VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT.

F.Y. M.B.B.S.

B) Regional Anatomy

I) UPPER LIMB

REGIONS : Mammary gland, Axilla, Cubital fossa, Fascial spaces of the hand Relations and functional importance of individual structures, Dupuytren's contracture, Hand as a functional unit – grips, Nerve injury, carpal tunnel syndrome, Clavipectoral fascia; Salient features about carpals;

ARTHROLOGY

Shoulder girdle; Shoulder joint ; Elbow ; Radioulnar joints; Wrist; Carpometacarpal joint of thumb; Bones taking part Classification of joints, Movement with muscles causing movements, midcarpal joint, metacarpophalangeal joints, interphalangeal joints Fall on the outstretched hand

Level 2 Axilla: Collaterals Lymph nodes (breast) Axillary sheath cervico-axillary canal, Abscess drainage, Palm: comparative anatomy (thumb, palmaris brevis), position of rest and of function, collaterals, Fascial spaces: Surgical significance

OSTEOLOGY

Identification; Anatomical position; Parts; Joints formed; Development; identification of individual carpals in and articulated hand)
Clavicle: Line of force transmission, commonest site of fracture
Humerus: fractures - Colles' fracture, Smith's fracture
Carpals, Metacarpals, Phalanges: Carpal tunnel syndrome, fracture scaphoid Surgical approaches, Subluxation of head of radius, carrying angle

MYOLOGY:

Muscles of upper limb, attachment, Nerve supply, Actions Applied aspects: Volkmann's ischaemic contracture Quadrangular and triangular spaces, Triangle of auscultation

ANGIOLOGY: Axillary, Brachial, Radial, Ulnar Arteries, veins, lymphatics Commencement, Termination, Main area of distribution and drainage, Anastomosis – Applied aspects, Artery : Damage to vessels, Raynaud's disease, Veins: Thrombosis, Lymphatics: Lymphangitis (red streaks), lymphadenitis,

NEUROLOGY:

A. Nerves

Axillary, median, ulnar, musculocutaneous, radial, Origin, course, distribution, Root value

B. Plexus: Brachial

Applied aspects: Nerve injury at various sites - Tendon reflex - Winging of scapula, Erb's palsy, Klumpke's palsy, Crutch palsy, ulnar paradox

II) LOWER LIMB

REGION: boundaries, major contents**;** Gluteal, femoral triangle; Adductor canal, compartments of thigh, leg**;** Popliteal fossa, Adductor canal , Sole, Arches of foot,; Gluteal IM injections
Femoral hernia blood supply to head of femur**;** Fracture neck of femur, mechanics movement of joints; hip and knee, Trendelenburg test; Knee joint : derangement, injuries to cruciate ligaments, menisci; (tear - bucket handle type); Ankle : Sprain mechanism of venous return, varicose veins
Applied aspects of Adductor canal, popliteal aneurysms

OSTEOLOGY: Identification, region, anatomical position; parts, joints formed, For tarsals - identification of individual tarsals in an articulated foot.

Level 2

Applied aspects: Bony specialization for bipeds, walking and transmission of weight, Fracture, femoral torsion, neck shaft angle, bone grafts

ARTHROLOGY

Hip, knee, ankle, subtalar, Tibiofibular Hip joint : dislocation, congenital, traumatic, surgical approaches to joints (anatomical basis), traumatic effusion, bursitis

MYOLOGY

Attachments, nerve supply, actions of: Muscles of lower limb calf pump, antigravity muscles

ANGIOLOGY

Artery: Femoral, profunda femoris, popliteal, dorsalis pedis, Commencement, termination, main area of supply, course, relations & applied
Vein: Venous drainage of lower limb, long and short saphenous veins, Communication and valves. Varicose Lymphatics: Inguinal group of lymph nodes

Lever 2 :intermittent claudication, clinical significance of anastomosis: around knee, venous thrombosis

NEUROLOGY

a. Plexus: Lumbar and sacral, Location, Formation, Distribution

b. Nerves: Root value of sciatic, femoral, obturator, tibial, common peroneal nerves; Origin, course, distribution; sciatica, foot drop

Level 2 : Pes cavus, equinovarus, clawing of toes

III) ABDOMEN

i) ANTERIOR ABDOMINAL WALL

Rectus sheath, quadrants and regions, Testes, epididymis, spermatic cord, scrotum

Level 2: Surgical incisions of abdomen types of inguinal herniae
Peritoneum, Lesser Omentum, Omental Bursa, Epiploic Foramen, Testes
Morphology, blood supply, lymphatic drainage

25. SPERMATIC CORD

Definition, beginning, end, course and contents, coverings, vasectomy

ii) Abdominal organs :

Morphology relations blood supply, lymphatics nerve supply & applied Anatomy of following organs

STOMACH, SPLEEN, LIVER:,BILIARY APPARATUS, PANCREAS, SMALL INTESTINE,LARGE INTESTINE AND VERMIFORM APPENDIX,KIDNEYS, URETERS,SUPRARENAL GLANDS

Level 2: peptic ulcer ,Splenic circulation, splenic vascular segments,liver, biopsy, Support of liver,Gall stones **,**Duct system of pancreas **,**Surgical approach to kidney , stones (Renal), Ureter,Sites of constrictions, Hydronephrosis, pheochromocytoma

Level 3: Gastroscopy, Achlorhydria, Splenectomy, Liver transplant, Pancreatitis, diabetes, Renal transplant, Stones in ureter, Cushing's disease

iii) Pelvic Viscera :-

Morphology, relations, blood supply nerve supply & applied anatomy

URINARY BLADDER & URETHRA, UTERUS, OVARIES AND UTERINE TUBES, PROSTATE, RECTUM AND ANAL CANAL, UROGENITAL DIAPHRAGM (UGD)

Level 2: Supports and micturition, stones in bladder ,Ovarian cyst, enlargement complications, Fistula, Fissure, piles

Level 3: cystoscopy, Hysterectomy,cancer, Supports of rectum

iv) Perineum – Ischiorectal fossa, pudendal canal, perianal spaces Urogenital diaphragm, male urethra, penis – perineal pouches

Level 2: Ischiorectal hernia

v) MYOLOGY

Anterior abdominal wall, Rectus sheath, Psoas major, Quadratus lumborum, Thoracoabdominal diaphragm, pelvic diaphragm, Thoracolumbar fascia, perineal spaces & muscles

Level 3: Psoas abscess

vi) OSTEOLOGY

Level 2: Pelvis - types
(various diameters), lumbar vertebrae, anatomical basis of disc prolapse, nerve compression

Level 3: Sacralization, Lumbarization

ARTHROLOGY

Movements of lumbar vertebrae, lumbosacral, sacroiliac, sacrococcygeal joints

vii) ANGIOLOGY :-

Origin, course, termination, relations, branches & applied anatomy of

PORTAL VEIN

Level 2: portasystemic communications

Level 3: Portasystemic communications in detail**;** Development
INFERIOR VENA CAVA,ABDOMINAL AORTA,INTERNAL ILIAC ARTERY

viii) NEUROLOGY, LUMBAR PLEXUS, SACRAL PLEXUS

IV) THORAX

i) THORACIC WALL,THORACIC INLET
Boundaries and contents
THORACIC OUTLET, Boundaries and contents, major openings and levels, Typical intercostal space, Boundaries and contents, muscles Atypical intercostal space, Movements of respiration

Level 2: importance and minor openings in outlet, Accessory muscles of respiration

Level 3: Applied aspects: Barrel chest, pectus excavatum, rickety rosary

ii) MEDIASTINUM

Divisions and major contents

Level 2: Mediastinitis, mediastinoscopy

SUPERIOR AND POSTERIOR MEDIASTINA, LIST OF STRUCTURES

Boundaries and contents:

Level 2 : Superior mediastinal Syndrome, Course, relation and branches / area of drainage

Level 3: Coarctation of aorta, aneurysm, developmental anomalies

iii)PLEURA

Pleural reflections, recesses, innervation

Level 2: importance of recesses

Level 3: pleural effusion

LUNGS

Gross description including lobes, fissures and bronchopulmonary segments

Level 2: relations, blood supply, nerve supply

Level 3: Postural drainage, surgical importance, of bronchopulmonary segments, foreign body inhalation

iv)PERICARDIUM & HEART

Divisions of pericardium and sinuses

Level 2: referred pain

Level 3: Pericardial effusion

HEART

Anatomical position, location, surfaces and borders, interior of all chambers, conducting system of heart; vessels of heart

Level 2: Relations, nerve supply - foramen ovale, patent IV septum, over-riding aorta, referred pain, functional end arteries - coronaries

Level 3: PDA, Fallot's tetralogy, etc.

v)OSTEOLOGY

IDENTIFICATION and parts of VERTEBRAE , RIBS - and STERNUM

Level 2: Identification of T1, T9, T10, T11, T12, vertebrae and atypical ribs - 1, 2, 11, 12. relations, attachments, ossification

Level 3: Fracture ribs, flail chest, compression fracture of vertebra

V) HEAD-FACE NECK

i) REGIONS AND ORGANS, FASCIAE OF THE NECK TRIANGLES OF NECK

Level 2 Spaces and spread of infections, axillary sheath **,** Relations of contents, Damage to accessory nerve, sialogram, approach to gland, bidigital palpation of submandibular gland**,**Dangerous area of face, squint

Level 3: surgical neck incisions, external jugular vein - air embolism, LN biopsy, JVP, pulse, Frey's syndrome

GLANDS

Thyroid, Parathyroid, Parotid, Submandibular, sublingual, Pituitary Morphology, capsule, relations, nerve supply, blood supply

FACE

Muscles, nerve supply - blood supply

SCALP,PALATE,TONGUE,LARYNX, PHARYNX, ORBIT, EYEBALL,STYLOID APPARATUS,NASAL CAVITY, EAR,INTERNAL EAR,MIDDLE EAR,EXTERNAL EAR,MENINGES

ii) OSTEOLOGY

Identification, anatomical position, parts, foramina in the skull, structures passing through them, norma basalis, verticalis, frontalis, lateralis, occipitalis and interior of cranial cavity
Foetal skull; Mandible: Age changes
Level 2: Fontanelles, Dental formula
Level 3: Fractures of the skull, Age of dentition, cervical rib, disc herniation

iii) ARTHROLOGY

TM JOINT
Level 2: Dislocation

iv) MYOLOGY

Sternomastoid, Digastric, Mylohyoid, Hyoglossus, Muscles of facial expression, mastication, larynx, pharynx, tongue, palate and, Extra-ocular muscles
Level 2 Relations, development
Level 3 facial nerve palsy

v) ANGIOLOGY

ARTERIES

Origin, parts, course, relations, branches of:
Subclavian, Internal carotid, External carotid, Vertebral, Lingual, Facial, Maxillary

Level 2: Sub-branches, distributions

Level 3: Subclavian steal syndrome, Subclavian-axillary anastomosis

VEINS

External and internal Jugular veins, venous drainage of face

VENOUS SINUSES

Names, locations, drainage, classification
EMISSARY VEINS, CAVERNOUS SINUS, LYMPHATIC DRAINAGE OF HEAD FACE NECK

vi) NEUROLOGY

Cranial nerves,Nucleus, course, relations, branches, distribution, reflex pathways & applied anatomy, PLEXUS: Cervical, Brachial, PARASYMPATHETIC GANGLIA, CERVICAL SYMPATHETIC CHAIN

VI) NEUROANATOMY

i) SPINAL CORD

Gross features: Extent (child / adult), enlargements, conus medullaris, filum terminale, spinal meninges Tracts Ascending and Descending

Level 2: Spinal segments, vertebral correlation, significance of enlargements nuclei of grey matter at upper & lower cervical, mid-thoracic, Lumbar & sacral levels Clinical correlation of lesions

Level 3: anomalies,lamination, syringomyelia, PID, tumours, TB, trauma, dislocation, myelography

ii) MEDULLA OBLONGATA

Gross features: Motor decussation: Sensory decussation: Inferior olivary nucleus Cranial nerve nuclei

Level 2: Tuber cinereum, pontobulbar body, Order of neurons, Details of nuclei and organisation of white matter

Level 3: medullary syndromes-Bulbar palsy, increased ICT, Arnold-Chiari malformation,

iii) PONS

Cross sections at the level of:

- Facial colliculus, Trigeminal nucleus

General features: Peduncles, Floor of the fourth ventricle
Level 2: Relations
Level 3: Tumours, pontine haemorrhage

iv) CEREBELLUM

Gross features: Division, Lobes, relations, internal structure -
Level 2: connections of,cerebellar cortex and intracerebellar nuclei, white matter classification, Purkinje neuron,
Level 3: dysfunction,-dysequilibrium, ataxia, hypotonia
Nuclei: Names of nuclei and important connections
Peduncles : Important tracts in the peduncles
Functions : Of archicerebellum, paleocerebellum & neocerebellum

v) MIDBRAIN

General features :
relations, contents of interpeduncular cistern, connections of red nucleus
Level 2: Weber's syndrome, Benedikt's syndrome
Level 1 :T.S. at inferior colliculus, TS at superior colliculus

vi) CEREBRUM

CORTEX, WHITE MATTER, BASAL NUCLEI, LIMBIC LOBE
Surfaces, borders, major sulci, gyri, poles, lobes, major functional areas, interior - gray and white matter
Gray - cortex - granular / agranular, striate, Basal nuclei - names, White matter - classification with examples; Components of limbic lobe
Level 2: handedness, Connections of limbic lobe

vii) DIENCEPHALON

Dorsal thalamus Epithalamus Metathalamus Hypothalamus Subthalamus
Boundaries, parts, relations (gross), cavity, major nuclei, gross connections

viii) VENTRICULAR SYSTEM

Parts, boundaries, foramina, correlation with parts of brain
Level 2: Choroid fissure, recesses, Queckenstedt's test
Level 3: Hydrocephalus, VA shunt

ix) BLOOD SUPPLY OF BRAIN

Circle of Willis, subarachnoid space, arteries, veins
Level 2: blood brain barrier, Hemiplegia
Level3: End arteries, CSF formation

x) MENINGES

Cerebral and spinal meninges, folds of dura, contents of subarachnoid spaces, arachnoid villi and granulations, direction of flow of CSF, lumbar puncture **Cisterns,** Definition, terminology, cisterna magna

Level 2: cisternal puncture, Queckensted's test, vertebral venous plexus, choroid plexus
Extracerebral and intracerebral communication, CSF block,
Level 3: Epidural space