

Workshop W90

Cardiovascular Disease Management ECG for General Practice

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Cardiovascular Disease Management

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Acute Cardiovascular Disease Presentations

Patients presenting to the GP clinic with symptoms of Acute Coronary Syndromes (chest discomfort)
or
Stroke
(sudden limb weakness or dysphasia)
require the immediate engagement of Emergency Services to transport them to the nearest Emergency Department



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Targets, Treatments & Modifications

The National Heart Foundation and the Cardiac Society of Australia and New Zealand have evidenced based guidelines for

Reducing Risk in Heart Disease

- Biomedical Risk Factor Management
- Lifestyle Risk Factor Management
- Pharmacological Management

Although this starts in the acute hospital setting, long-term results and sustainable lifestyle modification is dependent on care in the GP setting



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Bio-Medical Risk Factors

Hyperlipidaemia

Epidemiologic data have shown a continuous, log-linear relationship between cholesterol levels and Coronary Heart Disease events

Hypertension

Increasing BP is strongly associated with increasing rates of Cardiovascular Disease, Cardiovascular Events and death

Diabetes

Diabetes indicates a higher risk for Coronary Events



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Hyperlipidaemia

GOAL

LDL-C <2.0mmol/L

HDL-C >1.0mmol/L

Triglyceride <1.5mmol/L

Pharmacological Management

- Statins are the agent of choice for lowering LDL-C levels
- Fibrates reduce CV risk in those with Type 2 diabetes, high Triglycerides, low HDL-C levels or who are overweight
- Ezetimibe reduces LDL-C by 15-20% as monotherapy or when added to a statin



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Hyperlipidaemia

Lifestyle modification

- Low saturated fat eating plan
- Moderate amounts of mono and polyunsaturated fats and oils
- Marine sourced Omega-3 via 2-3 fish meals/week
- At least 2g of plant sourced Omega-3/day
- A wide variety of fruits, vegetables & wholegrain cereals
- 30minutes of moderate intensity physical activity on most days
- Reduce weight
- Avoid smoking



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Hypertension

GOAL

Adults with CHD= BP < 130/80 mmHg

Adults with proteinuria >1g/day =

BP < 125/75 mmHg

Hypertension is responsible for more deaths and disease than any other biomedical risk world-wide

Pharmacological Management

- ACE inhibitors are recommended as first line treatment
- Angiotensin II receptor antagonist if intolerant of ACE
- Most individuals will need combination therapy



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The PN role in BP Monitoring

- Mercury thermometers give the most accurate non-invasive BP readings
- 1st assessment should measure BP in both arms (5mmHg difference is acceptable), if more than 5mmHg difference always record on higher reading arm
- Perform sitting and then after standing for 2 minutes to assess for orthostatic hypotension



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Correct BP recording technique

- The patient should be seated and relaxed
- The selected arm should be free of constricting clothing
- Select the appropriate cuff size
- Ensure that the cuff is at heart level by supporting the arm
- Palpate the radial pulse while inflating the cuff and note the pressure at which the radial pulse ceases to be palpable
- Fully deflate the cuff, wait approximately 30 seconds, then inflate the cuff to at least 30 mmHg above that at which the radial pulse disappeared
- While deflating the cuff, auscultate over the brachial artery in the antecubital fossa



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BP Technique continued...

- Record the systolic and diastolic BP to the nearest 2 mmHg
- For the systolic reading, record the level at which at least two consecutive beats are heard
- For the diastolic reading, use disappearance of sound (phase V Korotkoff). Use muffling of sound (phase IV Korotkoff) **only if sound** continues to zero
- Wait 30 seconds, then repeat in the same arm
- Average the readings. If the first two readings differ by more than 10 mmHg systolic or 6 mmHg diastolic, or if initial readings are high, have the patient rest quietly for 5minutes then take several readings until consecutive readings do not vary by greater than these amounts



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Additional Tests for Hypertensive Patients

- Dipstick urine test for blood and protein to assess end organ disease
- If positive, obtain microscopy and 24hr urine collection for urinary protein excretion
- ECG - the presence of "strain pattern" (ST depression and T-wave inversion) is associated with increased Cardiovascular risk in patients with hypertension



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Hypertension

Lifestyle Modification

- Regular physical activity
- Smoking cessation
- Limit salt intake to $\leq 4\text{g/day} = 65\text{mmol/day}$ of sodium
- Weight Reduction
- Limiting Alcohol intake



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Diabetes

GOAL

Identify those with previously undiagnosed diabetes
For known diabetes BGL 4 – 6 mmol/L (fasting)
HbA1c \leq 7%

Pharmacological Management

- First line management is lifestyle intervention, then if required oral hypoglycemic therapy to achieve near normal levels of glycaemia as indicated by HBA1c
- Diabetic patients with proteinuria should commence on ACE inhibitor or Angiotensin II Receptor Antagonist



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Diabetes

Lifestyle Modification

- Physical activity
- Healthy eating
- Weight management
- Treatment of other CVD risk factors including dyslipidemia, hypertension and smoking



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Lifestyle Risk Factors

Smoking

Nutrition

Alcohol

Physical Activity

Healthy Weight



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Smoking

GOAL

Complete cessation
Avoidance of secondhand smoke

Management

- Strongly encourage patient and family to stop smoking
- Refer to Quitline (13 QUIT), refer to smoking cessation program
- Consider Nicotine replacement therapy



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Nutrition

GOAL

Establish and maintain healthy eating including saturated and trans fatty acid intake no more than 8% of total energy intake

Management

- Choose mainly plant-based foods (vegetables, fruits, legumes) and grain-based foods (wholegrain bread, pasta, rice)
 - Moderate amounts of lean meats, poultry, fish and low fat dairy products
 - Moderate amounts of polyunsaturated and monounsaturated fats and oils
- Encourage the use of fish-oil supplements



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Alcohol

GOAL

Low risk alcohol consumption
 \leq 2 standard drinks /day for men
 \leq 1 standard drink /day for women
2 Alcohol free days /week

Management

- Assess medications for potential interactions with alcohol and advise as appropriate



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Physical Activity

GOAL

Progress over time to at least 30 minutes of moderate intensity physical activity on most, preferably all days of the week

Management

- Discuss capabilities and barriers with the patient and encourage them to be active
- Begin at low intensity and gradually increase duration and speed
- Refer to a cardiac rehabilitation exercise program



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Healthy Weight

GOAL

Waist Measurement Male ≤ 94 cm
Female ≤ 80 cm
BMI 18.5-24.9kg/m²

Management

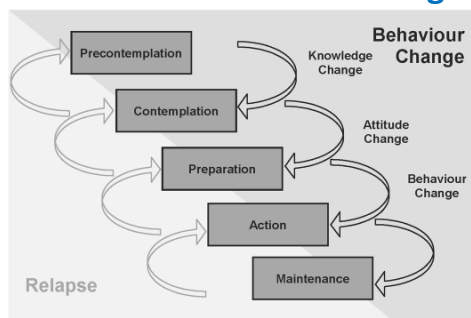
- Set immediate and achievable goals
- Encourage healthy eating and regular physical activity
- Assess and continue to monitor both waist circumference and BMI



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Motivational Interviewing



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Pharmacological Management

GOALS

Antiplatelet agents
ACE Inhibitors/Angiotensin II receptor antagonists
Beta blockers
Statins
Aldosterone antagonists
Calcium Channel blockers
Influenza and pneumococcal vaccinations



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Antiplatelet Agents

- Aspirin 75-150mg/day
- Clopidogrel 75mg/day for 1 month after fibrinolysis and at least 12 months after stent implantation, recent research suggests life-long Clopidogrel use
- Aspirin and Clopidogrel combination therapy
- Clopidogrel use carries an increased risk of bleeding during surgery

New agents include Prasugrel and Ticagrelor



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ACE inhibitors and ARA

- ACE-I should be commenced early post MI
- Benefits not only include BP control, but also reduced aldosterone activity to prevent negative remodelling of the heart muscle post infarct leading to heart failure and cardiomyopathy
- ARA can be used for patients with unacceptable side effects on ACE-I
- Ramapril and Perindopril should be up-titrated overtime



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Beta-Blockers

- Benefits of Beta-Blockers are to minimise the effects of adrenaline and other catecholamines on BP and Heart Rate during exercise
- All Myocardial Infarction patients should be prescribed beta-blockers indefinitely unless contra-indicated
- Metoprolol is the drug of choice or
- Bisoprolol or Carvedilol in patients with Heart Failure



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Statins

- Statin therapy should be commenced in the acute hospital setting and continue indefinitely
- Recent research in to long-term statin use demonstrates not only a decrease in LDL-C levels, but also plaque stabilisation and reduction in plaque size
- Atorvastatin
- Simvastatin
- Pravastatin



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Aldosterone Antagonists

Eplerenone may be prescribed 3-14days post Myocardial Infarction in patients with left ventricular systolic dysfunction and symptoms of heart failure



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Calcium Channel Blockers

- Diltizem and Verapamil may be used as anti-anginal agents for patients whom beta-blocker therapy is contra-indicated, provided there is no evidence of chronic heart failure
- Controlled release verapamil has been shown to reduce the incidence of cardiovascular events in patients with stable angina, it may decrease the risk of re-infarction and death after MI



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Vaccination

All CVD patients should receive pneumococcal and annual influenza vaccinations unless contra-indicated



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Other Considerations

GOALS

Cardiac Rehabilitation Program
Referral and attendance
Written Chest Pain Action Plan
Chronic Heart Failure
Implantable Cardiac Defibrillator



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Psychosocial Factors

GOALS

Assessment of depression and level of social support

Patients with depression receive appropriate psychological and medical management

Management

- SSRI antidepressants
- Tricyclic anti-depressants should be avoided
- CBT delivered by a mental health professional
- Regular physical exercise
- Referral to cardiac rehabilitation, social worker or psychologist



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Resources

GP Management Plan for patients with CHD

Healthy Eating

Smoking Cessation

Positive Steps to a Healthy Heart

Will you recognise your Heart Attack?

Chest Pain Action Plan

www.heartfoundation.org.au



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Acknowledgements

National Heart Foundation of Australia and the Cardiac Society of Australia and New Zealand (2008) *Reducing Risk in Heart Disease*
National Heart Foundation of Australia and the Cardiac Society of Australia and New Zealand (2010) *Guidelines for the Management of Hypertension*

Huang N, Duggan K, Harman J (2008) Lifestyle Management of Hypertension in *Australian Prescriber* Vol 31: 6

Zimmermann G, Olsen C, Bosworth M (2000) A stage of change approach to helping patients change behaviour in *American Family Physician* March 1 2000 accessed 8/3/11

Switzer, C *Stages of Change & Motivational Interviewing eHow* accessed 8/3/11

Motivational Interviewing .org accessed 8/3/11



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Questions?

Thank you for your time today



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GP management plan for coronary heart disease (CHD)

Applies to acute coronary syndromes, myocardial infarction, coronary angioplasty with/without stenting, and bypass surgery.

Doctor's name: Address: Phone: Fax:	Date:	Management plan history (and team care arrangements): <ul style="list-style-type: none"> • Past GPMP: • Is this a review of a GPMP? • Past team care arrangement: • Health assessment: • Home medicines review:
Patient's name: Patient address: Telephone:	D.O.B: Age:	Medicare no: Private health insurance details:
Is the patient of Aboriginal or Torres Strait Islander origin?	Language spoken at home:	
Ongoing prevention/cardiac rehabilitation program attended (yes/no):	Chest pain action plan (yes/no): <small>(All patients must have a written action plan that they should follow in event of chest pain.)</small>	
Allergies:		
Family history:		
Past medical history:		
Investigations:		
Medicines:		

Note: the GP management plan for coronary heart disease (CHD) is provided by the Heart Foundation to health professionals as a tool for CHD management in general practice. The sections Recommendations and Recommended targets should not be changed or altered in any way. These recommendations are derived from Heart Foundation clinical guidelines, 2008.

Medicines						
Medicine	Commenced/ Continued. If no, what reason			Discussed benefits and side effects?		Recommendation (Unless otherwise indicated, all recommendations derived from National Heart Foundation of Australia and the Cardiac Society of Australia and New Zealand. <i>Reducing risk in heart disease 2008.</i>)
	Yes	No		Yes	No	
Antiplatelet agents						Use aspirin 75–150 mg/day for all patients unless contraindicated.
ACE inhibitors (ACEI)/Angiotensin II receptor antagonists (ARA)						Consider ACEI in all patients, especially those at high risk, unless contraindicated. Start early post myocardial infarction (MI). Consider ARA for patients who develop unacceptable side effects on ACEI.
Beta-blockers						For all patients post MI, unless contraindicated, and continued indefinitely, especially in high-risk patients. (High-risk patients are defined as those with either significant myocardial necrosis, left ventricular systolic dysfunction, persistent evidence of ischaemia or ventricular arrhythmia.)
Statins						For all patients with CHD, unless contraindicated.
Anticoagulants						Use warfarin in patients at high risk of thromboembolism post MI.
Aldosterone antagonists						Epleronone may be used early post MI in patient with left ventricular systolic dysfunction and symptoms of heart failure.
Medicine adherence						If poor adherence suspected, consider a Home Medicine Review.
Other						

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Lifestyle/Psychosocial risk factors			
Risk factor	Current status	Patient agreed goals and actions (how, who and by when)	Recommended targets
Smoking			Complete cessation and avoidance of second-hand smoke.
Physical inactivity			Progress, over time, to at least 30 minutes of moderate-intensity physical activity on most, if not all, days of the week (150 minutes per week minimum).
Nutrition			Establishment/ Maintenance of healthy eating patterns, with saturated and trans fatty acid intake \leq 8% of total energy intake.
Weight			Waist measurement \leq 94 cm (males) or \leq 80 cm (females); BMI = 18.5-24.9 m ² . (Weight management goals based on studies of European populations and may not be appropriate for all ages and ethnic groups.)
Alcohol			Low risk alcohol consumption in people who drink < 2 standard drinks per day (males) or < 1 standard drink per day (females).
Depression			Assess all patients for co-morbid depression. Initiate psychosocial and medical management if appropriate.
Social support			Assess all patients for level of social support and provide follow-up for people considered at risk by referral to cardiac rehabilitation and/or social worker or psychologist.
Other			

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Biomedical risk factors			
Risk factor	Current status	Patient agreed goals and actions (how, who and by when)	Recommended targets
Cholesterol/Lipids			LDL-C < 2.0 mmol/L; HDL-C > 1.0 mmol/L; Triglycerides < 1.5 mmol/L.
Blood pressure			BP < 130/80 mmHg. For people with proteinuria > 1 g/day (with or without diabetes): < 125/75 mmHg. (National Heart Foundation of Australia. <i>Guide to management of hypertension 2008.</i>)
Diabetes			Identify undiagnosed type 2 diabetes; maintain optimal BSL in those with diabetes (HbA _{1c} ≤ 7%).
Other conditions			
Other considerations			
<ul style="list-style-type: none"> • Implement a patient-centred approach, setting realistic goals and time frames in consultation with the patient. • Consider strategies to support self-management, assess readiness for change and explore barriers. • Provide written information and self-management resources, such as <i>Managing my heart health</i> and <i>My heart my life</i>, that are available from the Heart Foundation. • Consider referral if appropriate. <p>For heart health information 1300 36 27 87 www.heartfoundation.org.au</p>			

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Administration details

Date plan/service completed:	Proposed review date(s):
Copy of CHD management plan offered to patient?	Copy of CHD management plan added to patient's records?
Other notes or comments:	

Patient's agreement

I agree with the goals of this plan and I understand the recommendations, including the costs involved.

Patient's signature: _____ Date: _____

Patient's name (in print): _____

I have explained the steps and any costs involved, and the patient has agreed to proceed with this plan.

GP's signature: _____ Date: _____

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