

# Heart Failure: 21st Century Epidemic



Heart failure is one of three cardiovascular epidemics of the 21st century — the others being atrial fibrillation and diabetes mellitus with its attendant cardiovascular disease. More than five million Americans are living with heart failure, with an additional half a million people being diagnosed each year. More Medicare dollars are spent for heart failure diagnosis and treatment than any other disease. While heart failure is a long-term clinical disorder, the availability of patient education and significant advances in pharmacologic and device therapies have significantly improved outcomes. Recently, Healthy Living magazine assembled three Eisenhower Medical Center experts to discuss the roles of clinical intervention and education in improving the quality of life of patients with heart failure. The participants were Leon Feldman, MD, Board Certified Cardiologist/Electrophysiologist, Mary Jo Killen, RN, BSN, Glickman Heart Failure Clinic, an Eisenhower Medical Center facility located in the Renker Wellness Center, and Philip Shaver, MD, Board Certified Cardiologist, who served as moderator.

DR. SHAVER: Many of our readers may be familiar with the term “congestive heart failure” and may not realize that the term “heart failure” is now preferred. While congestion in the lungs and fluid in the legs are common symptoms of heart failure, they are not always present, so the modifier “congestive” has been removed.

DR. FELDMAN: Heart failure isn't a single disease, but a constellation of symptoms, including weight gain, fluid retention, breathlessness, fatigue, and malaise. Fundamentally, the heart is not working efficiently and the body can't handle fluids normally. But we're really talking about a number of diseases, and as you say, congestion does not necessarily have to be a component.

DR. SHAVER: Heart failure is a complex clinical disorder. A very simple definition is that the heart is not adequately supplying blood flow, and the symptoms you mentioned are the body's way of compensating for that inefficiency. Statistics have shown that we're seeing a decrease in mortality from heart attacks, but more people are suffering from heart failure. Leon, why do you think this is happening?

DR. FELDMAN: Overall, we're treating heart disease more effectively and there are fewer deaths from heart attacks. But the fact that our patients live longer gives them time to develop more complications.

DR. SHAVER: Our population is aging, which is a key risk factor. Eighty percent of the patients hospitalized with heart failure are over 65 years of age. “Heart failure is a longterm disease, so treatment has to be done on a longterm basis...Education about this process is incredibly important in order for the patient to understand that the longterm outcomes are good.”

DR. FELDMAN: We have come to understand that the human body has many mechanisms to survive short-term traumas. In the case of heart failure, when the blood flow from the heart is insufficient, the body compensates, trying to retain salt and water to increase cardiac output to supply adequate blood flow to the organs. This works well for short-term survival, just as it did in early man, but those same mechanisms are damaging long-term. We know that tackling short-term solutions and then allowing the body to recover by minimizing things such as salt and water retention has improved heart failure outcomes.

DR. SHAVER: Minimizing salt intake is important for heart failure patients. Mary Jo, are patients surprised to learn which foods are high in sodium?

MARY JO: Absolutely. Even I was surprised to learn low fat cottage cheese has about 800 milligrams of sodium in one cup. Heart failure patients should avoid most canned soups, and really most processed foods, though some are getting better. Cheeses, salad dressings, vegetable drinks and sports drinks are all high in sodium. It's very important to learn to read the labels for sodium content and find healthier alternatives.

DR. SHAVER: For many years, diuretics were our first line of defense against heart failure. Unless the patient is actually retaining fluid, that's really not the case anymore. What's your preferred regimen, Leon?

DR. FELDMAN: The problem with diuretics is that they can be harmful over the long run, so they're not so much in favor anymore. Now we tend to use beta blockers, which block adrenaline. Adrenaline is very harmful, and beta blockers let the heart rest and heal. The bottom line is that heart failure requires long-term treatment.

DR. SHAVER: Patients are often sensitive to beta blockers, sometimes feeling worse before they feel better. I find that staff specially trained in heart failure management, such as the nurses in the Glickman Heart Failure Clinic, can help patients work through that adjustment period of the dosage.

DR. FELDMAN: Heart failure is a long-term disease, so treatment has to be done on a long-term basis. We've discovered that if you use beta blockers gradually, making small increases to the dose every few weeks to a month, patients tolerate them better. Education about this process is incredibly important in order for the patient to understand that the long-term outcomes are good.

DR. SHAVER: We also use ACE inhibitors — angiotensin receptor blockers. When Mary Jo sees a patient at the Glickman Heart Failure Clinic, it's common for the person to have five or six medications at least — aspirin, statins and ACE inhibitors are a few of them. Mary Jo, explain how you assist heart failure patients at the clinic.

MARY JO: Our primary goal is to educate —both our own patients and anyone in the community who is concerned about heart failure. We tell them to watch for a variety of symptoms and to call the clinic for shortness of breath, fatigue, swelling of their lower extremities, three- to five-pound weight gain in a week or being unable to breathe when lying flat. We also review medications and adjust dosages per their cardiologist's orders. Being vigilant on all of these fronts can help keep patients out of the emergency room.

DR. SHAVER: Education and personal interaction are particularly important.

MARY JO: We have a support group open to anyone in the community that meets the third Wednesday of every month. We also offer lectures by health professionals, whether it's a cardiologist discussing high cholesterol, hypertension, or the latest treatment in heart failure, or a pharmacist explaining over-the-counter drugs, or a physical therapist discussing exercise. We also have a weekly class called Living with Heart Failure and monthly nutritional classes.

DR. SHAVER: Mary Jo, do your patients ask you about exercise?

MARY JO: Yes, they do. Exercise is very important, and often it can make the heart more efficient. It also makes patients feel better mentally and physically, and more energetic. Exercise in the pool is particularly good. Heart failure patients can also use two pound weights, even while they're sitting in a chair, to exercise their limbs. Of course, I always tell patients to check with their physician for a recommendation.

DR. SHAVER: Medication is not the only way to approach heart failure. We should also talk about device therapy, or nondrug therapy, for heart failure.

DR. FELDMAN: Heart failure patients are at risk for developing life-threatening heart rhythms. Those with weak heart muscles should be considered for an implanted defibrillator, particularly patients whose heart function or ejection fraction is less than 35 to 40 percent. Ejection fraction is a measurement of how well the heart contracts. This percentage is easily obtained noninvasively by cardiac ultrasound, commonly referred to as an echocardiogram.

DR. SHAVER: The echocardiogram really is a critical tool for heart failure patients, because their hearts are weak and don't contract well. Leon, would you please describe the role of biventricular pacing for hearts in this condition?

DR. FELDMAN: When patients don't respond well to medication, we often evaluate them for a pacing device to help the heart contract better. This is called biventricular pacing. It's about an hour-long procedure in which a specialized pacemaker is placed with two or three wires. This “paces” both lower chambers of the heart, allowing it to contract more uniformly and more forcefully.

DR. SHAVER: What's the difference between that and a standard pacemaker used to treat a slow heart rate?

DR. FELDMAN: A standard pacemaker ensures the heart rate doesn't slow down too much; it's about keeping the heart at a particular rate. It paces about half the heart and is usually effective. However, in heart failure patients, we need to pace most of the heart, and that's where biventricular pacing comes in. The extra wires stimulate the whole heart muscle so that it contracts more strongly. Biventricular pacing is a means of restoring efficiency to improve the blood flow.

DR. SHAVER: So biventricular pacing is more beneficial for a patient with weak heart muscles.

DR. FELDMAN: A standard pacemaker can make the heart even weaker in patients with weak heart muscles because the heart now contracts in a more disorganized way — first one chamber of the heart and then the other. The goal is to have all chambers of the heart contract in a symmetrical way.

DR. SHAVER: Leon, there are also devices that patients can use at home for remote monitoring of their condition.

DR. FELDMAN: Remote devices can help evaluate a patient's current condition and also predict their progress over the next few weeks or months in an effort to avoid hospitalization if possible. One company's approach is to provide a blood pressure cuff and a scale that work on Bluetooth® technology, just like cell phones.

DR. SHAVER: The device can measure and look for accumulation of fluid in the lungs?

DR. FELDMAN: Patients take their blood pressure and weigh themselves on a daily basis, and when either measurement gets out of range, the device automatically notifies the physician that the patient's condition is changing. In addition, there is technology that works with the biventricular pacing devices and defibrillators to measure resistance in the chest. The more fluid in the chest, the lower the resistance. This device can also notify the doctor that the patient may be retaining fluid.

DR. SHAVER: I think that these kinds of advanced monitoring systems are going to be a major improvement in how we treat our heart failure patients. It provides an enormous sense of security for patients and improves their quality of life.

DR. FELDMAN: Absolutely. Patients request remote monitoring now.

DR. SHAVER: Any physician on staff at Eisenhower can refer a patient to the clinic — a cardiologist, internist or family practice physician, for example. How does the staff at the Glickman Heart Failure Clinic interact with the primary doctor, Mary Jo?

MARY JO: On the day we see a patient, we provide notes to the referring physician about the patient's visit, any lab work that was done and any changes we made.

DR. SHAVER: Finally, I'd like to mention some additional resources. Readers interested in the Glickman Heart Failure Clinic can call 760-773-2080. A Web site that explains all of the medications being used for heart failure is [www.chfpatients.com](http://www.chfpatients.com). I also strongly recommend the Heart Failure Society of America site ([www.hfsa.org](http://www.hfsa.org)).