

## ***I Fundamentals***

- 1. History of Cardiac Surgery*
- 2. Surgical Anatomy of the Heart*
- 3. Cardiac Surgical Physiology*
- 4. Cardiac Surgical Pharmacology*
- 5. Cardiovascular Pathology*
- 6. Computed Tomography of the Adult Cardiac Surgery Patient: Principles and Applications*
- 7. Risk Assessment and Performance Improvement in Cardiac Surgery*
- 8. Simulation in Cardiac Surgery*
- 9. The Integrated Cardiovascular Center*

## ***II Perioperative/Intraoperative Care***

- 10. Preoperative Evaluation for Cardiac Surgery*
- 11. Cardiac Anesthesia*
- 12. Echocardiography in Cardiac Surgery*
- 13. Extracorporeal Circulation*
- 14. Transfusion Therapy and Blood Conservation*
- 15. Deep Hypothermic Circulatory Arrest*
- 16. Myocardial Protection*
- 17. Postoperative Care of Cardiac Surgery Patients*
- 18. Temporary Mechanical Circulatory Support*

## ***III Ischemic Heart Disease***

- 19. Myocardial Revascularization with Percutaneous Devices*
- 20. Myocardial Revascularization with Cardiopulmonary Bypass*
- 21. Myocardial Revascularization Without Cardiopulmonary Bypass*
- 22. Myocardial Revascularization after Acute Myocardial Infarction*
- 23. Minimally Invasive Myocardial Revascularization*
- 24. Coronary Artery Reoperations*
- 25. Surgical Treatment of Complications of Myocardial Infarction, Ventricular Septal Defect, Myocardial Rupture, and Left Ventricular Aneurysm*

## ***IV Aortic Valve Disease***

- 26. Pathophysiology of Aortic Valve Disease*
- 27. Aortic Valve Replacement with a Mechanical Cardiac Valve Prosthesis*

- 28. *Stented Bioprosthetic Aortic Valve Replacement*
- 29. *Stentless Aortic Valve and Root Replacement*
- 30. *Aortic Valve Repair and Aortic Valve-Sparing Operations*
- 31. *Surgical Treatment of Aortic Valve Endocarditis*
- 32. *Minimally Invasive Aortic Valve Surgery*
- 33. *Percutaneous Treatment of Aortic Valve Disease*

#### **V Mitral Valve Disease**

- 34. *Pathophysiology of Mitral Valve Disease*
- 35. *Mitral Valve Repair*
- 36. *Mitral Valve Repair: Rheumatic*
- 37. *Surgery for Functional Mitral Regurgitation*
- 38. *Surgical Treatment of Mitral Valve Endocarditis*
- 39. *Mitral Valve Repair for Congenital Mitral Valve Disease in the Adult*
- 40. *Minimally Invasive and Robotic Mitral and Tricuspid Valve Surgery*
- 41. *Percutaneous Catheter-based Mitral Valve Repair*
- 42. *Mitral Valve Replacement*

#### **VI Valvular Heart Disease (Other)**

- 43. *Tricuspid Valve Disease*
- 44. *Multiple Valve Disease*
- 45. *Valvular and Ischemic Heart Disease*
- 46. *Reoperative Valve Surgery*

#### **VII Surgery of the Great Vessels**

- 47. *Aortic Dissection*
- 48. *Ascending and Arch Aortic Aneurysms*
- 49. *Descending and Thoracoabdominal Aortic Aneurysms*
- 50. *Endovascular Therapy for the Treatment of Thoracic Aortic Disease*
- 51. *Trauma to the Great Vessels*
- 52. *Pulmonary Embolism and Pulmonary Thromboendarterectomy*

#### **VIII Surgery For Cardiac Arrhythmias**

- 53. *Interventional Therapy for Atrial and Ventricular Arrhythmias*
- 54. *Surgery for Atrial Fibrillation*
- 55. *Surgical Implantation of Pacemakers and Automatic Defibrillators*

#### **IX Other Cardiac Operations**

56. *Surgery for Adult Congenital Heart Disease*

57. *Pericardial Disease*

58. *Cardiac Neoplasms*

***X Transplant and Mechanical Circulatory Support***

59. *Immunobiology of Heart and Lung Transplantation*

60. *Heart Transplantation*

61. *Lung Transplantation and Heart-lung Transplantation*

62. *Long-term Mechanical Circulatory Support and the Total Artificial Heart*

63. *Tissue Engineering for Cardiac Valve Surgery*

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