

1 Introduction to cardiac catheterization

H.V. Anderson

2 Designing, Planning, and Implementing a Cardiac Catheterization Laboratory: Organizational, Architectural, and Equipment Considerations Carol Wesley, Amy Newell, James C Blankenship

3 Radiation safety

Srini Potluri

4 Advances and Challenges in Iodinated Contrast Media

Sant Kumar, Ahmad Jabri, Nour Hammad, Mohammad Alqarqaz, Vikas Aggarwal

5 Patient selection, preparation, risks, and informed consent

Catherine A. Vanchiere, Daniel M. Kolansky

6 Conscious Sedation (Local Anesthetics, Sedatives, and Reversing Agents)

Craig J. Beavers and Steven P. Dunn

7 Vasopressors, vasodilators, and antithrombotics in the catheterization laboratory

Anastasia Armbruster and Joseph Van Tuyl

8 Vascular access for percutaneous interventions and angiography

Mirvat Alasnag, Owayed Al-Shemmari, Sara Martinez, Khaled Al-Johany, Fawaz Bardooli

9 Right heart catheterization: Cardiac output, vascular resistance, shunt detection, and quantification

Rachel Goodman, Nazli Okumus, Sukriti Banthiya, and Amit Goyal

10 Pulmonary Hypertension: Hemodynamic Assessment by Cardiac Catheterization

Gregg Lanier

11 Valvular heart disease: Measurement of valve orifice area and quantification of regurgitation

Blase A. Carabello

12 Hemodynamic Assessment for Hypertrophic Cardiomyopathy, Restrictive Cardiomyopathy, Constrictive Pericarditis, and Cardiac Tamponade C. Charles Jain; William R. Miranda

13 Endomyocardial biopsy: Indications and procedures

Avi Levine

14 Pericardiocentesis

Carl L Tommaso

15 Catheterization of the cardiac venous system: A Contemporary Perspective

Saurav Chatterjee

16 Coronary anatomy, variants and collaterals

Jayant Bagai, Bruno B. Lima, Nicholas Varunok

17 Diagnostic angiographic catheters: Coronary and vascular

Shea Hogan

18 Coronary Imaging: Angiography, CTA, MRA

Joel A. Garcia, Shivangi Patel

19 Pediatric & Congenital Cardiac Catheterization

Gareth Morgan, Alessia Callegari

20 Cardiac catheterization for the adult with complex congenital heart disease

Ada Stefanescu Schmidt and Georges Ephrem

21 Ventriculography and Aortography

Matthew George Nardi and José G. Díez

22 Pulmonary angiography

Michael P. Thomas, and P. Michael Grossman

23 Transseptal catheterization

Arka Chatterjee, Aadhavi Sridharan, Mark A. Law

24 Renal and Mesenteric Artery Angiography

KahtanFadah,Sunil K. Srinivas

25 Peripheral vascular angiography

Fadi Saab

26 Carotid and cerebral angiography

Gustavo J. Rodriguez. Faheem Sheriff. Rakesh Khatri,. Alberto Maud,

27 Venography, hemodynamics and diagnosis of venous disease

Jorge Chiquie Borges, Michael Brockman

28 Application of intracoronary physiology: Use of pressure and flow measurements

Yasar Sattar, SivaramNeppala, Mahboob Alam

29 Intravascular Ultrasound

Justin Pacor; Khansa Ahmad, Saraschandra Vallabhajosyula

30 Optical coherence tomography

Muhammad Ijaz Pervez, Deepak Acharya, Arka Chatterjee

31 Percutaneous coronary intervention: General principles

Mahmoud Ismayl, Hasaan Ahmed, Andrew M. Goldsweig

32 GUIDE CATHETERS and GUIDEWIRES

Krishna Santosh Vemuri, Tushar Mishra and Annapoorna Kini

33 Coronary artery stenting

Jean-Claude Asaker, J. Dawn Abbott

34 PCI in Special settings: Acute Myocardial Infarction, Cardiogenic Shock, Saphenous Vein Graft Intervention, Left Main Stenting

Khansa Ahmad, SaraschandraVallabhajosyula, Vinayak Nagaraja

35 Acute Myocardial Infarction Complicated by Cardiogenic Shock

Adnan Halboni, Balim Senman, Kevin Buda, Mir B Basir

36 Chronic Total Occlusion Percutaneous Coronary Intervention

Laura Young, Jaikirshan Khatri

37 Atherectomy, Thrombectomy and Emboli Protection Devices

Mohamed Zghouzi, Roshan Bista, Timir K Paul

38 Percutaneous Coronary Intervention (PCI): Navigating Acute Procedural Complications and Optimizing Management

Aravind Sekhar, Kahtan Fadah

39 Percutaneous Mechanical Circulatory Support for Cardiogenic Shock: Micro-axial Flow Pumps, Intra-Aortic Balloon Counterpulsation, Extracorporeal Bypass, and Right Ventricular Support Devices.

Jason E. Bloom , Michael I. Brener , Daniel Burkhoff

40 Intravascular Lithotripsy

Zachary M. Visinoni, Dean J. Kereiakes, Daniel L. Jurewitz, Richard Shlofmitz, Ziad A. Ali, Michael S. Lee

41 Intracardiac echocardiography

Edwin C. Ho, Azeem Latib

42 TEE to guide interventional cardiac procedures in the catheterization laboratory

Andrew Pattock, Tiffany Chen

43 Transcatheter Aortic Valve Implantation

Cody W. Dorton, Mohamad Bader AboHajar, Taylor Pickering, Molly Szerlip,

44 Percutaneous therapies for Mitral valve disease (Valvuloplasty for mitral stenosis and percutaneous management of mitral regurgitation) Antonella Millina, Andrea Scottia, Matteo Sturlaa, Pier Pasquale Leonea, Andrea Mignattia, Tadahisa Sugiuraa, Manaf Assafina, Edwin Ho, Azeem Latiba

45 Percutaneous therapies for Tricuspid valve disease

Kent, Chak-yu So, Leo Kar Lok Lai, Gilbert Tang

46 TRANSCATHETER PULMONARY VALVE REPLACEMENT (TPVR): AN EVOLVING TECHNIQUE AND TECHNOLOGY IN TREATMENT OF CONGENITAL HEART DISEASE M. Sharif Noorintan Liana, Ziyad M. Hijazi

47 Ethanol septal ablation

Tanya Sharma, Atul D. Bali, Srihari S. Naidu

48 Left atrial appendage exclusion

Muhammad Hashim Abbasi, and Mandeep Bhargava

49 Percutaneous closure of atrial septal defect and patent foramen ovale

Georges Ephrem

50 Pediatric and adult congenital cardiac interventions

R. Allen Ligon Vasilis C. Babaliaros, Dennis W. Kim

51 Embolization for fistulas and arteriovenous malformations - Brain Arteriovenous Malformations and Dural Cranial AV fistula

Ali Alsarrah, Faheem Sheriff, Alberto Maud, Gustavo Rodriguez

52 Peripheral Arterial Intervention of the Upper and Lower Extremities

Robert S. Zilinyi, Daniel J. Snyder, Logan Cho, Sahil A. Parikh

53 Renal and Mesenteric Artery Stenosis and Intervention

Ashkan Yahyavi, and Mehdi H. Shishehbor

54 Carotid and vertebral artery interventions

Herbert Aronow and Hady Lichaa

55 Treatment of intracranial arterial disease

GUSTAVO J. RODRIGUEZ, XIN YANG, ALBERTO MAUD

56 Endovascular abdominal aortic aneurysm repair

Michael J. Fassler, Zain Shahid, Michol Cooper, & Gilbert R. Upchurch Jr

57 Endovascular venous interventions

Manu Rajachandran & Monica Botros

58 Balloon Pulmonary Angioplasty in Chronic Thromboembolic Pulmonary Disease

Ahmad Jabri , Al Muthanna Shadid, Sant Kumar, Vikas Aggarwal

59 Training program guidelines, case numbers, and maintenance of certification

Debabrata Mukherjee

60 Electronic catheterization records and data collection for quality improvement

Jacob Doll