

# Timely Referral for Specialty Care Improves Outcomes and Saves Lives of Patients with Congestive Heart Failure

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## Introduction

Today, more and more cardiac patients are being successfully treated by subspecialists, including interventionalists, electrophysiologists and imaging experts. Unexpectedly however, the number of cardiac patients with congestive heart failure (CHF) referred to subspecialists in heart failure and transplantation has remained relatively unchanged over the past few years. This finding is surprising given the increasing incidence of CHF and the evidence that early referral to heart failure and transplant subspecialty programs results in improved outcomes and a better quality of life.

CHF affects nearly five million Americans with 550,000 new cases reported annually. The illness is responsible for nearly 15 million physician office visits and 6.5 million hospital days each year. Even with the best medical management, the prognosis for these affected individuals is generally poor with median survival after symptom onset ranging from 1.7 to 3.2 years depending upon age, gender and race. Timely referral to a progressive heart failure and transplantation program offers both the patient and specialist the most advantageous treatment options.

## Get with the Guidelines!

Many articles have been published looking specifically at the question of when referral should be made for specialized care. The 2005 American Heart Association and American College of Cardiology guidelines addressed this issue in a somewhat non-specific way. Referral was considered appropriate when the patient developed:

1. An inability to maintain hemodynamic stability
2. Intolerance to drug therapy
3. Early signs of renal or hepatic dysfunction
4. Non-responsiveness to cardiac resynchronization therapy
5. A requirement for outpatient inotropes
6. Recurrent malignant arrhythmias

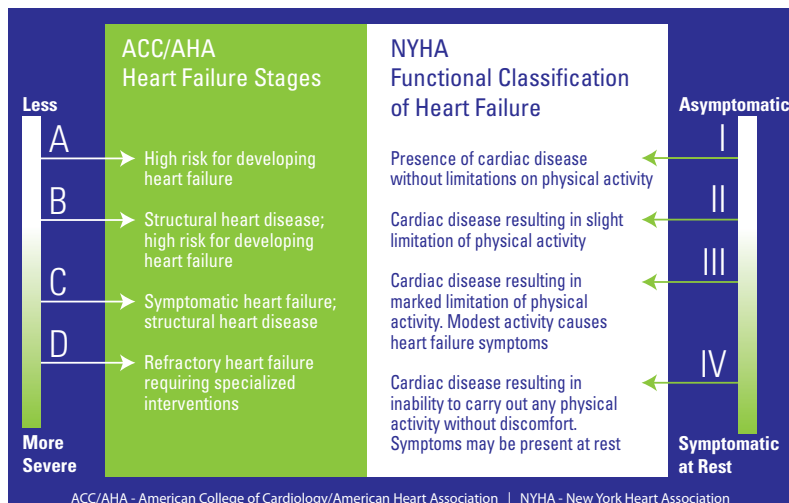
Stuart Russell, M.D., now at Hopkins, addressed the same question in a more specific way at the 2006 Heart Failure Society Annual meeting. It was

his recommendation that referral be made based upon the presence of multiple specific risk factors which included:

1. An inability to walk one block without shortness of breath
2. The need for more than one hospitalization for heart failure during the previous six months
3. The need for more than 1.5 mg/kg/day of furosemide
4. The presence of a serum Na+ <136 mmol/L
5. The presence of a BUN > 40 mg/dl or serum creatinine > 1.5 mg/dl.
6. Intolerance to or refractory to ACE inhibitors, ARB's or beta blockers

The American College of Cardiology and the American Heart Association also published recommendations specifically addressing the staging and care of patients with heart failure. Of particular note is the fact that these guidelines formally acknowledge that the most effective interventions to alter the natural history of the illness are early recognition, prompt treatment (including early consideration of heart transplantation) and adherence to published recommendations. Four stages were identified:

- |         |   |
|---------|---|
| Stage A | High risk of developing heart failure   |
| Stage B | Structural heart disease without symptoms of heart failure                        |
| Stage C | Structural heart disease with symptoms of heart failure (either prior or current) |
| Stage D | Refractory heart failure requiring specialized interventions                      |



While most cardiologists are fully capable of managing patients in Stages A-C, patients in late Stage C and Stage D are probably best managed in a specialized heart failure center.

## Improving Outlook for CHF

The efforts of all of those involved in research and the care of patients with heart failure, both at the Saint Barnabas Heart

Centers and elsewhere, have paid off. For example, in 2000, the death rate for patients with advanced heart failure awaiting transplantation was 145 deaths per 1,000 patient years which represented a significant improvement from the 404 deaths per 1,000 patient years at risk in 1991. It can be assumed that today the ratio is even better. Much of this improvement is attributable to advances in angioplasty, coronary artery bypass grafting, surgical ventricular reconstruction and valvuloplasty or valve replacement. Nevertheless, there remains a population of patients for whom heart transplantation is the recommended procedure. Traditionally, these individuals are younger than 70 years of age (although older individuals are sometimes considered), and in otherwise good health but for their cardiac problems. Seeking transplantation in New Jersey, rather than considering out-of-state centers, is clearly in the transplant candidates' best interest. The median waiting time for heart transplantation in New Jersey consistently remains shorter than elsewhere in the region (1-3 months vs. 6+ months).

The benefits associated with referral to a specialized heart failure center at an early stage in the illness extend well beyond just medical care and ongoing performance improvement/quality initiatives. The benefits also include the availability of social service support, financial counseling, dietician support, clinical psychology and, of course, the availability of heart failure support groups.

### Nationally Recognized Research Programs

The successful outcomes at the Heart Center at Newark Beth Israel Medical Center are due in large part to the program's leading role in cardiac research over the last two decades. The Center has consistently ranked among the first in the nation to provide patients access to investigational devices, new surgical techniques and pharmaceutical protocols. This is an important consideration when making referrals.

A sampling of clinical research trials conducted at the Heart Center at Newark Beth Israel Medical Center is listed below. In many of these trials the Heart Center was the leading enrolling site or among the first sites to participate nationally.

- Clinical study to investigate the safety and effectiveness of the Optimizer System, a new implantable pulse generator designed to strengthen rather than just pace the heart
- One of only 40 hospitals in the nation to test Medtronic's Chronicle device to telemetrically monitor intra-cardiac pressures
- The only hospital in New Jersey, and one of 29 nationally, chosen to study Acorn CorCap cardiac support device for treatment of patients with enlarged hearts and progressive symptoms despite optimized drug therapy
- The first on the East Coast and the third in the nation to implant the Micromed DeBakey Left Ventricular Assist Device, a less invasive, and essentially noiseless alternative to the larger ventricular assist device

### Outstanding Track Record

The Heart Failure Treatment and Transplantation Program at Newark Beth Israel Medical Center is New Jersey's most experienced program, ranked among the nation's top ten in volume for the past three years and renowned for its excellent

short- and long-term outcomes. Our team, composed of more than 20 individuals dedicated solely to treating patients with advanced heart failure, has transplanted more than 470 patients and implanted left ventricular assist devices in nearly 150 others. Thousands more have received other therapeutic modalities ranging from outpatient infusion therapy to complex and/or high-risk surgical procedures.

### Referring Cardiologists

The Heart Center's team continues to reach out and educate community physicians and other health care providers about state-of-the-art cardiac treatments for CHF, innovative mechanical cardiac support services, as well as the advantages of seeking heart transplantation in NJ.

Any concern that referring physicians may have about losing the patient is of concern to the Heart Failure Treatment and Transplant Center staff as well. For this reason, Heart Center staff informs each patient that ours is a subspecialty practice and that while visits to the Heart Failure Treatment and Transplantation Center will be necessary, most of the patient's cardiac care should be provided by his/her referring physician.

### Improving Access

Until now, our advanced services were available only at Newark Beth Israel Medical Center. The physicians and surgeons from the Heart Failure Treatment and Transplantation Center will be staffing a new office in Berkeley Heights, NJ. In 2008 the program anticipates expanding its geographic scope of services further to include Monmouth and Ocean Counties.

### Conclusion

In summary, a significant positive clinical impact can be made if patients with advanced heart failure are referred for specialty services at an earlier stage of the condition. Ideally, referral should be made to those centers with established reputations and experience with new treatments and innovative techniques. The Saint Barnabas Heart Center's Heart Failure Treatment and Transplant Program at NBIMC has earned such a reputation.



*Mark Jay Zucker, M.D., J.D., F.A.C.C., F.A.C.P., has served as Director of the Saint Barnabas Heart Center's Heart Failure Treatment and Transplant Program at Newark Beth Israel Medical Center for more than 17 years. During that time Dr. Zucker has worked with hundreds of New Jersey's cardiologists, multiple state agencies and national organizations to improve the care of individuals afflicted with heart failure.*

**To learn more about the Saint Barnabas Heart Centers Heart Failure Treatment and Transplantation Program or to refer a patient, please contact Dr. Zucker at 973.926.7205 or [mzucker@sbhcs.com](mailto:mzucker@sbhcs.com)**

