

# Contents

Preface to the Third Edition 6

Preface to the First Edition 7

## Part 1 Fundamentals

1. Introduction 8
2. Chemical transmission 10
3. Mechanisms of hormone action:  
I Membrane receptors 12
4. Mechanisms of hormone action:  
II Intracellular receptors 14
5. The hypothalamus and pituitary gland 16
6. Gonadotrophin-releasing hormone: a peptide hormone 18
7. Principles of feedback control 20
8. Endocrine function tests 22

## Part 2 Growth

9. Growth: I Cellular growth factors 24
10. Growth: II Normal growth 26
11. Growth: III Growth hormone 28
12. Growth: IV Pathophysiology 30

## Part 3 Thyroid

13. Thyroid: I Thyroid gland and thyroid hormones 32
14. Thyroid: II Thyroid hormone secretion and action 34
15. Thyroid: III Thyroid pathophysiology 36

## Part 4 Adrenals and autoimmunity

16. Adrenal gland: I Adrenal medulla 38
17. Adrenal gland: II Adrenocortical hormones 40
18. Adrenal gland: III Adrenocorticotrophic hormone (ACTH) 42
19. Adrenal gland: IV Cortisol and androgens 44
20. Adrenal gland: V Aldosterone 46
21. Adrenal gland: VI Pathophysiology 48
22. Endocrine autoimmunity 50

## Part 5 Sexual differentiation and development

23. Sexual differentiation and development:  
I Introduction 52
24. Sexual differentiation and development: II Puberty 54

## Part 6 Female reproduction

25. Female reproduction: I Menstrual cycle 56
26. Female reproduction: II Ovarian steroids 58
27. Female reproduction: III Pregnancy 60
28. Female reproduction: IV Parturition and lactation 62
29. Female reproduction: V Pathophysiology 64
30. Female reproduction: VI Contraception 66

## Part 7 Male reproduction

31. Male reproduction: I The testis 68
32. Male reproduction: II Actions of androgens 70
33. Male reproduction: III Pathophysiology 72

## Part 8 Posterior pituitary hormones, salt and water balance and hypertension

34. Oxytocin 74
35. Vasopressin 76
36. Renin–angiotensin–aldosterone system 78
37. Endocrine hypertension 80

## Part 9 Metabolic endocrinology: Pancreas and gastrointestinal tract

38. Insulin: I The pancreas and insulin secretion 82
39. Insulin: II Insulin action 84
40. Insulin: III Type 1 diabetes mellitus 86
41. Insulin: IV Type 2 diabetes mellitus 88
42. Glucagon 90
43. Gastrointestinal hormones 92

## Part 10 Metabolic endocrinology: Energy homeostasis and obesity

44. Energy homeostasis: I Summary 94
45. Energy homeostasis: II Central control 96
46. Obesity: I Causes of obesity 98
47. Obesity: II Cardiovascular and respiratory complications 100
48. Obesity: III Insulin resistance and endocrine complications 102

## Part 11 Calcium and metabolic bone disease

49. Calcium: I Parathyroid hormone 104
50. Calcium: II Calcitonin 106
51. Calcium: III Vitamin D 108
52. Bone remodelling 110
53. Metabolic bone disease: I Paget's disease 112
54. Metabolic bone disease:  
II Primary osteoporosis 114
55. Metabolic bone disease: III Secondary osteoporosis 116

## Part 12 Self assessment

MCQs 118  
Answers 133

Appendix: Normal Values 136  
Glossary 137  
Index 139