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PRACTISING

Clinical Cardiology

Transoesophageal Echocardiography

Echocardiography

Stress Echocardiography

Contrast Echocardiography

Dobutamine Stress

Echocardiography

Stress Testing

Holter Monitoring

Event Monitoring

Ambulatory BP Monitoring

Pacemaker and Defibrillator
Follow-up

Well, another calendar year is about to end and all of us at HeartRx would like to wish you all the very best for the coming holiday season. We look forward to another great year in 2015. The holiday season brings up thoughts of food, so I have asked our Cardiac Nurse Margaret Joels who is studying nutrition, to summarise the latest thoughts about diet – quite a challenge in this world of controversy we find ourselves in these days, where Aspirin might not work for the primary prevention of vascular events in patients with multiple risk factors (Japanese Primary Prevention Project published online Nov17). Interestingly, another old favourite – Oxygen is under a cloud now with suggestion of harm in patients with a STEMI who are not hypoxic (AVOID Trial). I was also interested to see the IMPROVE-IT trial showing a small benefit with adding Ezetimibe to Simvastatin 40mg in patients post ACS, with a reduction in the combined end-point from 34.7% to 32.7% after 7 years, reinforcing the idea that lower is better with lipids in secondary prevention. However, we usually use a stronger statin than Simvastatin these days anyway and (getting back to food), who can beat the cost effectiveness of the Mediterranean diet and exercise - instead of a one in 50 chance that this compound will help you, there is a nearly 100% chance that the Mediterranean diet and a 30-minute walk daily will drop your *death rate* by 50%. Plus, this will help your osteoporosis risk, lower your blood pressure, and decrease your risk of developing diabetes. Shortness of breath will improve as will your quality of life!!

Have a healthy Christmas and New Year!



Dietary Fats & Heart Disease

Replacing saturated fatty acids (SFA) with polyunsaturated (PUFA) & monounsaturated (MUFA) fatty acids is recommended to reduce CHD. Good sources of healthy fats—eg olive oil, walnuts, salmon, tuna —also contain small amounts of saturated fat.

A recent controversial paper suggests “there is no evidence supporting the longstanding recommendation to limit saturated fat consumption”. The data implies that as population obesity rates continue to soar despite increased saturated fat -reduced product sales; saturated fat consumption therefore can't be the culprit. Many fat-reduced products have added refined sugar, refined grains and salt – unsuitable substitutes. The latest promotion that coconut oil (92% saturated fat) is the ‘ideal’ substitute fat, is based on studies on South Sea Islanders who reported a high intake of coconut and low levels of heart disease. This paper failed to mention that the participants’ diet consisted mainly of fish, sweet potato, bananas and coconut. Adding coconut oil to a typical Western diet affords no benefit; even though it increases HDL, it also increases LDL. Although less “harmful” it doesn't make it “harmless”.

Current Australian Dietary Guidelines recommend limiting saturated fats to <7% of daily calorie intake, replacing SFAs initially with PUFAs and MUFAs, and then wholegrain carbohydrates, in an effort to reduce CV risk by lowering LDL & increasing HDL.

Omega-3 essential polyunsaturated fatty acid consumption from marine-derived (DHA docosahexaenoic acid + EPA eicosapentaenoic acid) and plant-derived (ALA - α -linolenic acid) sources has significant anti-inflammatory & cardioprotective effects in patients with pre-existing CVD as well as healthy individuals. In contrast to Omega-3, Omega-6 (LA - linoleic acid) is not generally deficient in our typical Western diet with its main dietary sources including eggs, poultry, wholegrain bread, mayonnaise & vegetable oils.



Margaret Joels
Registered Nurse

Omega-3 daily dietary recommendations –

DHA + EPA - 500mg – 1000mg (1000mg for those with CHD) – eg 150g fresh red salmon/canned sardines/canned red salmon will provide \approx 2000mg (DHA + EPA)

If using Fish Oil supplements – read nutrition labels to determine DHA & EPA levels.

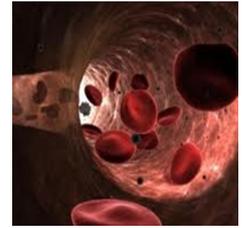
ALA—2000mg – eg chia seeds 5000mg/1.5 tablespoons, flax-seeds 1600mg/tablespoon, walnuts 2600mg/1.5 tablespoons.

Healthy Eating

- Eat 2 – 3 servings of oily fish with skin weekly
- Eat at least 2 portions/pieces of fresh fruit including berries daily (1 portion = ½ cup cut up fruit)
- Eat at least 5 portions of fresh colourful, green leafy vegetables/legumes daily
- Eat a handful of raw unsalted nuts/seeds
- Choose low-fat dairy products/lean meats/skinless poultry
- Increase soluble fibre intake – helps eliminate dietary fat
- Choose polyunsaturated & monounsaturated fats, in cooking and at the table – olive, canola, sunflower, & peanut oil.
- Choose plant sterol-containing margarines
- Reduce saturated fat intake to <7% of total energy intake (5g) daily
- Reduce trans-fats intake to <1% of total energy intake
- Reduce salt intake (1500mg daily)
- Reduce/eliminate high sugar food and drink intake (5 grams per 100G acceptable)
- Reduce alcohol intake to 10 - 20 grams daily (red wine preferable)
- Drink tea, freshly ground coffee
- Enjoy 70% or higher cocoa/dark chocolate

Evolution and Revolution in Antiplatelet Therapy

It was as recent as 1990 when the *Lancet* published a landmark study demonstrating a significant benefit of Aspirin over Placebo in the setting of myocardial infarction¹, and although aspirin had been used in this setting since the mid 1980's, the concept that acute coronary artery thrombosis was a platelet-mediated phenomenon was confirmed. Today we have, in addition to aspirin, 3 potent platelet receptor antagonists that are approved and are commonly used in the setting of acute coronary syndrome – Clopidogrel, Prasugrel (STEMI only), and Ticagrelor, and they are used for 2 main clinical purposes: **To prevent acute thrombosis of recently implanted coronary stents; and for secondary prevention of further unstable coronary syndromes**



The first coronary stent was implanted in a human in 1986 by Dr Ulrich Sigwart in Switzerland, however for many years, coronary stenting was plagued by the highly mortal complication of acute stent thrombosis. In 1999, the STARS² trial was published in the *New England Journal of Medicine* which showed that the optimal combination to prevent stent thrombosis was 2 antiplatelet agents. The trial used Ticlopidine, however the utility of this agent was limited by some of its side effects, and subsequently Clopidogrel, and more recently Prasugrel (STEMI only) and Ticagrelor (unstable angina, ACS, STEMI) have shown benefit, with the latter 2 agents showing improved outcomes when compared with Clopidogrel^{3,4}.

Not all patients with acute coronary syndrome go on to receive a coronary stent, however, with some benefiting more from medical therapy and some going on to receive Coronary Artery Bypass Grafting. In 2001, the CURE⁵ trial confirmed that patients with a recent acute coronary syndrome benefitted from 12 months of Clopidogrel in addition to aspirin whether they received a stent or not. In 2010, a substudy from the PLATO⁴ trial showed a reduction in mortality with Ticagrelor over Clopidogrel in a similar ACS population.



In most situations, Aspirin is recommended on an indefinite basis, but the duration of the second (and more potent) antiplatelet agent is both critical and at present, undergoing re-evaluation. Drug-Eluting Stents require a longer period of dual antiplatelet therapy due to the delayed healing of the coronary vascular endothelium over the stent struts resulting from the anti-fibrotic drug coating. Below is a summary of the current recommendations:

	Bare Metal Stent	Drug-Eluting Stent
PCI/Stent, No ACS	6 weeks (Clopidogrel)	6 months (Clopidogrel)
PCI/Stent, ACS	12 months	12 months
ACS without PCI/stent	12 months	12 months

References

1. Risk of MI and Death during treatment with low dose aspirin and IV heparin in unstable ACS, *Lancet* 1990; 336; 827-30
2. STARS; Leon et al; *New England Journal of Medicine* 1998; 339; 1665-71
3. TRITON-TIMI 38; Wiviott et al, *NEJM* 2007; 357; 2001-15
4. PLATO; Wallentin et al; *NEJM* 2009; 361;
5. CURE; *NEJM* 2001; 345; 494-502

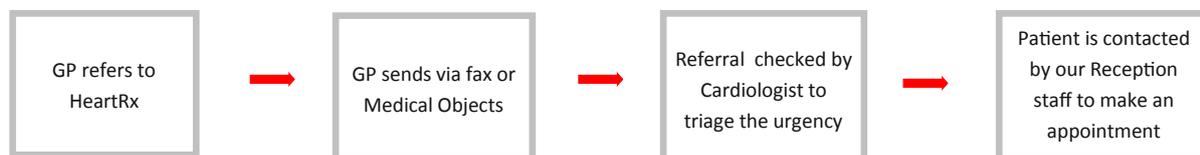
Dr Greg Starmer
Interventional Cardiologist



Referral Process for HeartRx

Referrals to HeartRx Cardiologists are triaged to determine the level of urgency and to make the appropriate booking for the patient. Forms and templates can be downloaded from the HeartRx website www.heartrx.com.au. Alternatively, you can use your own referral template.

Bookings for Holter monitors, Ambulatory blood pressure machines and bulk bill echocardiograms do not need triaging and can be made immediately by the patient with our reception staff.



The HeartRx office will be closed during the Christmas period from Monday 22nd December, reopening again on Monday 5th January. Please call 1300 Angina to speak to the on call Cardiologist



Bulk Bill Echocardiograms

HeartRx echocardiograms are bulk billed with absolutely no cost to the patient when requested without a consult. They are performed by an experienced cardiac sonographer and results are promptly reported by our local cardiologists.