- **Amplatz Coronary Catheter for Femoral, Left Brachial or Radial Approaches**
- **Selective Cannulation of the Native Right Coronary Artery (RCA)**
- **Selective Cannulation of the Renal and Mesenteric Arteries**

7. The Multipurpose Catheter

- **Historical Background**
- **Multipurpose Catheter Basics**
- **Torque and Rotation**
- **Left Ventriculography with the Multipurpose Catheter**
- **Right Coronary Artery (RCA) Cannulation**
- **Left Coronary Artery (LCA) Cannulation**
- **Coronary Bypass Grafts**
- **Challenging Conditions**

8. Angiography of Coronary Bypass Grafts

- **Venous and Free Arterial Grafts**
- **Pediculed Arterial Grafts**

9. Left and Right Ventriculography, Aortography and Pulmonary Angiography

- **Radiologic Anatomy of the Heart and Left Ventriculography**
- **Entering the Left Ventricle**
- **Radiologic Anatomy of the Heart and Right Ventriculography**
- **Aortography**
- **Pulmonary Artery Angiography**

10. Right Heart Catheterization

- **Indications and Contraindications of the Procedure**
- **Femoral Vein Approach**
- **Right Internal Jugular Vein Approach**
- **Cannulation of the Coronary Sinus**

11. Right and Left Heart Hemodynamics

- **Cardiac Hemodynamics**
- **Interpretation of Right and Left Heart Pressure Tracings**
- **Cardiac Output Measurement**
- **Pulmonary and Systemic Vascular Resistance**

12. Shunt Detection and Calculation

- **Oximetry for Shunt Calculations**

13. Endomyocardial Biopsy

- **Indications and Contraindications of the Procedure**
- **Jugular Vein Approach**
- **Femoral Vein Approach**
- **Femoral Artery Approach**

14. Pericardiocentesis

- **Indications and Contraindications of the Procedure**
- **Subxiphoid Approach**
- **Apical Approach**

15. Intra-Aortic Balloon Pump (IABP) Placement

- **Indications and Contraindications of the Procedure**
- **Femoral Artery Approach**
- **Left Brachial Artery Approach**

16. Temporary Transvenous Pacemaker Placement

- **Indications and Contraindications of the Procedure**
- **Femoral Vein Approach**
- **Right Internal Jugular Vein Approach**

17. Post-Cardiac Catheterization Care

- **Documentation of the Procedure**
- **Vascular Access Site Closure**
- **Obtaining Hemostasis of the Radial Arteriotomy Site**

18. Approach to Complex Cases in Cardiac Catheterization

- **Left Main (LM) Coronary Artery Stenosis**
- **Coronary Anomalies**
- **Coronary Spasm and Myocardial Bridge**
- **Aortic Stenosis**
- **Pulmonic Stenosis**
- **Mitral Stenosis**
- **Tricuspid Stenosis**
- **Tricuspid Regurgitation**
- **Aortic Regurgitation**
- **Mitral Regurgitation**
- **Hypertrophic Cardiomyopathy**
- **Cardiac Tamponade**
- **Restrictive Cardiomyopathy versus Constrictive Pericarditis**

- **Pulmonary Hypertension**
- **Simple Cardiac Shunts**