



Understanding heart failure guidelines

Comorbidities

What is this guide, and who is it for?

The Heart Failure Policy Network has developed this guide as a lay summary of key principles in the European Society of Cardiology (ESC) guidelines, United Kingdom National Institute for Health and Care Excellence (NICE) guidelines and position statements by the Heart Failure Association of the ESC. The guide seeks to raise awareness of key elements of best practice in the care and management of heart failure (HF). It will be of interest to non-specialist audiences such as people with HF, patient advocates, non-cardiology healthcare professionals, clinical advocates of best practice and health system reform, organisational leaders, and political or public officials.

Guidelines are documents with suggestions or recommendations for care that derive from scientific evidence to aid patients and healthcare professionals in their decision-making – they are not prescriptive documents. Care must be tailored to each person's needs through careful collaboration between the person with HF, their family/carers and the HF care team.

This document neither replicates nor supersedes established clinical guidelines for the purpose of formal professional training or accreditation, patient therapeutic education or clinical decision-making. Clinicians, patients and service managers should consult European and national guidance as appropriate.



Comorbidities

People with heart failure (HF) often have other health conditions, known as comorbidities. Comorbidities may worsen HF or change the way HF is treated.¹ They can have a serious negative impact on quality of life and wellbeing, but much can be done to manage them appropriately and support people with HF.



Heart failure facts

Three in four people with HF have at least one comorbidity.²

The HF care team should always consider comorbidities and how to treat them when providing HF care.¹

Which comorbidities are common in HF?

- Depression
- Diabetes
- Hypertension
- Iron deficiency and anaemia
- Kidney dysfunction
- Lung disease
- Potassium dysregulation.¹

HF guidelines sometimes consider a broad definition of comorbidities that includes risk factors, such as atrial fibrillation and coronary artery disease, and conditions that may worsen HF or change how it is treated. This collection of guides considers these types of conditions separately – risk factors are discussed in [Understanding heart failure guidelines: Prevention](#).





What do the guidelines say?

The guidelines offer information on how to manage HF and common comorbidities.

Depression



Heart failure facts

Depression affects one in five people with HF.³

Depression increases hospitalisations and mortality, and decreases quality of life and self-care behaviour in people with HF.^{1,3} The HF care team should look for symptoms of depression in people with HF on a regular basis, and should discuss potential treatment options when signs or symptoms are identified.^{1,3}

Best practice from key European guidelines

The HF care team can detect and measure depression using validated questionnaires, such as the Beck Depression Inventory or Cardiac Depression Scale.¹ Treatment options include cognitive behavioural therapy, physical exercise programmes and medication. Tricyclic antidepressants are not recommended for people with HF, as they may worsen HF symptoms.¹

Referrals to specialist support, such as psychologists, should be made where needed.^{1,3}

More information about depression in HF is included in [Understanding heart failure guidelines: Patient empowerment and self-care](#).

Diabetes



Heart failure facts

Between 36% and 50% of people with HF have diabetes.⁴

The combination of HF and diabetes is linked to an increased risk of hospitalisation, mortality and difficulty performing daily activities.^{1 4}

People with HF and diabetes should manage their blood sugar (glycaemic control) under careful guidance from the care team. Some medicines for diabetes may need to be introduced gradually and moderately to ensure they do not worsen HF symptoms.^{1 4}

Best practice from key European guidelines

It is important to monitor kidney function and potassium levels when starting or adjusting HF medicines in people with HF and diabetes.⁴ Medicines like angiotensin receptor blockers (ARBs), angiotensin-converting enzyme (ACE) inhibitors and mineralocorticoid receptor agonists (MRAs) may temporarily reduce kidney function but can bring long-term benefits to people with both HF and diabetes.

Gliflozins, also known as SGLT2 inhibitors, are medicines for diabetes (antidiabetics) that are recommended to reduce the risk of HF hospitalisation in people with both conditions.⁴ Some antidiabetics, however, may have a negative impact on HF symptoms and should be monitored closely (e.g. insulin) or avoided entirely (e.g. thiazolidinediones).⁴ Medicines in the gliptins class need to be considered carefully, as some are not suitable for people with HF and diabetes.



Hypertension



Heart failure facts

Hypertension (high blood pressure) affects more than half of all people with HF.²

Hypertension is linked to high numbers of hospitalisations and strokes in people with HF – in fact, it is a leading risk factor for HF.¹

Best practice from key European guidelines

Most HF medicines also treat hypertension. If hypertension persists in spite of treatment, the HF care team may prescribe additional medicines to relax and widen the blood vessels, and consequently decrease blood pressure.¹ Some people may experience low blood pressure due to their HF medicines; where possible and tolerated, medication should be continued to ensure management of HF.⁵

It is important to note that not all hypertension medicines are suitable for use by people with HF.¹ For example, alpha blockers (also known as alpha-adrenoreceptor antagonists) may increase fluid retention in people with HF. In acute HF* with hypertension, intravenous vasodilators should be considered as initial therapy to improve HF symptoms.¹

* Acute HF is the rapid onset or worsening of HF symptoms, typically requiring hospitalisation and immediate treatment.

Iron deficiency and anaemia



Heart failure facts

Between 40% and 70% of people with HF have insufficient levels of iron in the body (iron deficiency).⁶

Iron deficiency has a negative effect on prognosis, quality of life, symptom burden and functional capacity in people with HF.⁶ It can lead to anaemia, a condition in which the number of healthy red blood cells in the body is lowered, affecting the delivery of oxygen to the person's tissues and organs.¹

Symptoms of iron deficiency depend on the degree of deficiency and potential associated anaemia, and may include fatigue, shortness of breath, pale skin and heart palpitations.^{7,8} The objective of treatment is to restore iron levels in the body.⁶

Best practice from key European guidelines

The care team should consider testing iron levels following HF diagnosis.¹ For people with an existing HF diagnosis, it may be beneficial to test iron levels once or twice a year when HF is stable, after HF-related hospitalisations and when people experience symptoms despite optimal HF treatment.⁶

People with HF with reduced ejection fraction (HFrEF)* and iron deficiency should receive intravenous iron supplementation and should be screened for reversible/treatable causes of iron deficiency, such as gastrointestinal bleeding.¹

Guidance for treatment of iron deficiency in people with HF with preserved ejection fraction (HFpEF)* is limited.

* HFrEF occurs when the heart is unable to contract effectively, while HFpEF refers to when the heart contracts effectively but holds only a small volume of blood that does not meet the body's needs.

More information about HF classification is included in [Understanding heart failure guidelines: Diagnosis](#).



Kidney dysfunction



Heart failure facts

Between 40% and 50% of people with HF experience kidney dysfunction.⁹

Kidney dysfunction, including chronic kidney disease and acute kidney injury, predicts worse outcomes for people with HF.¹ The HF care team should investigate potential sources of kidney dysfunction and adjust HF treatment accordingly.

Best practice from key European guidelines

Starting or adjusting HF medicines, such as ACE inhibitors and ARBs, may lead to an initial decrease in kidney function, but medication should not be stopped unless this decrease is significant.¹ If this occurs, the HF care team should review the person's blood volume status (hyper/hypovolaemia), potassium levels and medication regimen, and check for narrowing in the arteries delivering blood to the kidneys (renal artery stenosis).¹

Kidney dysfunction affects how medicines are processed in the body – if it is identified, doses of HF medication may need to be adjusted.¹

Lung disease



Heart failure facts

More than 20% of people living with HF have chronic obstructive pulmonary disease (COPD).^{10 11}

Lung diseases, like COPD and asthma, share many symptoms with HF and increase mortality in people with HF.¹ HF treatment may need to be adjusted if lung disease is diagnosed.

Best practice from key European guidelines

If lung disease is suspected, lung function should be assessed – but only when HF has been stable for at least three months.¹

Beta blockers, a typical treatment option in HF, are normally not recommended for people with asthma. However, low doses of cardio-selective beta blockers may be introduced under close supervision by a specialist.¹

Some medicines for lung disease can negatively affect HF. For example, oral corticosteroids can cause sodium and water retention, and therefore worsen HF symptoms.¹

HF guidelines recommend smoking cessation for all people with HF,¹ and this may be even more important for people with both HF and lung disease.





Potassium dysregulation



Heart failure facts

HF and its treatment can cause an imbalance in the levels of potassium in the body, which can become too low (hypokalaemia) or too high (hyperkalaemia).¹

People with hypo- or hyperkalaemia often do not experience symptoms, but muscle weakness and heart palpitations may be signs to seek medical attention.¹² Potassium dysregulation, in the form of low or high levels, can cause an irregular heartbeat and may worsen HF symptoms.¹ The HF care team should monitor potassium levels and supplement or adjust treatment accordingly.

Best practice from key European guidelines

Some diuretics, such as loop or thiazide diuretics, can cause hypokalaemia, which may prompt the HF care team to recommend high-potassium foods and/or potassium supplements.¹

Several HF medicines, including ACE inhibitors, ARBs and MRAs, can cause hyperkalaemia. In this case, the HF care team can decrease potassium levels by prescribing potassium binders or temporarily stopping these medicines. Potassium levels should be monitored and HF treatment should be resumed as soon as possible.¹

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Acknowledgements

Considerable thanks and acknowledgement are due to all members of the Project Advisory Group for their continued input throughout this project:

- Dr Josep Comín-Colet (Bellvitge University Hospital, Spain)
- Professor Salvatore Di Somma (University La Sapienza Rome, Sant'Andrea Hospital and Associazione Italiana Scompensati Cardiaci, Italy)
- Professor José Ramón González-Juanatey (University Hospital Santiago de Compostela, Spain)
- Ms Penilla Gunther (FOKUS Patient and former Member of Parliament, Sweden)
- Mr Neil Johnson (Croí, West of Ireland Cardiac Foundation, Ireland)
- Mr Steven Macari (Association Vie Et Coeur (AVEC), France)
- Ms Sandra Mulrennan (St Bartholomew's Hospital Heart Failure Service, Barts Health NHS London, United Kingdom)
- Ms Patricia Vlasman (Let the Beat Go On, the Netherlands).

About the Heart Failure Policy Network

The Heart Failure Policy Network is an independent, multidisciplinary group of healthcare professionals, patient advocacy groups, policymakers and other stakeholders from across Europe whose goal is to raise awareness of the unmet needs surrounding heart failure and its care. All Network content is non-promotional and non-commercial. The Secretariat is provided by The Health Policy Partnership Ltd, an independent health policy consultancy based in London.

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