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The Complete Congestive Heart Failure Resource

INSIDE

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Researchers advise physicians: Don't take sleep apnea lying down

Screen patients for CPAP

Controlling CHF comorbidity is an around-the-clock job, according to Canadian researchers. They recently found that while beta-blockers may keep hypertension under control during the day, the story may be completely different at night: Patients still can experience both higher levels of left-ventricular afterload and increased heart rate. These effects are a result of surges in systolic blood pressure occurring immediately after episodes of apnea.

The report indicates it may be helpful for physicians to recognize which CHF patients are at risk of experiencing sleep apnea, so continuous positive airway pressure (CPAP) treatment can be used to reverse the apnea and hypertension. At the researchers' laboratory, 22% of CHF patients were found to have the nocturnal respiratory problem. Overall, experts say CHF patients may face a risk of sleep apnea 10 times than that faced by the healthy population.

"There's no doubt in my mind physicians need to know about apnea in patients with congestive heart failure," says **T. Douglas Bradley**, MD, a pulmonologist at The Toronto Hospital and member of the research team.

"Medications reduce vascular resistance, but the mechanism on which they work probably is different than the mechanism that occurs

KEY POINTS

- Sleep apnea can cause surges of systolic blood pressure during sleep, even if the patient is taking medication to control hypertension.
- These surges can result in increased left-ventricular afterload. Continuous positive airway pressure (CPAP) can stop events of apnea and prevent the blood pressure surges.
- Doctors should ask patients about quality of sleep. Patients suspected of suffering from sleep apnea can be directed to a sleep center for confirmation and possibly for CPAP as adjunct therapy.

during apnea," Bradley says. "The rises in blood pressure you see at night are not being blocked by these agents."

The team's report is the latest in its series of studies on the relationship between CHF and apnea. It appeared in the Nov. 24 issue of *Circulation*, the Journal of the American Heart Association.

Eight patients receiving drug therapy for CHF and known to have obstructive sleep apnea were studied for two nights in a sleep center. None of the subjects were taking sedatives or had received previous CPAP therapy. The time spent asleep was divided into thirds, representing the time before, during, and after CPAP administration.

When sleeping subjects breathed on their own, Bradley and his group saw apnea occur. An event was followed by a rise in left-ventricular transmural pressure of 16 mm Hg. (This was calculated from the rise in systolic BP of 14 mm Hg and a 2 mm Hg drop in esophageal pressure during systole.) There were no significant changes in heart rate, BP, or respiration rate during diastole when patients' breathing went unassisted.

When CPAP was administered, systolic BP was lowered 16 mm Hg and the esophageal pressure increased by 4 mm Hg. This meant a systolic left-ventricular transmural pressure 20 mm Hg lower than the pre-CPAP value. CPAP also lowered the heart rate by 5 bpm. Diastolic BP remained unchanged.

After CPAP, the heart beat at its reduced rate. The systolic left-ventricular transmural pressure times heart rate product increased, but it remained lower than the level before CPAP.

Bradley says the most severe episodes of apnea occur during rapid eye movement (REM), or dreaming sleep. In the course of a night, most people experience three to five cycles of REM, with apnea becoming progressively worse. However, in the sleep lab, patents rarely can reach dream sleep.

"Usually the sleep study is too invasive for REM sleep to occur," Bradley says. The patients in this study were monitored in stage 2 sleep. Monitoring began after subjects were asleep for an hour.

Did apnea contribute to CHF development?

Six of the eight subjects had idiopathic dilated cardiomyopathy. Bradley says that apnea may be a suspect in the development of the condition because of a 15-year span between the time people develop sleep apnea and show signs of CHF.

"We see obstructive sleep apnea affecting patients with an average age of 48. With heart failure, the average age is 63." So a CHF contributor may be happening long before patients ever show cardiac symptoms, he says. Asking patients about their quality of sleep can do a lot to determine if a follow-up sleep study should be ordered.

"Cardiologists should be asking patients how they are sleeping," Bradley says. "There are key questions that should only take two minutes to ask."

He suggests asking patients these questions:

❒ **Do you have difficulty falling asleep or staying asleep because of shortness of breath?**

❒ **Do you feel tired or have to nap in the daytime because of tiredness?**

❒ **Do you snore habitually?**

❒ **Has anyone seen you stop breathing while you sleep?**

For patients already diagnosed with CHF, apnea may not be suspected because the fatigue it causes may be automatically attributed to the heart failure.

"If a patient comes in and says he's fatigued, it's easy to say 'Oh, it's just your heart failure,' but if you dig a little deeper, you may see that it's really sleep apnea."

"A good doctor can tell the difference between heart failure and sleep apnea," notes **Gordon A. Ewy**, MD, chief of cardiology at the University of

COMING IN FUTURE MONTHS

- Five effective strategies for reducing readmissions
- The role of surgery in CHF disease management
- Prioritizing and managing comorbidities
- Cost-effectively integrating new pharmacological therapies into a CHF program
- The dos and donts of telemedicine and CHF

Arizona Health Sciences Center and director of the Sarver Heart Center, both in Tucson. "But you have to be willing to consider it."

"It helps to know when the patient feels fatigue," says **Marc Silver**, MD, director of the Heart Failure Institute at Christ Hospital in Oak lawn, IL. "The patient may say 'Gee doc, I just wake up feeling all fatigued,' then you can be very suspicious of sleep apnea," he says. "Then, ask more about if they are getting up at night to go to the bathroom. That will be indicating a different problem," he continues.

"If the patient is sleeping OK but is tired at the end of the day, you know something else is going on." But to make the differential diagnosis between cardiac and pulmonary problems causing the fatigue, Silver says the best evaluation tool probably would be the cardiopulmonary exercise test.

Bradley notes that at his facility in Toronto, all candidates for heart transplantation must first undergo a sleep study. He says some patients who have been found to have sleep apnea and received CPAP therapy showed enough improvement in cardiac performance that they could be removed from the transplant list. ■

Try the big three in time management

Bring a balance to your management style

Do you have enough time to assess the health, medication needs, mental status, disease progression, test results and everything else pertaining to each one of your patients? The balance of seeing enough patients to run a successful practice while making sure each one still gets quality time makes for tight schedules, to say the least.

CHF Disease Management talked to physicians about time management techniques in treating CHF. Their responses fall into three major categories:

Involve yourself according to your expertise

Managing patients with CHF is literally a cardiology subspecialty now, says **Gordon A. Ewy**, MD, chief of cardiology at the University of Arizona Health Sciences Center and director of the Sarver Heart Center, both in Tucson. Besides being familiar with drug therapy, he says, the CHF manager needs to be able to:

❤ look for hibernating myocardium produced by fast heart rates;

❤ know that systolic and diastolic dysfunction may differ;

❤ conduct quick tests to know chronic CHF is present, such as the hepato-jugular reflex.

Examining patients for symptoms such as rales or checking chest X-rays may not be helpful since those are mostly signs of acute disease. **(See related box for details on this test, p. 4.)**

"There's no way a primary care physician with 10 to 15 minutes can manage this disease correctly," he says. "I can't even pick out a pair of socks that quickly." He notes that he needs to spend an hour with a new patient and usually 30 minutes for a follow-up appointment.

Unless generalists have a particular interest in CHF, Ewy says, they need to focus on preventing CHF and catching existing cases as soon as possible. "The generalist's role is to do things like aggressively treat cholesterol and to make sure systolic pressure is below 120 and diastolic is under 90." Once patients show signs of decreased ventricular function, he says, it's time to step up cardiac care and bring in the specialists.

KEY POINTS

- CHF patients have a wide variety of needs. To use your time most effectively, involve yourself directly only in the treatment that applies to your expertise. Be ready to refer to other experts to manage other areas.
- Telephone management systems can be effective tools in keeping patients educated and connected to both their treatment plan and your practice.

Focus on the tasks only the doctor can do

"The key is through the judicious use of physician extenders," says **William T. Abraham**, MD, director of the heart failure and cardiac transplantation section at the University of Cincinnati College of Medicine.

"The catch phrase is a multidisciplinary team approach," he says. "Bring in dietitians, nurse specialists, and pharmacists for taking care of patients." Those people can do the bulk of patient

The Hepato-Jugular Reflex

Doctors can get a sense of a patient's fluid congestion by using this test. Press on the liver. Blood backs up through the inferior vena cava, causing swelling in the neck that the examiner can see. ■

education. "The doctor can do a brief directed exam and then see to making treatment decisions and reinforce what the patients get from the other team members." That way, Abraham says, patients keep hearing messages such as, "Cut down on salt," because they are repeated by several different people.

Deputize a telephone staff

"A lot of smart people say if we call people every day and tell them to take their medication and to avoid the salt shaker, your chance of keeping them out of the hospital is better than if you say 'I'll see you next month,'" says **Richard Pozen**, MD, national medical director of Vivra Heart Services in Fort Lauderdale, FL, and its HeartAssist CHF disease management program.

At its simplest, a telemanagement program can be handled by one person armed with a list of questions and some direction from the office medical staff. Phoners call patients on a regular basis, record how they are following instructions and report any red flags to the physicians who can take action. At the other extreme, outside contractors can be hired to connect patients with a network of nurses to assess, educate and activate emergency response protocols as needed. Somewhere in the middle of these two extremes, individual practices can get their nurses and other trained staff to form a telephoning system. **(See related article on forming your own telemanagement system, at right.)**

"If you have a nurse practitioner, a physician's assistant, or even a good receptionist who is good on the phone, have them call — patients love it," Pozen says.

Abraham says whoever works the phones should be both proactive and reactive. That is, they initiate regular calls to head-off problems and have a system of dealing with the things they discover. This brings in the physicians when they are needed, while delegating other duties that do not require direct physician involvement. ■

Setting up a telemanagement system

Keeping connected

As the director of the Heart Failure and Transplantation Management Center at the University of Michigan in Ann Arbor, **Robert Cody**, MD, oversees the treatment of about 800 heart failure patients and 200 transplant recipients. He says his goal is to help his patients avoid as many hospitalizations and emergency room trips as possible. Telemanagement is a big part of the program.

"We don't wait for the patients to call us," he says. "We've turned the telephone into a preventive weapon. . . . It's a pre-emptive strike of a maintenance approach."

Cody says his group tries to provide a safety net against heart failure. The center uses four full-time nurses and one on a half-time basis to make the calls, talk to patients, and track their condition. Patients stay in contact with Cody's telephone team when they go on vacation, and some live as far as 12-hours away by car.

"We're kind of their lifeline," adds **Karen Stemmer**, MSN, RN, the facility's clinical care coordinator.

Patients get involved with the center in different ways. Of course, there is the traditional path of direct referral from a physician. Other patients are brought on board as part of their individual health insurance programs.

The Michigan center will completely take over some disease management cases on the referring physician's request. For other patients, the group plays more of a supportive role, while the personal physician directs the treatment. Cody notes similar

KEY POINTS

- Establish a telemanagement plan by setting specific goals you want it to achieve. Structure the plan to make your goals happen.
- Tell your patients that you have staff who will call them and it's an important part of managing their heart failure.
- Use appointment time to reinforce important concepts that are handled in more detail over the phone.

facilities are popping up throughout the country. But any practice could develop its own telemanagement system, he says. "Any physician's office treating heart failure could obtain training for office staff, to do what we are doing on a smaller scale."

Whether doctors look to larger centers as models or develop their own plans, the system should try to achieve specific goals. Cody says his center tries to do the following:

❒ **Get patients to participate in their own care.**

Educate them about their condition, medications, and diet needs. Make sure they recognize symptoms of trouble, such as daily weight gain or shortness of breath becoming more severe.

❒ **Assist in identifying irregular schedules of lab tests and making more suitable ones.**

This is when you make sure blood and electrolytes are being checked regularly.

❒ **Monitor drugs and know how to handle the responses you get.**

Callers review medication schedules and try to get a sense of patient compliance. **(See related story on drug compliance issues, p. 8.)**

"You establish a trust and rapport with them on the phone," Stemmer says. "Usually you can pick up what they are really saying." For example, if patients tell their caller they have been having financial problems, it may be a hint that they can't afford their medication, so they haven't been taking it. "Then we try to connect them with a social worker who can help with indigent services."

One payoff, Cody says, is that the nurses develop their own sense of when a patient needs attention beyond the calling schedule. Many times, a nurse can hear something that doesn't seem quite right. "Nurses develop an instinct to call patients earlier," he says, "they begin to hear things in the patients voice that could be the start of problems."

The rapport also means that patients can feel more comfortable calling their nurses as well. If symptoms seem to be changing, the patient can get instructions to go to the right lab for tests, for example, or can inform physicians that treatment may need to be changed, Cody says.

Before callers can bond with their patients, Stemmer says that there must be some strong ties established among staff in the individual practice. She notes that there must be a special relationship between the callers and the doctors who support them. For example, Cody consulted with Stemmer to determine the proper ratio of patients for each caller.

Stemmer says to be effective, doctors should adopt these attitudes toward telemangement staff:

❤ **mentoring;**
❤ **respectful;**
❤ **collegial;**
❤ **trusting.**

As you work on internal rapport, some other components to consider in structuring the telemanagement system are:

❒ **Frequency of calls.**

Obviously, frequency will depend on the severity of the patient's condition. Stemmer says some patients who are stable in NY Heart Association Class I or Class II CHF can be called every few months. The bulk of her patient load has Class III and IV disease and need constant monitoring. "You may call twice a day," she says, to make sure [patients] took their diuretic and then later on to make sure it is working.

❒ **Anatomy of calls.**

Again, specifics will vary with the patient. But there are some general categories to think about. **Richard Pozen**, MD, national medical director of Vivra Heart Services in Fort Lauderdale, FL, and its HeartAssist CHF disease management program, says there are some standard questions to ask such as:

— **How much do you weigh today?**
— **Do you have any of these symptoms:**
(1) **swollen feet;**
(2) **shortness of breath;**
(3) **chest discomfort.**

The caller should be ready to consult the doctor if a red flag goes up, such as a weight gain of two or three pounds (or more) in a day, he says. "You tell the doctor that Mrs. Jones weighs four pounds more today and maybe we should see her now."

Pozen says that the caller should also assess the quality of the patient's life on a regular basis. Questionnaires are available from many sources, such as one he uses as a licensed agreement with the University of Minnesota.

The telephone conversation also is a good time to educate the caller on one aspect of treatment, which can be different with each call. "You don't want to give them an encyclopedia," he says, "just something different each time."

❒ **Information integration.**

Don't let important facts about a patient become marooned on a phone-side notepad. Stemmer says the notes taken during the calls become part of the patients' records. They go to the clinic with patients and help to record the

status of their condition.

❒ **CHF team endorsement.**

The physician should make patients aware that others are involved in ensuring good patient care. "If doctors use physician extenders to make calls, introduce that idea to the patient during the appointment," says **Christine K. O'Neil**, PharmD, assistant professor of clinical pharmacy at Duquesne University in Pittsburgh. "Make the patient feel comfortable that this office person or someone besides the doctor will call and that it is important to talk freely."

Remember that the telemanagement system is designed to promote patient understanding and patient self-management, Pozen says, noting his group has been able to reduce hospital readmissions by 40%. "Whether you do it in your office or contract out to a management source, the key is all the same: to help educate [patients] and give them more attention." ■

Pharmacists do more than fill medicine bottles

Greater expectations

Twenty years ago, if customers at a local drugstore asked a pharmacist about a prescription or an illness, the most common response would be to go ask their doctor. But today, pharmacists are doing a lot to step up their role, says **David Roffman**, PharmD, BCPS, associate professor at University of Maryland's School of Pharmacy in Baltimore.

As doctors have less time to spend on educating their patients, more pharmacists are being called upon to answer basic questions about diseases like congestive heart failure and what particular medications can do to help.

"Patients have to understand all facets of their condition and how their medicine relates to it," says **Hildegarde J. Berdine**, PharmD, clinical assistant professor at Duquesne University in Pittsburgh. "This is a definite niche where the clinical pharmacist can help."

The changing role has affected both the training and esteem the profession receives, Roffman says. As a whole, the pharmacy industry is moving toward making a doctorate the standard degree. And as far as public image goes, pharmacists have won a lot of trust from patients.

KEY POINTS

- The pharmacist's role is changing. Today, pharmacists are counseling patients, tracking progress, and providing basic information on medicine and illness.
- Doctorates are becoming the standard degree among pharmacists.

"We're training our professionals to be a lot more industry-focused," says Roffman, who is a therapeutic consultant for the cardiac care unit in the University of Maryland's Medical System.

"I see patients," he says, "not to practice, to triage." When he needs to talk to a doctor about a case, Hoffman walks around the corner and finds the attending physician. He knows other PharmDs who run clinics for lipid studies, diabetic treatment and private practices in similar ways. On the job, pharmacists take blood pressure and note symptoms like shortness of breath. "That's where the practice is going — away from just dispensing drugs," he says. Gradually, technicians will one day fill prescriptions under pharmacist supervision. This will free the pharmacist, just like support staff is doing for the doctor's practice, today, he notes. ■

A doctor's wish list for smoother CHF treatment

There is a lot of interaction between doctors who treat patients with CHF. Pull a few of these physicians aside and ask them what would make treatment run more smoothly, and you may hear suggestions such as these:

• **Recognize the urgency of CHF and get the right physicians involved quickly.**

"I think it's important to realize heart failure is an extremely serious disease," says **Gordon A. Ewy**, MD, chief of cardiology at the University of Arizona Health Sciences Center and director of the Sarver Heart Center, both in Tucson. "Its prognosis is worse than most cancers. If you have a patient with cancer, you send the patient to a specialist," he says. "Unless you like to do heart

KEY POINTS

- Doctors treating CHF can make suggestions to each other, to try to make treatment run more smoothly.
- Recognize CHF as a serious disease, requiring specialists to be involved with care.
- When women develop CHF, they usually are older and sicker than men, on average, and face a worse prognosis.
- Patients need to be identified quickly so management can begin as soon as possible.
- Only 40% of patients who could be helped by ACE inhibitors actually receive them. Only half of the patients who get them are given therapeutically effective doses.
- Keep all treating physicians well informed with complete records.
- Control comorbidity like pulmonary diseases and depression.
- Educate the patient about CHF and the tests that are being performed. Have the patient keep track of these tests, so they can give consulting physicians a brief background on what has been done.
- Stay in close contact with referring physicians. This can help avoid problems with drug interactions, redundant tests, and extra stress on patients.

failure cases yourself, you should do the same thing."

• **Remember women's needs.**

Doctors need to make female CHF patients aware of the severity of their disease and that it should be taken very seriously, says **Amparo C. Villablanca**, MD, from the University of California, Davis, School of Medicine and Medical Center. Women with CHF tend to be sicker and have an outcome that is much worse than their male counterparts. But they may not realize how heart disease affects them, says Villablanca, who also is the director of the Women's Cardiovascular Health Program and Clinic. **(See related article on compliance issues, p. 8.)**

There is a lack of awareness that heart disease is the No. 1 killer of women," she says, noting that only 8% to 20% of women in this country recognize it as the lead threat to women's health.

• **Don't allow the disease to progress before you try to control it.**

"It's always nice to see the patient early enough in the disease, not only to treat the sick, but to see the patient at a state of reduced ejection fraction but no limitation yet," adds **Marc Silver**, MD, director of the Heart Failure Institute at Christ Hospital in Oak Lawn, IL, and author of *Success with Heart Failure.*

• **Make sure patients are taking the right medication.**

"If it were a board-certification-exam question — what class of medication has been shown to improve the condition of patients with congestive heart failure?— everyone would check off ACE inhibitors. But only 40% of people who should be taking them actually receive them," says **Richard Pozen**, MD, national medical director of Vivra Heart Services in Fort Lauderdale, FL, and its HeartAssist CHF disease management program. "And of these people, only half are at a dose high enough to see the benefits."

• **Keep good records for you AND the next treating physician.**

Note as much as you can — what's being done, whether the disease has progressed, current medication, ejection fraction evaluations — it's all important. "At least then you're feeling like you're picking up where the groundwork has been laid," Silver says.

• **Get a handle on CHF comorbidities.**

"You have to deal with heart failure patients in a holistic way," says Silver. That means looking for associated pulmonary diseases and also to look for the very real possibility of depression. Silver says the generalist can start treatment for these conditions, then note them for the specialist who will continue with the care.

• **Educate the patient to understand the disease and what is being done to treat it.**

"If the patient has an idea of the test history or an idea of the diagnostic summary and records, that's very helpful," he says . But even before the testing, the patient should have a basic understanding of the disease, he says. In a recent study of 100 patients recently referred to him, only a third could tell him what heart failure is.

• **Get your patients to follow your instructions.**

"The name of the game is compliance," says Pozen. "With heart failure, the hospital readmission rate within 90 days is 50%. The reason they get readmitted is a lack of compliance to treatment."

• **Stay in close communication with the referring physician.**

Rick Smith, MD, a geriatrician, says that he would like cardiologists to talk with him before they order tests or prescribe medication. The

medical director of the Los Angeles Jewish Home for the Aging says his average patient is 90.

Smith says that it's a rare event to send one of his patients to a cardiologist for CHF alone. Most of the time, beside heart failure, there are arrhythmias, valvular problems, ischemic heart disease, or other conditions involved at the same time.

"I have to be so careful about drug interactions," he says. That's why he doesn't want the cardiologist to start treating or testing his patients until he has a chance to discuss the case with the physician directly.

Chances are good that the cardiologist will not know all the details of the drug formulary or all the tests that have been done already. A quick discussion with him at the facility or calling him while the patient is in the cardiologist's office can prevent problems and extra stress on the patient, Smith says. And it must be the cardiologist calling in person, not the nurse, to ask if suggested treatment is OK. "What if it's not OK?" he asks, noting he needs to be able to discuss the case with the other doctor. ■

KEY POINTS

- Patients who flatly refuse to be compliant need close following. Daily calls to explain worsening symptoms and loss of quality of life can help persuade patients to get back on track.
- Look for ways to keep repeating important CHF management issues for patients, such as regular classes taught by nurses or other staff.
- Patients need to be motivated to continue to take medication on schedule.
- Be specific about what drugs do.
- In some cases, patient compliance can be helped simply by making sure the patient can hear you, see the medications as you do, open bottles, and read instructions.
- Tailor a routine so the patient becomes accustomed to a personal medication schedule.
- Suggest compliance aids like pill boxes as needed.
- Consider patient finances when you prescribe medicine or tell patients to use personal equipment like scales.
- In terms of compliance, women need to know how severe the disease can be and that they need to be vigilant about following treatment instructions.
- Women are three times more likely than men to experience coughing as a side effect to ACE inhibitor therapy.

Recognize, head off common compliance issues

The patient factor

It was a routine telemanagement call to keep an elderly male patient on the right track with his CHF treatment. He informed the nurse that he had just flushed all his medications down the toilet.

"He said, 'I'm done. I don't want to do this anymore,'" recalls **Karen Stemmer**, MSN, RN, clinical care coordinator at the University of Michigan's Heart Failure and Transplantation Management Center in Ann Arbor.

She had to call back the next day to talk to the patient about the serious symptoms he was beginning to experience. When he realized that they would get worse and affect the quality of his life, he learned he really needed to follow his doctor's instructions.

Nurses say that patients who become frustrated often take matters into their own hands. This is particularly common with older people. However, few announce their noncompliance and tell you the moment they have deviated from their treatment plan. Most clues are subtle. But experts say the hints are there if you know what to look for and what to ask.

"There's usually a reason they are not compliant and you can get them to 'fess up," Stemmer says. "You just have to work with them."

Aside from the telephone, another place she works with patients is in a weekly hour-long class her facility holds for all CHF patients. It's a good place to revisit and relearn the important features of their treatment. Stemmer says she is always looking for chances to remind patients about their weight, diet, or medication.

Doctors can look for ways to aid compliance as well. Here are some suggestions on how to recognize and handle situations where patients often stop following your instructions:

Christine K. O'Neil, PharmD, associate professor of clinical pharmacy at Duquesne University in Pittsburgh, says if you're not thinking about patient compliance, you should be. On average, half the patients receiving medication and

instructions don't follow the doctor's words to the letter. Often patients do not understand the nature of chronic illness. "[Chronic illness] tends to have the worst non-compliance rates," she says, "because the treatment doesn't make them feel better." Patients may not realize that they are taking medication to prevent their condition from becoming worse, she says. "The patients aren't thinking that far ahead."

Patients need to understand their condition and what specifically the medication is doing to control heart failure, says **David Roffman**, PharmD, BCPS, associate professor at University of Maryland's school of pharmacy and a therapeutic consultant in the cardiac care unit at the University of Maryland's Medical System, both in Baltimore.

"'This is my heart pill' isn't really good enough to enhance motivation," he says. "If they know that their ACE inhibitor helps them live longer, then that will help with compliance," he says, adding, "If they know they are preventing a stroke or MI, they have a little more impetus to take the stuff."

The bottom line: Make sure patients know you are prescribing specific drugs for practical reasons. For example, tell patients that some improve exercise capability. Others prevent them from accumulating fluid that causes the shortness of breath and legs to swell, he says. "Very few patients have that level of knowledge." **(See related article on starting a telemanagement system, p. 4.)**

Understanding the elderly patient

A quick assessment of the patient's faculties can tell you a lot about what compliance issues can arise. Making sure a patient can hear you, see clearly, read instructions, remember what to do and pay for medicine can handle a great deal of compliance issues.

"Make sure they can hear instructions," says **Katy Scherger**, RN, a geriatric nurse practitioner at the University of North Texas Health Science Center in Fort Worth. The patient who is smiling and nodding may not be able to hear you but is too embarrassed to say so, she says. Ask a question. Make sure you are being heard.

Also, remember that as patients age, they experience yellowing in their eyes, Scherger says. That makes it difficult if you refer to pills by their usual colors, since the patient may see them in different shades. This is especially common in seeing white pills as yellow or telling the difference between blue and green ones.

Try to avoid sources of frustration as well. (And yes, it will mean less frustration for you, too.) A patient may not be able to open a child-proof bottle because of arthritis. Easy-opening lids are helpful for households with no small children. Also, something as simple as keeping a magnifying glass with medicine can help patients read instructions on the jars and the information from the pharmacy. It also can give patients a better look at the products themselves. Even the way the medication is prescribed can help, too.

"Once-a-day drugs are really the choice here," Roffman says. "There's enough out there to choose from," he says, but notes there may be an exception with some diuretics.

A doctor may not have enough time to help the patient develop a medication strategy, but someone from the office should help tailor a routine that works.

"Set up a system," Roffman says. "Keep medicine in a specific place that [patients] will go to every morning, so it's visible."

Here is where compliance devices can help. There are pill boxes that can be filled with a week's or even a month's worth of pills. Some even have built-in alarms. In addition, there are beepers and paging services that can remind patients to take their medicine when the time arrives.

"Gadgets are useful if patients are willing to use them," says O'Neil. Pill boxes are OK if people remember to fill them, she says. Here is another area where arthritis may be a hindrance, since patients may remember to do it but physically be unable to open the little doors to put the medication inside.

"A lot of my patients use shot glasses and peanut butter lids," she says. One gentleman who was very organized started using a pill box but was unable to fill it because of his arthritis. He switched to using different peanut butter lids for three different times of the day. At the end of the day, he filled the three lids again.

Roffman says the benefit of using the marked pill boxes for each day or for each time of the day is that once they are filled, patients know they took the medicine if the particular day or hour box is empty. This is helpful for patients who have trouble remembering if they took a specific dose. "That's something you can't tell just by looking at the bottles," he says.

"It helps to keep a wallet card," says **Hildegarde J. Berdine**, PharmD, a clinical assistant professor at

Duquesne. Patients should write down all medications, times to take them and any other instructions, she says. They should bring the wallet card to all doctor's appointments so they can update it whenever something changes.

O'Neil notes that a compliance aid is a very individual tool and an office staff may be able to help the patients find a device that is easy for them to afford and use.

Consider patients' finances

A doctor may not think about whether a patient can afford a prescription or even a scale to weigh every day. But nurses say compliance often comes down to having enough money to follow what the doctor says to do.

"We may keep wondering why a patient's blood pressure is so high," says Sherger. "Come to find out he couldn't afford the prescription so he never got it at all." It's a good idea to ask if patients have a drug plan, she says, or even to come right out and ask if they can afford to pay for the medicine. Since so many people in this age group are on fixed incomes, compliance may be a casualty when it's a matter of buying medicine or food.

And while you consider your patients' budget, retail pharmacist **Lynette R. Bradley** says you can learn a lot about the socio-economics that can destroy compliance. The doctoral candidate is studying how literacy levels in Baltimore's urban areas affect how well patients follow medical instructions.

"I noticed a lot of retail pharmacies give out information, but people throw it away," she says. The problem is that most of it is written at an 11th grade level. Materials written at the fifth grade literacy level were much more helpful, she says, especially if the patient is directed to go talk with the pharmacist after the appointment.

A doctor can make that meeting most effective by making sure patients know a bit about their particular condition so the pharmacist can give specific advice and information. Also, keeping a good stock of sample medications can help, too, she says, in cases where physicians can accumulate enough to keep patients in supply between visits or to supplement what the patients can afford themselves.

There are other compliance issues that are particular to women. Besides their greater age and severity of disease, women are three times more likely to develop coughing as a side effect of ACE-inhibitor therapy, says **Amparo C. Villablanca**, MD, director of the Women's Cardiovascular Health Program and Clinic at the University of California, Davis, School of Medicine and Medical Center.

The greater chance of cough does not mean doctors should be reluctant to treat female patients with these medications, however. "It's a nuisance," she says, suggesting doctors tell women to be on the lookout for the side effect and be ready with a substitute therapy such as angiotensin-two receptor antagonists or drug combinations if coughing becomes a problem.

Professional help works with diet compliance

What happens after you tell CHF patients to limit sodium intake to 2 gm a day? Taking the salt shaker off the table may be a good start. But judging from the amount of salty processed food available today, that alone probably won't be enough to follow the restriction. Here is where a registered dietician can be a helpful physician extender to educate and counsel patients about changing their diets.

"Quite frankly, most doctors don't know a lot of things about dietary counseling," says **William T. Abraham**, MD, director of the heart failure and cardiac transplantation section of the University of Cincinnati College of Medicine. When it comes to diet, Abraham says the physician's role is to reinforce the major themes. The logistics and strategies can be worked out with the support staff.

Do they know how to read food labels?

"It may require patients to see a registered dietitian to develop a meal plan and assist with specific needs," says **Kathleen Zelman**, RD, a spokeswoman for the American Dietetics Association."

She says a dietitian can help people implement healthy eating habits according to the rules that doctors prescribe, such as low-salt or low-fat. Patients also can get some lessons about finding their way around the grocery store. "People need to know what they are eating. They need to learn

(Continued on page 12)

Reading and Understanding Food Labels

Check the "Nutrition Facts," usually on the side or back of the package.

Look at the serving size. It is about the same for similar items. So it's easy to compare the nutritional qualities of similar foods.

Nutrition Facts

Serving Size 1/2 cup (125g)
Servings Per Container about 3 1/2

Amount Per Serving	
Calories 50	Calories from Fat 10
	% Daily Value*
Total Fat 1g	**2%**
Saturated Fat 0g	**0%**
Cholesterol 0mg	**0%**
Sodium 250mg	**10%**
Potassium 530mg	**15%**
Total Carbohydrate 9g	**3%**
Dietary Fiber 1g	**4%**
Sugars 7g	
Protein 2g	

Vitamin A 10% • Vitamin C 25%
Calcium 2% • Iron 10%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Potassium		3,500mg	3,500mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Look at the column called "%Daily Value." It tells you at a glance whether a food is high or low in sodium, fat, fiber, and calcium.

Light Spaghetti Sauce, 250 milligrams (mg) per serving
Regular Spaghetti Sauce, 500mg per serving

Look for nutrient content claims, usually on the front of the package. They can help you quickly spot foods that contain desirable levels of pertinent nutrients.

Source: U.S. Food and Drug Administration, Washington, DC.

to read food labels." **(For more information, see food label handout, p. 11.)**

Older people may not be in the habit of reading food labels, particularly those who have been shopping for so many years before the information was commonly available. Keeping in mind the general direction of limiting daily sodium intake to 2 gm per day, they can learn to budget their sodium just as they would their personal finances. It becomes a matter of counting grams of sodium (or fat, or another nutritive element) to keep diets within a healthy range.

Fit in some their favorites

If someone really has a craving for a particular food that was not a low-salt product, the daily diet may be able to accommodate it. The trick is to be able to adjust the food eaten during the rest of the day so it doesn't contribute more than the balance of what is permitted.

"We believe that all foods fit," says Zelman. "It's just that you may have to do some balancing." She notes that patients often feel more in control of what they eat and are less likely to feel like they have to make huge sacrifices in order to eat better and follow their treatment plan.

A dietician, especially one that specializes in working with cardiac patients, also will be able to suggest different ways to season foods without adding extra salt. (Common substitutes could be pepper and fresh herbs.) Zelman notes that there are many commercially available salt-substitute products, but patients should check back with their doctors to make sure some of the chemicals they contain are safe for them to use. ■

CE objectives

After reading the January issue of *CHF Disease Management*, the continuing education participant will be able to do the following:

1. Identify the risks associated with sleep apnea and how CPAP can reverse them.
2. Explain how to focus attention on medical tasks and delegate other duties to support staff.
3. Describe how to establish goals and staff rapport for a practice telemanagement system.
4. Explain how to head off patient noncompliance with medication and diet issues. ■

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