# Cardiology

<u>Cardiology</u> specialises in conditions of the heart and blood vessels



### Clinical Lead

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Role: Head of Cardiology

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### How to Refer

All new referrals for Specialist Outpatient Clinics require a medical referral.

All new referrals are processed by the BCH Access Department.

The **preferred mode** for external referrals to the Access Department is Fax (03) 9102 5307.

Internal referrals from within Bass Coast Health can be sent via email (Access@basscoasthealth.org.au)

For further information on new referrals and services provided via the BCH Access Team on (03) 5671 3175 or by email to <a href="mailto:Access@basscoasthealth.org.au">Access@basscoasthealth.org.au</a>

#### Relevant referral form

Outpatient specialist clinic referral (MR-309)
Rapid Access Cardiology Referral (MR-310)

### Referrer guidance

Clinically recommended guidance for referrers is available through <u>Gippsland Pathways</u>.

## Eligibility

Prior to referral, please check and ensure all referrals for Specialist Outpatient Clinics **meet**;

- Minimal Referral Criteria
- State-wide Referral Criteria (where applicable),
- Local BCH service eligibility

Please note, the <u>Managing referrals to non-admitted</u> <u>specialist services policy</u> states that we must not accept referrals that are incomplete or do not have the required information to assess.

Once we receive a referral we will **review to ensure**:

- We have all the information we need to progress
- The referral meets the Minimum referral criteria, State-wide Referral Criteria (where applicable) as well as local BCH service eligibility
- Identify the best service/s to meet your patients' needs and
- Assign a referral priority, urgent or routine
- Provide a notification of a referral outcome

## **Referral Processing**

Accepted referrals are triaged according to priority by our specialist doctors/health professionals, as 'urgent' or 'routine'.

High priority, 'urgent' access, is assigned to patients that have a condition with potential to deteriorate quickly, with significant consequences for health and quality of life if not managed promptly.

For **urgent referrals**, we will contact the patient and aim to schedule an appointment within 30 days or at the earliest available time.

For **routine referrals**, we will notify you and the patient of a routine appointment date or the transfer onto a service waitlist and aim to schedule an initial appointment within 365 days.

Within 8 working days, we will send you and your patient notification of the **referral outcome**, i.e. if the referral has been:

- Accepted and an appointment has been scheduled OR
- Accepted and the patient has been placed on a service waiting list OR
- Not accepted and the reasons why

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## Priority



Conditions requiring immediate emergency care. Acute referrals requiring same day assessment or admission. Recommend or contact '000' to arrange immediate transfer to emergency.

**URGENT** 

Assigned to patients that have a condition with potential to deteriorate quickly, with significant consequences for health and quality of life if not managed promptly. Aim to schedule an initial appointment within 30 days or at the earliest available time.

ROUTINE

Assigned to patients when their condition is unlikely to deteriorate quickly or have significant consequences for health and quality of life if the specialist assessment is delayed beyond 30 days. Routine appointments are scheduled (where possible) or transferred onto a service waitlist. Aim to schedule an initial appointment within 365 days.

## Safety risk screening



## **RED FLAG CONDITIONS**



Red flags signal the most serious clinical risks and need for same day assessment or admission.

#### Chest Pain, with

- Suspected pulmonary embolism or aortic dissection
- Suspected acute coronary syndrome with any of the following:
  - o severe or ongoing chest pain
  - o chest pain lasting 10 minutes or more
  - o chest pain that is new at rest, or with minimal activity
  - o chest pain with any of the following:
    - severe dyspnoea
    - syncope or pre-syncope
    - respiratory rate > 30 breaths per minute
    - tachycardia > 120 beats per minute
    - systolic blood pressure < 90 mmHg
    - heart failure or suspected pulmonary oedema
    - ST segment elevation or depression
    - complete heart block
    - new left bundle branch block

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## Safety risk screening



## **RED FLAG CONDITIONS**



#### Atrial Fibrillation, recent onset, with any of the following:

- haemodynamic instability
- shortness of breath
- chest pain
- heart failure
- current syncope or pre-syncope
- sustained heart rate > 150 beats per minute
- known Wolff-Parkinson-White syndrome

#### Palpitations with any of the following:

- shortness of breath
- chest pain
- heart failure
- syncope, pre-syncope or loss of consciousness
- persisting tachyarrhythmia on electrocardiogram (ECG)

## Safety risk screening



## **RED FLAG CONDITIONS**



- Hypertensive emergency (blood pressure > 220/140)
- Severe hypertension with systolic blood pressure > 180 mmHg with any of the following:
  - headache
  - confusion
  - o blurred vision
  - o retinal haemorrhage
  - o reduced level of consciousness
  - o seizure(s)
  - o proteinuria
  - o Papilloedema
- A pregnant woman with pre-eclampsia with uncontrolled severe hypertension (i.e. diastolic blood pressure > 110 mmHg or systolic blood pressure > 170 mmHg)

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## Safety risk screening



## **RED FLAG CONDITIONS**



**Heart failure,** new acute or chronic, that is rapidly deteriorating, **with** any of the following:

- ongoing chest pain
- acute pulmonary oedema
- oxygen saturation < 94% (in the absence of any other reasons)</li>
- haemodynamic instability
- syncope or pre-syncope
- recent myocardial infarction (within 2 weeks)
- pregnant or post-partum woman
- New heart failure that has not responded to initial and escalated treatment with diuretic therapy

## Safety risk screening



## **RED FLAG CONDITIONS**



### Syncope or pre-syncope with any of the following:

- exertional onset
- chest pain
- persistent hypotension (systolic blood pressure < 90 mmHg) or bradycardia (< 50 beats per minute) on electrocardiogram (ECG)
- evidence of second, or third-degree block on electrocardiogram (ECG)
- severe, persistent headache
- focal neurological deficits
- preceded by, or associated with, palpitations
- known ischaemic heart disease or reduced left ventricular systolic function
- associated with supraventricular tachycardia (SVT) or paroxysmal atrial fibrillation
- 'pre-excited' QRS wave on electrocardiogram (ECG)
- suspected malfunction of a pacemaker or implantable cardioverter defibrillator (ICD)
- absence of prodrome
- associated injury
- occurs while supine or sitting

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# Diagnostic Procedures/Conditions seen at Bass Coast Health

- Echocardiology Services (Trans Thoracic Echocardiogram TTE)
- <u>Bubble study Echocardiogram</u>
- <u>Stress Echocardiography (Treadmill only)</u>
- Angina Pectoris; Chest Pain;
- Atrial Fibrillation
- Heart Failure
- Lipid Disorders
- Hypertension
- Palpitations
- Syncope or pre-syncope

# Cardiology Clinics provided at Bass Coast Health

- Rapid Access Cardiology Clinic
- Arrythmia Clinic
- Chronic Cardiology Clinic
- Echocardiology Services (Trans Thoracic Echocardiogram TTE)
- Stress Echocardiography

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## Consultation only

The following conditions/procedures can be considered for consultation; however, surgery is not available at Bass Coast Health

- Electrophysiology Consult
- Cardiac Surgery
- Angiogram
- Percutaneous coronary intervention (PCI)
- Left & Right heart catheterisation
- Ablation
- Mitral clips
- Pacemakers
- Loop recorders
- Transcatheter aortic valve implantation (TAVI)
- Trans-oesophageal echocardiogram (TOE)/ Direct Current Cardioversion (DCR)
- Any other cardiothoracic surgery

## **Exclusions**

The following conditions / procedures are not routinely seen at Bass Coast Health

- Cardiac Surgery
- Cardiac MRI
- Coronary Angiogram
- Coronary CT angiography
- Electrophysiological studies and pacing
- Holter Monitors
- Pacemaker
- Cardiac Catheterisation
- Bike Stress ECHO
- Chemical Stress Tests

# Cardiology



## Angina Pectoris; Chest Pain;

<u>State-wide Referral Criteria</u> **DOES** apply to this condition.

#### When to refer

- New or recurrent cardiac chest pain without any current acute concerning features
- New onset angina
- Stable angina, depending on severity
- If prolonged, severe worsening pattern

\*\* N.B. <u>TTE</u> and <u>Rapid Access Cardiac</u> <u>Clinic</u> appointment will be arranged for eligible referrals

Click here for: Rapid Access Cardiology Referral.pdf

#### Additional Information to be included

#### MUST provide;

- Description of relevant signs or symptoms
- Relevant medical history and comorbidities
- Relevant electrocardiogram (ECG) tracings
- Current and complete medication history (including non-prescription medicines, herbs and supplements and recreational or injectable drugs).
- Full blood examination results
- B-Type natriuretic peptide (BNP)
- Urea and Electrolytes (U&E)
- Creatinine (Cr) test results
- Blood glucose

### **EMERGENCY**

• Refer to Red Flag Conditions

#### Chest Pain, with

- Suspected pulmonary embolism or aortic dissection
- Suspected acute coronary syndrome with any of the following:
  - o severe or ongoing chest pain
  - o chest pain lasting 10 minutes or more
  - chest pain that is new at rest, or with minimal activity
  - o chest pain with any of the following:
    - severe dyspnoea
  - syncope or pre-syncope
  - respiratory rate > 30 breaths per minute
  - tachycardia > 120 beats per minute
  - systolic blood pressure < 90 mmHg
  - heart failure or suspected pulmonary oedema
  - ST segment elevation or depression
  - complete heart block
  - new left bundle branch block

URGENT

• All eligible referrals for chest pain are considered urgent

# Cardiology



## Atrial Fibrillation (AF);

<u>State-wide Referral Criteria</u> **DOES** apply to this condition.

#### When to refer

- · Recurrent paroxysmal atrial fibrillation
- Atrial fibrillation where anticoagulation is contraindicated
- Atrial fibrillation with reduced left ventricular function or moderate valvular disease
- Atrial fibrillation that is unresponsive to medical management and that requires further advice on, or review of, the current management plan.

### Referral NOT suitable for public hospital;

- Isolated event of atrial fibrillation that has resolved (e.g. post-infection).
- Patients that are stable (that is heart rate is stable and the patient is on anticoagulation) and not for further active management.
- Patients that are already under the care of a cardiologist.

Refer to Arrythmia Clinic for clinic details

#### Additional Information to be included

#### Must provide;

- Details of all relevant signs and symptoms
- Current and previous 12 lead electrocardiogram (ECG) tracings, particularly those demonstrating the arrhythmia or Holter demonstrating AF or arrhythmia
- Details of previous medical management including the course of treatment and outcome of treatment
- Current and complete medication history (including non-prescription medicines, herbs and supplements)
- Past medical history and comorbidities
- Liver function tests
- Urea and electrolyte results
- Full blood examination results
- Cardiac blood results
- Thyroid stimulating hormone (TSH) level
- TTE

### **EMERGENCY**

- Refer to <u>Red Flag Conditions</u>
   Atrial Fibrillation, recent onset, with any of the following:
  - haemodynamic instability
  - shortness of breath
  - chest pain
  - heart failure
  - current syncope or pre-syncope
  - sustained heart rate > 150 beats per minute
  - known Wolff-Parkinson-White syndrome

**URGENT** 

• All eligible new referrals for AF are considered urgent

# Cardiology



## Heart Failure (HF)

<u>State-wide Referral Criteria</u> **DOES** apply to this condition.

#### When to refer

- Known heart failure with symptoms unresponsive to medical management (e.g. symptoms at rest, or on minimal exertion)
- New onset heart failure with reduced ejection fraction < 50% (HF-rEF) and structural or valvular heart disease
- New onset heart failure with preserved ejection fraction (HF-pEF) that have failed maximum tolerated diuretic treatment

#### Referral NOT suitable for public hospital;

- Patients with asymptomatic heart failure with a stable ejection fraction > 50% (HFpEF)
- Patients that are already under the care of a cardiologist
- \*\* N.B. <u>TTE</u> and <u>Rapid Access Cardiac Clinic</u> appointment will be arranged

Click here for: Rapid Access Cardiology Referral.pdf

#### Additional Information to be included

#### Must provide;

- Details of all relevant signs and symptoms
- 12 lead electrocardiogram (ECG) tracings from the last 12 months
- Echocardiogram report
- Any medicines previously tried, duration of trial and effect
- Current and complete medication history (including non-prescription medicines, herbs and supplements)
- Past medical history and comorbidities
- Liver function tests
- Urea and electrolyte results
- Full blood examination
- Thyroid stimulating hormone (TSH) level
- Fasting lipid profile results
- If diabetic, current and previous HbA1c results.
- Cardiac bloods
- BNP
- Iron studies
- Lipid profile
- TTE

### **EMERGENCY**

• Refer to Red Flag Conditions

**Heart failure,** new acute or chronic, that is rapidly deteriorating, **with** any of the following:

- ongoing chest pain
- · acute pulmonary oedema
- oxygen saturation < 94% (in the absence of any other reasons)
- · haemodynamic instability
- syncope or pre-syncope
- recent myocardial infarction (within 2 weeks)
- pregnant or post-partum woman
- New heart failure that has not responded to initial and escalated treatment with diuretic therapy

**URGENT** 

All eligible new referrals for HF are considered urgent

# Cardiology



## Hypertension

<u>State-wide Referral Criteria</u> **DOES** apply to this condition.

#### When to refer

- Severe persistent hypertension > 180/110
- Refractory hypertension (blood pressure > 140/90) in patients:
  - taking three or more antihypertensive medicines
  - o unable to tolerate maximum treatment

\*\* N.B. <u>TTE</u> and <u>Rapid Access Cardiac Clinic</u> appointment will be arranged for eligible referrals

Click here for: Rapid Access Cardiology Referral.pdf

#### Additional Information to be included

#### Must Provide;

- Blood pressure measurements, preferably taken on both arms
- Details of all relevant signs and symptoms
- Relevant medical history and comorbidities
- Any treatments previously tried, duration of trial and effect
- Current and complete medication history (including non-prescription medicines, herbs and supplements and recreational or injectable drugs)

### **EMERGENCY**

- Refer to Red Flag Conditions
- Hypertensive emergency (blood pressure > 220/140)
- Severe hypertension with systolic blood pressure > 180 mmHg with any of the following:
  - o headache
  - o confusion
  - o blurred vision
  - o retinal haemorrhage
  - o reduced level of consciousness
  - o seizure(s)
  - o proteinuria
  - o Papilloedema
- A pregnant woman with pre-eclampsia with uncontrolled severe hypertension (i.e. diastolic blood pressure > 110 mmHg or systolic blood pressure > 170 mmHg)

**URGENT** 

 Uncontrolled Systolic Blood Pressure >180 & on medications

ROUTINE

 Patient on Medications and requires a review

# Cardiology



# Lipid Disorders

<u>State-wide Referral Criteria</u> **DOES** apply to this condition.

#### When to refer

- Total triglyceride > 5 mmol/L unresponsive to medical management
- Low-density lipoproteins (LDL) > 3.5 mmol/L in patients on treatment with high-risk cardiovascular disease (e.g. prior acute coronary syndrome)
- Difficult to control low-density lipoproteins (LDL) > 3.3 mmol/L in patients with coronary heart disease and with familial hypercholesterolaemia

#### Referral NOT suitable for public hospital;

 Patients with high low-density lipoproteins (LDL) and with a low cardiovascular risk

Click here for: <u>Rapid Access Cardiology</u> Referral.pdf

#### Additional Information to be included

### Must provide;

- Recent fasting lipid profile results
- Relevant medical history and comorbidities, especially cardiovascular diseases
- Any treatments previously tried, duration of trial and effect
- Current and complete medication history (including non-prescription medicines, herbs and supplements)

ROUTINE

 All referrals for lipid disorders are consider routine

# Cardiology



## **Palpitations**

<u>State-wide Referral Criteria</u> **DOES** apply to this condition.

#### When to refer

- Palpitations with any of the following:
  - o abnormal electrocardiogram (ECG)
  - o abnormal echocardiogram
  - o other cardiac disease
  - functional impact of symptoms on daily activities including impact on work, study, or carer role
  - o family history of sudden cardiac death or structural heart disease
- \* Please refer patient for Holter Monitor if not already completed (N.B. these are not completed at BCH)

#### Referral NOT suitable for public hospital;

- Patients with palpitations < 10 minutes duration without any other cardiac symptoms
- Patients with sinus arrhythmia
- Patients that are already under the care of a cardiologist

#### Additional Information to be included

#### Must Provide:

- Details of all relevant signs and symptoms including the duration and frequency of the episodes of palpitations
- Current and previous 12 lead electrocardiogram (ECG) tracings, particularly those during the episodes of palpitations
- Current and complete medication history (including non-prescription medicines, herbs and supplements)
- History of underlying cardiac disease
- Any family history of sudden cardiac death
- Urea and electrolyte results
- Liver function tests
- Thyroid stimulating hormone (TSH) level
- Holter monitor 24-hour results
- \* Holter Monitor results will determine clinic booking and urgency

## **EMERGENCY**

- Refer to <u>Red Flag Conditions</u>
   Palpitations with any of the following:
- shortness of breath
- chest pain
- heart failure
- syncope, pre-syncope or loss of consciousness
- persisting tachyarrhythmia on electrocardiogram (ECG)

**URGENT** 

 Holter Monitor report determines priority

ROUTINE

 Holter Monitor report determines priority

# Cardiology



## Syncope or pre-syncope

<u>State-wide Referral Criteria</u> **DOES** apply to this condition.

#### When to refer

- New episode(s) of syncope or presyncope (after any emergency assessment)
- Recurrent syncope with undetermined cause.
- Please refer patient for Holter Monitor if not already completed (N.B. these are not completed at BCH)
- \*\* N.B. A <u>TTE</u> will be arranged for eligible referrals

### Referral NOT suitable for public hospital;

- Patients with mild or brief orthostatic dizziness
- Dizziness due to a medicine or hypoglycaemia
- Dizziness due to chronic fatigue syndrome

#### Additional Information to be included

#### Must provide;

- Description of syncopal or pre-syncopal events and associated features
- Lying or sitting / standing blood pressure
- Relevant medical history
- Any family history of sudden cardiac death or cardiac disease
- Recent electrocardiogram (ECG) tracings, relevant to syncopal or pre-syncopal events
- Current and complete medication history (including non-prescription medicines, herbs and supplements and recreational or injectable drugs)

### **EMERGENCY**

• Refer to Red Flag Conditions

Syncope or pre-syncope with any of the following:

- exertional onset
- chest pain
- persistent hypotension (systolic blood pressure < 90 mmHg) or bradycardia (< 50 bpm) on ECG
- evidence of second, or third-degree block on ECG
- severe, persistent headache
- focal neurological deficits
- preceded by, or associated with, palpitations
- known ischaemic heart disease or reduced left ventricular systolic function
- associated with supraventricular tachycardia (SVT) or paroxysmal atrial fibrillation
- 'pre-excited' QRS wave on ECG
- suspected malfunction of a pacemaker or implantable cardioverter defibrillator (ICD)
- absence of prodrome
- associated injury
- · occurs while supine or sitting

### URGENT

• Results Investigations & TTE determine priority and clinic appointment

ROUTINE

 Results Investigations & TTE determine priority and clinic appointment

# Cardiology



## Rapid Access Cardiac Clinic

#### When to refer

- New onset chest pain suggestive of angina
- Previously stable ischaemic heart disease with recent deterioration of symptoms
- New onset or worsening Heart Failure
- Patients referred from tertiary hospitals after undergoing PCI, Stents, CABG, or Valve replacement

Click here for: <u>Rapid Access Cardiology</u> <u>Referral.pdf</u>

\*\* N.B. A <u>TTE</u> will be arranged prior to clinic appointments for eligible referrals

### Out of scope

- All new onset Atrial fibrillation to be referred into the AF Clinic
- Patients that are stable (that is heart rate is stable and the patient is on anticoagulation) and not for further active management.
- Patients with asymptomatic heart failure with a stable ejection fraction
- Patients that required a Pacemaker check will be referred out
- Patients that are already under the care of a cardiologist – and should be redirected to their cardiologist unless the patient is electing to move under the care of BCH Cariology
- Patients requiring risk management and education – e.g., starting on Lipid lowering therapy

URGENT

Results Investigations & TTE determine urgency of clinic appointment

**ROUTINE** 

 Results Investigations & TTE determine urgency of clinic appointment

# Cardiology



## Arrythmia Clinic

#### When to refer

- New onset or difficult to control Atrial Fibrillation.
- SVT or arrythmias requiring specialist cardiologist electrophysiologist guidance
- Patients referred from territory hospitals after treatment for AF or undergoing ablation
- New onset of difficult to control SVT

\*\* N.B. A <u>TTE</u> will be arranged prior to clinic appointments for eligible referrals

### Out of scope

- Patients that are already under the care of a cardiologist – and should be redirected to their cardiologist unless the patient is electing to move under the care of BCH Cariology
- Patients not for active management may not wish to come to the AF clinic

**URGENT** 

- · Proof of arrythmia
- Atrial fibrillation (AF)
- Arrythmias post interventions

# Cardiology



### Chronic Cardiac Clinic

#### When to refer

- Chronic heart failure, ischaemic heart disease, coronary artery disease (CAD) management
- Patient requiring ongoing supervision may be referred in from the <u>RACC</u> or <u>AF clinic</u>

### Out of scope

 Patients that are already under the care of a cardiologist. Redirected to their cardiologist unless the patient is electing to move under the care of BCH Cardiology



• All referrals for Chronic Cardiac clinic are considered routine

# Cardiology



## Echocardiology Services (Trans Thoracic Echocardiogram TTE)

#### When to refer

- TTE's investigation must be approved by the cardiology specialist
- TTE investigations are generally conducted no more than 6 months apart with the exception of Oncology patients and patients with specific cardiac complaints or as directed by a cardiologist
- \*\* Refer to <u>Stress</u>
   <u>Echocardiography</u> clinic for
   Bubble Echocardiogram

### Out of scope

- Patient is unable to lie flat and/or follow commands
- Patients that have had a TTE completed in the last 6 months with the exception of those ordered by a cardiologist.

#### URGENT

- Oncology prior to treatment
- Infectious Diseases request TTE start
- Stroke workup need TTE & Holter as part of the workup (this is to rule out AF or cardiac cause)
- Preadmissions/Planned surgery, Category 1, requests for TTE

ROUTINE

- Oncology & ongoing normally 3 monthly ongoing TTE's during treatment monitoring for cardiac changes
- Infectious Diseases request TTE 4-6 weeks for positive blood cultures/infections to rule out noninfective growth
- Preadmissions/Planned surgery, Category 2 & 3, requests for TTE

# Cardiology



## Stress Echocardiography

#### When to refer

 Ultrasound examination of the heart whilst exercising on a Treadmill

\*\*Includes referrals for Bubble echocardiograms

\*\*Referrals do not need stress echo & TTE unless cardiologist requests due to concern from recent stress test

### Out of scope

- Patient who are unable to perform exercise and/or have a physical impairment rendering them unable to perform exercise.
- Patients who are unable to exercise unassisted on a treadmill for ten minutes
- Referrals for the following are <u>out of scope</u>;
  - o Bike Stress Test
  - o Chemical Stress Test

**URGENT** 

Investigations only noted urgent

ROUTINE

• Troponin rise post cardiac surgery normally 3-6 months