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CHF DISEASE MANAGEMENT™

The Complete Congestive Heart Failure Resource

INSIDE

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From beta-blockers to outcomes, the job of a CHF clinician is in the details

Handling facts is a key concept

Clinicians who care for CHF patients have to be masters of detail. There are comorbidities to consider, polypharmacy to titrate and balance, weight to watch on a daily basis, and considerations such as quality of life and functional status to assess and reassess. This issue of *CHF Disease Management* will show you how some of these details are affecting the clinicians who are trying to handle them.

Home care nurses, for example, were ready to jump on the CHF disease management bandwagon to demonstrate they could help patients stay in control of their disease. But after a decade of developing provincial programs representing the needs and priorities of the facilities that developed them, home care associations are calling for a standard skill set all their members should have. At stake, some say, is the future of this type of nursing that has evolved into a specialty of its own. Having an accepted set of criteria not only helps attract attention of Medicare regulators to support more home care, but can earn respect from members of the multidisciplined CHF care team.

Researchers from the Centers for Disease Control and Prevention (CDC) in Atlanta are also calling for more attention to detail, especially when older CHF patients are about to be discharged from the hospital. Unless caregivers understand a patient's status and support system at home, chances are good the patient will be back again all too soon. CDC researchers call for more primary preventive measures that pay attention

KEY POINTS

- CHF disease management is applying a fine focus on the details of proper care.
- Researchers and nurses have their own interests in the fine points of CHF care.
- It's important to consider what features a study is designed to test before interpreting the conclusions.

to important details such as blood pressure and smoking so patients don't go on to develop heart disease, while those in failure today receive the drugs and support that will keep them as healthy as possible.

And some researchers studying the details of these drugs have focused some attention to the extra features of beta-blockers.

The newer generation carvedilol, beside showing it can bring about significant clinical benefits to CHF patients, has the pharmacological effect of antioxidant activity. A team of New York scientists tested this activity against the standard metoprolol, which besides initiating a different type of beta-blockade, has not been found to have the antioxidant activity.

As the team published the report, which found no clinical differences in the two drugs for antioxidant action, it seems the public latched onto another detail it found more pressing — the comparative cost of the two drugs. The author notes that this detail was not part of the initial design of the study so conclusions should not be made about cost comparisons.

The following articles provide you with more details. ■

KEY POINTS

- A study comparing antioxidant and ejection fraction results of drug therapy with carvedilol vs. metoprolol found no clinical distinction between randomized patients.
- Some readers are comparing cost of the two drugs, but the study was not designed to be a cost analysis.
- It will take more studies to determine the differences between these beta-blockers.

Researcher says cost not the objective of study

Carvedilol, metoprolol compared but not for price

There has been a lot of press about a recent beta-blocker study conducted at Mount Sinai School of Medicine in New York City and Veterans Affairs Medical Center in Bronx, NY. Researchers randomized 25 CHF patients each to receive either metoprolol or carvedilol to compare the difference in oxidative stress or difference in ejection fraction.

The team first worked up the CHF patients on standard therapy before titrating the beta-blocker. The researchers also measured:

❒ CHF symptoms;
❒ exercise;
❒ ejection fraction;
❒ thiobarbituric acid-reactive substances (TBARS) as an indirect marker of free radical activity.

The researchers concluded that aside from carvedilol's causing greater decline in patient heart rate, there were no clinical differences in the result of the two drugs; both gave the patient the same amount of benefit.

But the message many reports took away from the study: Beta-blockers had the same good effects even when carvedilol cost about three times as much as metoprolol. That, say researchers and some observers, may be too big a jump to make right now.

"The spin on the press has been cost control," says lead researcher **Marrick L. Kukin**, MD. "But that was not the intention of the study."

Cost analysis was not part of the study design, he says. Rather, it was set up or "powered" so a sample of 50 patients — randomized so half received either of the drugs — would have 80% power to detect the difference in TBARS or ejection fraction beyond what could be expected to happen by chance.

Kukin says the antioxidative properties of carvedilol intrigued him because no one is certain

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if it has a clinical significance or if it is simply "window dressing" that comes along with the established benefits such as reducing the neurohormonal response to heart failure and improving survival.

TBARS were measured twice at the start of the study, two weeks apart and before any exercise that day. They were then measured again after four and six months on the respective beta-blocker, as well as the other clinical and quality of life measures. Kukin and his team found a parallel decline in TBARS between the two patient groups.

Titrating the beta-blockers

Patients initially took a daily dose of 6.25 mg of beta-blocker for a week. The metoprolol group received 6.5 mg once a day, and the carvedilol group received 3.125 mg twice a day. For the second week, the dose was doubled. In following weeks, the dose was up titrated by doubling the twice-daily dose to a target of 25 mg each. Patients who weighed more than 85 kg were up-titrated to receive 50 mg BID.

There was a difference in delivery of the medication. Carvedilol was available in a dose of 3.125 mg dose, while the initial doses of metoprolol had to be prepared by the pharmacist. But should doctors use only carvedilol to begin titration since it's available in the smaller dose, then switch to the cheaper drug when higher doses are achieved? Kukin says there is no scientific data showing an advantage of doing so.

If researchers could find such data demonstrating an advantage to switching beta-blockers, pharmacists would be pleased for many reasons, says **David S. Roffman**, PharmD, BCPS, associate professor of pharmacy practice and science at University of Maryland's School of Pharmacy in Baltimore and therapeutic consultant for the medical system's cardiac care unit.

The pharmacist would be happy for a lot of practical reasons, he says. For one, because breaking 50 mg tablets into quarters is inaccurate, he says his pharmacy has to make up 12.5 mg doses from 50 mg tablets.

And, to the pharmacist, cost does become an issue, he says. Metoprolol is cheap and carvedilol isn't, but there are no convincing trials available now that compare the two.

Furthermore, Roffman says researchers know that beta-blockers provide a shopping list worth of benefit to CHF patients, but which one (or combination of benefits) increases survival isn't known. And while this study looked at how TBARS change during CHF treatment, both Roffman and Kukin say nobody knows what role antioxidants may play in the treatment of CHF.

Also, it may be significant that this study used equal dosages of both beta-blockers, but at the same dose, both drugs may not be equally effective. Other reports have tested metoprolol at higher doses.

Kukin notes the COMET (Carvedilol or Metoprolol European Trial) study, which is ongoing with 3,000 participants, should provide more answers in how these two beta-blockers compare.

Contributions to CHF management

"I think it is an interesting study," says **Tarik M. Ramahi**, MD, "but I don't think it will influence medical management." The director of Yale University's heart failure and transplant cardiology department says doctors already know both beta-blockers are beneficial. But the study was too small and was not double-blinded to set up comparisons of the two drugs. "This doesn't tell me that one is better." Ramahi, like Kukin, notes the COMET study should be able to address how the two drugs compare.

Ramahi says the study was designed to look at the difference in TBARS, but it's still not known how good a predictor they are for antioxidant activity. Still, there may be something to the role of antioxidants in heart failure. But six months may not be a long enough follow-up to begin to see differences in how the different beta-blockers are going to work against oxidative stress.

"The story of antioxidants is a big story," he says. "But it may require longer follow-up to see the outcome effect." There was no difference in effect between the two beta-blockers at the end of this study, but carvedilol could still eventually produce a unique antioxidative effect if given enough time to do so.

The results from the two beta-blockers were as follows:

❒ **Metoprolol.**

— Ejection fraction: Increased from 18 +/- 6.3% to 23 +/-8.7%.

— TBARS decreased from 4.7 +/-0.9 nmol/mL to 4.2+/-1.5 nmol at four months. At six months, TBARS dropped to 3.9+/-1.0 nmol/mL.

❒ **Carvedilol.**

— Ejection fraction: Increased from 19+/-8.5% to 25+/-9.9%.

— TBARS were reduced 4.7+/-1.4 to 4.2+/-1.3 at for months. At six months, TBARS fell to 4.1 +/- 1.2 nmol/mL.

Suggested reading

1. Kukin ML, et al. Prospective, randomized comparison of effect of long-term treatment with metoprolol or carvedilol on symptoms, exercise, ejection fraction and oxidative stress in heart failure. *Circulation* 1999; 99:2,645-2,651.

2. Di Leonarda A, et al. Long-term effects of carvedilol in idiopathic dilated cardiomyopathy with persistent left-ventricular dysfunction dispite chronic metoprolol. *J Am Coll Cardiol* 1999; 33:1,921-1,933. ■

Nurses to rein in CHF home care

Move continues to define their role

Ann Frantz, BSN, RN, says just 10 years ago, getting help with CHF at home meant being part of a grassroots home care program. Nurses affiliated with hospitals and other care agencies developed their own methods of educating patients and making sure they were following the care strategy their doctors prescribed.

Patients who had this assistance at their personal bedside, she recounts, had better outcomes than those discharged to fend for themselves. Doctors learned about getting their patients into such programs, and soon word spread. Facilities developed their own cardiac-specific systems and began to compete for patients.

Today, Frantz says the appeal of controlling a patient's CHF is as strong as ever. But after a decade of being sold on disease management, there is no clear-cut definition of the product being delivered to the patient and what it takes to make sure the nurse will be able to deliver what is needed.

"Anyone can claim they have a special program and offer this, that, and the other," says Frantz, a CHF nurse in Pontiac, MI. But that doesn't mean the care focuses on the best patient outcome. To do that, she says, the Home Health Nurses Association has prepared a consensus statement to define what nurses should know and be able to do at the patient's home.

In May, Frantz presented the guidelines, which she helped write, to members of the American Association of Critical Care Nurses in New Orleans. She also announced a competency exam should become available "to complement the guidelines."

"I believe this is groundbreaking," she says, noting the guidelines are based on the nurse possessing these qualifications:

- experience in cardiac care;
- ability to provide cardiac assistance;
- understanding drug therapies and treatments;
- ability to be an integral member of the health care team.

To help disease management evolve, she says, the nurses working with patients need to have certain skills. "At least a first step is to recognize certain competencies," she says. "Home care will have a select group of cardiac home care nurses; you have to have the skill set if you're going to care for cardiac patients in the home."

KEY POINTS

- Home care nurses are promoting home care guidelines to define what these caregivers should know and be able to do for the CHF patient at home.
- Those involved say the guidelines are necessary to validate the home care nurse as a member on the CHF team.
- A credentialing test should be available to nurses by the end of the year.

The team member at home

Frantz says the move to standardize the role of the home care CHF nurse is tied to the team care approach. A nurse who knows only the practical bedside skills risks becoming isolated from the rest of the care team and, eventually, being squeezed out of CHF treatment.

"Nurses need to know what the collaboration is doing," she says. Besides the doctor, there often are pharmacists, occupational therapists, exercise physiologists, and social workers on the case. So nurses need to know how to work with each one.

The goal of this nurse, Frantz says, is to work with the patient one-on-one, training the patient on the details of CHF itself, what the medications do, how to take them, and understanding the

(Continued on page 80)

CHF Home Health Nurse Guidelines

The following are excerpts from the nursing guidelines, taken from a presentation to the Home Health Nurses Association and the National Association of Home Care during a recent conference in Dallas.

Foundation for Guidelines

Purpose: The guidelines were developed to provide nursing practice parameters for cardiac home care that:

1. Assist home care nurses and agencies in delivering comprehensive cardiac care that focuses on promoting periods of wellness, encouraging self-care management, and preventing disease progression using the nursing process as the framework.

2. Outline specific competencies of proficient and expert cardiac home care nurses.

3. Identify practice parameters that can be used to quantify clinical outcomes and measure improvements in cost effectiveness.

4. Offer an initial practice framework that can be the basis for future research.

Foundation for Guidelines Consensus Panel

1. Developed by a group of expert cardiac home care nurses
2. Peer-reviewed at two levels:
   — HHNA
   — Peer reviewers selected by *HHN Journal*

Guideline Assumptions

1. Patient population is comprised of cardiac patients in the home.
   — recovering from myocardial infarction (MI)
   — recovering from coronary artery bypass graft (CABG)
   — recovering from an exacerbation of congestive heart failure

2. Medical plan of care is set by the physician.

3. Plan of care includes the nursing plan of care, which differs from the medical treatment plan.

4. Evaluation of the medical treatment plan
   — a collaborative effort between nurse and physician, comparing current plan with recommended evidence-based guidelines

5. Foundation of nursing practice
   — patient symptoms and needs drive practice, not reimbursement guidelines

6. References
   — guidelines are based on the most current evidence-based clinical information
   — periodic updates are required

7. Peer reviewed

8. Individualization
   — Guidelines frame recommended cardiac home care nursing practice from which to craft an individualized patient plan of care

9. Recommended encounters for goal attainment (REGAs)
   — “Encounters” replace the term “Visits”

10. The professional nurse
    — Care provided on the guidelines is administered by a registered nurse who meets the recommended competencies

Recommended Competencies

1. The autonomy of home care nursing practice demands that the registered nurse practice alone in an environment where timely clinical judgments are critical to positive patient outcomes.

2. The guidelines were predicated on the principle that nurses providing home care services to cardiac patients be either proficient or expert nurses. **(See Benner's levels of nursing expertise in #3.)**

3. Benner's levels of nursing expertise
   — **Novice:** No background understanding
   — **Advanced beginner:** Demonstrates marginal acceptable performance
   — **Competent:** Can clinically decide which attributes in a situation are most important
   — **Proficient:** Has an intuitive grasp of the situation based upon a deep background understanding
   — **Expert:** Tests and refines theoretical and practical knowledge in actual clinical situations

- The **proficient** cardiac home care nurse
  — Meets basic competencies of a proficient home care nurse
  — Provides cardiovascular assessment, diagnosis, intervention, evaluation, and clinical decision making
  — Has education, training, and experience specific to cardiac illness as outlined by the following qualifications:
  (1) RN licensed in the state where practicing
  (2) BSN preferred
  (3) minimum of 3-5 years cardiac nursing experience, additional 2 years in home care preferred
  (4) BCLS certification
  (5) successful completion of a core competency exam for the proficient cardiac nurse (score of 80% or better)

- The **expert** cardiac home care nurse
  — Has met all competency requirements of both the competent and proficient cardiac nurse
  — Has advanced education, clinical experience and expertise
  — Achieved a level of expert clinical practice and patient disease management as outlined by the following qualifications:
  (1) RN licensed in the state where practicing
  (2) minimum of 8 years cardiac nursing experience, with 3-5 years home health nursing experience preferred
  (3) BSN minimum (MSN preferred)
  (4) BCLS certification
  (5) successful completion of a core competency examination for the expert cardiac nurse, which includes ECG interpretation (score of 80% or better)

Example Guideline 1:
History and assessment of all cardiac patients in the home
Goals

1. Every cardiac patient referred for home care receives a complete cardiac history and assessment from the cardiac home health nurse.

2. The patient receives a cardiovascular history and assessment at subsequent home care encounters.

Outcome 1a: Patient communicates a cardiovascular health history at home care initiation.

- Action. The nurse obtains a history of:
  — disease
  — diagnostic procedures
  — CV risk factor inventory
  — surgical interventions
  — medication management
  — utilization of community resources

Outcome 1b: Patient receives a cardiovascular physical assessment at home care initiation.

- Action. The nurse performs
  — inspection
  — auscultation
  — palpation (skin temperature, turgor, pulses, edema)
  — edema measurement
  (1) measure ankles bilaterally and abdominal girth
  (2) use edema scale **(as shown below)**

0 = no pitting	2+ = moderate, disappears in 10-45 seconds	
1+ = trace	3+ = deep, disappears in 1-2 minutes	4+ = very deep, disappears in 3-5 minutes

Outcome 1c: Patient receives baseline electrocardiogram (ECG) assessment at home care initiation.

- Action. The proficient or expert cardiac nurse assesses the patient for the following indications for single-lead ECG assessment:
  — presence or recent history of arrhythmia
  — inotropic infusion therapy
  — irregular pulse
  — post-myocardial infarction; 5 days or less
  — new complaint of dizziness/lightheadedness
  — new medication regimen of digoxin or antiarrhythmics

NOTES

Patients complaining of chest pain that is unrelieved with sublingual nitroglycerin should be instructed to call EMS.
It is not recommended that time is used to complete a 12-lead ECG assessment.

ECG Policy

1. Home ECG monitoring is completed to assess the electrical functioning of the myocardium in an unstable or recovering cardiac patient population.

2. ECG monitoring is NOT intended to be a diagnostic tool for the patient experiencing angina or coronary ischemia.

Nurse competency for home single-lead ECG monitoring

1. 3-5 years cardiovascular nursing experience, which includes ECG interpretation, prior to entering home care.

2. Documentation on file with the home care agency demonstrating ECG interpretation skill.

3. ACLS is not recommended as acceptable certification for cardiac home care competency.

4. Each home care agency should create its own ECG competency exams.

Home ECG monitoring procedure

1. Obtain ECG rhythm status at time of referral.

2. Baseline single-lead documentation made on chart.

3. ECG monitor is placed on patient at the beginning of the home care encounter.

4. Minimum of two ECG rhythm strips should be printed within 72 hours of patient referral and prior to discharge.

5. ECG rhythm documentation should include patient name, date, time, heart rate, PR interval, QRS interval, and name of rhythm.

6. Patient's prescribing physician is notified of any change in ECG rhythm.

Outcome 2a: After the initial health history is completed, the patient is asked assessment questions during every subsequent home care encounter.

- Action: The nurse asks about:
  — patient status worsening, improved, or unchanged since last encounter
  — symptoms experienced since last encounter
  — medication problems since last encounter
  — health professional visits since last encounter

Outcome 2b: Every home care encounter after the initial encounter includes an overall cardiovascular physical and psychosocial assessment as outlined in Outcome 1b.

Outcome 2c: Single lead ECG assessment during subsequent encounters.

- Action: The nurse will complete single-lead ECG assessment on patient with identified arrhythmias from the previous encounter or with the following symptoms:
  — lightheadedness/dizziness
  — palpations/heart pounding
  — change in pulse from regular to irregular

Outcome 2d: The patient receives ongoing assessment of compliance with the therapeutic plan.

Source: Cindy Bolin, RN; Kelly Hayes, BSN, RN; Ann Frantz, BSN, RN.

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weighing schedule, until patients can provide most of the care themselves. From that point, the nurse can step back a bit from the everyday routine and become more of a consultant to both patient and the rest of the team. But until now, Frantz says there wasn't a list of what nurses should have in their arsenal.

Frantz says nurses can get the complete 57-page set of guidelines through the Home Health Nurses Association. **(See note at the end of this story.)** The journal *Home Healthcare Nurse* featured a summary of the guidelines in its November 1998 issue.

The value of the guidelines

The summary includes an overview of CHF management and caring for a patient recovering from heart failure exacerbation. Guidelines include:

- How many home visits are usually needed for a patient each year, depending on his or her NYHA Class.
- What the nurse should assess in each encounter, such as compliance, physical and psychosocial status, response to treatment, and functional status.
- What patients should be taught about the disease — medication, urgent and emergency plans, nutrition and hydration, activity, stress of chronic disease, and community resources.

In other sections of the summary, guidelines include histories and assessments, care for patients recovering from myocardial infarction, home single-lead ECG monitoring, and caring for bypass patients.

"The CHF specialist has to have a comprehensive understanding of disease pathophysiology and current treatment modalities in order to facilitate patient plan integration," says guidelines co-author **Cynthia Bolin**, RN.

Making sure nurses have this clinical expertise is important, she continues, because it can support a collaborative effort between doctor and nurse.

A nurse who continues to call the physician because a patient's systolic blood pressure falls below 100 may not understand the effects of CHF treatment, she says.

In the same way, the nurse needs to know the medications by name and group, so when a doctor asks what dose of ACE inhibitor or beta-blocker the patient is on, the nurse will not have to ask which is which. That level of expertise has to be there, or the doctor may think the nurse taking care of the patient isn't up to speed, Bolin adds.

Finding incentives for patient compliance

Getting the whole picture of CHF home care also means nurses can help patients set goals for themselves.

Frantz notes one of her patients in NYHA class IV CHF wanted to dance at her daughter's wedding. "Everything revolved around that," she says. The care team had seven months to get her in condition, and she was able to do it.

Another patient wanted to be able to attend a golf tournament and watch Lee Trevino play.

When the goals are set, Frantz and Bolin say it's up to the nurse to determine how the patient is going to be able to follow the treatment plan. Frantz says when nurses have the right cardiac skills, they can become "nurse-artists" who know where to tweak the routines so patients follow them and still accomplish goals.

[For the complete set of guidelines, contact the Home Health Nurses Association at (800) 558-HHNA. The cost is $19.95 for members and $34.95 for nonmembers.] ■

CDC reports CHF hospitalizations rising

Researchers from the Centers for Disease Control and Prevention (CDC) in Atlanta reported a rise in the number of CHF-related hospitalizations between 1985 and 1995 and that the rise will continue unless more preventive programs become available.

The study notes CHF hospitalizations increased from 577,000 to 871,000 as a first-listed diagnosis and 1.7 million to 2.6 million for any diagnosis for heart failure.

"We've got to reduce these numbers by reducing risk," says **Gail A. Haldeman**, MPH, a researcher with the CDC's Cardiovascular Health Branch. Even before a patient is discharged, there needs to be a plan in place that can assess what the patient will need in order to stay healthy enough not to have to return to the hospital. "Rehospitalization is a real important thing we want to prevent," she says. **(See pp. 82-83 for a sample organizer that can help with patient assessment at discharge.)**

Before discharge, Haldeman says, caregivers should know the patient's functional status and what the ejection fraction is, as well as how to assess the support the patient can expect at home.

In her study, she found that not only did hospitalizations increase, but the number of discharges to long-term nursing homes increased as well. This was especially true among female patients, who were discharged to long-term centers in 21% of the cases, compared to 12% for men.

"With women, a lot of the other family members are gone. Lots of women live alone, and they tend to be older [than male CHF patients]. Many are discharged to long-term care because there is no one else at home."

Haldeman notes the intensive home care programs help the patient stay out of the hospital because of the comprehensive education, nursing care, diet support, and medication counseling that often are available. But she notes, if there are other family members available, they also can be very helpful. "Family caregivers have an extremely important role."

Training these caregivers does not have to be very sophisticated, usually focusing on how to look for daily changes in the patient's weight, blood pressure, and functional status, as well as keep an eye on drug compliance. Any changes should be reported to the patient's doctor so they can be handled before conditions worsen and the patient needs to be hospitalized again.

That follow-up is important, notes **Ann Frantz**, RN, a CHF nurse in Pontiac, MI, who recalls how an elderly patient and his wife got his daily weights — but his doctor didn't tell him what to do once he found he had gained weight. He gained 18 pounds before he went back to his family physician "because he just wasn't feeling well." It's those daily changes that need to be recognized and handled before they develop into bigger problems, she says.

Haldeman's group used National Hospital Discharge Survey data for patients age 35 and older. They found 78% of men and 85% of women hospitalized for CHF were at least 65 years old. This means most of the bill goes to Medicare, she says. Because Medicare would probably have to pay for rehospitalizations, Haldeman says there may be a shift to more support for patients out of the hospital.

Suggested reading

1. Haldeman, GA, et al. Hospitalization of patients with heart failure: National Hospital Discharge Survey, 1985 to 1995. *AM Heart J* 1999; 137:352-360. ■

Emphasize importance of fluid control this summer

The heat of the summer may be the last straw for your patients trying to limit the amount of fluid they drink each day. Some physicians suggest you revisit the instructions you give your CHF patients to see if there is any room to drink a bit more each day. But the main message is to reassess patients according to their NYHA class and whether they need to be on diuretics, says cardiologist **Gerre Lutz**, MD, associate professor of medicine at Emory University in Atlanta.

Controlling fluid intake is tough enough without the heat, says Lutz. Not only is it common for CHF patients to have a dry mouth, but their control centers in the brain continue to send the signal that the patient is thirsty.

Now add summer months to the picture, where Lutz says patients "already are looking for any

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CONGESTIVE HEART FAILURE DISCHARGE ACTIVITY LEVELS

Please circle the appropriate level:

LEVEL 1 *No limitations*

LEVEL 2 *Some limitations*

- Limit walking to _____ feet, or _____ houses (1 house = approximately 50 feet)
- Limit stairclimbing to _____ stairs _____ times a day. (Average 12-15 stairs to second level or basement)

Plan your daily tasks to conserve your energy level - assistance may be necessary for some of your usual tasks.

LEVEL 3 *Marked limitations*

- Limit walking to _____ feet (maximum 40-50 generally)
- Limit stairclimbing to _____ stairs _____ times a day.
- Limit pushing, pulling, straining. Limit lifting to ____ lbs.

Plan your daily tasks to conserve your energy level - heavy tasks must be limited as per your doctor.

LEVEL 4 *Simple light activities only*

- out of bed to chair with assist as tolerated
- no above the shoulder activities (no lifting, pushing, pulling, or straining)
- limit your activity to very simple, light tasks

You must conserve your energy by limiting what you do. This will help you minimize your shortness of breath and palpitations.

GENERAL GUIDELINES...

Stop and rest when tired, clammy, or when you have chest discomfort or dizziness. Some shortness of breath may be experienced with activity - any unusual shortness of breath or changes from your normal breathing should be reported to your doctor.

Please discuss any questions you may have with your doctor before discharge.

NO SMOKING! Avoid all types of tobacco. Maintain a smoke-free environment.

Call your doctor if you notice...

- steady weight gain (2-3 lbs.in one day or more than 5 lbs in 5 days)
- shortness of breath (especially while you are lying flat or upon any type of exertion)
- swelling of your ankles or legs that doesn't go away after keeping your feet or legs raised
- persistent cough
- decreased urination during the day; extra urination at night
- fatigue, loss of energy
- any side effects from your medication

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excuse to give in." Summer may be the most difficult time all year to stick with the CHF program. And any sort of fluid intake can cause problems. Lutz notes one of his patients developed pulmonary edema after eating two watermelons.

He cautions against sounding too strict with the patient and notes many problems can be avoided by handling this situation according to the patient's functional class.

Patients in class III and IV CHF should not be out in the hot sun in the first place. Keeping them in a cool environment can do a lot to avoid temptation for more fluid.

With patients in class I and II disease, much depends on whether or not the patient is on a diuretic. Lutz adds at Emory about half of his patients are on diuretics. If they are not on diuretics, it's probably OK to drink 200 cc to 300 cc of fluid — about a typical 8-ounce glass. Then have the patients pay extra attention to how much they weigh each day.

With patients on diuretics, the doctor will have to decide if the patient should:

❒ decrease the dose;
❒ hold the dose;
❒ allow the patient to drink a bit more fluid than usual.

Then, continue to be vigilant about weighing. ■

CE objectives

After reading *CHF Disease Management*, health care professionals will be able to:

1. Identify management, clinical, educational, and financial issues relevant to the care of CHF patients.
2. Explain how those issues affect CHF patients and the providers who care for them.
3. Describe practical ways to solve problems commonly encountered by care providers in their daily activities. ■