

Contents

- Preface to the 2nd Edition ix
- Acknowledgements xi
- Learning objectives checklist xiii
- About the companion website xv

- PART I Introduction to X-rays 1**
 - 1 Introduction to X-rays 3**
 - What are X-rays? 3
 - How are X-rays produced? 3
 - How do X-rays make an image? 4
 - The five densities on an X-ray 4
 - How are X-ray images (radiographs) stored? 4
 - Hazards and precautions 5

 - 2 Chest X-ray views 7**
 - PA erect chest X-ray 7
 - Other views 8

 - 3 Radiograph quality 9**
 - Inclusion 9
 - Rotation 10
 - Inspiration 11

 - 4 Normal anatomy on a PA chest X-ray 13**
 - Right and left 13
 - Lung zones 14
 - The mediastinum 14
 - Normal pulmonary vasculature 15
 - General anatomy 16
 - Bronchial and lobar anatomy: Figure 4.8 17

 - 5 Presenting a chest radiograph 19**
 - Example of presenting a normal chest X-ray 19

PART II	The ABCDE of chest X-rays	21
6	A - Airway	23
	How to review the airway	23
	What to look for	24
	Tracheal deviation	24
	Carinal angle	25
7	B - Breathing	27
	How to review the lungs	27
	What to look for	28
	Consolidation/airspace opacification	29
	Air bronchogram	31
	Collapse (atelectasis) overview	32
	Pneumonectomy	41
	Solitary mass lesion	44
	Multiple mass lesions	47
	Cavitating lung lesion	48
	Fibrosis	50
	Pneumothorax	53
	Tension pneumothorax	55
	Hydropneumothorax	56
	Pleural effusion	57
	Pulmonary oedema	60
	Septal lines	64
	Asbestos-related lung disease	65
8	C - Circulation	69
	How to review the heart and mediastinum	69
	What to look for	69
	Dextrocardia	69
	Cardiomegaly (enlarged heart)	70
	Left atrial enlargement	71
	Widened mediastinum	72
	Hilar enlargement	76
	Hiatus hernia	78
9	D - Disability	79
	How to review the bones	79
	What to look for	80
	Fractures	80
	Sclerotic and lucent bone lesions	81

10 E – Everything else (review areas)	83
How to look at the review areas	83
What to look for	83
Gas under the diaphragm (pneumoperitoneum)	84
Subcutaneous emphysema/surgical emphysema	86
Mastectomy	87
Medical and surgical objects (iatrogenic)	88
Foreign bodies	99
PART III Common conditions and their radiological signs	101
11 Common conditions and their radiological signs	103
Pulmonary embolism (PE)	103
Primary lung malignancy	103
Pneumonia	104
Chronic obstructive pulmonary disease (COPD)	104
Heart failure	105
Tuberculosis	106
Glossary	111
Index	119

