Bony Structures-Lower Extremity

Pelvis

- Sacrum
  - sacral promontory
  - superior articulating facets-S_1
  - anterior & posterior sacral foramina
  - median sacral crest
  - sacral canal
  - sacral hiatus
- Hip bone
  - obturator foramen
  - pubic bone (pubis)
    - superior & inferior pubic rami
    - body of pubis
    - pubic tubercle
    - pectineal eminence
    - subpubic angle
  - iliac bone (ilium)
    - crest
    - iliac fossa
    - superior gluteal line
    - tubercle of ilium
    - anterior superior iliac spine
    - anterior inferior iliac spine
    - posterior superior iliac spine
    - posterior inferior iliac spine
    - blade of ilium
  - ischial bone (ischium)
    - spine
    - tuberosity
    - greater sciatic notch
    - lesser sciatic notch

Femur

- Proximal femur
  - head
    - fovea capitis
  - neck
  - greater trochanter
    - trochanteric fossa
  - less trochanter
  - intertrochanteric line
  - intertrochanteric crest
  - quadrate tubercle
  - gluteal tubercle
- Mid femur
  - shaft
  - linea aspera
- Distal femur
  - medial condyle
  - lateral condyle
  - medial epicondyle
  - lateral epicondyle
  - interchondylar groove (notch)
  - adductor tubercle

Patella

- superior pole
- inferior pole
- articular surface
  - medial & lateral articular facets

Tibia

- Proximal tibia
  - plateau
    - medial & lateral condyles
  - emenentia intercondylaris (tibial spines)
  - tibial tubercle
  - Gerdy's tubercle
  - soleal line
- Mid tibia
  - shaft
  - crest
- Distal tibia
  - medial malleolus
    - medial articular process

Fibula

- Proximal fibula
  - head
  - neck
  - soleal line
- Mid fibula
  - shaft
- Distal fibula
  - lateral malleolus
    - lateral articular process

Foot/Ankle

- talus
  - head
  - neck
  - body
  - trochlea
- calcaneus
  - anterior & posterior tubercles
  - sustenaculum tali
- cuboid
  - groove in plantar surface
- navicular
  - tubercle
- cuneiforms (medial, middle & lateral)
- metatarsals
  - head
  - neck
  - shaft
  - base
    - tuberosity of fifth
- phalanges
  - head
  - base
- sesmoids (medial & lateral)

Bony Structures-Upper Extremity

Sternum

- manubrium
  - articular facets for clavicle
  - articular facets for first rib
- body
  - articular facets for true and false ribs
- xiphoid process
- sternal angle

Clavicle

- medial end
- lateral end

Scapula

- superior border
  - suprascapular notch
- medial (vertebral) border
- lateral (axillary) border
- superior angle
- inferior angle
- axillary (lateral) angle
- spine
  - root
  - acromium process
- supraspinous fossa
- infraspinous fossa
- subscapular fossa
- coracoid process
- glenoid fossa

Humerus

- Proximal humerus
  - head
  - anatomical neck
  - surgical neck
  - greater tubercle
    - ridge
  - lesser tubercle
    - ridge
  - intertubercular (bicipital) groove
- Mid of humerus
  - musculospiral groove
- Distal humerus
  - trochlea
  - capitulum
  - medial epicondyle
  - lateral epicondyle
  - coranoid fossa
  - olecrenon fossa
  - medial supracondylar ridge
  - lateral suprcondylar ridge

Ulna

- Proximal ulna
  - olecrenon process
  - radial fossa
  - trochlear notch
  - cornoid process

Mid ulna
shaft
Distal ulna
medial styloid process

Radius

Proximal radius
head
neck
bicpital tubercle
Mid radius
shaft
Distal radius
lateral styoid process
dorsal distal radial tubercle

Carpals

Proximal row
scaphoid
tubercle
lunate
triquetrium
pisaform
Distal row
trapezium
tubercle
trapezoid
capitate
hamate
hook

Metacarpals

head
neck
shaft
base

Phalanges

head
base

Bony Structures- Vertebra-Spine

vertebral body
facet for head of rib (T_{1-12})
spinous process
bifid (C_{2-6})
transverse process
tansverse foramen (C_{1-6})
facet for tubercle of rib (T_{1-12})
neural canal
lamina
pedicle
superior articulating facet
inferior articulating facet

C_1-Atlas

anterior tubercle
posterior tubercle
no vertebral body
anterior articular cavity

C_2-Axis

- odontoid process (dens)

Sacrum

- sacral promontory
- sacral (neural) canal
- median sacral crest
- sacral hiatus
- anterior sacral foramen
- posterior sacral foramen

Sternum

- manubrium
  - articular facets for clavicle
  - articular facets for first rib
- body
  - articular facets for true and false ribs
- xiphoid process
- sternal angle

Ribs

- head
- neck
  - tubercle of
- shaft
- angle
- costal groove

Muscular Structures-Lower Extremity

Hip and thigh regions

- **Anterior compartment-femoral nerve/posterior divsions of lumbar plexus**
  - psoas major
  - iliacus
  - rectus femoris
  - sartorius
  - vastus intermedius
  - vastus medialis
  - vastus lateralis
- **Lateral compartment-superior gluteal nerve**
  - gluteus medius
  - glutetus minimus
- **Medial comparment-obturator nerve**
  - pectineus
  - gracilis
  - adductor brevis
  - adductor brevis
  - adductor longus
- **Posterior compartment**
  - **Deep layer-twiglets from sacral plexus**
    - piriformis
    - gemellus superior
    - obturator internus
    - gemellus inferior
    - obturator externus
    - quadratus femoris
  - **Intermediate layer-tibial nerve**
    - **Hamstrings**
      - semitendinous
      - semimembranosus
      - biceps femoris long head
        - (biceps femoris short head-common peroneal nerve)
  - **Superficial layer**
    - gluteus maximus-inferior gluteal nerve

Leg

- **Anterior compartment-deep peroneal nerve**
  - tibialis anterior
  - extensor hallucis longus
  - extensor digitorum longus
    - peroneus tertius
- **Lateral compartment-superficial peroneal nerve**
  - peroneus longus
  - peroneus brevis
- **Medial compartment**
  - shaft of tibia
- **Posterior compartment-tibial nerve**
  - **Deep layer**
    - tibialis posterior
  - **Intermediate layer**
    - flexor hallucis longus
    - flexor digitorum longus

Superficial layer
gastrocnemius (medial and lateral heads)
soleus
plantaris

Foot

Dorsal surface-deep peroneal nerve
extensor digitorum brevis
extensor hallucis brevis

Plantar surface-medial and lateral plantar nerves

First layer
abductor hallucis
extensor digitorum brevis
abductor digiti minimi

Second layer
lumbricales
quadratus plantae

Third layer
flexor hallucis brevis (medial and lateral heads)
adductor hallucis (transverse and oblique heads)
flexor digiti minimi

Fourth layer
dorsal interossei
plantar interossei

Muscular structures-Upper Extremity

Shoulder region
subclavius (nerve to)
pectoralis minor (medial pectoral nerve)
serratus anterior (long thoracic nerve)
rhomboid minor (dorsal scapular nerve)
rhomboid major (dorsal scapular nerve)
levator scapulae (dorsal scapular nerve)

Rotator cuff
suprspinatus (supraspinous nerve)
infraspinatus (suprspinous nerve)
teres minor (axillary nerve)
subscapularis (upper and lower subscapular nerves)

teres major (lower subscapular nerve)
deltoid (anterior, middle & posterior-axillary nerve)
trapezius (upper, middle & lower-accessory nerve)
pectoralis major (clavicular and sternal heads - (med and lat pectoral n's)
latissimus dorsi

Arm

Anterior compartment-musculocutaneous nerve
coracobrachialis
brachialis brachii
biceps brachii (short and long heads

Posterior compartment-radial nerve
triceps brachii (medial, lateral and long heads)
anconeus

Forearm

Anterior compartment-median and ulnar* nerves)

Deep layer
flexor pollicis longus
flexor digitorum profundus

Intermadiate layer

flexor digitorum superficialis-*2 ulnar heads

Superficial layer

flexor carpi radialis
palmeris longus
flexor carpi ulnaris*

Posterior compartment-radial nerve

Deep layer

extensor pollicis longus
extensor pollicis brevis
abductor pollicis longus
extensor indicis

Superficial layer

extensor carpi radialis longus
extensor carpi radialis brevis
extensor digitorum longus
extensor digiti minimi
extensor carpi ulnaris

Hand

Thenar group-median and ulnar* nerves

opponens pollicis
abductor pollicis brevis
flexor pollicis brevis
adductor pollicis*

Palmer group-ulnar nerve

lumbricales (2 radial by median nerve; 2 ulnar by ulnar nerve)
palmeris brevis
dorsal interossei
palmer interossei

Hypothenar group-ulnar nerve

opponens digiti minimi
abductor digiti minimi
flexor digiti minimi

Musculature of the trunk and back

Intrinsic back muscles

Deep muscles

interspinalis
intertransversari

Transversospinalis

rotatores longus and brevis
multifidus
semispinalis

Sacrospinalis

iliocostalis
lumborum
thoracis
cervicis
longissimus
thoracis
cervicis
capitis
spinalis
thoracis
cervicis
capitis