

# in a Heartbeat...



RECIPE

## From the Director's Desk

Welcome to the latest edition of *In a Heartbeat*. We are glad to announce that we are now working from The Heart Research Institute's new state of the art facility in Newtown, following its recent official opening by the Governor General Ms Quentin Bryce AC.

This move is the beginning of an exciting new phase in our history and will allow us to expand our research capabilities and take us yet another step closer to the early detection, treatment and prevention of cardiovascular disease.

I hope you take this opportunity to read about more of the important research you've helped to make happen, and about the success of our young researchers at the annual Australian Atherosclerosis Society Scientific Meeting. Our resident fitness expert Guy Leech gives more Lifestyle Tips for Healthier Living and you'll meet HRI team member, Dr Colin Tso. And as always, there's a delicious new recipe from *Heart Food – the Healthy Heart Cookbook*.

Enjoy your newsletter... and thank you again for your wonderful support.



### New Research Facility Open for Business

Her Excellency Ms Quentin Bryce AC, Governor-General of the Commonwealth of Australia, officially opened the new state of the art facility of The Heart Research Institute in Newtown recently.

The new facility provides The Heart Research Institute with the capacity to break new ground in the fight against Australia's number one killer, heart disease. It's a significant milestone in the Institute's history, heralding a new era of achievements in learning, collaboration and discovery.

Professor Barter says, "Every dollar invested in medical research will return huge economic benefits. We are thankful that the Government has recognised the outstanding contribution that medical research makes to the health of all Australians. We have purchased this new building to help our talented researchers realise their full potential and to meet their ambitious research objectives."

In her speech at the dedication of the new building, Her Excellency said: "This is a significant moment in your evolution as a world class research organisation... an expansion of your space and resources that demonstrates the vital importance of your work on atherosclerosis.

"I am particularly grateful for your endeavours in this field, as I know that heart disease affects 1 in 6 Australians – two out of three families... and that figure is rising. It's likely to be 1 in 4 of us by 2050! Indeed as a health cost to our community it has the highest price tag. It affects men and women of all ages and children too.

"As a community, our response to health issues is always driven and guided by the finest researchers and innovators. As The Heart Research Institute says, Today's research is tomorrow's cure."



Professor Philip Barter  
MBBS, PhD, FRACP  
Director  
The Heart Research Institute

**Diabetes** is associated with a loss of function within the cells in the pancreas that make insulin. This is a major problem in both type-1 diabetes (the severe disease that afflicts children) and type-2 diabetes that affects many adults as they become overweight. We have found that high density lipoproteins, the blood component

that carries "good" cholesterol and which has been shown to protect against heart disease, is also able to improve the function of insulin-synthesising pancreatic cells. We have found that high density lipoproteins prevent the death of these pancreatic cells and also stimulate them to secrete more insulin.

We are now seeking support for research designed to understand how high density lipoproteins have this effect and to use this knowledge to devise new ways of preventing the development of diabetes. This research has major implications in the prevention and treatment of diabetes in both children and adults.

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## Chocolate tiramisu with Raspberries

– with only 2g of saturated fat per serve!!

### Ingredients

- ¼ cup (60ml) hot strong black coffee
- 1 teaspoon sugar
- 1 tablespoon orange liqueur
- 6 sponge-finger biscuits (Savoardi)
- ½ cup (125g) extra light cream cheese (5% fat)
- ⅓ cup (100g) light custard (1% fat)
- 1 tablespoon vanilla sugar
- ½ teaspoon finely grated lemon zest
- 20g finely grated dark chocolate (85% cocoa)
- 200g fresh raspberries

### OPTION

Instead of raspberries serve with:

- Strawberries
- Blueberries
- Cherries, pitted

**Per serve:**  
802 kilojoules (191 calories)  
7g protein  
4g total fat (2g saturated fat)  
Medium GI  
29g total carbohydrate (2 exchanges)  
3g fibre  
143mg sodium

Makes 4 serves – each serving contains 1 x ½ serve of fruit.

### Directions

1. Stir the sugar into the coffee until dissolved. Cool then stir the orange liqueur into the coffee.
2. Roughly break up the sponge fingers and evenly divide them between four 150ml capacity glass cups or dishes. Pour over the coffee and liqueur mix and gently press down the sponge fingers.
3. Using a wire whisk, gently whisk the cream cheese and custard until smooth. Whisk in the sugar and lemon zest. Pour over the sponge fingers. Cover the dishes with plastic wrap and chill in the refrigerator for at least 2 hours or overnight.
4. Remove from the refrigerator and bring just back to room temperature before serving sprinkled with grated chocolate and the fresh raspberries.

### HEALTH BEAT

- **Berries** contain antioxidants called anthocyanins and proanthocyanins as well as vitamin C that helps protect blood vessels. Coffee and dark chocolate also contain antioxidants – the higher the cocoa content, the higher the antioxidants.



**The MK Challenge** has been postponed and will now take place in **March 2010**. You may remember that Paul Keegan – a valued supporter of The Heart Research Institute who recently lost his father Michael to heart disease – launched the MK Challenge as a way to both honour his dad's memory and raise money for heart research. The Challenge is in fact a bike ride of 1,100kms from Sydney to Melbourne. Visit [www.hri.org.au](http://www.hri.org.au) to read more about the MK Challenge and to help the inaugural event raise its target of \$50,000 for heart research.

# Awards for young researchers

The Australian Atherosclerosis Society holds an Annual Scientific Meeting each year. This meeting provides a forum at which scientists from all around the country present their recent discoveries. It also gives graduate students and junior investigators an opportunity to present their findings in a formal setting. Competition among junior investigators to present at this meeting is fierce, as the best of them are all in the running for four highly prestigious awards.

This year's meeting was held recently in Melbourne and several young investigators from the HRI were short listed for awards.

They were Kate Shearston and Fatiha Tabet from the Lipid Research Group, Francis Geronimo who works in the Lipid Research and Cell Biology Groups and Alvin Kamili from the Nutrition and Metabolism Group. Pam Sheahan from the Free Radical Group was also short-listed for a poster award. In the end our researchers won two of the four prizes.



**Francis Geronimo** received the BioAssayLINK award for work showing that a human protein called apoA-IV can prevent the rupture of atherosclerotic lesions that contain cholesterol and many other deleterious substances. Francis found that apoA-IV prevents lesions from rupturing and releasing their contents into the centre of the vessel, which can cause a blockage. This finding suggests that apoA-IV may be useful for preventing one of the main causes of heart attacks.



**Kate Shearston** received the Young Investigator of the Year award. This is the top award that is presented at the meeting. Kate, who also works with apoA-IV, presented the results of a study in which she looked at the removal of cholesterol from cells in atherosclerotic lesions in the artery wall and the transport of this cholesterol by a multi-step process to the liver for disposal. In this project Kate looked at each step of the transport process and identified the ones that were affected by apoA-IV, thus providing an insight into how cholesterol removal from atherosclerotic plaques can be maximised.

If you have an interesting story, perhaps about winning a fight with heart disease, or you have some feedback to the newsletter, please e-mail our editor at [inaheartbeat@hri.org.au](mailto:inaheartbeat@hri.org.au)

If you are interested in attending one of our 2010 **FREE** Director's Talk & Tour of The Heart Research Institute's new laboratories (including a light lunch) please call (02) 9241 4300 or e-mail [events@hri.org.au](mailto:events@hri.org.au)

If you do not wish to receive further issues of *In a Heartbeat* from The Heart Research Institute, e-mail your name and address or ID Number to [inaheartbeat@hri.org.au](mailto:inaheartbeat@hri.org.au) or tick the box and fax this page to (02) 9241 6668.

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## Make every minute count

Guy Leech's

### Fitness Forum



In a busy world, one of the most common excuses for not exercising is lack of time... "I'm just too busy". This isn't really an excuse... it's a cop out.

Whether or not you exercise isn't an option – it's a necessity. Our bodies are built to be active. Exercise and they'll respond by getting fitter and stronger. Don't and eventually you'll suffer the results of a sedentary lifestyle (heart disease, diabetes, high blood pressure, etc.).

Many of us jam-pack so much "stuff" into our lives that there hardly seems time to relax, let alone exercise. But to gain real benefits, you don't have to exercise for long... just **consistently over time** for even 10 minutes each day!

Leave the 'all or nothing' mentality behind. Short bursts of exercise each day have a positive, cumulative effect. Just by parking a reasonable distance away from the office and walking to work, then using the stairs instead of the elevator, you've immediately got 10 minutes of cardiovascular exercise.

Back that up at home doing some basic callisthenics in front of TV (push ups, sit ups, squats) and you've got another 10 minutes locked away. Not huge changes to your lifestyle, yet significant in terms of improving your health.

#### It doesn't have to hurt to be good for you

Most people new to exercise are under the misconception that exercise has to "hurt" to be good for you. That's nonsense! Getting healthy simply means getting active... any sort of regular, low intensity exercise will help.

As you progress and want to get 'fitter', then you need to challenge your body with more intense exercise more often; but by and large the vast majority of your regimen should be relaxed and controlled.

#### Your 10 minute workout should include:

- A 1 to 2 minute warm up with stretches
- At least 7 minutes of moderately intense exercise
- A 60-second cool down.

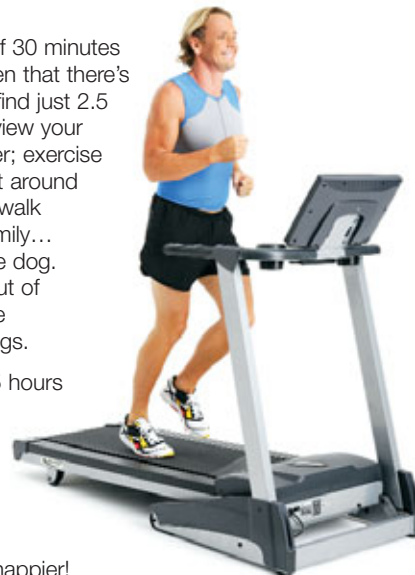
Include aerobic, strength training and flexibility sessions in this abbreviated schedule. Either knock out all three during the 10 minutes, or plan a 10-minute segment for each.

Use a stationary bike for aerobic conditioning... do push-ups, squats, abdominal crunches or a dumbbell circuit for strength... then for flexibility, stretch all of your major muscle groups, holding each stretch for at least 20 seconds **at the point of stretch, not pain**. Do this consistently 3 to 4 times per week and you'll quickly develop a solid base of fitness.

#### Still struggling for time?

Your aim is to build up to a total of 30 minutes a day, 3 to 5 times per week. Given that there's 168 hours in a week, if you can't find just 2.5 hours to exercise, you need to review your priorities. Get up 30 minutes earlier; exercise while you're watching TV. If you sit around talking at lunchtime, get out for a walk instead. After work, involve the family... ride bikes together or just walk the dog. Trim non-essential time wasters out of your life and replace them with the positives that regular exercise brings.

Consistently exercising for just 2.5 hours a week will add years to your life. Consequently, you'll more than gain back any time you 'lose' from work, family, etc. by living longer in better health. So stop making excuses and look for opportunities to be healthier and happier!



Guy Leech

# Research UPDATE

## MEET the Team...

### Dr Colin Tso

Senior Research Fellow of The Heart Research Institute, Lipid Research Group



Dr Colin Tso is a cardiologist with a Bachelor of Medicine and Surgery and a PhD from the University of Sydney. He began his career at Westmead Hospital, NSW, where he started as an intern to an advanced trainee in Cardiology.

Between 2000-2003, Dr Tso held the position of post-doctoral research fellow with the Harvard-Massachusetts Institute of Technology Health Sciences and Technology Division in Boston, USA (MIT). During his time there, he conceived the idea that adult progenitor cells contribute to the repair of the blood vessel wall in response to the type of vascular injury that triggers the development of atherosclerosis.

Dr Tso initiated this line of research, which he continues at The Heart Research Institute, leading to the first publication on progenitor-mediated vascular repair. Dr Tso was appointed Senior Research Fellow at The Heart Research Institute in 2006. Since joining the Lipid Research Group, Dr Tso's work has focused on progenitor-mediated vascular repair and its relationship with atherosclerosis.

Dr Tso played an integral part in other areas of research during his appointment at MIT. He was one of the principle investigators in assessing photodynamic therapy, which is a novel method for the treatment of blood vessel re-narrowing after coronary artery balloon angioplasty and stent implantation.

Since 1996, Dr Tso has presented his research works at numerous national and international scientific conferences including invited lectures delivered at the 1st Cardiovascular Interventional Symposium in Xiamen, China and the 2007 Essential Percutaneous Intervention Course (EPIC) in Sydney.

Dr Tso has been a fellow of The Royal Australasian College of Physicians since 1997 and continues clinical work through his part-time cardiology practice.

  
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