Achievable

USMLE STEP 1 DUMP SHEET

Anatomy and embryology

Upper limb nerve injuries

Nerve	Classic injury	Deficit
Axillary	Surgical neck fracture, dislocation	Abduction past 15° lost, flat shoulder, numb deltoid
Radial	Midshaft humerus, crutches	Wrist drop; numb dorsum of hand
Median, elbow	Supracondylar fracture	Hand of benediction, ape hand, lost pronation
Median, wrist	Carpal tunnel	Thenar wasting; palm sensation spared
Ulnar	Medial epicondyle, hook of hamate	Claw of 4th and 5th digits, Froment sign
Erb (C5—C6)	Birth: head pulled from shoulder	Waiter's tip: adducted, medially rotated
Klumpke (C8—T1)	Arm yanked overhead	Claw hand, numb medial forearm, Horner

Joints and lower limb

- **Abduction:** supraspinatus 0—15°, deltoid to 90°, then trapezius, serratus
- **Dislocation:** anterior commonest; posterior in seizures
- **Scaphoid:** snuffbox pain, avascular necrosis
- **Fibular neck:** common peroneal, foot drop
- **Hamstrings** (sciatic): extend hip, flex knee

Lymph drainage

Testis	Para-aortic
Scrotum, vulva	Superficial inguinal
Above pectinate	Internal iliac
Below pectinate	Superficial inguinal
Lateral breast	Axillary (75%)
Medial breast	Parasternal

- **Thoracic duct** → left subclavian—jugular junction

Abdominal vessels

- **Celiac** (T12): foregut. **SMA** (L1): midgut, to proximal 2/3 of transverse colon. **IMA** (L3): hindgut
- **Gastroduodenal artery:** posterior duodenal ulcer bleed
- **Portal hypertension:** esophageal varices, caput medusae, anorectal varices
- **Left gonadal vein** → left renal vein: left varicocele

Pharyngeal apparatus

Arch	Nerve	Muscles	Skeleton	Pouch
1	V3	Mastication, tensor tympani	Mandible, malleus, incus	Middle ear, auditory tube
2	VII	Facial expression, stapedius, stylohyoid	Stapes, styloid, hyoid lesser horn	Palatine tonsil
3	IX	Stylopharyngeus	Greater horn of hyoid	Thymus, inferior parathyroids
4	X: superior laryngeal	Cricothyroid, constrictors	Laryngeal cartilages	Superior parathyroids, C cells
6	X: recurrent laryngeal	Larynx but cricothyroid	Laryngeal cartilages	

- **Clefts:** 1 → external auditory meatus; a 2—4 remnant is a lateral neck cyst along the sternocleidomastoid
- **Thyroglossal duct cyst:** midline, from the foramen cecum; lingual thyroid is the commonest ectopic site

Fetal circulation

- **Umbilical vein** (oxygenated) → ductus venosus → IVC → foramen ovale → LA
- **Ductus arteriosus:** pulmonary trunk → aorta
- **Remnants:** ductus arteriosus → ligamentum arteriosum; ductus venosus → ligamentum venosum; umbilical vein → ligamentum teres; umbilical arteries → medial umbilical ligaments; urachus → median umbilical ligament

GI defects

- **TEF:** C (most): atresia, distal fistula
- **Pyloric stenosis:** weeks 2—6, projectile nonbilious vomiting, olive
- **Duodenal atresia:** double bubble, Down syndrome
- **Meckel:** rule of 2s; ectopic gastric mucosa bleeds
- **Omphalocele:** covered, chromosomal. **Gastroschisis:** right of cord, bare
- **Hirschsprung:** neural crest fails; rectum always aganglionic

Genitourinary development

- **Ureteric bud:** ureter to collecting ducts. **Metanephric mesenchyme:** nephron
- **Horseshoe kidney:** caught under the IMA
- **SRY** → testes; Sertoli cells' anti-Müllerian hormone regresses the Müllerian ducts
- **Wolffian:** epididymis, vas deferens, seminal vesicles. **Müllerian:** tubes, uterus, upper vagina
- **Ureter** runs under the uterine artery; ovarian vessels in the suspensory ligament