. This is to seek further research information to help them in their own practice development or to help build a business case for a change in their program.

Trainees are also now facilitating referrals of patients for psychological support, including one patient from rural Tasmania who will be assisted by one of our psychologists through a skype assessment and development of a treatment plan.

Sessions are delivered by a multi-disciplinary team of expert facilitators including a cardiologist, nurse, physiotherapist, dietitian, health psychologist, behavioural scientist and social worker.



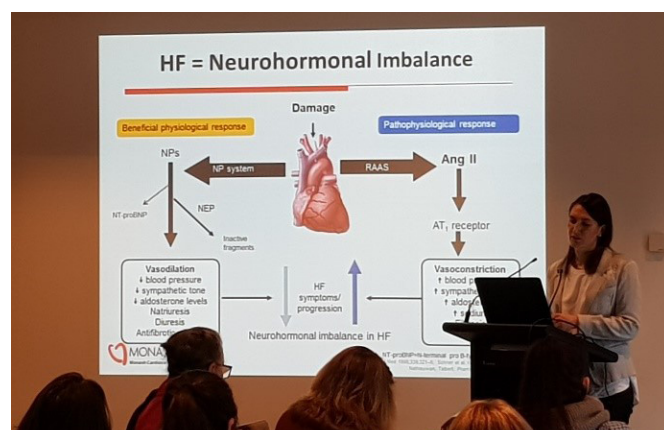
## Making a difference to practice

Trainees are encouraged to develop a personal change plan for implementing the learning they have done in the course once they return to work.

This is important, as the trainees not only have to learn how to put their training into practice, but it serves another purpose in giving them a framework for how to set behavioural goals which they can then use with patients to help them achieve their rehabilitation and recovery goals.

## What do trainees say about the Cardiac disease, rehabilitation and secondary prevention course?

"This program was very well organised. I love the topics covered in this whole course. There was a great range of presenters delivering their expert knowledge to us. The topics covered are all relevant to what we need to know. I feel that I have learned so much in these five days. I



had to pay for this course entirely myself – although it was quite expensive, it was well worth it."

"I loved the cardiologist. I learned so much. I would love to have had more time spent on interventions etc as that was brilliant."

"I enjoyed the variety of presenters, and the information delivered and discussed. I also really valued the networking opportunity provided by the training program. The resources given will be helpful for us to pass on to management / higher powers so that we can improve our program."

"Empowering me with greater knowledge of CR facilitation to increase my confidence. Thank you for the journey."

In November we will deliver our other intensive program, **Multidisciplinary management of heart failure**.

This three-day program provides evidence-based information about multidisciplinary management of heart failure to help practitioners develop individually tailored programs for patients. A feature of this year's course is that content in all of the sessions has been revised to ensure it is in keeping with the new heart failure management guidelines.

The Centre continues to add value to other organisation's education and training programs. These include lectures on psychocardiology to Swinburne University graduate students in psychology, and recently, a presentation by Dr Barbara Murphy and Professor Alun Jackson on Mental Health and Heart Disease - Risk Factors and Complications to the Heart Foundation's Nurse Ambassador program. This is an important audience as these nurses contribute to greater awareness of the importance of secondary prevention in their hospitals.



# Research Update

How many times a day is your body programmed to feel sleepy?

Is it true that adults need much less sleep as they grow older?

Is it true that people who get up earlier are healthier?

Can you catch up on sleep?

Does not getting enough sleep lead to weight gain?

These are just some of the questions that people ask themselves as they wrestle with the problem of sleep quality. We, at the Centre are concerned about the quality of sleep, and that is why we have a research program on sleep disorders and cardiovascular health, led by one of our senior research staff, Michael Le Grande.



In one of the Centre's studies, we found that nearly 70% of patients hospitalised for a cardiac event experienced sleep disturbance 6 weeks later. Those people experiencing sleep disturbance 4 months after hospitalisation for their heart condition were also likely to be showing reduced treatment adherence and self-efficacy, and have higher rates of anxiety and depression 12 months after hospitalisation.

*Psychology, Health & Medicine*, 2016

Vol. 21, No. 1, 52–59, <http://dx.doi.org/10.1080/13548506.2015.1040032>



## Relationship between sleep disturbance, depression and anxiety in the 12 months following a cardiac event

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(Received 24 November 2014; accepted 1 April 2015)

Michael is now looking at the association of obstructive sleep apnoea (OSA) with heart conditions. OSA involves recurrent episodes of complete or partial upper-airway obstruction during sleep due to the collapse of upper-pharyngeal soft tissue. It is associated with intermittent oxygen deprivation (hypoxia).



**Normal Breathing**  
- Airway is open  
- Air flows freely to lungs



**Obstructive Sleep Apnea**  
- Airway collapses  
- Blocked air flow to lungs

In an analysis of nearly 40 studies of OSA in cardiac patients, Michael found rates of up to 50% for moderate OSA and 20% to 30% for severe OSA. Just some of the reasons why this is important:

- There is increasing evidence that failure to manage sleep problems in cardiac patients can affect postoperative recovery and also influence morbidity, mortality and the quality of life.
- Cardiac patients with untreated OSA may also experience a significantly worse outcome during and after their cardiac rehabilitation.
- Patients with OSA have daytime sleepiness and fatigue and therefore reduced physical activity and find it more difficult to lose weight than those without OSA.
- The association of OSA with depression in cardiac patients is particularly concerning given the known negative effect of depression on treatment adherence and completion of cardiac rehabilitation.

We have recommended that patients be screened for OSA in cardiac rehabilitation and we're training cardiac rehabilitation health professionals on the effects of OSA on their patients, and the importance of OSA screening and referral.

Review

## Screening for obstructive sleep apnoea in cardiac rehabilitation: A position statement from the Australian Centre for Heart Health and the Australian Cardiovascular Health and Rehabilitation Association

Michael R Le Grande<sup>1,2</sup>, Lis Neubeck<sup>3,4</sup>, Barbara M Murphy<sup>1,2,5,6</sup>, Dawn McIvor<sup>4,7</sup>, Dianna Lynch<sup>4,8</sup>, Helen McLean<sup>4,9</sup> and Alun C Jackson<sup>1,2,4,10</sup>

Preventive Cardiology



European Journal of Preventive Cardiology  
0(0) 1–10  
© The European Society of Cardiology 2016  
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[sagepub.co.uk/journalsPermissions.nav](http://sagepub.co.uk/journalsPermissions.nav)  
DOI: 10.1177/2047487316652975  
[epj.sagepub.com](http://epj.sagepub.com)

SAGE

# Inflammation: A theory of everything?

Both in the popular press and the scientific press, inflammation has been identified as a common factor shared by cardiovascular diseases (CVD), metabolic diseases, psychiatric disorders, sleep disorders and more recently, periodontal disease and pulmonary hypertension.

Not only is its role in each of these conditions being investigated but its role as a linking mechanism **between** these conditions is also being researched.

## Inflammation in various conditions

In **cardiovascular disease**, inflammation has been implicated in the development of myocardial infarction, stroke and peripheral arterial disease with atherosclerosis as the major contributing factor. In atherosclerosis, plaque which is made up of fat, cholesterol, calcium, and other substances found in the blood, builds up inside the arteries, hardening and narrowing them. This limits the flow of oxygen-rich blood and can then lead to heart attack and stroke.

**Obesity and Type 2 diabetes** are also associated with high levels of inflammatory markers and endothelial dysfunction, or damage to the lining of the blood vessels.

High levels of inflammation have also been reported in major **psychiatric disorders** such as schizophrenia, depression and bipolar disorder. Here we see some of the links between conditions. The rates of obesity, diabetes, dyslipidemia, hypertension, smoking and metabolic syndrome, all serious cardiovascular disease risk factors, are higher in people with bipolar disorder, for example, than in the general population. In fact, these relationships are so marked, the international group of authors of an article in the Journal of Affective Disorders asked if bipolar disorder should be considered as a multi-system inflammatory disease.

**Obstructive sleep apnoea (OSA)** is characterised by recurrent upper airway obstruction episodes that lead to oxidative stress and systemic inflammation. Both these conditions have been well documented in patients with OSA, and they are also known to be associated with cardiovascular disease and depression.

## How does inflammation link conditions?

There are a number of ways that inflammation can be seen as a link between these conditions, as the diagram shows, but a recent article in the Journal of Health Psychology provides a good illustration. In this paper, the authors argue that increased systemic inflammation seems to be an especially important mechanism linking body dissatisfaction to negative health outcomes.

## How does this work?

First, body image dissatisfaction is associated with higher levels of distress and depression. Psychological stress, especially prolonged stress, can directly activate inflammatory markers, suggesting that inflammation can be activated by non-immunological environmental, behavioural and psychological stimuli.

Second, there is a strong causal link between body dissatisfaction and overweight/obesity, which itself is linked to chronic inflammation with evidence that obesity may exaggerate inflammatory responses to stressors.

Third, adverse health behaviours are suggested as a pathway between body dissatisfaction and inflammation. Adults with higher weight dissatisfaction are known to report poorer health behaviours and lifestyle habits, such as a sedentary lifestyle, smoking and alcohol consumption, than others. These behaviours and practices, in turn, increase the risk of developing systemic inflammation.

