

ESSENTIALS

ESSENTIAL ENDOCRINOLOGY AND DIABETES

RICHARD I.G. HOLT | NEIL A. HANLEY
SEVENTH EDITION



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Table of Contents

[Cover](#)

[Title Page](#)

[Copyright Page](#)

[Preface](#)

[List of abbreviations](#)

[Part 1: Foundations of Endocrinology](#)

[CHAPTER 1: Overview of endocrinology](#)

[A brief history of endocrinology and diabetes](#)

[The role of hormones](#)

[Classification of hormones](#)

[Control systems regulating hormone production](#)

[Endocrine disorders](#)

[CHAPTER 2: Basic cell biology and hormone synthesis](#)

[Chromosomes, mitosis and meiosis](#)

[Synthesizing a peptide or protein hormone](#)

[Synthesizing a hormone derived from amino acids or cholesterol](#)

[Hormone transport](#)

[CHAPTER 3: Molecular basis of hormone action](#)

[Cell-surface receptors](#)

[Nuclear receptors](#)

[CHAPTER 4: Investigations in endocrinology and diabetes](#)

[Pre-analytical requirements for accurate endocrine testing](#)

[Laboratory assay platforms](#)

[Reference ranges](#)

[Static and dynamic testing](#)

[Cell and molecular biology as diagnostic tools](#)

[Imaging in endocrinology](#)

[Part 2: Endocrinology – Biology to Clinical Practice](#)

[CHAPTER 5: The hypothalamus and pituitary gland](#)

[Embryology and anatomy](#)

[Pituitary tumours](#)

[The hypothalamus](#)

[The hypothalamic-anterior pituitary hormone axes](#)

[The anterior pituitary hormones](#)

[Hypopituitarism](#)

[Hormones of the posterior pituitary](#)

[CHAPTER 6: The adrenal gland](#)

[The adrenal cortex](#)

[The adrenal medulla](#)

[CHAPTER 7: Reproductive endocrinology](#)

[Embryology of the reproductive organs](#)

[The male reproductive system](#)

[The female reproductive system](#)

[Pubertal disorders](#)

[Subfertility](#)

[CHAPTER 8: The thyroid gland](#)

[Embryology](#)

[Anatomy and vasculature](#)

[Thyroid hormone biosynthesis](#)

[Circulating thyroid hormones](#)

[Function of thyroid hormones](#)

[Thyroid function tests](#)

[Clinical disorders](#)

[CHAPTER 9: Calcium and metabolic bone disorders](#)

[Calcium](#)

[Hormones that regulate calcium](#)

[Clinical disorders of calcium homeostasis](#)

[Bone health and metabolic bone disease](#)

[Clinical conditions of bone metabolism](#)

[Vitamin D deficiency, osteomalacia and rickets](#)

[CHAPTER 10: Pancreatic and gastrointestinal endocrinology and endocrine neoplasia](#)

[Pancreatic endocrinology](#)

[Gastrointestinal endocrinology and associated clinical conditions](#)

[Endocrine tumour predisposition syndromes](#)

[Tumours with ectopic hormone production](#)

[Hormone-sensitive tumours](#)

[Other tumours relevant to endocrinology](#)

[Part 3: Diabetes and Obesity](#)

[CHAPTER 11: Overview of diabetes](#)

[A brief history of diabetes and its classification](#)

[Classification of diabetes](#)

[Diagnosis of diabetes](#)

[Insulin](#)

[Glucagon](#)

[CHAPTER 12: Type 1 diabetes](#)

[What is type 1 diabetes?](#)

[Epidemiology](#)

[Pathogenesis](#)

[Aetiology](#)

[Clinical features](#)

[Diagnosis](#)

[Management of type 1 diabetes](#)

[Acute metabolic emergencies](#)

[CHAPTER 13: Type 2 diabetes](#)

[Epidemiology](#)

[Pathophysiology](#)

[Prognosis](#)

[*Clinical features*](#)

[Prevention of diabetes](#)

[Screening for diabetes](#)

[Management of type 2 diabetes](#)

[CHAPTER 14: Complications of diabetes](#)

[Introduction](#)

[Microvascular complications](#)

[Pathology of microvascular complications](#)

[Pathogenesis of microvascular complications](#)

[Clinical features of microvascular complications](#)

[Diabetes-related kidney disease](#)

[Neuropathy](#)

[The diabetic foot](#)

[Genitourinary and sexual problems of diabetes](#)

[Atherosclerotic cardiovascular disease](#)

[Heart failure](#)

[Cancer](#)

[Non-alcoholic fatty liver disease](#)

[Gastro-intestinal tract](#)

[Bone and Joint](#)

[Skin disorders](#)

[Psychological and psychiatric sequelae of diabetes](#)

[Diabetes and pregnancy](#)

[Social sequelae of diabetes](#)

[Organization of diabetes care](#)

[CHAPTER 15: Obesity](#)

[Introduction](#)

[What is obesity?](#)

[The health and social consequences of overweight and obesity](#)

[Regulation of body weight](#)

[The causes of obesity](#)

[Genetic factors](#)

[Environmental changes](#)

[Prevention of obesity](#)

[Management of the individual with obesity](#)

[Conclusions](#)

[Index](#)

[End User License Agreement](#)

List of Tables

Chapter 1

[Table 1.1 Nobel prizewinners in endocrinology and diabetes or those whose dis...](#)

[Table 1.2 The endocrine organs and their hormones*](#)

Chapter 2

[Table 2.1 Definition and classification of enzymes](#)

Chapter 3

[Table 3.1 Use of different G-protein \$\alpha\$ -subunits by various hormone signalling...](#)

[Table 3.2 Examples of modifications to hormones, their precursors or metaboli...](#)

[Table 3.3 Defects in nuclear hormone signalling](#)

[Table 3.4 Examples of important transcription factors required for the develo...](#)

Chapter 4

[Table 4.1 Endocrine reference ranges](#)

Chapter 5

[Table 5.1 Summary of anatomy and function of the hypothalamic nuclei](#)

[Table 5.2 Hormone-secreting cell types of the anterior pituitary.](#)

[Table 5.3 Cranial nerves in the cavernous sinus](#)

[Table 5.4 Dynamic tests of growth hormone \(GH\) status](#)

[Table 5.5 Treatments of acromegaly.](#)

[Table 5.6 Investigation and management of diabetes insipidus \(DI\).](#)

Chapter 6

[Table 6.1 Alternative names in common usage for steroidogenic enzymes](#)

[Table 6.2 Dexamethasone suppression tests](#)

[Table 6.3 The effects of catecholamines](#)

[Table 6.4 Genes and associated PPGL syndromes](#)

Chapter 7

[Table 7.1 Advantages and disadvantages for different routes of administration...](#)

[Table 7.2 Gynaecomastia](#)

[Table 7.3 Different phases of ovarian function and their effects](#)

[Table 7.4 Approaching amenorrhoea with absent oestrogen](#)

[Table 7.5 Approach to amenorrhoea with endogenous oestrogen production](#)

[Table 7.6 Treatment of PCOS](#)

[Table 7.7 Precocious puberty](#)

[Table 7.8 An approach to subfertility](#)

Chapter 8

[Table 8.1 Interpretation of thyroid function tests](#)

[Table 8.2 Symptoms, signs and examination of thyroid eye disease](#)

[Table 8.3 Thyroid malignancy](#)

Chapter 9

[Table 9.1 Comparative actions of vitamin D, parathyroid hormone \(PTH\) and cal...](#)

[Table 9.2 Diagnostic criteria for osteoporosis on DEXA](#)

[Table 9.3 Drugs used to prevent bone demineralisation and to treat osteoporos...](#)

Chapter 10

[Table 10.1 Pancreatic and gastrointestinal hormones](#)

[Table 10.2 Distribution of carcinoid tumours](#)

[Table 10.3 Categories of endocrine tumour predisposition syndromes](#)

[Table 10.4 Features of multiple endocrine neoplasia](#)

[Table 10.5 Examples of ectopic hormone secretion](#)

Chapter 11

[Table 11.1 Prevalence of diabetes in people aged 20-79 years in 2019 and proj...](#)

[Table 11.2 Genetic mutations in maturity-onset diabetes of the young \(MODY\)](#)

[Table 11.3 The WHO criteria for diagnosing diabetes with plasma glucose](#)

[Table 11.4 Factors regulating insulin release from the \$\beta\$ -cells of the pancrea...](#)

[Table 11.5 Insulin actions on carbohydrate metabolism](#)

[Table 11.6 Insulin actions on fatty acid metabolism](#)

Chapter 12

[Table 12.1 Islet cell autoantibodies involved in the pathogenesis of type 1 d...](#)

[Table 12.2 Risk of developing type 1 diabetes for relatives of people with ty...](#)

[Table 12.3 The main putative environmental triggers of type 1 diabetes](#)

[Table 12.4 Comparison of presenting features of type 1 diabetes, type 2 diabe...](#)

[Table 12.5 Pharmacokinetics of meal and basal insulins](#)

[Table 12.6 Advantages and disadvantages of twice daily and basal-bolus regime...](#)

[Table 12.7 Recommendations for time-in-target for people with diabetes using ...](#)

[Table 12.8 IFCC and DCCT aligned values for HbA_{1c}](#)

[Table 12.9 Symptoms and signs of hypoglycaemia](#)

[Table 12.10 A management regimen for diabetic ketoacidosis](#)

Chapter 13

[Table 13.1 Why is type 2 diabetes increasing?](#)

[Table 13.2 Risk factors for type 2 diabetes](#)

[Table 13.3 Risk of developing type 2 diabetes for relatives of people with ty...](#)

[Table 13.4 Examples of gene polymorphisms linked with the development of type...](#)

[Table 13.5 Possible mechanisms of \$\beta\$ -cell decline and dysfunction](#)

[Table 13.6 Mortality rates in people with diabetes after adjustment for poten...](#)

[Table 13.7 Features of commonly used oral antidiabetes agents](#)

[Table 13.8 Properties of different sulfonylureas](#)

[Table 13.9 Properties of different GLP-1 receptor agonists](#)

Chapter 14

[Table 14.1 Five stages of classical diabetic nephropathy](#)

[Table 14.2 Do's and Don'ts of foot care](#)

[Table 14.3 Features to differentiate acute Charcot from cellulitis](#)

[Table 14.4 Cancers that occur more frequently in people with diabetes with re...](#)

[Table 14.5 Psychological and psychiatric conditions that are consequences of,...](#)

[Table 14.6 Comparison of IADPSG/WHO and NICE diagnostic criteria for gestatio...](#)

Chapter 15

[Table 15.1 The World Health Organization assessment of sex-specific waist cir...](#)

[Table 15.2 Physical health risks associated with obesity](#)

[Table 15.3 Genetic causes of and associations with obesity](#)

[Table 15.4 Examples of how the size of commercially available portions has in...](#)

[Table 15.5 Examples of light, moderate & vigorous physical activity](#)

[Table 15.6 Examples of public health policies to prevent weight gain in the p...](#)

[Table 15.7 Health benefits associated with 10% weight loss](#)

[Table 15.8 Choice of treatment modality for obesity according to body mass in...](#)

[Table 15.9 Clinical assessment of a person with obesity.](#)

[Table 15.10 Pharmacotherapy for obesity.](#)

List of Illustrations

Chapter 1

[Figure 1.1 Chemical signalling in the endocrine and neural systems. \(a\) In e...](#)

[Figure 1.2 The sites of the principal endocrine glands. While the stomach, k...](#)

[Figure 1.3 The structures of vasopressin and oxytocin are remarkably similar...](#)

[Figure 1.4 Control systems regulating hormone production and circulating lev...](#)

Chapter 2

[Figure 2.1 Cell division. Prior to mitosis and meiosis, the cell undergoes a...](#)

[Figure 2.2 Schematic representation of a gene, transcription and translation...](#)

[Figure 2.3 \(a\) Peptide hormone-synthesizing and \(b\) steroid hormone-synthesi...](#)

[Figure 2.4 Potential post-translational modifications of peptide hormones. F...](#)

[Figure 2.5 Synthesis of cholesterol. Step ① is catalyzed by the enzyme thiol...](#)

[Figure 2.6 Overview of the major steroidogenic pathways. Yellow shading indi...](#)

Chapter 3

[Figure 3.1 The different classes of hormone receptor. Some cell-surface rece...](#)

[Figure 3.2 Basic components of a membrane-spanning cell-surface receptor. Th...](#)

[Figure 3.3 Hormone-receptor systems are saturable. Increasing amounts of lab...](#)

[Figure 3.4 Hormone-receptor interactions are reversible. Constant amounts of...](#)

[Figure 3.5 Intracellular signalling via phosphorylation. \(a\) Amino acids ser...](#)

[Figure 3.6 The insulin receptor and a simplified view of its signalling path...](#)

[Figure 3.7 Growth hormone \(GH\) signalling and its antagonism. GH binds to it...](#)

[Figure 3.8 Growth hormone \(GH\) receptor and its signalling pathways. The rec...](#)

[Figure 3.9 Laron syndrome showing truncal obesity. This boy presented aged 1...](#)

[Figure 3.10 G-protein-coupled receptors. The extracellular domain is ligand-...](#)

[Figure 3.11 Second messengers that mediate G-protein-coupled receptor signal...](#)

[Figure 3.12 Hormonal activation of G-protein-coupled receptors can link to d...](#)

[Figure 3.13 Familial male precocious puberty \('testotoxicosis'\). This 2-year...](#)

[Figure 3.14 McCune-Albright syndrome. At 6 years of age, this girl presented...](#)

[Figure 3.15 The activation of protein kinase A, a cAMP-dependent protein kin...](#)

[Figure 3.16 Hormonal stimulation of intracellular phospholipid turnover and ...](#)

[Figure 3.17 Eicosanoid signalling. Arachidonic acid, released by phospholipa...](#)

[Figure 3.18 Simplified schematic of nuclear hormone action. \(a\) Free hormone...](#)

[Figure 3.19 The nuclear hormone receptor superfamily. The receptors, named a...](#)

[Figure 3.20 Nuclear hormone receptor-DNA interactions. \(a\) Steroid hormone r...](#)

Chapter 4

[Figure 4.1 The basics of immunoassay are shown for growth hormone \(GH; see t...](#)

[Figure 4.2 The basics of an immunometric assay for growth hormone \(GH; also ...](#)

[Figure 4.3 The basics of an immunoassay for thyroxine \(T4; also see text\). A...](#)

[Figure 4.4 Fluorescent *in situ* hybridization in a patient with congenital hy...](#)

[Figure 4.5 The basic principles of the polymerase chain reaction \(PCR\). PCR ...](#)

[Figure 4.6 Ultrasound of a polycystic ovary. The presence of multiple small ...](#)

[Figure 4.7 Abdominal computed tomography \(CT\) with contrast. This patient pr...](#)

[Figure 4.8 Magnetic resonance imaging of a pituitary tumour. \(a\) T1-weighted...](#)

[Figure 4.9 mIBG uptake by a pheochromocytoma. A whole-body \$I^{123}\$ mIBG scan w...](#)

Chapter 5

[Figure 5.1 The human pituitary gland forms at ~8 weeks of development. The b...](#)

[Figure 5.2 Highly simplified structure of the hypothalamus and its neural an...](#)

[Figure 5.3 Visual field assessment. There is a bitemporal loss of the lower ...](#)

[Figure 5.4 Endocrine feedback circuits. The diagram shows interactions betwe...](#)

[Figure 5.5 Summary of the regulation and effects of growth hormone \(GH\). Som...](#)

[Figure 5.6 A 24-h profile of serum growth hormone \(GH\) in a normal 7-year-ol...](#)

[Figure 5.7 Dynamic tests of growth hormone \(GH\) status. \(a\) In an oral gluco...](#)

[Figure 5.8 Two patients with acromegaly. \(a\) Patient 1. Note the large facia...](#)

[Figure 5.9 Short stature due to growth hormone \(GH\) deficiency and the effec...](#)

[Figure 5.10 Summary of the regulation and effects of prolactin. For the infl...](#)

[Figure 5.11 The cleavage of pro-opiomelanocortin \(POMC\). Adrenocorticotrophi...](#)

Chapter 6

[Figure 6.1 Development of the adrenal gland. The cortex is derived in part f...](#)

[Figure 6.2 Section through the adrenal cortex. \(a\) The blood vessels run fro...](#)

[Figure 6.3 Biosynthesis of adrenocortical steroid hormones. HSD3B activity i...](#)

[Figure 6.4 The hypothalamic-anterior pituitary-adrenal axis. Higher brain fu...](#)

[Figure 6.5 Typical diurnal variations in serum cortisol. Levels peak in the ...](#)

[Figure 6.6 The renin-angiotensin-aldosterone axis. A fall in extracellular f...](#)

[Figure 6.7 The structure of a nephron and the juxtaglomerular apparatus. \(a\)...](#)

[Figure 6.8 The effects of glucocorticoid excess in Cushing disease and the b...](#)

[Figure 6.9 Cushing syndrome due to an adrenocortical adenoma secreting corti...](#)

[Figure 6.10 Ambiguous genitalia of a 46,XX infant with congenital adrenal hy...](#)

[Figure 6.11 The synthesis, storage and release of catecholamines from the ch...](#)

[Figure 6.12 The synthesis \(upper half\) and degradation \(lower half\) of catec...](#)

Chapter 7

[Figure 7.1 Sex determination and sex differentiation. \(a\) Cross-section of a...](#)

[Figure 7.2 Differentiation of the internal genitalia. \(a\) The bipotential sta...](#)

[Figure 7.3 Development of the external genitalia. DHT, 5 \$\alpha\$ -dihydrotestosteron...](#)

[Figure 7.4 Genitalia of a 2-year old with a 46,XY difference in sex developm...](#)

[Figure 7.5 A testis in cross-section. \(a\) The testis is organized into lobul...](#)

[Figure 7.6 The structure of the seminiferous tubule. Sertoli cells span the ...](#)

[Figure 7.7 The biosynthesis of androgens in Leydig cells. Earlier steps can ...](#)

[Figure 7.8 The hypothalamic-anterior pituitary-testicular axis. Negative fee...](#)

[Figure 7.9 The stages of pubertal development in males and females as define...](#)

[Figure 7.10 Follicle growth, maturation and ovulation. The entire process ta...](#)

[Figure 7.11 The 28-day menstrual cycle. The start of menstruation is day 1 o...](#)

[Figure 7.12 The two-cell biosynthesis of oestrogens. Luteinizing hormone \(LH...](#)

[Figure 7.13 The hypothalamic-anterior pituitary-ovarian axis. Note the varia...](#)

[Figure 7.14 Changes in the uterine endometrium during the menstrual cycle. \(...](#)

[Figure 7.15 The role of human chorionic gonadotrophin \(hCG\) in postponing me...](#)

[Figure 7.16 Steroid production in the fetoplacental unit.](#)

Chapter 8

[Figure 8.1 The thyroid gland and its downward migration. The point of origin...](#)

[Figure 8.2 Histology of the human thyroid gland. \(a\) Euthyroid follicles are...](#)

[Figure 8.3 The structures of active and inactive thyroid hormones and their ...](#)

[Figure 8.4 Thyroid hormone biosynthesis within the follicular cell. Active i...](#)

[Figure 8.5 A large goitre caused by iodine deficiency in rural Africa. Note ...](#)

[Figure 8.6 The hypothalamic-anterior pituitary-thyroid axis. The more active...](#)

[Figure 8.7 Metabolism of thyroid hormones in the circulation. Four times mor...](#)

[Figure 8.8 Hyperthyroidism caused by Graves disease in a young woman. The do...](#)

[Figure 8.9 Complications of Graves disease. \(a-c\) Examples of thyroid eye di...](#)

Chapter 9

[Figure 9.1 Calcium homeostasis. In an adult, daily net absorption from the g...](#)

[Figure 9.2 The sources and metabolism of vitamin D.](#)

[Figure 9.3 Synthesis of calcitriol. \(a\) UV irradiation opens the B ring of 7...](#)

[Figure 9.4 Effects of changing \$\text{Ca}^{2+}\$ and \$\text{PO}_4^{3-}\$ on renal hydroxylation ...](#)

[Figure 9.5 Section through the fetal pharynx illustrating development of the...](#)

[Figure 9.6 Parathyroid hormone \(PTH\) secretion in response to serum \$\text{Ca}^{2+}\$. \(a...](#)

[Figure 9.7 Short fourth metacarpals in pseudohypoparathyroidism.](#)

[Figure 9.8 Venous sampling for parathyroid hormone \(PTH\) prior to surgery to...](#)

[Figure 9.9 Bone remodelling. Mechanical stress influences bone remodelling w...](#)

[Figure 9.10 Changes in bone mass during life in men and women.](#)

[Figure 9.11 Rickets. \(a\) Bowing of the tibiae in a 3-year-old. \(b\) Radiologi...](#)

Chapter 10

[Figure 10.1 A pancreatic islet surrounded by exocrine tissue. \$\beta\$ -cells are de...](#)

[Figure 10.2 Congenital hyperinsulinism \(diffuse form\). Immunohistochemistry ...](#)

[Figure 10.3 Necrolytic migratory erythema in a man with the glucagonoma synd...](#)

[Figure 10.4 Synthesis and degradation of serotonin. *Rate-limiting step: two...](#)

[Figure 10.5 Two mechanisms for tumour formation. Mutated or silenced genes a...](#)

Chapter 11

[Figure 11.1 Worldwide prevalence of diabetes in 2019 with projected figures ...](#)

[Figure 11.2 International Diabetes Federation estimates of the current and p...](#)

[Figure 11.3 The Amadori reaction leading to the formation of glycated haemog...](#)

[Figure 11.4 Representative distribution of fasting plasma glucose within the...](#)

[Figure 11.5 Relationship between plasma glycated haemoglobin and microvascul...](#)

[Figure 11.6 Insulin synthesis and secretion from the \$\beta\$ cells of pancreatic i...](#)

[Figure 11.7 The endocrine pancreas. \(a\) Small clusters of cells, the islets ...](#)

[Figure 11.8 Characteristic biphasic release of insulin.](#)

[Figure 11.9 Mechanism of insulin secretion. After uptake, glucose is metabol...](#)

[Figure 11.10 Insulin signalling cascade. IRS, insulin receptor substrate; PI...](#)

[Figure 11.11 Regulation of blood glucose concentration. Tissue utilization o...](#)

[Figure 11.12 Inter-relationships among alternative routes of glucose metabol...](#)

[Figure 11.13 Regulation of acetyl co-enzyme A \(CoA\) carboxylase by allosteri...](#)

[Figure 11.14 The synergistic actions of insulin, IGF-I, and GH on protein sy...](#)

Chapter 12

[Figure 12.1 Annual number of new cases of type 1 diabetes per 100,000 childr...](#)

[Figure 12.2 Life-expectancy and type 1 diabetes in a Scottish cohort. Life-e...](#)

[Figure 12.3 The natural history of type 1 diabetes. In stage 1, an autoimmun...](#)

[Figure 12.4 Pictures of one of the first people with diabetes to receive ins...](#)

[Figure 12.5 Normal insulin secretion throughout a 24-h period. There is a lo...](#)

[Figure 12.6 The timeline of the development of insulin. Banting and Best fir...](#)

[Figure 12.7 Schematic of the time action of profiles of various insulin prep...](#)

[Figure 12.8 Schematic representation of insulin profiles with different regi...](#)

[Figure 12.9 Sites for injection.](#)

[Figure 12.10 \(a\) An old insulin needle and syringe. \(b\) A modern insulin syr...](#)

[Figure 12.11 \(a\) Person with type 1 diabetes wearing a Medtronic Minimed Mio...](#)

[Figure 12.12 Freestyle Optium Neo glucose meter.](#)

[Figure 12.13 \(a\) Man wearing Freestyle Libre sensor in the kitchen; \(b\) Woma...](#)

[Figure 12.14 Hypoglycaemia unawareness. The thresholds for activation of hyp...](#)

[Figure 12.15 Biochemistry of diabetic ketoacidosis. Hormone-sensitive lipase...](#)

Chapter 13

[Figure 13.1 Prevalence of diabetes in selected countries in the age range of...](#)

[Figure 13.2 Top ten countries for number of people with diabetes in the age ...](#)

[Figure 13.3 Diabetes prevalence in white US men and women by age \(2015\).](#)

[Figure 13.4 Risk of developing diabetes according to body mass index in 114,...](#)

[Figure 13.5 The pathophysiology of type 2 diabetes. The cardinal features ar...](#)

[Figure 13.6 \(a\) Endogenous insulin secretion in type 2 diabetes and under no...](#)

[Figure 13.7 Natural history of insulin resistance and insulin secretion in t...](#)

[Figure 13.8 \(a\) Under normal physiological conditions, the renal tubule re-a...](#)

[Figure 13.9 The imperative for screening for type 2 diabetes. It is estimate...](#)

[Figure 13.10 Main sites of action for antidiabetes agents. Different antidia...](#)

[Figure 13.11 Ligand-activated nuclear hormone receptors \(review Chapter 3\). ...](#)

[Figure 13.12 Thiazolidinediones: mode of action. After the thiazolidinedione...](#)

[Figure 13.13 How thiazolidinediones enhance insulin action and normalize blo...](#)

[Figure 13.14 Actions of GLP-1 and mode of action of DPP-4 inhibitors and GLP...](#)

[Figure 13.15 Gastrointestinal carbohydrate digestion and site of action of a...](#)

Chapter 14

[Figure 14.1 The chronic microvascular and macrovascular complications of dia...](#)

[Figure 14.2 Effect of improved glycaemic management on diabetes \(DM\) related...](#)

[Figure 14.3 Molecular mechanisms that may be important in the generation of ...](#)

[Figure 14.4 Sorbitol Polyol Pathway. The normal function of aldose reductase...](#)

[Figure 14.5 Retinal photographs reproduced with the kind permission of the U...](#)

[Figure 14.6 A suggested plan for annual screening for kidney disease in diab...](#)

[Figure 14.7 Algorithm for management of painful neuropathy in people with di...](#)

[Figure 14.8 Plantar ulcer in a person with diabetes. Note how dry the skin a...](#)

[Figure 14.9 Infected diabetic ulcer on the dorsum of the foot.](#)

[Figure 14.10 \(a\) The combination of infection and vascular disease puts the ...](#)

[Figure 14.11 Active Charcot arthropathy.](#)

[Figure 14.12 Plantar ulcer in a patient with diabetes whose foot has become ...](#)

Chapter 15

[Figure 15.1 The global prevalence of obesity in 2016.](#)

[Figure 15.2 All-cause mortality versus BMI for men and women in the range 15...](#)

[Figure 15.3 Model of regulation of food intake. Appetite is stimulated by ne...](#)

[Figure 15.4 What is a successful outcome?](#)

[Figure 15.5 Rationale of 500 kcal deficit diet.](#)

[Figure 15.6 Additive effects of diet and drugs.](#)

Essential Endocrinology and Diabetes

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Preface

Welcome to the latest edition of Essential Endocrinology & Diabetes. We are delighted that the previous edition was so well received around the world, selling over 5600 copies. The book also had the dubious honour of being the most frequently stolen book from the University of Southampton medical school library suggesting that the medical students, in Southampton at least, found it a useful accompaniment to their endocrinology and diabetes course. However, it is time for an update and a refresh that captures the latest research, clinical guidelines, investigational modalities and therapies. We hope you enjoy the new content.

The textbook aims to be valued by different groups of reader. Its core purpose is still to provide a foundation from understanding the science to clinical training in undergraduate medicine. In addition, the content here should also be invaluable for postgraduate clinicians training in the speciality of endocrinology and diabetes. Written 'exit' examinations have become increasingly common during the later stages of clinical speciality training and we hope our textbook provides complementary study material alongside larger reference textbooks and published clinical guidelines. From feedback, we realise that our book has been valued by biomedical undergraduate and masters students and by those pursuing clinical biochemistry. We hope the new content increases this reach across different audiences. Learning objectives, recap points, cross-referencing guides, boxes, and concluding key points help orientate the reader and emphasize the major topics.

Based on the success of previous editions, the book is still structured in much the same way. The first part is designed to create a knowledgeable reader, well prepared for the clinical sections or for more specific scientific study. To assist the many students coming from non-scientific backgrounds we limit assumptions on prior knowledge. [Chapter 1](#) still covers the core principle of feedback regulation which underlies nearly all endocrine physiology and is vital for the correct interpretation of many clinical tests. [Chapter 3](#) has advanced to encompass the latest research made possible from next-generation sequencing technology. The latter has already started to impact significantly on clinical investigation and diagnostics in endocrinology and diabetes. This is covered in [Chapter 4](#), which also includes positron emission tomography (PET) imaging. It is important that aspiring clinicians, as well as scientists, appreciate these new approaches, their application and their challenges. The second part of the book still follows its organ or system-based approach. We have retained the more specific scientific knowledge at the start of these chapters to underpin understanding, diagnosing and managing the relevant clinical disorders. The third part on diabetes and obesity has seen the greatest change from the previous edition. Over the last 8 years, there have been significant advances in the treatment of both type 2 diabetes, such as an expansion of the indications for incretin-based therapies and the introduction of the SGLT2 inhibitors, and type 1 diabetes with the development of better insulins and the use of technology to support self-management. Clinical algorithms have also changed and these have been updated.

As previously, the book is founded on our collective clinical and research experience and has been a truly collaborative venture. The book is designed to read as a whole, however, inevitably one of us has taken a lead with each chapter

according to our own particular expertise. When we wrote the 5th edition, NAH took the responsibility for Part 1 and Part 2, while RIGH was responsible for Part 3. Now on our third edition, we have each taken the opportunity to bring our experience to each of the chapters. Finally, we must thank a number of people. We are grateful for the skilled help of the team at Wiley. It is still important to recognise the excellent contribution of Charles Brook and Nicholas Marshall who authored the book up to and including the 4th edition. We are also very grateful to our scientific and clinical colleagues who have been the recipients of frequent questions and from whom we have sought valued opinions. The final thank you is to our families whose support and tolerance made this book possible. Particular thanks go to Tristan Holt, now a medical student, for his helpful comments in making the book as relevant as possible for our target audience.

The authors



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Foundation Trust. He is partly supported by the Southampton National Institute for Health Research Biomedical Research Centre. His research interests are broadly focused around clinical diabetes with particular interests in diabetes in pregnancy, cystic fibrosis diabetes and diabetes in young adults, and the relation between diabetes and mental illness. He also has a long-standing interest in growth hormone.



Neil Hanley is Professor of Medicine at the University of Manchester and Honorary Consultant in Endocrinology at the Manchester University NHS Foundation Trust. His research over three decades has focussed on human development. His wider roles now include all aspects of biomedical and clinical research including the application of data science, and interests in how to triangulate healthcare, academia and the commercial sector to drive improved outcomes including economic growth.

Both authors play a keen role in teaching and training at both undergraduate and postgraduate levels. RIGH is a Fellow of the Higher Education Academy. NAH established an Academy for early career researchers at the University