

in a Heartbeat...



RECIPE

Filet Mignon salad



From the Director's Desk

Welcome to the first edition of *In a Heartbeat* for 2008. In this issue you'll read about some of the important research you've helped to make happen over the last 12 months. There's also a simple formula for a longer, healthier life and fitness expert, Guy Leech, provides an inspirational example for losing weight – radio presenter Jonathan Coleman.

You'll also meet another member of the team, Associate Professor Jeffrey Cohn, Group Leader, Nutrition and Metabolism Group. And there's another delicious recipe from the Reader's Digest (Australia) publication, *Cook Smart for a Healthy Heart* – (this one for the meat lovers among us).

I hope you enjoy your newsletter. We look forward to bringing you more news in future editions of *In a Heartbeat*.



Professor Philip Barter
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Director
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Issue 10

- From the Director's Desk
- Chewing the fat
- New discovery highlights dangers of smoking
- Cook Smart for a Healthy Heart
- Latest Research
- Guy Leech's Fitness Forum
- Meet the Team

Chewing the fat

What is a lipid?

A: A lipid, or fat, is a water-insoluble molecule that can be extracted from cells and tissues by non-polar solvents, such as chloroform, ether or benzene. In simple terms, lipid is fatty material that does not dissolve in water.

What is a phospholipid?

A: A phospholipid is simply a type of fat containing phosphoric acid. The unique feature of phospholipids is that they are "fatty" at one end, where two fatty acids are attached (the non-polar end), and have an affinity for water at the other end (the polar end). This means that phospholipids have a very distinguishable "head" which is charged and a "tail" that is not charged. Phospholipids molecules thus like to align themselves and self assemble in water into a bi-layer. This tendency to form bi-layers is the basis of the cell membrane, characteristic of all living things on earth.

What foods contain phospholipids?

A: All plants and animals contain phospholipids, since they are the main components of cell membranes. Virtually all animal- and plant-derived foods contain phospholipid, although at much lower levels than triglyceride, which is the principal fat-type in foods. Phospholipid is nevertheless more abundant than cholesterol in foods.

While reducing the amount of red meat we eat would make most of us healthier, steak can still be part of a smart diet. Grill filet mignon – the finest and one of the leanest of steaks – and arrange it on top of fresh salad leaves and plenty of vegetables to make a 'composed' salad.

Ingredients

- 4 red capsicums
- 300g filet mignon
- 1/2 teaspoon pepper
- 2 garlic cloves
- 500 g green beans, trimmed
- 3 tablespoons balsamic vinegar
- 2 tablespoons extra virgin olive oil
- 2 tablespoons finely chopped shallot
- 120 g mixed salad leaves
- 6 tomatoes, cut into 5 mm wedges

Per serve:

833 kilojoules
21g protein
7g total fat (2g saturated fat)
39mg cholesterol
13g total carbohydrate (12g sugars)
8g fibre
58mg sodium

Preparation time 20 minutes, cooking time 20 minutes – serves 4.

Directions

1. Pre-heat a barbecue or grill. Place the red capsicum on the barbecue rack or in the grill pan. Cook until the skins are blistered and blackened (about 10 minutes), turning frequently. Place in a plastic bag, seal tightly and let steam for 10 minutes. Peel away the blackened skins from the capsicums, seed them and cut them into chunks.
2. Meanwhile, lay the filet flat on a cutting board and slit lengthways three-quarters of the way through. Open it up like a book and press it flat. Sprinkle with 1/4 teaspoon pepper. Cut 1 garlic clove in half and rub the cut sides all over the beef. Barbecue or grill the beef until it is done to your taste (about 3 minutes on each side for medium). Thinly slice the beef.
3. Cook the beans in boiling water until crisp-tender, (about 5 minutes). Drain and rinse immediately with cold water.
4. Crush the remaining garlic clove. Whisk the vinegar, oil, garlic, shallots and remaining pepper in a small bowl. Divide the mixed salad leaves among 4 plates and arrange the steak, capsicum, beans and tomatoes on top. Drizzle with dressing and serve.

New discovery highlights dangers of smoking

The activity of an enzyme occurring naturally in the white cells (Myeloperoxidase) is part of the normal function of the immune system. Among other actions it produces the oxidant products necessary to kill bacteria. However, there is a 'down side' to this enzyme.

Those same oxidant products are also created in blood vessels in processes that contribute to the development of atherosclerosis (hardening of the arteries). One of the main oxidant compounds produced by myeloperoxidase is a substance known as

hypochlorous acid (basically, household bleach). It has been found that myeloperoxidase makes a similar amount of another oxidant product, called hypothiocyanous acid.

Researchers, led by Dr Clare Hawkins in the Inflammation Unit at The Heart Research Institute, have now discovered that this oxidant is even more destructive than hypochlorous acid in terms of causing damage to cells in the artery wall. This may be the reason why smokers have a much greater risk of developing heart disease than non-smokers and further highlights the multiple dangers of smoking.

In search of **bioactives,**
nutraceuticals and functional
foods for the future



What is the Nutraceutical and Functional Food Research Facility?

The Nutraceutical and Functional Food Research Facility at The Heart Research Institute is an integrated testing facility that brings together the academic and technical expertise of all investigators and research teams at the Institute. Our goal is to provide cutting-edge analytical and investigative methods for assessment of cardio-protective properties of dietary products, food components and nutraceutical agents.

What can the Research Facility provide?

The Heart Research Institute's Nutraceutical and Functional Food Research Facility has extensive experience in carrying out complex assays to assess the anti-inflammatory, anti-oxidative, lipid-modifying and overall cardio-protective properties of different foods and food components. We have proven expertise in carrying out experiments with cultured cells, with living tissues and also in patients with heart disease. These studies will identify a range of natural products for use in the prevention of heart disease.



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How to achieve
 that New Year's
 Resolution



Guy
Leech's
Fitness
Forum

On the 1st of January Aussies everywhere made resolutions for 2008. Commonly, about 5 million of these are self-promises to lose weight... but only 5% are ever kept!

There are many reasons for this failure rate, but the main ones are that we don't set ourselves specific goals and rarely have a plan of attack. Most goals are 'wishy-washy' (e.g. "I just want to get healthy this year"), have no real meaning and little chance of success.



I coach national radio and TV presenter (Sunrise) CH7, Jonathon (Jono) Coleman who's a great example of how to achieve a healthier you. Jono's renowned for his portly shape and has a family history of heart disease. Both his father and grandfather died this way in their early 60's. Last year at 51, Jono was at a higher risk than most unless he made some important changes in his life.

Early in 2007 Jono and I started with a specific long-term goal and then broke that into short

term 'micro-goals'. Long term, Jono agreed to try and lose 26kg in six months. In doing so, he'd also reduce the risk of high blood pressure, heart disease and diabetes and therefore make sure he'll be around to enjoy his two kids in the years ahead.

The micro-goal was to lose 1 kg a week, taking him from 126kg to 100kg by Christmas 2007. I asked Jono to write down these goals and put them somewhere he would see them every day... thereby taking ownership and making a commitment to achieve them.

Next came 'The Plan'. How were we going to get Jono to the finish line? We evaluated what exercise he enjoys; the types of food he could and could no longer eat, as well as strategies to counter the reasons he has failed to lose weight before. We also needed his family to support his efforts, as this would impact on how often he'd be able to exercise. Given Jono's hectic life, time management was all-important.

It's vital to get all of these areas in place before starting a weight loss campaign. They're the difference between success and failure. Jono did average 1kg of fat loss per week and hit the scales at precisely 100kg on December 25. By achieving his goals, he significantly reduced his blood pressure and took 11cm from his waistline! This was a great start. We have now committed to new goals and set another plan in place to achieve them by July this year.

I hope you are inspired by Jono's success and that you too reach your goals for 2008. **Stay healthy – keep fit!**

For more information go to www.guyleech.com



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

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

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MEET the Team...

Dr Jeffrey S. Cohn BSc (Hons) PhD
 Group Leader, Nutrition and
 Metabolism Group



Jeffrey Cohn joined the Heart Research Institute in 2005, having spent 12 years in Canada as Senior Scientist at the Clinical Research Institute of Montreal. He obtained a Bachelor of Science Degree with First Class Honours at Sydney University and a PhD at the Baker Medical Research Institute, Monash University, Melbourne.

From 1986-1988, he was a Post-Doctoral Fellow in the Lipid Metabolism Laboratory at the Human Nutrition Research Centre on Aging at Tufts University in Boston. Together with Professor Ernst Schaefer, Jeffrey devised and tested a clinical procedure for measuring the metabolism of plasma lipoproteins. This methodology is now used in a number of different laboratories around the world and is an accepted method for investigating the effect of diet and drugs on plasma apolipoprotein metabolism.

Jeffrey's scientific research has focussed on the structure and function of pro- and anti-atherogenic lipoproteins, on their metabolism in health and disease and on their modification by diet and drug treatment. His work has resulted in over 85 refereed journal articles, 11 review articles and 5 book chapters.

Jeffrey is a leading expert in the role of postprandial lipoproteins and triglyceride-rich remnants in the development of coronary artery disease. He often gives lectures to lay and scientific audiences pertaining to nutrition, lipids and cardiovascular disease. He is on the Editorial Board of the journals: "Atherosclerosis", "Clinical Biochemistry" and the "Journal of Lipid Research". He was recently invited to be Sectional Editor of the Lipid Metabolism Edition of "Current Opinions in Lipidology".

As leader of the Nutrition and Metabolism Group at the Institute, Jeffrey is interested in the role of phospholipids and dietary flavonoids in the onset and development of atherosclerosis. His research aims to establish whether these food components can be used as dietary supplements or nutraceuticals to treat or prevent coronary artery disease. He has helped establish the Nutraceutical and Functional Food Research Facility at the Institute whose goal is to provide advanced analytical and investigative methods for the assessment of atheroprotective properties of dietary products, food components and nutraceutical agents.



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