

Consona N9/Consona N8/Consona N7/ Consona N6 Series

Diagnostic Ultrasound System

Operator's Manual

[Advanced Volume]

If the height and weight have already been entered, the SI, EDV Index and ESV Index are calculated.

- Use the menu to select the HR source: ECG, HR (R-R) measurement or entered.

The CO and CI are calculated automatically using the entered height and weight values.

Simpson: Simpson Bi-plane measurement

CAUTION

When using Simpson to measure LV function, be sure to keep the apical four-chamber view and apical two-chamber view perpendicular. Otherwise the measurement result will be incorrect.

Perform the following procedure:

- Select [Simpson] in the measurement menu.
- In apical two-chamber view, measure the following parameters:
 - Left ventricular endocardium at end-diastolic and set the long axis, the EDV(A2C) is obtained
 - Left ventricular endocardium at end-systolic and set the long axis, the ESV(A2C) is obtained
- In apical four-chamber view, measure the following parameters:
 - Left ventricular endocardium at end-diastolic and set the long axis, the EDV(A4C) is obtained
 - Left ventricular endocardium at end-systolic and set the long axis, the ESV(A4C) is obtained

If the height and weight have already been entered, the SV, EF, SI, EDV Index and ESV Index are calculated.

- Use the touch screen to select the HR source: ECG, HR(R-R) measurement or entered.

The CO and CI are calculated automatically using the entered height and weight values.

LV (2D)

Study Items:

Tools	Descriptions	Operations
Diastole	End-diastolic Left Ventricular Measurement	FoldLine in 2D mode Parallel method in M mode
Systole	End-systolic Left Ventricular Measurement	
LVIDd	Left Ventricular Internal Diameter at End-diastole	Distance in 2D/M General measurements
LVIDs	Left Ventricular Internal Diameter at End-systole	
HR	Heart Rate	Obtained by ECG, HR(R-R) measurements or entered directly

Study Results:

Tools	Descriptions	Formulae
IVSd	Interventricular Septal Thickness at End-diastole	Distance in 2D/M General Measurements
LVPWd	Left Ventricular Posterior Wall Thickness at End-diastole	
IVSs	Interventricular Septal Thickness at End-systole	
LVPWs	Left Ventricular Posterior Wall Thickness at End-systole	
EDV	End-diastolic Left Ventricular Volume	$EDV(ml) = LVIDd(cm)^3$
ESV	End-systolic Left Ventricular Volume	$ESV(ml) = LVIDs(cm)^3$
EDV Index	End-diastolic Left Ventricular Volume	$EDV\ Index = EDV/BSA$
ESV Index	End-systolic Left Ventricular Volume	$ESV\ Index = ESV/BSA$
SV	Stroke Volume	see "5.4.1 Left Ventricular Function"
CO	Cardiac Output	
EF	Ejection Fraction	
FS	Fractional Shortening	
MVCF	Mean Velocity of Circumferential Fiber Shortening	
SI	SV Index	
CI	CO Index	

TIP:

- In the [Setup] > [System] > [Application] screen, you can set the method for the Cube/Teichholz/HR study.
- Click [Property] in [Setup] > [Measure] to select formula for LV measurement by selecting result items: Cube, Teichholz or Gibson.

Taking the method using LVIDd, LVIDs, HR as an example.

Perform the following procedure:

1. Select [LV (2D)] in the measurement menu.
2. Measure LVIDd in 2D or M mode.
The LVIDd and EDV are obtained.
3. Measure the LVIDs in 2D or M mode.
 - The LVIDs and ESV are obtained.
 - The system calculates the SV, EF and FS.
4. Using the menu to select the HR source: ECG, HR(R-R) measurement or entered.

If the height and weight have already been entered, the SI, CO, CI, EDV Index and ESV Index are calculated.

The MVCF is calculated if the LVET is measured.