HEART FAILURE (HF)

HEART FAILURE

Screening

ANNUALLY ask about symptoms of heart failure in everyone with:

- Known heart disease.
- History of acute rheumatic fever and / or rheumatic heart disease.
- History of current or past excessive alcohol consumption (> 4 standard drinks (40g) / d women and > 6 standard drinks (60g) / d men).
- History of arrhythmia (including atrial fibrillation).
- Diabetes (this is an independent risk factor for HF, in addition to increasing the risk of CVD).
- High risk of cardiovascular disease (see CAD).
- Chest pain.

Case Definition

- Heart failure is a complex clinical syndrome that can result from any structural or functional cardiac disorder that impairs the ability of the ventricle to fill with (diastolic) or eject (systolic) blood. It is largely a clinical diagnosis that is based on a careful history, physical examination and Echocardiogram.

Clinically: Patients may present with shortness of breath (especially at night), fatigue, exercise intolerance, ankle swelling and enlarged heart on CXR. However these are all non-specific and some people with HF have no symptoms.

Echocardiogram is important for confirmation of diagnosis, assessment of severity, and helping to determine underlying cause. *Systolic heart failure* is defined as LVEF < 40%. *Diastolic heart failure* is defined as signs or symptoms of heart failure, normal or slightly abnormal LV systolic function and evidence of LV diastolic dysfunction on Echocardiogram.

- The commonest causes of HF in the Kimberley include coronary artery disease, rheumatic heart disease and alcoholic cardiomyopathy.

Principles of Management

IMPORTANT NON-DRUG MANAGEMENT
(see also HEALTHY LIVING).

- Encourage **smoking cessation** and **healthy diet**.
- No alcohol is best but if not practical, aim for less than 2 standard drinks (20g) per day.
- Exercise is very important – encourage walking for 30 minutes at least 5 days each week.
- Limit caffeine intake to maximum of 1 - 2 cups tea or coffee per day.
- Identify and manage other cardiovascular and heart failure risk factors including diabetes, hypertension, hyperlipidaemia and sleep apnoea.
- Daily weight is a useful guide with instructions to contact doctor if weight increases by > 2kg in 2 days.
- Avoid drugs that exacerbate HF including NSAIDs, COXII inhibitors, calcium channel blockers, glitazones, TCAs and some antipsychotics where possible.
- ACE inhibitors are **essential** treatment for HF even if not hypertensive, as they improve LV function.
- Diuretics should be used to correct symptoms of fluid overload.
- Beta blockers and spironolactone improve survival in stable HF.
- Warfarin is indicated in patients with AF.

BASELINE INVESTIGATIONS:

- FBE, creatinine, eGFR, electrolytes, TFTs and thiamine (if global dysfunction present on echocardiogram).
- Screen for diabetes (if not known to be diabetic) and check lipids and LFT's.
- ECG.
- Echocardiogram at first opportunity.

Therapeutic Protocols

NOTE: If eGFR <60, refer to Physician / Renal Physician.

1. **START** ramipril 2.5mg daily.
   - Double the dose every 2 weeks to *either* highest tolerated dose or maximum ramipril 10mg daily.
   - If patient intolerant of ACE-i but without angiooedema, try irbesartan 75mg daily and double every two weeks to maximum of 300mg daily as tolerated.
2. In presence of symptoms of fluid overload, also start frusemide 40mg daily and adjust as required to control symptoms.
3. If symptoms of fluid overload persist, discuss with Physician or Cardiologist (digoxin may be indicated).
4. **Once stabilized** on ACEi +/- frusemide (JVP normal, no pulmonary or peripheral oedema) ALL patients with documented LV dysfunction require maximum tolerated doses of long-acting B-blocker in consultation with Physician.
   - Document weight.
   - Start carvedilol 6.25mg bd and double the dose every 2 weeks if tolerated to a maximum dose of 25mg bd.
5. **Once stabilized** on carvedilol ADD spironolactone 12.5 mg daily. Spironolactone is contraindicated in renal failure (eGFR < 60) or if the baseline potassium is > 5.0.5.

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Follow–up

MAIN SIDE EFFECTS OF MANAGEMENT:

- **Symptomatic postural hypotension** (ramipril, irbesartan, carvedilol).
- **Hyperkalaemia** (ramipril, irbesartan, spironolactone) -
- **Deterioration in renal function** (ramipril, irbesartan, spironolactone, frusemide).
- **Hypokalaemia** (frusemide).

VISIT FREQUENCY:

- **At least every 2 weeks** while titrating therapy, check creatinine, electrolytes, weight and BP (weekly in CKD).
- Once stable, check these parameters **every 3 months**.

If asymptomatic, a systolic blood pressure ≥ 90mmHg is acceptable.

ECHOCARDIOGRAM:

- Yearly if LVEF < 40%.

Women of Child Bearing Age

- Strongly encourage **early antenatal care.**
- Stop **ramipril** and **irbesartan** as soon as pregnancy planned or suspected.
- If **breastfeeding** use **enalapril** 5mg daily doubling every 2 weeks to maximum dose 40mg daily.
- The use of **spironolactone, frusemide** and **carvedilol** in pregnancy and breastfeeding need to be discussed with Obstetrician / Physician.

Refer / Discuss

TO PHYSICIAN / CARDIOLOGIST:

If LVEF < 35%, persisting symptoms of heart failure despite maximum tolerated therapy, presence of dysrhythmia including atrial fibrillation, eGFR < 60, planning pregnancy or pregnant.

TO OBSTETRICIAN: In early pregnancy.