

## Heart Check

### DR CHARLES NELSON

MBBS MPhil, FRACP, FCSANZ

Dr Charles Nelson is a general cardiologist with a subspecialty interest in Imaging. He has a Masters in Cardiac Imaging, a Clinical Echocardiology Fellowship, and is a registered Cardiac/Coronary CT Specialist. His main practice is at Wahroonga and satellite practices at Tuggerah and Morisset.

P: 9487 6377 E: charles@heartmed.com.au W: www.heartmed.com.au



### INTRODUCTION

A formal "Heart Check" involving calculation of 10 year risk of a cardiovascular event and management appropriate to this is recommended for people aged 40 (American College of Cardiology, and European Society of Cardiology) and 45 (Heart Foundation). "Heart Check" is gimmicky rebranding of good medical practice, however, usefully so and overdue. It also facilitates communication of the change in paradigm in the Prevention, Early Diagnosis and Treatment aspects of Cardiovascular Medicine brought about by recent evolution in Technology, Treatments and sound Clinical Science. It behoves physicians to embrace Heart Check. Tragically the gap between optimal care and what people currently receive is embarrassingly large. 34% of adults have high LDL (untreated), yet less than 1 out of 3 of these gets the LDL below target. Indeed less than half of high LDL patients get any lipid medication at all. 46% of adults have hypertension. Prevalence increases with age, reaching 90% > 80yo. Yet only 60% receive any medication and of those treated, only 60% achieve control.

The care gap is associated with avoidable major morbidity and mortality as optimal care is highly effective. Over 10 years, Statins reduce AMI and stroke by 50% each and mortality by 25%. Risk reduction over a lifetime is greater. For every 10 mmHg reduction in BP, cardiovascular events are reduced by 20% and mortality by 13%. The need to optimise care is particularly urgent because for both hyperlipidaemia and hypertension, delay of initiation of medication results in harm which can never be reversed. It is estimated that 90% of cardiovascular disease could be prevented with optimal lifetime control of lipids and blood pressure.

Cardiac symptoms, known cardiac pathology, diabetes, Familial Hypercholesterolaemia, LDL > 4.9 mmol/L, moderate to severe chronic kidney disease dictate their management largely independent of a Heart Check approach. Most people of course do not fit into these groups.

### PRIMARY PREVENTION RECOMMENDATIONS

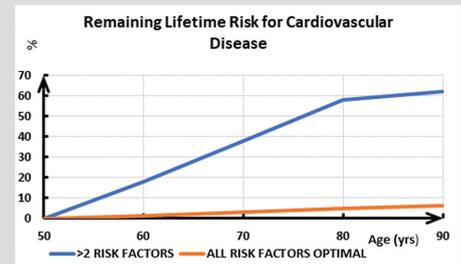
The following summarises the latest dictated by Heart Check. At > 5% risk 10 mg Rosuvastatin (or equivalent statin) is indicated, at > 7.5% risk 20 mg Rosuvastatin is indicated. In addition, for >3% risk (men) >4% (women), the LDL target is <2.6 mmol/l. For >15% risk (men) >20% (women), the LDL target is <1.8 mmol/l and < 50% baseline. For > 30% risk (men) > 20% (women), the LDL target is <1.4 mmol/l and < 50% baseline. For <3% (men) < 4% (women) risk, an LDL target of <3.0 mmol/l may be considered. Medication priority is maximal statin +/- ezetimibe +/- PCSK9 inhibitor. For >10% risk, treatment of BP to the more aggressive target of < 130/80 mmHg is indicated. These recommendations are significantly more "aggressive" than pre-2017 with major changes as recent as August 2019. Physicians are wise to proactively adjust their comfort zone and update their practice.

### MESA

The Mesa risk calculator incorporates calcium score resulting in a calculation 18 times more accurate and as a result has a net reclassification improvement of 66% and changes the recommendation with respect

to statin therapy in 25% of patients. These significant advantages of Calcium score make its routine use attractive. As well as demonstrating a patient is at higher risk than suspected thereby indicating addition or intensification of medication, it may also demonstrate a patient is at lower risk than suspected thereby indicating it is reasonable for a patient to reduce or not take medication (yet). However, calcium score is not considered mandatory. In women calculated to have < 4% risk without it, the prognostic yield of adding in calcium score is low.

The downside of calcium score is small but warrants consideration. Xray exposure does increase lifetime risk of cancer. The risk reduces substantially with age. A 40 yo man or woman, 70 yo man or woman, having a single scan would increase their respective lifetime risks of cancer by 1 in 20000, 14000, 46000 and 40000. Other considerations are cost and inconvenience. There is no Medicare rebate for calcium score performed as a stand-alone study.



Remaining Lifetime Cardiovascular Disease Risk by Age and Risk Factor Status.

### REASSESSMENT

How often should risk be formally reassessed? Reassessment is more likely to change management in some scenarios than others. An adult who had previously not met criteria for statin therapy, may do so when reassessed in 5 years whereas a man previously calculated to be at 30% risk and already taking 40 mg Rosuvastatin and achieved LDL target is <1.4 mmol/l and < 50% baseline would not have management changed by reassessment. For adults < 7.4% risk reassessment is recommended every 4-6 years. For patients 7.5-19.9% risk reassessment is recommended more frequently. For Diabetics reassessment is recommended to be considered 3 yearly.

### CT CORONARY ANGIOGRAM & STRESS TESTING

CT coronary angiogram is now recommended to be considered as part of a Heart Check in patients with diabetes or a strong family history or a calculated risk of >15% (men) >20% (women). Stress testing is neither sufficient nor necessary for Heart Check. Its roles are elsewhere. ECG offers negligible incremental value for coronary Heart Check. Its high rate of non-specific abnormality is problematic.

### IN ADULTS PRIOR TO AGE 40

BP, lipids and glucose still require assessment and management but without a formal risk calculation. After age 75-80 (but not in residential care), the evidence base behind management recommendations thins, but management largely follows that of < 75 year olds.

References available on request.