

CARDIOLOGY

Guidelines for Primary Referrals

Note: These national referral recommendations have been prepared to provide guidelines for referral to specialist services. They should be regarded as examples or guidelines for referring health professionals and are not an exhaustive list. The referring health professional should ensure that in using these national referral recommendations generally accepted clinical practice should be properly taken into account. If there is a conflict between the national referral recommendations and generally accepted clinical practice, then generally accepted practice should prevail.

The working party for the development of these guidelines also noted that in regard to:

Direct Access Echo

- Was endorsed by working party with proviso it has sufficient funding, resources and staffing.

Direct Access to Exercise Stress Testing

- No real consensus was reached by the working group.
- Issues of safety particularly in regard to exercising people with aortic stenosis or who are acutely ischaemic.
- If referring GP is confident that neither condition exists then open access would be supported.
- Direct access supported if appropriate screening prior to the test.

Holter Monitoring

- Direct access was supported. This resource is scarce and should therefore be used appropriately. So with proviso it has sufficient funding, resources and staffing.

Note: Direct access is where the GP may request the diagnostic investigation.

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National Referral Guidelines GP to Specialist Referrals

SPECIFIC CARDIOLOGY REFERRAL LETTER GUIDELINES

Guiding principles when considering these referral protocols:

1. Necessity to minimise duplication of information gathering and testing, ie results of previous tests need to be available – either included with referral letter, or available electronically.
2. Necessity to ensure that available resources are used wisely – see (3).
3. If testing can be done appropriately in general practice it should be – this ensures the wise use of resources, enabling our secondary care colleagues' time to be used more productively.
4. Referrals should come from registered medical practitioners.
5. Protocols need to guide doctors as to when conditions can be managed in general practice and when they should be referred to secondary care. There should be allowance made within the protocols for differing levels of cardiology knowledge and interest among GP's, and differing levels of available resources around the country.

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National Referral Guidelines

Category Definitions : These are recommended guidelines for health professionals referring patients for assessments/treatment in a HHS.

Category 1	- <i>immediate</i>
Category 2	- <i>urgent</i>
Category 3	- <i>semi - urgent</i>
Category 4	- <i>routine</i>

Immediate and Urgent cases must be discussed with the Specialist or Registrar in order to get appropriate prioritisation and then a referral letter sent with the patient, faxed or e-mailed. The times to assessment may vary depending on size and staffing of the hospital department.

NATIONAL REFERRAL GUIDELINES : CARDIOLOGY			
Diagnosis	Evaluation	Management Options	Referral Guidelines
Atrial Fibrillation/ Flutter Acute	Acute : less than 24 hours duration Consider echocardiography	Acute AF/Atrial Flutter - Refer immediately for management if symptomatic. - Otherwise perform investigations, start anti-coagulation and anti-arrhythmia and rate control therapy. Refer to outpatient clinic for consideration of cardioversion.	Refer most patients with acute atrial fibrillation for assessment after discussing options Acute A.F – category 1 admission or category 2 – urgent
Chronic	History –Duration of symptoms Evidence of underlying lung disease/hypertension/ cardiac/thyroid disease/strokes/TIAs Drug history including alcohol and tobacco Associated symptoms, eg angina, Dyspnoea ECG Thyroid Function Tests CXR	Chronic or recurrent paroxysmal Consider: 1. rate control 2. anticoagulation therapy 3. anti-arrhythmic's 4. referral 5. cardioversion	Chronic A.F. – rate control and anti-coagulation can be managed in general practice.
Syncope or Presyncope	History –detailed history critical Consider atrial fibrillation Cardiac murmur present? Evidence of underlying cardiac disease/GI bleeding, angina, SOB, palpitations, neurological signs/postural hypotension Drug history especially diuretics ECG Full blood count Thyroid function tests, urea, electrolytes, creatinine	Isolated event and negative findings - reassure History suggests vaso-vagal event in young and otherwise fit – reassure (even if recurrent) If recurrent or older patient or not typically vasovagal • refer	Syncope – category 1 or 2 Presyncope – category 3 – routine

NATIONAL REFERRAL GUIDELINES : CARDIOLOGY			
Diagnosis	Evaluation	Management Options	Referral Guidelines
Hyperlipidaemia	Risk Factor evaluation : <ul style="list-style-type: none"> - Family History – particularly age of onset - Smoking - Hypertension - Diabetes - Cardio-vascular disease - Obesity - Age - Fasting lipids (At least two specimens) - Blood sugar - Thyroid function - Renal function - Liver functions test 	<ol style="list-style-type: none"> 1. Under normal circumstances would be managed in general practice 2. Refer to National Heart Foundation guidelines* particularly dietary advice 3. Management of other risk factors 	<ol style="list-style-type: none"> 1. Referral letter for consideration of lipid lowering therapy according to NHF guidelines. Specialist application only: <ul style="list-style-type: none"> - NHF A1 : 3 + NHF A1 : 4 - NHF A2 - NHF A3 - patients age > 75 years 2. Refer patients with poorly controlled familial hyperlipidaemia 3. Any difficult cases should have written referral for specialist advice
Hypertension	History –duration Evidence of underlying cardiac/renal/endocrine disease Drug history, including alcohol Family history Associated symptoms, eg angina, SOB, palpitations, neurological ECG Sodium, potassium creatinine, blood glucose, lipid profile MSU – dipstick, urine microscopy Risk Factor evaluation Weight Consider investigation of secondary causes particularly if BP difficult to control on 2 medications eg: co-arctation, phaeochromocytoma, Cushing's, Conn's syndrome, renal artery stenosis in <ul style="list-style-type: none"> - Young patients (<40 years) - Severe hypertension Older patients with no previous history of hypertension Echo helpful in risk stratification i.e. presence of left ventricular hypertrophy	Lifestyle modification - refer National Health Committee Guidelines Antihypertensive treatment refer National Health Committee Guidelines. Treatment should be individualised according to comorbid conditions eg, Angina and hypertension (B-Blocker) Diabetes and hypertension - ACE inhibitors	Refractory hypertension - patients on three or more medications with poorly controlled BP Secondary hypertension should be referred to appropriate service ie, endocrinology, renal or cardiac service. Hypertension in pregnancy should be referred initially to Obstetricians Malignant hypertension - category 1. Severe hypertension > 200/120 - category 2. Other hypertension - category 3 Changing BP patterns Decreasing renal function on ACE inhibitors borderline Renal stenosis has complex investigation options - refer to appropriate specialist.

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National Referral Guidelines

CARDIAC MURMURS

Evaluation:

History- Duration, Rheumatic fever
 Family history, Congenital abnormalities
 Associated symptoms- angina,dyspnoea,syncope,palpitations
 ECG
 CXR

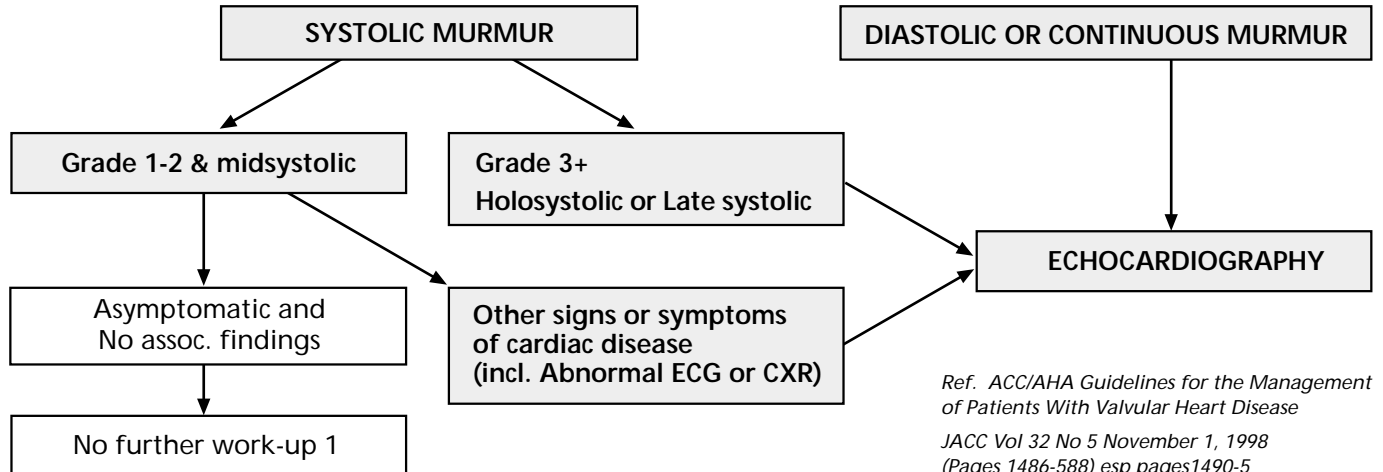
Management Options:

(refer ACC/AHA guidelines- Fig. 1 attached)
 History of Rheumatic fever +/- murmur >> echocardiography assessment
 Innocent (benign flow) murmurs (see below) >> reassure
 Others >> open access when resources allow >> echocardiography +/- specialist assesment

Referral guidelines:

? Endocarditis >> category 1
 Cardiac enlargement, symptoms >> category 3
 Others >> category 4

Figure 1- Strategy for Evaluating Cardiac Murmurs



1. It is accepted that this strategy will not identify all significant pathology. Echocardiography of all murmurs would be a resource issue and could not currently be provided.

Note: In many patients with grade 1-2 midsystolic murmurs, an extensive workup is not necessary. This is particularly true for children and young adults who are asymptomatic, who have an otherwise normal cardiac examination, and have no other physical findings associated with cardiac disease. These innocent murmurs have no functional significance. Such murmurs have the following characteristics:

- grade 1-2 intensity at the left sternal border
- systolic ejection pattern
- normal intensity and splitting of the second heart sound
- no other abnormal sounds or murmurs
- no evidence of LVH or dilatation
- no increase in intensity with valsalva manoeuvre

These murmurs are particularly common in high output states such as pregnancy. If the clinical findings are typical, and the patient asymptomatic, even a CXR and ECG may be unnecessary.

NATIONAL REFERRAL GUIDELINES : CARDIOLOGY			
Diagnosis	Evaluation	Management Options	Referral Guidelines
Chest Pain Acute	Acute : History -duration, precipitants, type, response to treatment, family history Evidence of underlying cardiac/respiratory/gastric disease Associated symptoms, eg SOB, palpitations, GI symptoms Drug history ECG Cardiac enzymes* Lipids - fasting FBC Urea, creatinine, potassium Glucose Risk factor evaluation	Acute or suspected MI - aspirin (300 mgms) and immediate admission Unstable symptoms or rest pain- refer for admission Suspected pulmonary embolus/aortic dissection - immediate admission to appropriate specialty.	Refer management options which defines referral guidelines Acute MI - category 1 Acute unstable angina - category 1 New onset angina - category 2 Angina CCS 3-4 - category 2
Chronic	History -duration, precipitants, type, response to treatment, family history Evidence of underlying cardiac/respiratory/gastric disease Associated symptoms, eg SOB, palpitations, GI symptoms Drug history ECG Lipids - fasting FBC Urea Glucose Exercise ECG if the pain is considered likely to be cardiac (unless the resting ECG is abnormal or the patient is being admitted) Negative exercise tolerance test does not rule out cardiac disease Risk factor evaluation	Probable stable angina commence aspirin and nitrolingual spray and B-Blockers if no contraindication. Risk factor modification. If exercise ECG positive refer for further investigation as appropriate. Possible chronic angina - consider trial of medication (nitrates, antacids). If exercise ECG positive consider referral.	Stable angina last rest pain within 24 hours - category 3. Urgent referral if prolonged, severe worsening pattern.

* Normal enzymes/ECG does not exclude acute coronary syndromes especially in the first 4 hours of pain

NATIONAL REFERRAL GUIDELINES : CARDIOLOGY			
Diagnosis	Evaluation	Management Options	Referral Guidelines
Heart Failure/ breathlessness Acute	Acute : past history of MI Associated symptoms, eg angina, palpitations	Oxygen If acute heart failure refer for assessment/admission. IV Frusemide 20-40 mgms. 80 mgms if patient chronically on diuretics Morphine Bolus 2.5 - 5 mgms IV titrated to response, GTN, sublingual GTN prior to transfer	Acute heart failure - category 1 or 2.
Chronic	History -duration Evidence of underlying cardiac/respiratory disease Drug history ECG FBC, creatinine and electrolytes, Blood Glucose, Lipid profile, TFT's, (LFT's if indicated) CXR Weight Echocardiograph Risk Factor evaluation	If evaluation suggests heart failure commence ACE inhibitors, diuretics and other treatment as appropriate, eg Vasodilators if no aortic stenosis, digoxin with atrial fibrillation. Management of precipitating conditions eg. obesity, thyroid disease	All patients - initial assessment - category 2 - 3

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Indications for Holter Monitoring

Urgent

1. Recurrent presyncope, syncope not explained by examination findings or other investigations. Consider urgent referral +/- admission.

Semi-Urgent

1. Daily/frequent symptomatic palpitations associated with dyspnoea, presyncope or chest pain, not otherwise documented.
2. Daily/ frequent palpitations which are interfering with subjects confidence or ability to continue usual activities, not otherwise documented.

Note: frequent = 2-3 per week.

Indications for Electrophysiology Studies (\pm Ablation*)

For GP information: note urgent, semi-urgent and non urgent categories

Urgent

1. Resuscitated cardiac arrest, due to ventricular fibrillation or tachycardia, not due to acute myocardial infarction or an identified and corrected cause.
2. Recurrent ventricular tachycardia that is not controlled with medical therapy (ablation may be applicable).
3. Sustained broad complex tachycardia, where the diagnosis is not clear or tachycardia not controlled with medical therapy, or structural heart disease is absent (ablation may be applicable).
4. Non sustained ventricular tachycardia following myocardial infarction, left ventricular ejection fraction <35%.
5. Recurrent syncope, otherwise unexplained in a patient with structural cardiac disease.

GP Referral for:

Semi-Urgent

1. *Symptomatic Wolff-Parkinson-White Syndrome.
*Recurrent supraventricular tachycardia either not controlled with medical therapy, or the patient prefers ablation over medical therapy.
2. *Recurrent atrial flutter when ablation is being considered.
3. *Recurrent atrial fibrillation, when ablation is being considered.
4. *Atrial fibrillation (paroxysmal or chronic) without control of symptoms or rate with medical therapy, for AV nodal ablation and pacing.

Non Urgent

1. Asymptomatic Wolff-Parkinson-White Syndrome

* These are indications for EPS studies and ablation.