Automatic evaluation of left ventricular function from echocardiographic images with LvTrack

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.

**Research Team**
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**Patent Status**
Patent Pending

**Contact for Licensing Information**
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