Heart failure guideline update: a guide for general practice

INTRODUCTION
Heart failure (HF) is a clinical syndrome caused by a structural or functional cardiac abnormality and results in reduced cardiac output or elevated intracardiac pressures. It affects approximately 900 000 patients in the UK. In recent years, both the European Society of Cardiology (ESC) and the American Heart Association (AHA) updated their HF guidelines simultaneously, with a reassuringly large overlap in most recommendations. Furthermore, updated National Institute for Health and Care Excellence (NICE) guidelines (NG106) were published in September 2018, and are largely based on the same evidence.

This article describes updates to seven principal topics, with particular emphasis on areas of most relevance to primary care, including HF definitions, a new ‘time to therapy’ approach, diagnosis, pharmacological treatment, cardiac resynchronisation therapy [CRT] indications, prevention, and multidisciplinary team working. In addition, the management of HF with preserved ejection fraction (HFpEF) is discussed.

NEW DEFINITIONS OF HEART FAILURE
Previously, HF was divided into those patients with left ventricular (LV) systolic impairment on transthoracic echocardiography (TTE) and those with preserved ejection fraction. The updated ESC, but not AHA or NICE, guidelines, introduce a new notion of HF with mid-range ejection fraction (HFrEF), for patients with LV ejection fraction (EF) of 40–49%, alongside modified definitions for reduced EF (HFrEF, EF <40%) and preserved EF (HFpEF, EF ≥50%). Although this differentiation may seem semantic, it is hoped that, by making it an entity in its own right, research and treatment will be developed for this important group (HFrEF) in whom orthodox treatments for HFpEF have been ineffective.

TIME TO THERAPY APPROACH FOR ACUTE HEART FAILURE
In line with management of acute coronary syndromes, a new treatment algorithm recommends assessment and initiation of treatment within 60–120 minutes for acute HF. In general practice, this means that signs of acute fluid overload or hypoperfusion should be referred urgently to secondary care.

DIAGNOSIS IN THE NON-ACUTE SETTING
New diagnostic algorithms for HF in the non-acute setting rely on history and examination findings, followed by measurement of plasma brain natriuretic peptide (BNP) or its N-terminal prohormone, NT-proBNP, which are released in response to myocardial stretch and are used as biomarkers in HF; for conciseness, BNP is here used to refer to both assays. If it is normal, HF is unlikely as BNP is very sensitive, although not very specific, for HF. If elevated, management will depend on local guidelines, but will usually recommend referral for TTE and specialist assessment. If normal, onward referral to cardiology is unnecessary and other causes of the symptoms should be considered. The NICE guidelines recommend 6-week routine referral, unless BNP is very high (BNP >400 pg/ml or NT-proBNP >2000 pg/ml), in which case 2-week referral is recommended. The NICE guidelines emphasise that BNP may be uniformly lower in patients of West African family origin, thereby confounding diagnosis for these patients, in whom there is a relatively high incidence of HFpEF.

TREATMENT OF HFpEF
The mainstay of pharmacological treatment for this patient group continues to be angiotensin-converting enzyme inhibitor (ACEI) or angiotensin receptor blocker (ARB) and beta-blockers, alongside diuretics (Figure 1). Mineralocorticoid-receptor antagonists should be added if symptoms remain and EF ≤35%. Next-line therapies include an angiotensin receptor neprilysin inhibitor (ARNI), sacubitril/valsartan, in place of the ACEI, which has been shown to reduce the risk of hospitalisation and death in ambulatory patients.
Further adjuvant treatments include ivabradine, which can be added for rate control in patients in sinus rhythm once maximum tolerated doses of beta-blockers are prescribed. In addition, the ESC guidelines recommend intravenous iron therapy in symptomatic patients with HFrEF and iron deficiency to alleviate symptoms; however, no such recommendation has been made in the NICE guidelines. Finally, the NICE guidelines clarify the timing of monitoring in patients with chronic HF, which is at least 6-monthly for stable patients.

Routine treatment with statins, anticoagulants, or antiplatelets is not recommended in HFrEF, but they should be continued if patients are already receiving them for other indications. Calcium channel blockers are contraindicated for these patients.

**REFERENCES**


**PREVENTION OF HEART FAILURE**

The new guidelines make several evidence-based recommendations regarding pharmacological approaches to prevent or delay the onset of HF. In particular:

- the management of arterial hypertension is given increased prominence, and should be treated as per the latest clinical guidelines;
- statins in patients with or at high risk of coronary artery disease [CAD] are recommended both to prevent cardiovascular events, and to delay the onset of HF independent of recurrent myocardial infarction;
- ACEI therapy is recommended for all patients with CAD, regardless of HF status, and in all patients with asymptomatic LV systolic dysfunction, alongside the existing indication of HFpEF; and
- beta-blockers are recommended for all patients with HFrEF, as well as for secondary prevention in ischaemic heart disease.

Finally, empagliflozin, an oral hypoglycaemic that inhibits sodium-glucose cotransporter 2 (SGLT2), has been shown to improve outcomes (including reduction in mortality and HF hospitalisations) in patients with type 2 diabetes; however, further evidence from other SGLT2 inhibitors is required before formal guideline recommendations are likely.

**MULTIDISCIPLINARY TEAM WORKING**

The NICE guidelines, in particular, give clearer detailed advice on multidisciplinary working, with a focus on shared decision making, care planning, cardiac rehabilitation, lifestyle advice, comorbidities, and end-of-life care.

**CONCLUSION**

The comprehensive updated HF guidelines apply to a large cohort of patients and are therefore highly relevant to GPs across the UK. Despite some differences between the ESC/AHA and NICE guidance, the latter should take precedence in the UK. HF is a treatable disease and application of the growing evidence base will ensure the best possible outcomes for patients.

**Provenance**

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**Competing interests**

The authors have declared no competing interests.

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