

NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

SCOPE

1 **Guideline title**

Acute heart failure: diagnosing and managing acute heart failure in adults

1.1 **Short title**

Acute heart failure

2 **The remit**

The Department of Health has asked NICE: 'To prepare a guideline on the diagnosis and management of acute heart failure'.

3 **Clinical need for the guideline**

3.1 **Epidemiology**

- a) Acute heart failure can present as new-onset heart failure in people without known cardiac dysfunction, or as acute decompensation of chronic heart failure (that is, a significant deterioration in heart function).
- b) Acute heart failure can be categorised as follows: acute heart failure with pulmonary oedema, cardiogenic shock, acute right-sided heart failure and acute decompensated heart failure.
- c) Acute heart failure is a common cause of admission to hospital, and the leading cause of hospital admission in people 65 years or older in the UK. According to the 2010/11 UK National Heart Failure Audit, most people admitted to hospital with acute heart failure are aged over 60, with 25% aged between 60 and 74 and 68% over 75. Men and women seem to be equally affected, but men are usually 5 years younger than women at the time of

hospital admission (mean age 75 years for men and 80 years for women).

- d) In 2009/10, 67,158 people in England and Wales were discharged from hospital with a primary diagnosis of heart failure. European registry data show that nearly 50% of people admitted to hospital with acute heart failure are re-admitted within 12 months. The risk of re-admission or death within 60 days is 30–50%. The rate of hospital admission for acute heart failure is similar to that for acute coronary syndrome, but the mortality rate for acute heart failure is higher.
- e) Mortality from acute and chronic heart failure is high. The 2010/11 UK National Heart Failure Audit showed that about a third of people with acute heart failure die during their first hospitalisation or in the year after.

3.2 *Current practice*

- a) A range of methods are used to diagnose acute heart failure. These include clinical evaluation, electrocardiogram (ECG), chest X-ray and other imaging techniques, laboratory tests and echocardiography. The availability of facilities and techniques for diagnosing acute heart failure varies. There is currently variation in access to diagnostic blood tests, echocardiography and specialist clinical assessment.
- b) Monitoring and diagnostic procedures begins as early as possible. Monitoring techniques may be non-invasive (for example, measuring blood pressure, ECG and pulse oximetry) or invasive (for example, using arterial lines, central venous pressure lines or pulmonary artery catheters). Several factors influence which level and type of monitoring is most effective; these include the severity of the condition and response to initial treatment.

- c) There is a difference of opinion among healthcare professionals about the use of respiratory support, diuretics, vasodilators and inotropic agents in people with acute heart failure, particularly during emergency care.
- d) Different management strategies are used depending on whether the condition is associated with pulmonary oedema or cardiogenic shock, or is acute right-sided heart failure or acute decompensated heart failure. There is also variation in that some people are treated in critical care settings and others receive care in general medical wards.
- e) Preventing renal damage is an important consideration for people with acute heart failure. However, it is not clear what level of renal support should be offered in clinical practice.

4 The guideline

The guideline development process is described in detail on the NICE website (see section 6, 'Further information').

This scope defines what the guideline will (and will not) examine, and what the guideline developers will consider. The scope is based on the referral from the Department of Health.

The areas that will be addressed by the guideline are described in the following sections.

4.1 Population

4.1.1 Groups that will be covered

- a) Adults (aged 18 years or older) who have a diagnosis of acute heart failure, or have possible acute heart failure, or are being investigated for acute heart failure.

- b) Specific consideration will be given to subgroups with pulmonary oedema, cardiogenic shock, acute right-sided heart failure or acute decompensated heart failure.

4.1.2 Groups that will not be covered

- a) Children and young people under 18 years.

4.2 *Healthcare setting*

- a) Hospital settings.
- b) Community settings.

4.3 *Clinical management*

4.3.1 Key clinical issues that will be covered

Diagnosis, assessment and monitoring

- a) In addition to the standard investigations (such as ECG, chest X-ray and blood tests), the added benefit of using natriuretic peptides or echocardiography.
- b) Indications for, and types of, invasive (arterial lines, central venous pressure lines and pulmonary artery catheters) monitoring when non-invasive monitoring alone is no longer appropriate.

Management of acute heart failure

- c) Specialist management units.

Initial treatment

Oxygen and ventilatory support

- d) The use of supplementary oxygen, ventilatory support (CPAP), non-invasive (NIPPV) or invasive ventilation to maximise oxygen delivery to the tissues to prevent multiple organ failure.

Pharmacological therapy

- e) Management with drug therapy, including diuretics, opiates, vasodilators, inotropic agents and vasopressors.
- f) Discontinuing beta-blockers.

Ultrafiltration

- g) Timing (initiation and duration) of ultrafiltration.

Mechanical cardiac support

- h) Mechanical circulatory assistance with intra-aortic balloon counterpulsation or ventricular assist devices.

Treatment after stabilisation

Pharmacological therapy

- i) Starting or re-instating treatment for new-onset acute heart failure with angiotensin-converting enzyme (ACE) inhibitors, beta-blockers and/or aldosterone antagonists.

Surgical or percutaneous treatment

- j) The use of coronary revascularisation and valvular surgery when acute heart failure is a severe complication of other cardiac disorders.

Organisation of care

- k) Transition from hospital to primary care after the acute phase.

Note that guideline recommendations will normally fall within licensed indications; exceptionally, and only if clearly supported by evidence, use outside a licensed indication may be recommended. The guideline will assume that prescribers will use a drug's summary of product characteristics to inform decisions made with individual patients.

4.3.2 Clinical issues that will not be covered

- a) The long-term management of underlying diseases (such as congenital heart disease) and comorbidities of acute heart failure.
- b) The management of perioperative acute heart failure.
- c) The long-term management of acute heart failure in pregnant women.

4.4 Main outcomes

- a) Mortality.
- b) Major cardiovascular events (non-fatal myocardial infarction, stroke).
- c) Length of hospital stay and re-admission rates.
- d) Adverse events.
- e) Quality of life.

4.5 Economic aspects

Developers will take into account both clinical and cost effectiveness when making recommendations involving a choice between alternative interventions. A review of the economic evidence will be conducted and analyses will be carried out as appropriate. The preferred unit of effectiveness is the quality-adjusted life year (QALY), and the costs considered will usually be only from an NHS and personal social services (PSS) perspective. Further detail on the methods can be found in 'The guidelines manual' (see 'Further information').

4.6 Status

4.6.1 Scope

This is the final scope.

4.6.2 Timing

The development of the guideline recommendations will begin in October 2012.

5 Related NICE guidance

5.1 *Published guidance*

5.1.1 NICE guidance to be updated

No guidance has been identified that is likely to be updated or replaced by this guideline.

5.1.2 NICE guidance to be incorporated

There is no guidance to be incorporated.

5.1.3 Other related NICE guidance

- [Patient experience in adult NHS services](#). NICE clinical guidance 138 (2012).
- [Hypertension](#). NICE clinical guideline 127 (2011).
- [Stable angina](#). NICE clinical guideline 126 (2011).
- [Bivalirudin for the treatment of ST-segment elevation myocardial infarction \(STEMI\)](#). NICE technology appraisal guidance 230 (2011).
- [Chronic heart failure](#). NICE clinical guideline 108 (2010).
- [Chest pain of recent onset](#). NICE clinical guideline 95 (2010).
- [Unstable angina and NSTEMI](#). NICE clinical guideline 94 (2010).
- [Type 2 diabetes – newer agents](#). NICE clinical guideline 87 (2009).
- [Prasugrel for the treatment of acute coronary syndromes with percutaneous coronary intervention](#). NICE technology appraisal guidance 182 (2009).
- [Chronic kidney disease](#). NICE clinical guideline 73 (2008).
- [Lipid modification](#). NICE clinical guideline 67 (2008).
- [Smoking cessation services](#). NICE public health guidance 10 (2008).
- [MI: secondary prevention](#). NICE clinical guideline 48 (2007).

- [Varenicline for smoking cessation](#). NICE technology appraisal guidance 123 (2007).
- [Cardiac resynchronisation therapy for the treatment of heart failure](#). NICE technology appraisal guidance 120 (2007).
- Atrial fibrillation. NICE clinical guideline 36 (2006).
- [Short-term circulatory support with left ventricular assist devices as a bridge to cardiac transplantation or recovery](#). NICE interventional procedure guidance 177 (2006).
- [Brief interventions and referral for smoking cessation](#). NICE public health guidance 1 (2006).
- [Coronary imaging: myocardial perfusion scintigraphy for the diagnosis and management of angina and myocardial infarction](#). NICE technology appraisal guidance 73 (2003).

5.1.4 Related NICE quality standards

- Chronic Heart Failure quality standard. NICE quality standard 9 (2011).

5.2 Guidance under development

NICE is currently developing the following related guidance (details available from the NICE website):

- [Ivabradine for the treatment of chronic heart failure](#). NICE technology appraisal guidance. Publication expected December 2012.
- [Myocardial infarction with ST-segment-elevation](#). NICE clinical guideline. Publication expected July 2013.
- [MI – secondary prevention \(update\)](#). NICE clinical guideline. Publication expected July 2013.
- [Implantable cardioverter defibrillators for the treatment of arrhythmias and cardiac resynchronisation therapy for the treatment of heart failure \(review of TA95 and TA120\)](#). NICE technology appraisal guidance. Publication expected September 2013.
- [Lipid modification \(update\)](#). NICE clinical guideline. Publication date to be confirmed.

- [Atrial fibrillation \(update\)](#). NICE clinical guideline. Publication date to be confirmed.
- [Ticagrelor for the treatment of acute coronary syndromes \(ACS\)](#). NICE technology appraisal guidance. Publication date to be confirmed.

6 Further information

Information on the guideline development process is provided in the following documents, available from the NICE website:

- [‘How NICE clinical guidelines are developed: an overview for stakeholders the public and the NHS’](#)
- [‘The guidelines manual’](#).

Information on the progress of the guideline will also be available from the [NICE website](#).