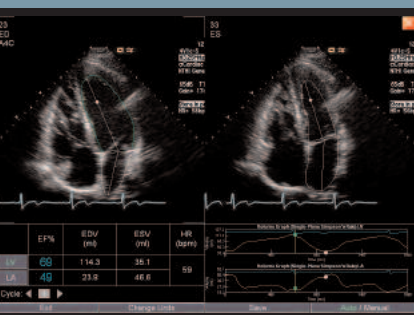


# Diagnostic Confidence Now Comes Automatically



syngo® Auto Left Heart (Auto LH) technology automatically generates left atrial and left ventricular volumes and ejection fractions rapidly and reliably. Its sophisticated system intelligence relies on pattern recognition technology that is based on learning from a database of expert contours on thousands of cases. This advancement in knowledge-based imaging provides a whole new level of accuracy and consistency in adult cardiac quantification. Furthermore, since no manual tracing is required, workflow advances smoothly to provide left heart quantification in every case. Overall, *syngo* Auto LH improves consistency, reduces errors and saves time among users in the adult echo lab environment.

## Highlights

### Calculated Confidence

- Uses progressive pattern recognition technology based on a comprehensive database representing typical adult transthoracic exams
- Provides robust performance and expert-like consistency in every exam
- Excels in technically difficult studies as learning is largely independent of image quality

### Automated Workflow

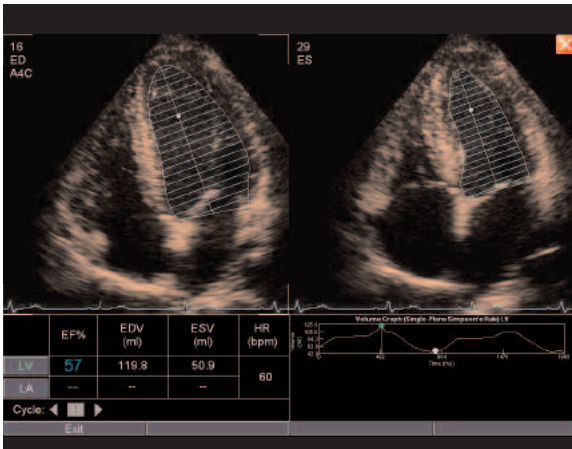
- Bypasses the cumbersome “mark-and-trace” method to calculate EF, end diastole volume and end systole volume
- Automatically identifies ED and ES frames and tracks endocardial borders frame to frame
- Promotes smooth, efficient workflow with manual edit options
- Reduces observer variability to yield more consistent, standardized measurements

### Consistent, Reliable and Convenient

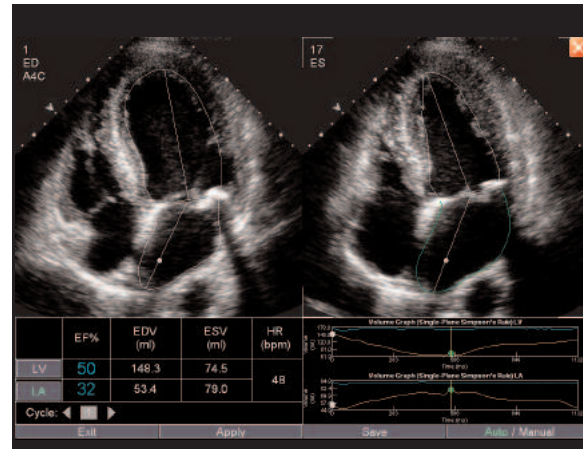
- Extends calculation accuracy to broaden clinical confidence
- Presents EF measurement in complete perspective—with image frames for ED and ES with numerical and graphical data
- Available off the system with *syngo*® US Workplace
- Operates on DICOM clips from select Siemens and non-Siemens ultrasound systems

## syngo Auto Left Heart

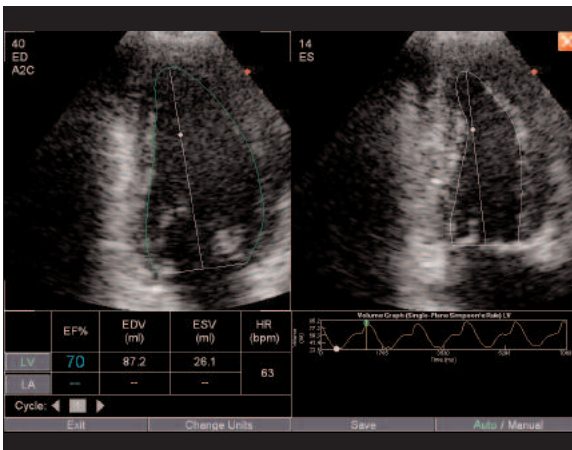
Automatic calculation. Streamlined workflow.



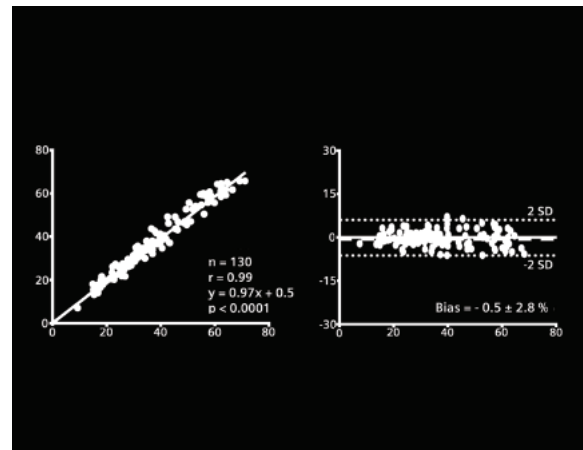
- Simpson method of disc calculation



- Single beat clip displaying both LA and LV EF, volumes and volume curves



- Pattern recognition methodology remains robust with routine clinical patients



- Validation: Manual contours vs. syngo Auto EF technology<sup>2</sup>. Automatic calculation in 83% Auto EF correlated well with manual tracing ( $r=0.99$ , bias=0.55, limits of agreement=6%)

#### References

<sup>1</sup> Cannesson, MD, Maxime, Masaki Tanabe, MD, Matthew S. Suffoletto, MD, Dennis M. McNamara, MD, FACC, Shobit Madan, MD, Joan M. Lacomis, MD, and John Gorcsan III, MD, FACC. "A Novel Two-Dimensional Echocardiographic Image Analysis System Using Artificial Intelligence-Learned Pattern Recognition for Rapid Automated Ejection Fraction." *Journal of the American College of Cardiology*. 49 (2007).

<sup>2</sup> Katz, A. S., et al. "Clinical evaluation of a novel automatic real-time myocardial tracking and wall motion scoring algorithm for echocardiography." *American College of Cardiology Annual Meeting*. Orlando, FL. 6 Mar 2005.

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Order No. A91US-73-1C-4A00  
Printed in the USA  
WS 1107 10.0

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