Automatic evaluation of left ventricular function from echocardiographic images with LvTrack (BGN)

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LV Track is a decision support system for routine quantitative evaluation of LV function. Our proprietary algorithm enables fast and accurate analysis of echocardiographic cine loops for automatic extraction of LV parameters.

Goals and Benefits

Automatic selection of LV region of interest (ROI)
Dynamic LV volume tracking
Automatic frame selection for evaluation of global LV function and calculation of EF
Direct evaluation of LV wall mass and segmental wall thickness
Automatic segmental wall motion analysis during diastole and systole from multiple apical views
3D reconstruction

Potential Commercial Uses and Market

3,572 echocardiographic systems are sold annually worldwide, with a total sales of US$430 million. 11.5 million echo examinations were performed in 2004 in the USA alone (the cost of an echo examination amounts to US$175-200).

Development Stage and Development Status-Summary

A basic prototype of the system (MATLAB) has been developed.
The system was evaluated in 28 patients, and the algorithm results were compared to expert EF evaluations (correlation = 0.9).
A clinical database of 300 patients is currently being evaluated.
Fully automatic LV end-diastolic volume calculation results from 125 patients were compared with expert ED evaluations (correlation = 0.85).
New software, including advanced software tools, is being developed as a basis for examination of a beta system.

Patent Status

Patent Pending

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