

Pharmacology week 14 - Endocrine

'Endocrine system' makes up 5% of the pharmacology MCQ matrix

Reference: Katzung's Basic and Clinical Pharmacology, 14th edition. Chapters 37-42



Octreotide should be revision now



Focus on the diabetic medications and glucocorticoids in detail



Thyroid medication comes up fairly frequently

Learning Outcomes LOA 1

- Insulin
- Sulfonylureas
- Biguanides
- Glucocorticoids

Learning Outcomes LOA 2

- Octreotide
- Mineralocorticoids
- Thyroxine

Learning Outcomes LOA 3

- Sex hormones
- Antithyroid drugs
- Hypothalamic/pituitary hormone agents
- Drugs affecting bone metabolism
- Drugs used in the management of diabetes (*those not previously mentioned*)

Questions to consider

- Tell me about the pharmacokinetics of insulin. How does it work? How do the different preparations vary?
- Tell me about the biguanides and sulphonylureas
- What are the other classes of oral hypoglycaemic agents?
- Outline the pathways of steroid synthesis in the body.
- Describe the pharmacokinetics and pharmacodynamics of the naturally occurring steroids, what happens in steroid excess?
- Compare the potency and varied effects of corticosteroids (Tab 39-1), what is the role of fludrocortisone?
- Outline the steroid antagonists and their clinical role (brief)
- What is the role of octreotide clinically? Outline its pharmacokinetics and pharmacodynamics
- Vasopressin, dopamine agonists, growth hormone, oxytocin and the gonadotropins (in OHSS) have some clinical relevance but are quite low yield study topics, otherwise look at chapter 37 only briefly
- When would oestrogen or progesterone therapy be used? What are their adverse effects?
- What is the role of gonadal hormone inhibition? What is SERM?
- What is the role of androgen supplementation? What are the adverse effects?
- Outline the roles, relative proportions and pharmacokinetics of T3 and T4
- What considerations are important in the commencement and maintenance of thyroxine?
- Tell me about the antithyroid drugs PTU and carbimazole, what is the role of radioactive iodine?
- Describe the pharmacodynamics and pharmacokinetics of the bisphosphonates
- What is the role of calcium, Vit D and phosphate supplementation?

Physiology week 14 – Endocrine part 1

Contributes to 'Endocrinology' which makes up 10% of the physiology MCQ matrix.

Reference: Ganong's Review of Medical Physiology, 26th edition. Chapters 16, 19, 20, 24



You're well over halfway through now...



Glucose and thyroid disorders span into pharmacology and pathology this week - take advantage of the repetition of information



Understanding feedback loops and endocrine regulation is key

Learning Outcomes LOA 1

- Insulin and regulation of insulin secretion
- Disorders of glucose metabolism
- Glucagon
- Adrenal medulla and medullary hormones
- Glucocorticoids
- Mineralocorticoids

Learning Outcomes LOA 2

- Adrenal morphology
- Regulation of glucocorticoid secretion
- Physiology of the thyroid gland
- Thyroid hormones
- Adrenal cortex and cortical hormone synthesis/metabolism

Learning Outcomes LOA 3

- Islet cell structure
- Other islet cell hormones

Questions to consider

- Read Ganong chapter 16 to get a good grasp of hormone synthesis and transport, feedback loops and general principles of the different types of endocrine disorders
- Describe the process of thyroid hormone synthesis and secretion. How is it transported? How is this regulated?
- Describe the physiologic effects of the thyroid hormones
- Where within the adrenal gland are the various hormones synthesised? How are they transported? What are their functions? How are they regulated?
- Describe the clinical features of adrenal hyper- and hypo- plasia
- Which conditions increase aldosterone secretion?
- Outline the islet cells and their roles. Where are they in the pancreas?
- How is insulin synthesised and secreted? What are its actions? What is its role in glucose transport? Potassium?
- What are the consequences of insulin deficiency? Insulin excess? What are the organ effects of different glucose levels?
- What factors affect insulin secretion?
- What is the role of glucagon? What factors affect its secretion?
- Briefly review the other islet cell hormones

Pathology week 14 - Endocrine

'Endocrine System' makes up 5% of the pathology MCQ matrix.

Reference: Robbins and Cotran Pathologic Basis of Disease, 9th edition. Chapter 24



This is a busy week, take your time



Pathology of diabetes is a fairly common MCQ viva topic



Look at the relative frequency and mortality of thyroid malignancy for MCQs

Learning Outcomes LOA 1

- Endocrine pancreas

Learning Outcomes LOA 2

- Thyroid
- Adrenal cortex and medulla

Learning Outcomes LOA 3

- Pituitary
- Parathyroid

Questions to consider

- What are the possible causes and resultant clinical manifestations of pituitary disease?
- What is the difference between pituitary apoplexy and Sheehan syndrome?
- What distinguishes anterior pituitary from posterior pituitary syndromes?
- What is diabetes insipidus? How is it classified?
- What is the role of the endocrine pancreas?
- Outline the pathophysiology and clinical manifestation of diabetes mellitus. How can it be classified?
- What are the potential complications of diabetes? (*consider acute versus chronic presentations*)
- What are the pancreatic neuroendocrine tumours? Outline the three more common syndromes
- Outline the pathophysiology and clinical manifestations of hyper- and hypo- adrenalism
- Tell me about pheochromocytoma. What is the 'rule of tens'? Why can't beta-blockers alone be used in treatment?
- Tell me about the MEN syndromes
- What is the Waterhouse-Friderichson syndrome?
- Outline the pathophysiology and clinical manifestations of hyperthyroidism. What about hypothyroidism?
- What are the three more common subtypes of thyroiditis? Who do they typically affect and how do they present?
- What is the prevalence of the common thyroid malignancies? Which have a more grave prognosis?
- Outline the pathophysiology and clinical presentation of hyper- and hypo-parathyroidism. How is it subclassified?

Anatomy week 13 & 14 – Lower Limb: Ankle & Foot

Contributes to 'Lower Limb' which makes up 25% of the anatomy MCQ matrix.

Reference: Moore and Dalley's Clinically Oriented Anatomy, 8th edition. Chapter 7

Supplementary Reference: McMinn's clinical atlas of human anatomy 7th edition. Chapter 7



This is the second week of study allocated to anatomy of the ankle and foot region. Check week 13 of the study guide for the LOA details



If you haven't already, cross reference McMinn's and Anatomedia



DO NOT SKIP THE FOOT!!!