Chronic Heart Failure Guidelines for Adults

Prevalence: The estimated prevalence of heart failure in the general population is 0.4 - 2 %
Prevalence increases rapidly with age exceeding 10% in those aged 65 years and over
Morbidity & mortality: Approximately 20-30% one year mortality in mild to moderate heart failure and greater than 50% in severe heart failure

Diagnosis

A diagnosis should establish the existence of any underlying causes of heart failure or any co-morbidity that may exacerbate the condition or complicate its management

Heart failure is often difficult to diagnose as there are few clinical features in the early stage of the disease. Diagnosis relies on clinical judgement based on history, physical examination and appropriate investigations. In order to diagnose heart failure both the following should be present (Ref: The European Society of Cardiology guidelines);

- Signs and symptoms of heart failure
- Objective evidence of cardiac dysfunction at rest

History

Consider the frequency & history of the following symptoms:
- Breathlessness at rest
- Nocturnal dyspnoea, cough and orthopnoea
- Peripheral oedema
- Tiredness / effort intolerance
- Weight gain
- Anorexia
- Palpitations

Consider drug and lifestyle history:
- OTC medication e.g. NSAIDS **D**
- Prescribed medication
- Coronary heart disease (CHD) risk factors **A**

History of precipitating causes of heart failure such as:
- Infections (especially pneumonia)
- Cardiovascular disease (CVD) e.g. Myocardial infarction (MI), angina, chronic hypertension and pulmonary embolism
- Structural cardiac defect e.g. congenital heart disease, valvular abnormalities, pericardial disease
- Arrhythmia's e.g. atrial fibrillation
- Diabetes; Anaemia; Thyroid disorders; Renal problems; Pregnancy
- Alcohol excess
- Iatrogenic cause - e.g. post operative fluid replacement or drugs

Examination

A general examination to assess:
- Elevated JVP
- Peripheral oedema
- Weight (measurement)
- Ascites
- Hepatomegaly
- Cachexia and muscle wasting

Check pulse for:
- Tachycardia or other arrhythmia
- Atrial fibrillation
- Pulsus alternans

Examination of the heart and lungs:
- Displaced apex beat
- Ventricular heave
- 3rd heart sound or gallop rhythm
- Crepitations

Routine tests and investigations

- **Blood tests C**
  To exclude or diagnose anaemia, renal, thyroid, hepatic disease or diabetes
- **Electrocardiogram (ECG) B**
  ECGs are crucial in confirming heart rhythm. 5-10% of patients with a normal ECG may still have heart failure, so where clinical doubt persists consider echocardiography
- **Chest XRay (CXR) C**
  CXR may be of value in excluding pulmonary disease as a cause of symptoms. There is a poor relationship between heart size on CXR and LVF. It should **NOT** be a prerequisite to echocardiography
- **Echocardiography (Echo) B**
  All patients with suspected heart failure should be referred. Echocardiography is the gold standard for diagnosis
- **Consider spirometry C**
  To exclude pulmonary disease as a cause of symptoms - if available

Functional capacity - New York Heart Association Classification	Objective assessment
Class I. No limitations of physical activity. Ordinary physical activity does not cause undue fatigue, palpitations, dyspnoea or anginal pain	No objective evidence of CVD
Class II. Slight limitation of physical activity. Comfortable at rest. Ordinary physical activity results in fatigue, palpitations, dyspnoea or anginal pain	Objective evidence of minimal CVD
Class III. Marked limitation of physical activity. Comfortable at rest. Less than ordinary physical activity causes fatigue, palpitations, dyspnoea or anginal pain	Objective evidence of moderately severe CVD
Class IV. Unable to carry on any physical activity without discomfort. Symptoms of heart failure or the anginal syndrome may be present even at rest. If any physical activity is undertaken, discomfort is increased	Objective evidence of severe CVD

MANAGEMENT OF LEFT VENTRICULAR FAILURE

CONSIDER 1: Good Practice Principles

- Assess functional capacity using the New York Heart Association Classification (NYHA)
- Educate patients and their families based on assessment of their understanding of heart failure e.g. Provide leaflets, videos etc (A)
- Refer to PACE Primary and Secondary Prevention of CHD guidelines for lifestyle support
- Consider stopping other drug treatments e.g. NSAIDs, calcium antagonists and tricyclics
- If heart failure is severe advise patients to restrict salt and fluid intake (1-1.5 litres / 24 hours)
- Offer appropriate vaccinations e.g. pneumococcal and flu vaccine (A)
- Keep comprehensive patient records of assessment, diagnosis and management. Use Read Codes

CONSIDER 2: Drug Treatment

Please refer to BNF for contra-indications and specific instructions

Volume overload (A)
Signs of sodium and water retention
- Mild symptoms - A low dose loop diuretic
- Moderate symptoms - A loop diuretic
- Severe symptoms (NYHA 111-1V)-high dose loop diuretic and consider low dose spironolactone (25mg orally once daily)

Persisting symptoms
- Consider digoxin (A) and / or referral to a 'specialist'

ACE Inhibitors (ACE I) (A)
An ACE I should be started in all patients
- Remember to start on a low dose ACE I, this should be titrated to an intermediate dose over the first week
- Review U&Es after one week and if no adverse effects, titrate to licensed dose aiming for maximal therapy as per BNF over a one month period. Re-assess blood chemistry and adverse effects (e.g. intolerable cough, hyperkalaemia, renal dysfunction and symptomatic hypotension).
Repeat U&Es after each significant dose change
- If ACE are not tolerated, an Angiotensin-II receptor antagonist may be considered.
There is no persuasive evidence that Angiotensin-II receptor antagonist are superior to ACE I in heart failure (E)

Beta - blockers
- **Start low go slow** - Certain beta-blockers can reduce mortality but require careful dose titration currently under 'specialist' supervision (A)
- Patients already prescribed Beta-blockers should continue taking them unless recently started and thought to be a causative factor. Consider a dose reduction

Atrial fibrillation
- Referral to anticoagulation clinic to initiate warfarin unless contra-indicated (A)
- If tachycardic consider digoxin (B) and/ or 'specialist' referral
- Electrical cardioversion (B) may be indicated and other specialised drugs such as amiodarone e.g. Recent onset

Angina (A)
- Refer to PACE angina guidelines. Coronary angiography and bypass surgery may be indicated

Aspirin
- Prescribe aspirin 75mg if coronary artery disease. Unless on warfarin (A)

Statins
- Aim to lower cholesterol if coronary artery disease to below 5mmol/l or to reduce total serum cholesterol by 20 - 25% which ever would result in the lowest level. Equivalent LDL would be 3mmol/l or by 30% reduction whichever results in the lowest level (C)

CONSIDER 3: Other Referral Options

- Refer patients suitable for surgical intervention e.g. cardiac transplantation
- Remember heart failure is a symptomatic terminal disease. If all above therapeutic options have been explored, and the patient is deteriorating uncomfortably, consider referral to specialist palliative care (D)

CONSIDER 4: Reviewing Patients

- Monitor the following at least annually, more frequently if clinically indicated making comparisons to previous assessments:

Vital signs	NYHA functional capacity	Compliance
Symptoms	Lifestyle	Electrolytes and renal function
Weight (measurement)	Drug levels - where indicated	

- Reviews may be undertaken at clinic, home or via telephone consultation and may utilise the support of other members of the PHCT

Key Messages

- Untreated heart failure has a high mortality
- Echocardiography is gold standard for diagnosis
- Start an ACE unless contra-indicated
- Beta blockers are beneficial

GRADING OF THE EVIDENCE:

A - Randomised controlled trials
B - Controlled studies
C - Robust experimental or observational studies
D - National expert consensus opinion
E - Local expert consensus opinion