

KEY REFERENCES

Biventricular Pacing

As we head into the 21st century, developed countries are finally seeing a decrease in mortality and morbidity from heart disease. However, as our medical understanding and technology increases, we have prolonged life to unprecedented levels. As a result, age-associated congestive heart failure (CHF) is still on the rise. In fact, the increase of CHF in patients older than 85 years has increased by 500% from 1950 to 1993. It is estimated that CHF afflicts at least 1% of the entire US population, with over 250,000 deaths, 700,000 hospitalizations, and over \$10 billion in expenditures each year. Treatment options for this devastating disease remain focused on containing and managing the disease. Often, however, CHF advances beyond our medical treatments.

Recently, many investigators have begun studying the effects of using biventricular pacing devices in the treatment of CHF (MUSTIC, MIRACLE, CONTAK CD, PATH-CHF, CARE-HF, VIGOR CHF and others). Such devices are especially useful for patients with a prolongation of the QRS (which is present in 30% to 50% of CHF patients), because there is marked asynchrony between left and right ventricular contractions. Such a prolongation may produce paradoxical septal wall motion and exacerbate strain on the atrioventricular valves. Using biventricular pacing devices to produce cardiac resynchronization may help to normalize the QRS, improve hemodynamic performance, prevent bradycardic death, and even reshape a cardiomyopathic heart. Several studies have shown cardiac resynchronization therapy to decrease hospitalizations, increase ejection fraction, improve New York Heart Association functional class status, and improve the quality of life of CHF patients.

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