CHAPTER 01 ANATOMY AND MARKER SITES

Figure 1.1 is a view from a 3-D rendering of systolic geometry for the left ventricle, mitral valve, and aortic valve, computed as a composite from two experiments involving precise measurement of 83 marker sites. The methods used to obtain this 3-D dataset, including the full dataset file, are outlined in Appendix B. Note that in this systolic rendering, the aortic valve is open and the mitral valve is closed.

Figure 1.1 Anatomical relationships between the mitral valve, aortic valve, and left ventricle. View is from the right fibrous trigone toward the left fibrous trigone, i.e., from the posterior LV towards the anterior LV. Gridlines are 10 mm apart.
Figure 1.2 is an enlarged view from the 3-D rendering of diastolic geometry using the composite technique described in Appendix B and used to produce Figure 1.1. The Figure caption and labels define the nomenclature that will be used in this book to describe the left ventricle, mitral valve, and aortic valve. Note that in this diastolic rendering, the aortic valve is closed and the mitral valve is open.

**Figure 1.2 Nomenclature:**
- LFT=Left Fibrous Trigone
- RFT=Right Fibrous Trigone
- MA=Mitral Annulus
- AML=Anterior Mitral Leaflet
- PML=Posterior Mitral Leaflet
- APT=Anterior Papillary Tip
- PPT=Posterior Papillary Tip
- LAT=Lateral LV
- SEP=Septal LV
- ANT=Anterior LV
- POST=Posterior LV
- LAC=Left Aortic Cusp
- RAC=Right Aortic Cusp
- NCAC=Non Coronary Aortic Cusp

Gridlines are 10 mm apart.
Figures 1.3 and 1.4 show the numbered sites where radiopaque markers were located in the left ventricle, mitral annulus, papillary muscles, and mitral anterior and posterior leaflets for the six hearts H1-H6 (see Appendix A).

Figure 1.3 Numbered left ventricular and mitral annular marker sites. APM=Anterior Papillary Muscle Tip; PPM=Posterior Papillary Muscle Tip. Marker #29 at the Left Fibrous Trigone, Marker #24 at the Right Fibrous Trigone, Marker #22 at the Annular “Saddlehorn”, Marker #18 at the Lateral Annulus, Marker #16 at the Anterior Commissure, Marker #20 at the Posterior Commissure.

Figure 1.4 Numbered anterior mitral leaflet marker sites. Marker 37 is at central posterior leaflet scallop edge.