HEART FAILURE

Chronic heart failure part 2: treatment and management

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None declared

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Abstract
Chronic heart failure is a common and complex clinical syndrome that results from impaired cardiac relaxation or contraction. There have been considerable advances in the management of chronic heart failure; however, the mortality rate remains high. Patients with chronic heart failure may experience multiple debilitating symptoms, such as fatigue, pain, and peripheral oedema. However, breathlessness may be considered the most debilitating symptom. The management of chronic heart failure aims to improve the patient’s quality of life by reducing symptoms and supporting the patient to manage their condition. Treatment of patients with chronic heart failure may involve a combination of pharmacological therapy, device implantation and cardiac rehabilitation. This is the second of two articles on chronic heart failure. Part I discussed the pathophysiology of chronic heart failure, its causes, assessment, signs and symptoms. Part 2 outlines the treatment and management of patients with the condition, including pharmacological strategies, device implantation, lifestyle modification, cardiac rehabilitation and palliative care.

Keywords
breathlessness, cardiac resynchronisation therapy, cardiology, chronic heart failure, heart failure, implantable cardioverter defibrillators, left ventricular systolic dysfunction

Aims and intended learning outcomes
This article aims to develop nurses’ understanding of the treatment and management of patients with chronic heart failure. After reading this article and completing the time out activities you should be able to:
» Summarise the treatment options for patients with chronic heart failure resulting from left ventricular systolic dysfunction.
» Explain the rationale for different management approaches for patients with chronic heart failure.
» Discuss with a colleague the lifestyle advice you would offer patients with chronic heart failure to enable them to improve self-management.

Introduction
This is the second of two articles on chronic heart failure, which provides an overview of the management of this complex clinical syndrome. The first article addressed the epidemiology, physiology, and pathophysiology of chronic heart failure, its causes, assessment, signs and symptoms (Brake and Jones 2017).

The primary aims of the treatment and management of chronic heart failure are: the relief of symptoms, including breathlessness and oedema; the prevention of hospital admissions; and improving survival and health-related quality of life (Ponikowski et al 2016). Established evidenced-based treatments for chronic heart failure are based on managing a reduced ejection fraction. Therefore, this article focuses on management considerations in chronic symptomatic heart failure with reduced ejection fraction. Treatment can comprise pharmacological strategies and non-pharmacological strategies, for example a cardiac resynchronisation therapy (CRT) device or an implantable cardioverter.
defibrillator (ICD), as well as lifestyle modifications. Figure 1 presents an overview of treatment options in chronic symptomatic heart failure with left ventricular systolic dysfunction (Ponikowski et al 2016).

**TIME OUT 1**

A patient presents with chronic heart failure resulting from left ventricular systolic dysfunction. Make a list of the pharmacological strategies you would consider, giving the rationale. Use Figure 1 to develop a treatment algorithm.

**Figure 1. Treatment options in chronic symptomatic heart failure with left ventricular systolic dysfunction**

Class I (green): is recommended or is indicated. Evidence and/or general agreement that a given treatment or procedure is beneficial, useful, effective.

Class IIa (yellow): should be considered. Weight of evidence or opinion is in favour of usefulness or efficacy.

for a patient in your care. You may wish to refer to the 2016 European Society of Cardiology (ESC) Guidelines for the Diagnosis and Treatment of Acute and Chronic Heart Failure (Ponikowski et al 2016), available at: eurheartj.oxfordjournals.org/content/ehj/37/27/2129.full.pdf.

Pharmacological strategies
Pharmacological strategies form the basis of management in patients with chronic heart failure resulting from left ventricular systolic dysfunction.

Angiotensin-converting enzyme inhibitors
Angiotensin-converting enzyme (ACE) inhibitors, such as ramipril, lisinopril and perindopril arginine, are a first-line therapy in the management of left ventricular systolic dysfunction (National Institute for Health and Care Excellence (NICE) 2010). They improve symptoms of chronic heart failure and reduce the risk of mortality by inhibiting the effect of ACE and the production of angiotensin II. ACE inhibitors should be commenced at a low dose and the dose gradually titrated upwards to achieve the maximum tolerated dose (Ponikowski et al 2016), with careful monitoring of the patient’s blood pressure, renal function and serum potassium because of the risk of hyperkalaemia (British National Formulary (BNF) 2016). ACE inhibitors can cause a dry cough for some patients, resulting from the breakdown of bradykinin. If this occurs and is intolerable, an angiotensin II receptor blocker licensed for use in heart failure may be used as an alternative. Angiotensin II receptor antagonists, such as candesartan cilexetil, inhibit the effect of angiotensin II and are recommended only when ACE inhibitors are not tolerated by the patient (NICE 2010).

Angiotensin receptor neprilysin inhibitor
Valsartan with sacubitril is an angiotensin receptor neprilysin inhibitor that has recently been approved for use as a replacement for ACE inhibitors, to further reduce the risk of hospitalisation and death in ambulatory patients with heart failure with preserved ejection fraction who remain symptomatic despite optimal treatment with an ACE inhibitor, a beta-blocker and an aldosterone antagonist (Ponikowski et al 2016). The combined effect of sacubitril and valsartan blocks the undesirable effects of the renin-angiotensin-aldosterone system, and inhibits the breakdown of naturetic peptides, which promote natriuresis and vasodilatation (Jhund and McMurray 2016). Trial data have demonstrated the superiority of valsartan with sacubitril over ACE inhibitors in reducing symptoms, cardiovascular death and hospitalisation in patients with heart failure (McMurray et al 2014).

Bet-adrenoceptor blockers
Beta-adrenoceptor blockers (beta blockers) are also considered a first-line therapy in left ventricular systolic dysfunction, together with ACE inhibitors. Beta-blockers licensed for use in heart failure include bisoprolol fumarate, carvedilol and nebivolol. These drugs act by blocking the beta cell’s ability to take up adrenaline (epinephrine) and therefore reduce heart rate. They should be used with a ‘start low, go slow’ approach; initiating therapy at a low dose and gradually increasing this to the maximum tolerated dose in accordance with heart rate and blood pressure (BNF 2016). Beta blockers are usually avoided in patients with asthma, but may be prescribed under specialist supervision if no alternative is available (BNF 2016).

Aldosterone antagonists
Aldosterone antagonists, such as spironolactone and eplerenone are a second-line therapy for patients with left ventricular systolic dysfunction who are established on an ACE inhibitor and beta blocker, yet remain symptomatic, or have had a myocardial infarction in the previous month. They block the effect of aldosterone, thereby reducing sodium and water re-absorption and fluid retention. Aldosterone antagonists have been shown to improve symptoms of chronic heart failure, as measured by changes to patient’s New York Heart Association (NYHA) class (Table 1), and reduce the risk of mortality (Pitt et al 1999, Pitt et al 2003, Zannad et al 2011). This effect results partly from the actions described previously, as well as from their ability to reduce unwanted atrophy or hypertrophy because of cardiac remodelling.

TIME OUT 2
List the side effects associated with the use of diuretics in the treatment of patients with symptomatic acute
and chronic heart failure. How might hypokalaemia and hypomagnesaemia affect a patient and how might you manage these conditions?

**Diuretics**
Diuretics are central to the management of symptomatic acute and chronic heart failure. They are advocated for use in all forms of heart failure for the relief of congestive symptoms, including breathlessness and fluid retention (NICE 2010). Diuretics are used alongside ACE inhibitors, beta blockers and aldosterone antagonists. However, their effects on mortality have not been tested in a randomised controlled trial (Ponikowski et al 2016). The most commonly used diuretics are loop diuretics, such as furosemide and bumetanide, and thiazide diuretics, such as bendroflumethiazide and indapamide. The aim of using diuretics is to achieve and maintain euvolaemia (a circulating volume equilibrium) with the lowest necessary dose. Changes in symptoms and fluid status require up-titrations and down-titrations of diuretics over time. Down-titrations are particularly important to avoid dehydration. Other adverse effects of diuretic use include: deterioration in renal function; hypotension, especially with concomitant use of other vasodilating medications; and electrolyte imbalances (hypokalaemia and hypomagnesaemia) which could lead to arrhythmias (Sarraf et al 2009). Careful monitoring of renal function and electrolytes, blood pressure and fluid status is recommended (Albert 2012).

**Selective sinus node If inhibitors**
Ivabradine is a selective sinus node If inhibitor, and should be used in addition to first-line therapy for a sub-group of patients in sinus rhythm with a heart rate >75 beats per minute and with an ejection fraction ≤35%. It inhibits the If channel in the sinus node, thus slowing sino-atrial activity. Ivabradine has been found to improve survival in a sub-group of patients with chronic heart failure in sinus rhythm with a heart rate >75 beats per minute and with an ejection fraction ≤35% (Böhm et al 2013). It is licensed in Europe for this population.

**Concordance**
Patient education and ongoing support are essential to enable an understanding of the condition, the importance of concordance with medication, and the risks associated with non-concordance. Non-concordance with medications in chronic heart failure has been linked to decompensation and preventable hospital admission (Schiff et al 2003, van der Wal et al 2005, Varughese 2007, Fonarow et al 2008, Annema et al 2009).

**Cardiac resynchronisation therapy**
Chronic heart failure symptoms might continue to be suboptimally controlled following optimisation of ACE inhibitor, beta blocker and aldosterone antagonist use, particularly as the condition worsens. Patients who fulfil the relevant criteria in Table 2 might benefit from a CRT device, with a CRT pacemaker (CRT-P), also known as a biventricular pacemaker, or a CRT pacemaker with an additional defibrillator function (CRT-D). These specialised pacemakers aim to restore the synchronicity of left and right ventricular contraction, which can be lost in patients with chronic heart failure, thereby improving pumping efficiency and cardiac output. Patients can experience improved symptoms and quality of life following the implantation of a CRT device, as well as improved cardiac structure and function, reduced hospital admissions, and reduced mortality rates (Brignole et al 2013). However, not all patients will respond in this way (Rosanio et al 2005).

**Implantable cardioverter defibrillators**
ICDs have no direct effect on the improvement of symptoms such as

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**TABLE 1. The New York Heart Association classification**

<table>
<thead>
<tr>
<th>Class</th>
<th>Symptoms</th>
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<tbody>
<tr>
<td>I</td>
<td>No limitation of physical activity. Ordinary physical activity does not cause undue breathlessness, fatigue, or palpitations.</td>
</tr>
<tr>
<td>II</td>
<td>Slight limitation of physical activity. Comfortable at rest, but ordinary physical activity results in undue breathlessness, fatigue, or palpitations.</td>
</tr>
<tr>
<td>III</td>
<td>Marked limitation of physical activity. Comfortable at rest, but less than ordinary physical activity results in undue breathlessness, fatigue, or palpitations.</td>
</tr>
<tr>
<td>IV</td>
<td>Unable to carry on any physical activity without discomfort. Symptoms at rest can be present. If any physical activity is undertaken, discomfort is increased.</td>
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(The Criteria Committee of the New York Heart Association 1994)
breathlessness. However, patients with chronic heart failure are at risk of sudden cardiac death (NICE 2014). An ICD or CRT-D device can identify life-threatening arrhythmias and defibrillate the heart internally to restore normal sinus rhythm, thereby reducing the risk of sudden cardiac death. The risks and benefits of an ICD or CRT-D should be discussed with patients who meet the criteria for insertion (Table 2), especially because the risks include the receipt of inappropriate shocks and subsequent harm to well-being.

When the focus of care shifts to end of life care, the receipt of shocks can be distressing and the patient’s quality of death might be affected. Deactivation of the device at the end of life should be discussed with the patient. Padeletti et al (2010) advocated incorporating this discussion into the pre-implantation consent and counselling process.

**TIME OUT 3**
Discuss with a colleague how the following components contribute to an efficient heart failure service and how each component can be achieved:

- A system for timely and accurate diagnosis of outpatients.
- Optimisation of treatment.
- Identification of heart failure in patients.
- Multidisciplinary team working.
- Supportive and palliative care.

**Nurse-led heart failure services**

Since 2002, nurse-led heart failure services have been recognised as an important aspect of the chronic heart failure pathway (Stewart and Horowitz 2002). Chronic heart failure programmes focused initially on the medical aspects of care (Jaarsma et al 2008) to reduce the risk of decompensation and subsequent hospitalisation. They included a clinical assessment of functional capacity, fluid status, blood chemistry, cardiac rhythm and cognitive and nutritional status, alongside optimising the patient’s medication. Although these aspects are important, they are not sufficient to meet the holistic needs of the patient with chronic heart failure. These needs can only be met by empowering the patient to manage their condition, by developing their self-efficacy and self-care skills (Wilkinson and Whitehead 2009, Ditewig et al 2010). Therefore, it is essential this aspect of patient care is incorporated into heart failure services.

**TIME OUT 4**

A patient is admitted to your clinical area with chronic heart failure. Outline the advice you would give on the recommended physical activity levels.

**Lifestyle modification**

The European Society of Cardiology (ESC) guidelines (Ponikowski et al 2016) suggest that patients with heart failure should receive lifestyle advice

| TABLE 2. Treatment options with an implantable cardioverter defibrillator or cardiac resynchronisation therapy device for people with chronic heart failure who have left ventricular dysfunction with a left ventricular ejection fraction ≤35% |
|-----------------------------------------------|---------------------------------|-----------------|-----------------|-----------------|
| QRS duration as measured on electrocardiogram (ECG) | New York Heart Association (NYHA) class I | NYHA class II | NYHA class III | NYHA class IV |
| <120ms | Implantable cardioverter defibrillator (ICD) if there is a high risk of sudden cardiac death | ICD and cardiac resynchronisation therapy (CRT) device not clinically indicated |
| 120-149ms without left bundle branch block (LBBB) | ICD | ICD | ICD | CRT pacemaker (CRT-P) |
| 120-149ms with LBBB | ICD | CRT device combined with an ICD (CRT-D) | CRT-P or CRT-D | CRT-P |
| ≥150ms with or without LBBB | CRT-D | CRT-D | CRT-P or CRT-D | CRT-P |

(National Institute for Health and Care Excellence 2014)
that enables self-management (Table 3). The change in emphasis from previous guidelines that focused solely on medical management (McMurray et al 2012) is marked, placing the focus on providing the patient with information to enable them to take control of their life, rather than fostering dependency. With the exception of exercise, there is little evidence for the efficacy of these interventions on clinical outcomes. However, the guidelines serve as a framework to support patients through the chronic heart failure pathway.

Remote monitoring has been proposed as a valuable tool to facilitate patient self-care, particularly in the context of heart failure. It allows for continuous monitoring of vital signs and prompt intervention when necessary. This can significantly reduce hospitalisations and improve patient outcomes.

### Table 3. Education for patients with heart failure

<table>
<thead>
<tr>
<th>Education topic</th>
<th>Patient skill</th>
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| Definition, aetiology and trajectory of heart failure (including prognosis)      | » Understands the cause of their heart failure, symptoms and disease trajectory.  
» Makes informed decisions, including decisions about treatment at the end of life. |
| Symptom monitoring and self-care                                                 | » Is able to monitor and recognise changes in signs and symptoms, and knows how and when to contact a healthcare professional.  
» Knows how and when to self-manage diuretic therapy and fluid intake, in accordance with professional advice. |
| Pharmacological treatment                                                        | » Understands the indications, dosing and side effects of their medication.  
» Recognises the benefits of taking medications.  
» Recognises the common side effects of medications and knows when to notify a healthcare professional. |
| Implant devices and percutaneous or surgical interventions                       | » Understands the indications and aims of procedures and implanted devices.  
» Recognises common complications of implanted devices and knows when to notify a healthcare professional. |
| Diet and alcohol                                                                 | » Eats healthily, avoids excessive salt intake (>6g per day) and maintains a healthy body weight.  
» Monitors body weight to prevent malnutrition.  
» Increases fluid intake during periods of high heat and humidity, or when experiencing episodes of nausea or vomiting.  
» Abstains from alcohol or avoids excessive alcohol intake, especially for patients with heart failure resulting from alcohol-induced cardiomyopathy.  
» For patients with severe heart failure and as advised, restricts fluid intake to 1.5-2.0L per day to relieve symptoms and congestion. |
| Smoking and recreational substances                                             | » Understands the benefits of stopping smoking and taking recreational substances, where appropriate.  
» Knows how to seek professional support, where appropriate.  
» Stops smoking and taking recreational substances, where appropriate. |
| Exercise                                                                        | » Undertakes regular exercise sufficient to promote moderate breathlessness, unless otherwise advised. |
| Immunisation                                                                     | » Is aware that annual influenza immunisation and pneumococcal vaccine are advised for patients with chronic heart failure.  
» Takes an informed decision to be immunised. |
| Sexual activity                                                                  | » Is reassured about engaging in sex, provided sexual activity does not provoke undue symptoms.  
» Recognises potential problems with sexual activity, their relationship with heart failure and treatment.  
» Knows how to treat erectile dysfunction, where appropriate. |
| Sleep and breathing                                                              | » Recognises problems with sleeping and their relationship with heart failure.  
» Knows how to optimise sleep. |
| Psychosocial aspects                                                             | » Recognises psychological problems that may occur in the course of disease, in relation to changed lifestyle, pharmacotherapy, implanted devices and other procedures (including mechanical support and heart transplantation).  
» Understands that depressive symptoms and cognitive dysfunction are more frequent in people with heart failure, and that this may affect concordance. |
| Travel and leisure                                                               | » Prepares travel and leisure activities according to their physical capacity.  
» Is aware of adverse reactions to sun exposure with certain medications, for example amiodarone hydrochloride, used in the treatment of arrhythmias where other medications are ineffective or contraindicated.  
» Considers the effect of high altitude on oxygenation.  
» Takes medicines in their cabin luggage on the aeroplane and have a list of their medications and the dosage with the generic name. |

as a means of fostering self-management. Improvements in technology enable healthcare professionals to monitor patients’ biomedical parameters remotely, negating the requirement to attend time-consuming follow-up appointments, for some patients. However, there is conflicting evidence to support such monitoring (Anker et al 2011). Several meta-analyses have found there is merit in remote patient monitoring, but other large prospective studies have not demonstrated any benefit (Ponikowski et al 2016). Differences in the methods used for remote monitoring may provide one possible explanation for this.

The basis of self-management is the requirement for the patient to develop an understanding of their condition and prognosis, and to recognise and manage their symptoms (Ponikowski et al 2016). Patients can learn how to monitor their weight daily, recognise the signs of pulmonary or generalised oedema and how to titrate diuretic therapy accordingly (Ponikowski et al 2016). However, it is essential that the patient also understands the indications, dosing and side effects of their medication. Nurses have an important role in this process by providing practical guidance supplemented with written material that is appropriate for the patient’s literacy level (Ponikowski et al 2016).

While patients with chronic heart failure can often gain weight resulting from fluid overload, they can also become malnourished as a result of liver and gut dysfunction (Okoshi et al 2013) and experience weight loss. Cachexia can occur in 10-15% of patients and is particularly associated with advanced heart failure (Ponikowski et al 2016). Therefore, it is essential that dietary advice and advice on fluid management is individualised for each patient.

With the increase in the use of implantable devices, it is important that nurses ensure patients understand the need for such devices and the complications that can occur post-implantation, for example lead fracture, undersensing or oversensing, generator failure or infection (Ezzat et al 2015). The way in which this information is communicated is crucial to ensure the patient is well informed and able to self-care. Smoking and recreational drug use increases the risk of morbidity and mortality in patients with chronic heart failure (Suskin et al 2001). Cessation of such activity is recommended, and referral to smoking and drug-cessation services is advised, as appropriate (Ponikowski et al 2016).

Several systematic reviews have demonstrated that exercise can improve health-related quality of life and reduce hospitalisation for patients with heart failure (Taylor et al 2014). Therefore, exercise that promotes moderate breathlessness is recommended for the majority of patients with chronic heart failure (Ponikowski et al 2016). However, physical and functional limitations should be recognised. For some patients who are breathless at rest this is not feasible. Referral to an exercise-based programme is advised; however, the availability of such programmes is variable (Buttery et al 2013). ESC guidelines recommend that patients receive annual influenza immunisation and pneumococcal vaccination management (Ponikowski et al 2016), although there is no direct evidence that they benefit from such immunisation.

Sexual problems are common in patients with chronic heart failure (Mandras et al 2007). They may be caused by the symptomology, fear of exertion, cardiac medications or a combination of these factors (Lainscak et al 2011). It is important to recognise the polypharmacy of prescribed nitrates and the use of phosphodiesterase inhibitors, which can be purchased online. Using these drugs in combination can have serious adverse effects and patients should be aware of the risks of self-medicating. Referral to sexual counselling services should be considered, where appropriate (Ponikowski et al 2016).

Sleep-disordered breathing is also common in patients with chronic heart failure, and is associated with a higher risk of mortality and morbidity (Kasai and Bradley 2011, McKeilvie et al 2011). Therefore, it is important that patients are aware of these risks and are screened accordingly. High-risk patients should be referred to a sleep laboratory for further investigation. Nurses can help the patient...
to identify and address the factors that reduce sleep quality, for example the timing of diuretic therapy, environmental effects and sleep positioning.

Depression affects an estimated one in five patients with chronic heart failure (Lainscak et al 2011). This can affect self-care and concordance with medication. Therefore, it is important to screen annually for depression and to initiate treatment plans if the patient is experiencing depression. It is essential the patient recognises that psychological problems might occur during the course of the condition and that they should seek help if they feel their psychological health is deteriorating (Ponikowski et al 2016). Family members can be a source of support and should be involved in care, where appropriate.

TIME OUT 5

Do you use a specific validated tool to screen for depression in patients with chronic heart failure? Discuss with a colleague if this is the most appropriate tool. What other screening and assessment tools could you use? List the benefits and limitations of each.

Patients with chronic heart failure might wish to travel. Although experiencing chronic heart failure does not preclude foreign travel, it is important the risks are considered in advance and that contingency plans are made. This should include advising patients of the importance of travel insurance; charities such as the British Heart Foundation can provide advice and a list of suitable insurance providers. Practical advice about the journey and subsequent stay should include ensuring the patient has a spare supply of medication. They may wish to carry a copy of a recent electrocardiogram (ECG) and a summary of their medical history with important medical contact details (McMurray et al 2012). The nurse can discuss with the patient how they should alter gradually the times they take their medications if they are entering a new time zone. If they are travelling to a hot climate they should consider the risk of fluid loss and sunburn, and their daily fluid intake should be reviewed.

Providing patients with this information in a way that they can comprehend can help support them to manage their condition. However, many patients may not process all of the information they are given, so it is important they receive additional means of support as they aim to manage their condition.

Cardiac rehabilitation

Cardiac rehabilitation was initially introduced to support patients following myocardial infarction and cardiac surgery. However, it has been suggested as an additional means of supporting patients with chronic heart failure (NICE 2010). Cardiac rehabilitation for patients with chronic heart failure can provide valuable support, education and improve levels of physical ability. However, its implementation is variable. Buttery et al (2013) identified that 43% of cardiac rehabilitation programmes in the UK do not accept patients with chronic heart failure. Therefore, many patients with chronic heart failure might not receive access to the education that is so vital to their future self-management. With the increased prevalence of chronic heart failure globally, alternative means of enabling patients to develop self-care skills and self-management should be considered.

TIME OUT 6

Read the BACPR Standards and Core Components for Cardiovascular Disease Prevention and Rehabilitation 2012 (British Association for Cardiovascular Prevention and Rehabilitation 2012), available at: www.bacpr.com/resources/46C_BACPR_Standards_and_Core_Components_2012.pdf. How might you implement these competencies in your area of practice and disseminate this information to colleagues to enable them to support patients with chronic heart failure to develop their self-management skills?

Palliative care

In contrast to many other life-limiting conditions, chronic heart failure has an unpredictable disease trajectory, characterised by frequent hospital admissions resulting from decompensation, followed by episodes of wellness punctuated by further decompensation, with the risk of mortality at any time.
The unpredictable nature of the disease makes prognosis difficult. There are several prognostic tools available that can support end of life discussions (Levy et al 2006, Huynh et al 2008, Pocock et al 2013). However, their efficacy is likely to require further validation as new treatments become available. A meta-analysis of 64 prognostic models found only moderate accuracy in predicting mortality (Ouwerkerk et al 2014).

There is evidence that clinicians do not always discuss palliative care with patients in the early stages of chronic heart failure (Hupcey et al 2009, Hjelmfors et al 2014, Dunlay et al 2015). Many clinicians consider palliative care as synonymous with care in the last few days of life (Hupcey et al 2009). Often, they do not discuss patient preferences until the patient’s condition has deteriorated sufficiently (Dunlay et al 2015). Nurses providing care for patients with heart failure have indicated that a combination of factors affect their decisions to discuss these issues, with some suggesting that they do not feel that such discussions are within their remit and that they do not perceive patients classified as New York Heart Association class II or III to be nearing the end of life (Hjelmfors et al 2014). Evidence suggests that patients value and welcome such discussions, but are often not provided with sufficient information to plan and to manage their condition (Howie-Esquival and Dracup 2012). This lack of information leads to further anxiety for patients (Howie-Esquival and Dracup 2012).

Palliative care for patients with chronic heart failure should be considered at an early stage of the disease. This is not to suggest that other treatment options should not be used. Instead, if it is accepted that chronic heart failure is not curable and therefore palliative, the holistic philosophy of palliative care that includes the treatments deemed to prolong life should be adopted. The World Health Organization (2009) defined palliative care as ‘an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual’. If palliative care is considered a philosophy of care rather than a means to provide pain-free end of life care, then its principles can complement life-prolonging treatments in the early stages of the disease.

The authors propose that palliative care can support long-term care and should be incorporated throughout chronic heart failure care. Palliative care is a means of ensuring patients with life-limiting illness are supported adequately during the remainder of their lives. It will be necessary to use a combination of life-prolonging and palliative strategies to achieve this goal. This approach requires a change in culture and in the concept of palliative care. However, if this is adopted it could reduce the burden of the disease on the patient and their family.

**Conclusion**

Chronic heart failure is a complex chronic condition with high rates of mortality and morbidity. The prevalence of chronic heart failure is increasing, and nurses in all healthcare settings are likely to encounter patients with acute and chronic heart failure in their practice. Optimisation of the medical aspects of care and the promotion of self-management are essential to reduce mortality, and can also reduce the debilitating symptoms of the condition, thereby improving health-related quality of life.

**TIME OUT 7**

Now that you have completed the article, you might like to write a reflective account as part of your revalidation.
McMurray JJ, Adamopoulos S, Anker SD et al (2012) ESC Guidelines for the Diagnosis and Treatment of Acute and Chronic Heart Failure 2012: The Task Force for the Diagnosis and Treatment of acute and Chronic Heart Failure 2012 of the European Society of Cardiology. Developed in collaboration with the Heart Failure Association (HFA) of the ESC. European Heart Journal. 33, 14, 1787-1847.
Chronic heart failure: part 2
TEST YOUR KNOWLEDGE BY COMPLETING SELF-ASSESSMENT QUESTIONNAIRE 876

1. Management of chronic heart failure with reduced ejection fraction includes?
   a) Pharmacological treatments
   b) Implantable cardioverter defibrillators
   c) Cardiac resynchronisation therapy
   d) All of the above

2. Which group of drugs is a first-line therapy in the management of left ventricular systolic dysfunction?
   a) Angiotensin II receptor blockers
   b) Aldosterone antagonists
   c) Angiotensin receptor nepriyl inhibitors
   d) Angiotensin converting enzyme (ACE) inhibitors

3. Furosemide is:
   a) A beta blocker
   b) An ACE inhibitor
   c) A loop diuretic
   d) A thiazide diuretic

4. Diuretics are:
   a) Used in the relief of congestive symptoms in heart failure, including breathlessness and fluid retention
   b) Used instead of ACE inhibitors, beta blockers and aldosterone antagonists
   c) Recommended only for patients with chronic heart failure with reduced ejection fraction
   d) Recommended only for patients with chronic heart failure with preserved ejection fraction

5. In patients with chronic heart failure, implanting a cardiac resynchronisation therapy device:
   a) Is effective for all patients
   b) May improve symptoms and quality of life
   c) Aims to restore the synchronicity of left and right atrial contraction
   d) Aims to restore the synchronicity of left atrial and left ventricular contraction

6. In patients with chronic heart failure, an implantable cardioverter defibrillator:
   a) Can directly improve symptoms, such as breathlessness
   b) Can identify life-threatening arrhythmias
   c) May increase the risk of sudden cardiac death
   d) Is most appropriate when the focus of care is on the end of life

7. Heart failure programmes should:
   a) Be restricted to interventions that reduce the risk of decompensation
   b) Be restricted to interventions that reduce the risk of subsequent hospitalisation
   c) Empower the patient to manage their condition
   d) Be restricted to optimising the patient’s medication

8. For which lifestyle modification is there most evidence to support its benefits for patients with chronic heart failure?
   a) Introducing exercise that promotes moderate breathlessness
   b) Restricting salt intake to less than 6g a day
   c) Increasing fluid intake
   d) Sleep optimisation

9. Patients with chronic heart failure should not:
   a) Monitor their body weight to prevent malnutrition
   b) Monitor their body weight to detect fluid retention
   c) Avoid drinking extra fluids during episodes of nausea and vomiting
   d) Increase their fluid intake during periods of high heat and humidity

10. In chronic heart failure:
    a) The patient’s condition has a predictable trajectory
    b) Palliative care should not be considered until the final few days of life
    c) The condition is characterised by frequent periods in hospital, followed by periods of wellness
    d) Episodes of decompensation correspond to periods of wellness

This self-assessment questionnaire was compiled by Beth Knight
The answers to this questionnaire will be published on 25 January
The answers to SAQ 874 on altered body image, which appeared in the 14 December issue, are:
1.c 2.b 3.a 4.d 5.c 6.a 7.c 8.b 9.b 10.c