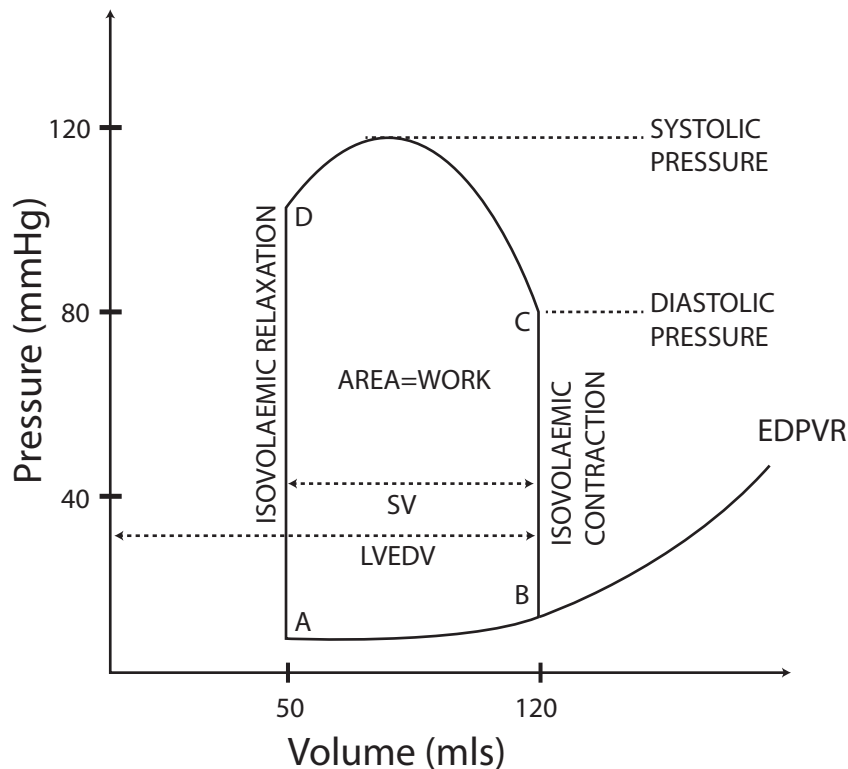


Draw and label a left ventricular pressure volume loop in a normal adult. List the information that can be obtained from this loop.



Cardiac cycle events

valve openings and closings

A = MV opening,

B = MV closes

C = Aortic Valve opens

D = Aortic Valve closes

isovolaemic contraction and relaxation,

systolic blood ejection and diastolic ventricle filling

Measurable values

the diastolic and systolic pressures,

the stroke volume (SV)

left ventricular end diastolic volume (LVEDV)

the area of the loop represents external work

ejection fraction = $SV/LVEDV$

Surrogate markers

preload surrogate marker is the LVEDV point on the abscissa (x-axis) r

afterload is the angle formed between the preload and D

contractility is the angle formed by the End Systolic Pressure Volume Relationship ESPVR.

elastance relates to the end diastolic pressure volume relationship EDPVR,

compliance may be inferred ($1/\text{elastance}$)