

PART 1. INSTRUMENTATION AND TECHNOLOGY

1. The cardiac imaging and monitoring systems

Steven Kelly and Jeffrey Lui

2. Non-invasive physiological monitoring

Mark Butlin, Isabella Tan, Edward Barin and Alberto P. Avolio

3. Determination of oxygen status in human blood

Marcus Juul

4. Coagulation and the coagulation cascade

John E. Boland and David E. Connor

5. Thrombosis, heparin and laboratory monitoring of heparin therapy

Steven Faddy

6. Laboratory coagulation assays

Bruce Toben and David E. Connor

PART 2. PATIENT CARE AND LABORATORY SAFETY

7. Radiation safety in the cardiac catheterisation laboratory

Cameron Jeffries

8. Infection control procedures

David Andresen and Giulietta Pontevivo

9. Nursing care of the cardiac catheterisation patient

Julie Parkinson, Jo-Anne M. Vidal and Eva Kline-Rogers

10. Vascular access site management and arterial closure

Peter Hadjipetrou

11. Medical management of the cardiac patient undergoing coronary angiography

Sara Hungerford, Peter Ruchin and Gerard Carroll

12. Patient risk assessment: Use of risk calculators

Edwina Wing-Lun and David Smythe

13. An evidence-based guide to cardiac catheterisation

Steven Faddy and Gary J. Gazibarich

PART 3. PHYSIOLOGY AND PHARMACOLOGY

14. Pressure waveforms in the cardiac cycle

John E. Boland and David W. Baron

15. Physiological interpretation of pressure waveforms

Geoffrey S. Oldfield

16. Measurement of cardiac output and shunts

Michael P. Feneley

17. Analysis and interpretation of Fick and thermodilution cardiac output determinations

Gary J. Gazibarich, John E. Boland and Louis W. Wang

18. Pressure-volume loops: Background theory with practical examples

Pankaj Jain and Christopher S. Hayward

19. The electrocardiogram in ischaemic heart disease

Geoffrey S. Oldfield and Dennis L. Kuchar

20. Recognition of common arrhythmias

Nicholas P. Kerr and Rajesh N. Subbiah

21. Formation and progression of atherosclerosis

Siddharth J. Trivedi and Brian J. Nankivell

22. Basic pharmacology of cardiac drugs

Terence J. Campbell

23. Drug therapy in the cardiac catheterisation laboratory: A guide to commonly used drugs

John E. Boland, Fuyue Jiang and Andrew Fenning

24. Antiplatelet therapy in interventional cardiology

Christopher Yu and Harry C. Lowe

PART 4. DIAGNOSTIC PROCEDURES

25. Coronary angiography: Techniques and tools of the trade

Roberto Spina and Tom Gavaghan

26. Physiological assessment of coronary lesion severity

Usaid Allahwala and Ravinay Bhindi

27. Non-invasive assessment of ischaemic heart disease

James Otton, Patrick Pender and Neville Sammel

28. Right heart catheterisation and evaluation of the pulmonary hypertension patient

Eugene Kotlyar and Anne Keogh

29. Haemodynamic evaluation of the heart transplant patient

Kavitha Muthiah, Christopher S. Hayward, Andrew Jabbour and Peter Macdonald

30. Trans-septal cardiac catheterisation

David W. M. Muller

PART 5. PERCUTANEOUS CAROTID INTERVENTIONS

31. Advances in stent technology

Smriti Saraf and Paul Bhamra-Ariza

32. Facilitated coronary interventions: Adjuncts to balloon dilatation

David W. M. Muller

33. Catheter-based reperfusion in acute myocardial infarction

Ming-Yu (Anthony) Chuang, Richard Brogan and Derek P. Chew

34. Percutaneous carotid interventions

Taraneh Amir-Nezami and Anthony Grabs

35. The intra-aortic balloon pump: Principles and use

Anthony Nicholson

PART 6. INTERVENTIONS FOR STRUCTURAL HEART DISEASE

36. Interventional transoesophageal echocardiography

Mayooran Namasivayam and Marty Shaw

37. Interventions for congenital heart disease

David W. M. Muller

38. Mitral valvuloplasty: The Inoue balloon dilatation technique

Paul Roy

39. Transcatheter aortic valve implantation

David A. Roy

40. Transcatheter interventions for mitral and tricuspid regurgitation

David W. M. Muller

41. Transcatheter left atrial appendage occlusion

Roberto Spina, David W. M. Muller and Brendan Gunalingam

42. Cardiac surgery and percutaneous cardiac interventions

Arjun Iyer and Paul Jansz

PART 7. CARDIAC SURGERY AND INTERVENTIONS FOR ARRHYTHMIAS

43. The electrophysiology laboratory

Dennis L. Kuchar

44. Catheter ablation therapy

William Lee and Bruce Walker

Index