Heart failure is a complex clinical syndrome resulting from structural or functional cardiac disorders that impair the heart’s ability to pump or eject blood (Hunt et al., 2005). An estimated 4.8 million Americans currently have heart failure (HF); it is the most common inpatient discharge diagnosis, with direct and indirect costs exceeding $27.9 billion annually (Hunt et al., 2005). More Medicare dollars are spent for the diagnosis and treatment of HF than for any other diagnosis in beneficiaries older than age 65 (Hunt et al., 2005).

According to Aronow (2003), “the prevalence of diastolic congestive heart failure is approximately 50% in elderly nursing home patients, increases with age, and is higher in elderly women than in elderly men” (p. 220). Improved survival rates from previously deadly cardiovascular diseases that predispose individuals to HF in later life and an increased incidence due to an aging population ensure the prevalence will rise, resulting in an increasing number of HF deaths.

On the basis of the rising incidence of HF and the increasing numbers of octogenarians and nonagenarians in the next 30 years, prevention of exacerbation of the disease processes will become the paradigm to improve quality of life and health care expenditures in this population. Chronic conditions, such as coronary artery disease, diabetes, hypertension, myocardial ischemia, previous diagnosis of HF, and left ventricular dysfunction should trigger a guideline-based, preventive intervention (Heart Failure Society of America [HFSA], 2006; Institute for Clinical Systems Improvement [ICSI], 2007).

Focusing interventions on preventive care of vulnerable older adults within long-term care facilities is crucial in avoiding hospitalization and subsequent irreversible decline in function. When all long-term care facility staff, especially direct caregivers, are given an active role in care plan implementation, patient quality of care and outcomes improve (Stone et al., 2002). Within long-term care facilities, direct caregivers greatly influence care at the individual level by alerting licensed caregivers that a resident is in distress and may need more frequent assessment. Formal use of direct caregivers in the early recognition of HF exacerbation is pivotal in evidence-based practice guidelines developed for use in long-term care settings (Henkel, 2004).

The Centers for Medicare & Medicaid Services (CMS) (2005) mandates long-term care facilities complete the Resident Assessment Instrument with its Minimum Data Set (MDS) for every resident at admission to the facility, 30 days after admission, and quarterly thereafter. Although the MDS provides facilities with an established internal process to aggregate data, it is far too comprehensive and detailed for the frequent assessment necessary to identify high-risk residents who are in danger of fatal exacerbation of HF. Long-term care assessment nurses need a tool that easily and quickly quantifies functional decline preceding or accompanying a potentially lethal exacerbation of HF between MDS collection points. Because existing assessment tools available for HF recognition are not designed specifically for the long-term facility population, the Long-Term Care (LTC) Heart Failure Assessment Tool (Figure 1) (Harrington, 2008) is needed.

Evidence-Based Guideline
Assessing Heart Failure in Long-Term Care Facilities

Written by Candace C. Harrington, MSN, APRN, BC, NP-C
Edited by Susan Adams, RN, PhD; and Marita G. Titler, PhD, RN, FAAN
### Long-Term Care Heart Failure Assessment Tool

#### Activities of Daily Living Profile

<table>
<thead>
<tr>
<th>Points</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 point</td>
<td>Able to groom and dress unaided.</td>
</tr>
<tr>
<td>2 points</td>
<td>Someone must assist with grooming and dressing activities.</td>
</tr>
<tr>
<td>3 points</td>
<td>Resident depends totally on someone else for grooming and dressing.</td>
</tr>
<tr>
<td>1 point</td>
<td>Able to bathe and get to and from toilet unaided.</td>
</tr>
<tr>
<td>2 points</td>
<td>Requires assistance with bathing or toileting activities (for supervision, transfers, or washing difficult-to-reach areas).</td>
</tr>
<tr>
<td>3 points</td>
<td>Resident depends totally on another person for toileting or bathing activities.</td>
</tr>
<tr>
<td>1 point</td>
<td>Needs no human assistance to ambulate and does so without fatigue or dyspnea.</td>
</tr>
<tr>
<td>2 points</td>
<td>Is chair fast.</td>
</tr>
<tr>
<td>3 points</td>
<td>Is bedfast—unable to sit up in chair.</td>
</tr>
</tbody>
</table>

Total points (This number is used as a baseline and comparison of functional status from previous assessments.)

#### Quality of Sleep

Instructions: Check all applicable components of Quality of Sleep.

- Resident reports difficulty getting quality sleep.
- Resident reports frequent awakenings.
- Resident reports difficulty getting to sleep.
- Resident reports daytime sleepiness.

Total 1 point for each checked box in Quality of Sleep.

#### Dyspnea

Instructions: Check all applicable components of Dyspnea.

- Resident reports or exhibits dyspnea at rest.
- Resident reports or exhibits waking up feeling short of breath at night.
- Resident reports or exhibits dyspnea walking on flat surfaces.
- Resident reports or exhibits dyspnea on bending or carrying objects.
- Resident reports or exhibits dyspnea when hurrying or walking on inclines.
- Resident reports or exhibits dyspnea when lying flat.
- Resident reports or exhibits dyspnea while sitting up.
- Resident reports or exhibits edema in extremities or sacral edema.
- Resident reports or exhibits decreased appetite or feelings of fullness/bloating.
- Resident reports or exhibits feelings or signs of restlessness.
- Resident reports or exhibits feelings or signs of anxiety.

Total 1 point for each checked box in Dyspnea.

#### Interpretation of Scores:
Any score greater than 1 in the Dyspnea or Quality of Sleep indicates need for primary care provider. If all components of Dyspnea and Quality of Sleep are negative, research for causes of decline other than congestive heart failure.

Figure 1. Long-Term Care Heart Failure Assessment Tool. ©2005, Candace C. Harrington, MS, APRN, BC, NP-C. Permission to reproduce with acknowledgement.
METHODS USED FOR GUIDELINE DEVELOPMENT

Little research has been published in the area of nonpharmacological management of HF in long-term care. A systematic review was conducted using the University of Iowa Gerontological Nursing Interventions Research Center’s conceptual model for evidence-based guidelines (Titler & Mentes, 2001). The review of research and non-research literature was conducted during a 2-year period for the years 1999–2004 with ongoing literature review to reflect updates in HF guidelines. Database searches were performed using Ovid, CINAHL, EBSCOhost, ProQuest, MEDLINE, and WebSPIR. Searches of national guidelines were performed using the Agency for Healthcare Research and Quality database. Combination phrases were searched using the Northwest Area Health Education Center digital library and the University of North Carolina at Greensboro Jackson Library database. Hand searches were then performed of all reference lists of relevant studies or non-research-based literature.

No randomized, controlled studies conducted in the long-term care population were found in the review. Possible explanations for this include the frailty of the population, the inability to control extraneous variables and internal validity, and the ethical considerations involved. Seven studies met the inclusion criteria and were selected for use in assessment, making recommendations, or providing additional information for this guideline. One quasi-experimental and descriptive pilot study that resulted in a multidisciplinary guideline for the holistic management of acute exacerbation of HF in long-term care was found during the hand search. The remaining studies were retrospective and descriptive in nature in which databases and resident charts were reviewed. Three studies were chosen for inclusion on the basis of the relevance of early recognition of symptoms and treatment of HF in long-term care facilities.

This article is a condensed version of the original guideline. Readers are encouraged to obtain the full guideline, which contains additional assessment tools including the Long-Term Care Assessment Monitor, Heart Failure Weight Flow Sheet, Long-Term Care Outcomes Monitor, and a Chart Audit Form.

PURPOSE

The purpose of the Assessing Heart Failure in Long-Term Care Facilities evidence-based practice guideline is to outline a systematic approach for the assessment of heart failure and prevention of hospitalization of nursing home residents by using direct caregivers in the early identification of HF symptoms. This guideline is intended for use by health care workers in long-term care facilities.

DEFINITIONS

Definitions used in this article can be found in the Sidebar on this page.

INDIVIDUALS AT RISK FOR HEART FAILURE

Clinical and research findings have identified the following individuals as at risk for HF:

- Residents with chronic conditions, such as coronary artery disease, diabetes, hypertension, myocardial ischemia, previous diagnosis of HF, and left ventricular dysfunction (HFSA, 2006; ICSI, 2007).
- Residents of long-term care facilities who have a previous diagnosis of HF or a history of cardiomyopathy with ejection fraction of ≤40% (Remme & Swedberg, 2001).
- Residents taking a personal “stash” of a nonsteroidal anti-inflammatory agents, who place themselves at risk for HF due to precipitous effects on renal function and, thus, cardiac function (Bleumink, Feenstra, Sturkenboom, & Stricker, 2003; Remme & Swedberg, 2001).

ASSESSMENT CRITERIA

The primary care provider will evaluate the resident’s medical his-
tory and symptom presentation at admission, during routine follow-up visits, or on notification by nursing staff. An RN will assess every resident at admission for baseline documentation of the following:

- Documented diagnosis of HF or cardiomyopathy on admission history and physical.
- An ejection fraction of ≤40%, as measured by a two-dimensional echocardiogram.
- Post-hospitalization discharge summary.
- Any MDS that triggers a need for assessment by documentation of a new diagnosis of HF for cardiomyopathy or presence of respiratory, cardiac, or functional decline. If the facility uses MDS 3.0, assessment, initiating the HF guideline should follow any positive response in Sections E1A, G1, and G2; Sections Ig and Ih; and Section J1 and J5.
- Baseline assessment scores on the LTC Heart Failure Assessment Tool (Figure 1).

The nurse or primary care provider will place the patient on the HF protocol on the basis of the assessment results. After the resident is placed on the HF protocol, the facility nursing staff will initiate and provide care measures as indicated in the Assessing Heart Failure in LTC Facilities guideline.

USE OF THE LONG-TERM CARE HEART FAILURE ASSESSMENT TOOL

The LTC Heart Failure Assessment Tool (Figure 1) was developed specifically for use within long-term care nursing facilities. Two adult nurse practitioners who specialize in the care of HF patients, one gerontological nurse practitioner specializing in the care of LTC residents, and two associate professors of adult and geriatric nurse practitioners verified the tool’s face validity. The assessment tool has not yet been empirically tested for reliability and sensitivity in a long-term setting.

The LTC Heart Failure Assessment Tool is composed of two profiles that address 3 components of activities of daily living (ADLs) and 11 components of dyspnea. The assessing nurse observes for decline in the resident’s functional status and for positive responses to questions in the dyspnea profile (Creason, 2001).

Profile 1: Activities of Daily Living. The RN documents the patient’s status for components in the ADLs Profile section of the LTC Heart Failure Assessment Tool at admission and at 4-week intervals. The higher the score in the ADLs Profile, the lower the level of function. The score is compared with previous section totals at each assessment interval, monitoring for longitudinal deterioration in functional status. Quality of sleep is independent but closely related to ADLs. It evaluates nighttime activity that may directly affect and cause decline in ability to perform ADLs.

Profile 2: Dyspnea Profile. The nurse then assesses the Dyspnea Profile. Any positive response in this section should trigger an immediate referral to the primary care provider for evaluation (Henkel, 2004; Martinen & Freundl, 2004) and initiation of the guideline. If the responses in the dyspnea section are negative and functional decline is apparent, the nurse should refer the resident to the interdisciplinary team to assess for other causes of resident decline and schedule a visit with the primary care provider (Henkel, 2004; Lewis, 2002).

INTERVENTIONS

To aid in early recognition of symptoms of HF, each direct caregiver should receive continuing education on HF, as outlined in the Assessing Heart Failure in LTC Facilities guideline. After a resident has been identified and placed on the guideline by the primary care provider, the direct caregiver should:

- Be given instructions to screen the resident during the provision of care on a daily basis (Hutt, Fredrickson, Ecord, & Kramer, 2003).
- Be informed to notify the primary nurse immediately if any signs or symptoms identified on the New Leaf card (Figure 2) are present.
- Provide the resident’s current vital signs and weight graphic with the report on symptom identification to the primary nurse (Martinen & Freundl, 2004).

The RN will then perform a complete assessment, including observation of respiratory effort, bulging neck veins, extremity edema, auscultation of anterior and posterior breath sounds, and heart sounds, listening for extra sounds and irregularity of rhythm (Dains & Scheibel, 2003).

Weight Monitoring

Residents should be placed on a weight regimen by the nursing staff. Weights should be obtained three times per week until the resident’s weight has been evaluated as stable, as defined by a weight gain of less than 2 pounds for three measurements (Martinen & Freundl, 2004). The resident’s weight should be graphed on a weight graphic. Any weight gain of more than 2 pounds triggers:

- An assessment using the LTC Heart Failure Assessment Tool.
- Vital signs with oxygen saturation (Martinen & Freundl, 2004).
- Notification of the resident’s primary care provider (Martinen & Freundl, 2004).

After the resident’s weight is stable, the resident should be weighed every week at the same time of day, with the same scale, and while wearing similar clothing (Martinen & Freundl, 2004).

Dietary Management

At the request of the primary care provider, dietary measures may be taken to control the exacerbation of symptoms. Suggested measures include:

- Reduction in fluid intake in patients with advanced HF, regardless
of the presence of hyponatremia or hypernatremia (HFSA, 2006; ICSI, 2007; Lewis, 2002).

- Fluid restriction of 1.5 to 2.0 liters is advised (HFSA, 2006; ICSI, 2007; Remme & Swedberg, 2001).
- Diet restricted to 2 grams of sodium per day with abstinence from salt substitutes, which may contain potassium (ICSI, 2007; Lewis, 2002).
- Use of herbal seasonings to season foods in lieu of salt should be encouraged (Lewis, 2002).

Immunizations

Influenza vaccines administered every autumn and pneumococcal vaccines administered every 5 years are recommended to prevent respiratory infections, which may be detrimental to residents with HF (Remme & Swedberg, 2001).

Exercise

Weight reduction should be included in the treatment of residents with chronic HF who are obese (HFSA, 2006; ICSI, 2007). Exercise should be encouraged in every resident with clinically stable HF within the limits of disease severity and under the guidance of the resident’s HF care specialist and primary care provider (ICSI, 2007). Residents should be encouraged to perform ADLs and leisure activities that do not induce symptoms (ICSI, 2007).

Education

Patient and family education should be provided on topics related to HF (ICSI, 2007; Martinen & Freundl, 2004). Smoking should always be discouraged. The use of smoking-cessation aids, including nicotine replacement therapies, should be actively encouraged (HFSA, 2006; ICSI, 2007; Remme & Swedberg, 2001). Patients and families should be taught the rationale for prescriber avoidance of nonsteroidal anti-inflammatory drugs, and nursing staff should be alerted to avoid administering them to residents with cardiovascular disease (Bleumink et al., 2003; HFSA, 2006; ICSI, 2007; Remme & Swedberg, 2001). Alcohol intake should be discouraged in residents with severe HF (HFSA, 2006; ICSI, 2007).

ASSESSMENT OF EFFECTIVENESS IN THE MANAGEMENT OF HEART FAILURE

The following clinical outcome factors are expected with the consistent and appropriate use of the Assessing Heart Failure in LTC Facilities guideline:

- Decreased hospitalizations related to HF.
- Improved quality of life, as indicated by scores on the Minimum Data Set or the Minnesota Living with Heart Failure Questionnaire (Rector & Cohn, 1986).
- Decreased number of exacerbations of HF.
- Stable or improved two-dimensional echocardiogram.

Direct observation, patient record audit, review of periodic diagnostic testing (e.g., two-dimensional echocardiogram), or a quality-of-life assessment, such as the Minnesota Living with Heart Failure Questionnaire (Rector & Cohn, 1986) may be used to evaluate the outcomes for residents whose HF is managed with the assessment guideline.

The successful implementation of the Assessing Heart Failure in LTC Facilities guideline requires a structured monitoring system tailored to the individual needs of the resident setting. Periodic evaluation and ongoing continuing education will ensure successful implementation and improved resident outcomes. An outcome evaluation form can help detect and track the achievement of the desired clinical outcomes. A Process Evaluation form, such as the one included in the original guideline, can help track the outcome indicators. An Outcome Monitoring tool, along with an example of a patient record audit, is included in the complete guideline, available at http://www.nursing.uiowa.edu/consumers_patients/evidence_based.htm.

CONCLUSION

The Assessing Heart Failure in LTC Facilities assessment guideline was written for the long-term facility workforce to guide in the most effective use of all nursing staff in the improvement of morbidity and mortality of nursing home residents. Nursing interventions focusing on preventive care and early symptom recognition for long-term care residents with HF are crucial to improving outcomes, quality of life, and premature mortality rates. Direct caregivers have the greatest influence on individual care and spend more time with residents than does any other staff member in a nursing facility. They are valuable, indispensable, and often underused in the care of fragile long-term care residents. This assessment guideline provides the tools for long-term care facilities to improve quality of life and decrease health care expenditures for residents with HF.
REFERENCES


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