CHAPTER 35 CLOSURE AND ANIMATIONS

Figures 35.1-35.6 display mitral valve annular and leaflet geometry snapshots from the animations provided in Appendix D for specific instants associated with left ventricular inflow and pressure from peak diastolic inflow through valve closure and early left ventricular systole for hearts H1-H6 (data in Appendix A).

Appendix D provides the frame-by-frame animations of these same data throughout a complete cardiac cycle for each heart from two viewpoints: side views from the right fibrous trigone towards the left fibrous trigone; top views from the left atrium towards the left ventricle. For each view, the current instant in the cardiac cycle is identified by the black symbol on the left ventricular pressure curve (gray). The marker positions at that instant are connected by lines, with the mitral annulus in blue, anterior leaflet edge in red, and lateral LV epicardium merging into the central meridian of the P2 posterior leaflet scallop in green (side view) and lateral annular marker to central P2 posterior leaflet edge marker in green (top view). The color-coded dots in each frame show the previous locations of each marker throughout the cardiac cycle. The top view also shows the left ventricular basal marker positions at each instant (large black symbols), with anterior LV at left, posterior LV at right, lateral LV at bottom, and septum at top.
Figure 35.1 Mitral valve annular and leaflet geometry (TOP) during specific instants (COLOR CODED) associated with (BOTTOM) left ventricular inflow (FLOW, dashed) and left ventricular pressure (LVP) during valve closure for heart H1. Maximum inflow (purple); onset of systolic LVP rise (green); leaflet closure (blue). TOP: Marker #22=annular saddlehorn; #16=left fibrous trigone; #24=right fibrous trigone; #13=lateral basal left ventricular epicardium.
Figure 35.2 Mitral valve annular and leaflet geometry (TOP) during specific instants (COLOR CODED) associated with (BOTTOM) left ventricular inflow (FLOW, dashed) and left ventricular pressure (LVP) during valve closure for heart H2. Maximum inflow (purple); onset of systolic LVP rise (green); leaflet closure (blue). TOP: Marker #22=annular saddlehorn; #16=left fibrous trigone; #24=right fibrous trigone; #13=lateral basal left ventricular epicardium.
Figure 35.3 Mitral valve annular and leaflet geometry (TOP) during specific instants (COLOR CODED) associated with (BOTTOM) left ventricular inflow (FLOW, dashed) and left ventricular pressure (LVP) during valve closure for heart H3. Maximum inflow (purple); onset of systolic LVP rise (green); leaflet closure (blue). TOP: Marker #22=annular saddlehorn; #16=left fibrous trigone; #24=right fibrous trigone; #13=lateral basal left ventricular epicardium.
Figure 35.4 Mitral valve annular and leaflet geometry (TOP) during specific instants (COLOR CODED) associated with (BOTTOM) left ventricular inflow (FLOW, dashed) and left ventricular pressure (LVP) during valve closure for heart H4. Maximum inflow (purple); onset of systolic LVP rise (green); leaflet closure (blue). TOP: Marker #22=annular saddlehorn; #16=left fibrous trigone; #24=right fibrous trigone; #13=lateral basal left ventricular epicardium.
Figure 35.5 Mitral valve annular and leaflet geometry (TOP) during specific instants (COLOR CODED) associated with (BOTTOM) left ventricular inflow (FLOW, dashed) and left ventricular pressure (LVP) during valve closure for heart H5. Maximum inflow (purple); onset of systolic LVP rise (green); leaflet closure (blue). TOP: Marker #22=annular saddlehorn; #16=left fibrous trigone; #24=right fibrous trigone; #13=lateral basal left ventricular epicardium.
Figure 35.6 Mitral valve annular and leaflet geometry (TOP) during specific instants (COLOR CODED) associated with (BOTTOM) left ventricular inflow (FLOW, dashed) and left ventricular pressure (LVP) during valve closure for heart H6. Maximum inflow (purple); onset of systolic LVP rise (green); leaflet closure (blue). TOP: Marker #22=annular saddlehorn; #16=left fibrous trigone; #24=right fibrous trigone; #13=lateral basal left ventricular epicardium.