

## **Contents**

1. Transthoracic M-mode and two-dimensional echocardiography
2. Transthoracic Three-dimensional echocardiography
3. Transesophageal echocardiography
4. Doppler echocardiography and color flow imaging : comprehensive noninvasive hemodynamic assessment
5. Tissue doppler and strain imaging
6. Contrast echocardiography
7. Quantification of left sided cardiac chambers : mass, volumes, and ejection fraction
8. Assessment of diastolic function
9. Right heart assessment and pulmonary hypertension
10. cardiomyopathies
11. Heart failure, LVAD and transplantation
12. Pericardial diseases
13. Native valvular heart disease
14. Prosthetic valve evaluation
15. Infective endocarditis
16. Stress echocardiography
17. Coronary artery disease, acute myocardial infarction, takotsubo syndrome
18. Cardiac diseases due to systemic illness , genetics or medication
19. Cardiac tumors and masses
20. Diseases of the aorta
21. Congenital heart disease
22. Interventional echocardiography
23. Adult intraoperative echocardiography
24. Intracardiac and intravascular ultrasound
25. Vascular tonometry and imaging for cardiovascular risk assessment
26. Handheld cardiac and point of care ultrasound
27. Physics of ultrasound
28. The future of echocardiography

## 29. Artificial intelligence and echocardiography : current status and future directions