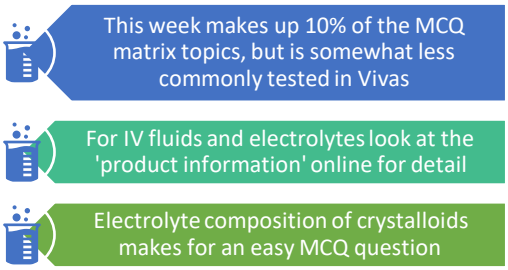
Pharmacology week 11 – Fluids and the Immune System

'Fluids and Electrolytes' makes up 5% of the pharmacology MCQ matrix.
'Immune System' makes up 5% of the pharmacology MCQ matrix.

Reference: Katzung's Basic and Clinical Pharmacology, 14th edition. Chapters 16-18



Learning Outcomes LOA 1

- Intravenous fluid solutions
- Potassium
- Sodium
- Magnesium (Katzung p243)
- Calcium (Katzung p757-758)

Learning Outcomes LOA 2

- Histamine antagonists

Learning Outcomes LOA 3

- Serotonergic agents
- Eicosanoids
- Vaccines (p1134-1137)
- Immunoglobulins
- Cancer chemotherapy agents

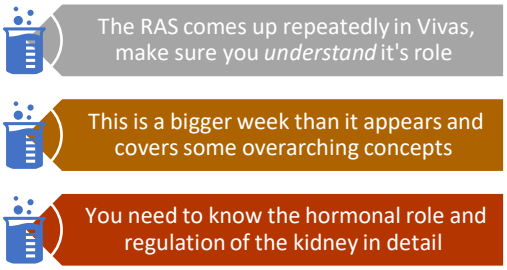
Questions to consider

- Outline the electrolyte components of the crystalloid solutions used in clinical practice
- When would you choose 3% saline?
- What are the indications for magnesium? What are its adverse effects?
- Tell me about histamine. Where are the receptors located and what are their effects?
- What is the difference in the generations of H1 antagonists? Give named examples
- Tell me about serotonin, what is its role? What happens when it is agonised/antagonised? (*ondansetron comes up not infrequently*)
- Describe the storage and metabolism of serotonin. What is serotonin syndrome?
- Think about the ergot alkaloids briefly, mainly in the context of migraine, hyperprolactinaemia and PPH
- What is the role of the vasoactive peptides in vasodilation and pain?
- Tell me about vasopressin
- Tell me about the arachadonic acid pathways (Fig 18-1, Fig 18-2)
- What do the products of arachadonic acid do? Tell me about prostaglandins and thromboxanes
- What are eicosanoids? What clinical uses do they have?

Physiology week 11– Regulation of Extracellular Fluid

Contributes to 'Renal Physiology' which makes up 15% of the physiology MCQ matrix.

Reference: Ganong's Review of Medical Physiology, 26th edition. Chapter 38



Learning Outcomes LOA 1

- Tonicity
- Volume
- Renin-Angiotensin system

Learning Outcomes LOA 2

- Natriuretic factors

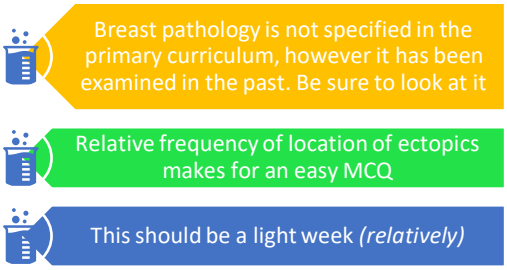
Questions to consider

- What is normal plasma osmolality? How is it regulated?
- What is vasopressin? Describe its role in detail
- What is diabetes insipidus? What is the role of dDAVP?
- Describe the formation and metabolism of the circulating angiotensins
- What factors affect renin secretion?
- What is the renal response to haemorrhage? (*common viva topic*)

Pathology week 11 – Genitourinary

Contributes to 'Renal system and Genitourinary' which makes up 8% of the MCQ matrix.

Reference: Robbins and Cotran Pathologic Basis of Disease, 9th edition. Chapters 21-22, 23



Learning Outcomes LOA 1

- Gestational disorders: miscarriage, ectopic pregnancy

Learning Outcomes LOA 2

- Gestational disorders (everything else)
- Disorders and diseases of the testes

Learning Outcomes LOA 3

- Disorders and diseases of the prostate
- Disorders and diseases of the female genital tract

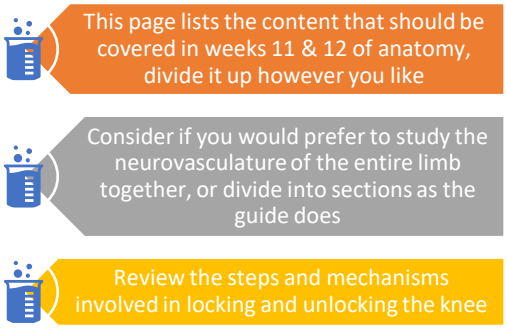
Questions to consider

- Describe the disorders that can occur in early and in late pregnancy
- Where can ectopic pregnancies occur? With what frequency? What is a heterotopic pregnancy?
- What is the pathogenesis and morphological appearances in pre-eclampsia?
- What is gestational trophoblastic disease?
- Outline the pathophysiology of cystitis, including common causative organisms.
- Outline the pathogenesis and epidemiology of carcinoma of the bladder
- Which malignancies can arise in the lower urinary tracts and genitalia? Outline their morphology
- What is cryptorchidism? What is its significance?
- Outline the pathogenesis of epididymo-orchitis. How do we classify the causes? Give some examples
- How do we categorise prostatitis?
- Outline the pathogenesis and clinical features of benign prostatic hyperplasia
- What happens in PID? Which organisms are culprits? What are the potential sequelae? How does this differ from cervicitis?
- Outline the morphological changes in the endometrium during the menstrual cycle. What are other common causes for uterine bleeding?
- Outline the pathogenesis of endometriosis
- Describe the cystic conditions that can affect the ovaries - why is this important?

Anatomy weeks 11 & 12 – Lower Limb: Knee and Leg

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



Learning Outcomes LOA 1

- Bones (landmarks, attachments, relations of): patella, tibia, fibula
- Joints: Knee (in detail), tibiofibular
- Fascia and compartments of the leg
- Muscles of the leg
- The popliteal fossa: boundaries and contents in detail
- Surface anatomy of the leg
- Arterial supply and venous drainage of the leg
- Cutaneous and motor supply of the leg

Questions to consider

- Identify this bone …. in its anatomical position and describe its bony features
- Describe the venous drainage of the lower limb
- Describe the blood supply to the head of the femur
- What are the boundaries and contents of the popliteal fossa?
- Describe the course of the sural/tibial/peroneal/sciatic nerve in the leg
- Describe the ligaments, their attachment and function with regards the knee joint
- Describe the …. muscle: its origin, insertion, action, innervation and blood supply