The back

Curvatures
- Primary – Concave Anteriorly (Thoracic, Sacral)
- Secondary – Convex Anteriorly (Cervical, Lumbar)
Back - landmarks

1. EXTERNAL OCCIPITAL PROTUBERANCE
2. SPINOUS PROCESSES OF VERTEBRAE
3. CLAVICLE
4. SPINOUS PROCESS OF SCAPULA
5. INFERIOR ANGLE OF SCAPULA
6. ILIAC CREST
Landmarks

Scapula – 2nd to 7th rib
Acromion – top of shoulder
Crest of spine – from acromion medially, downwards
Medial border and inf. angle of scapula - palpable
Iliac Crest – curved bony ridge below the waist
ASIS – Ant. end of iliac crest
PSIS – Shallow dimple above buttock approx. 5 cm from median plane
Sacrum – Lies between two dimples of PSIS
Coccyx – Between buttocks in median plane
Spine of C-7 – at root of neck
External Occipital protrubance – In Median Plane
Superior Nuchal Lines – On either side

T3 spine at level of spine of scapula
T7 spine at level of inferior angle of scapula
L4 – highest point of iliac crest
S2 - At PSIS
Shoulder Girdle

**Bones** – Scapula
  -- Clavicle

**Joints** – Sterno-clavicular
  Acromio-clavicular
Muscles of the Back

Three groups:

- **Superficial** - muscles that act on the upper limb
- **Intermediate** - muscles of thorax
- **Deep** - muscles of vertebral column
Muscles of the Back
Muscles of the Back

5 pairs of muscles in the superficial layer

- Trapezius
- Latissimus dorsi

Under Cover of Trapezius

- Rhomboid major
- Rhomboid minor
- Levator scapulae
Trapezius

**Origin**

- Medial 2/3 of superior nuchal line
- Ligamentum Nuche
- 7th cervical spine
- All thoracic vertebral spines (T1 – T12)
Insertion

Upper or occipital fibres
- post. Border of lat. 1/3 of clavicle

Middle fibres
- Medial border of Acromion
- Upper lip of crest of spine

Lower fibres
- Deltoid Tubercle
N. Supply
Proprioceptive – conveyed by ventral rami of C3 and C4
Motor Fibres – Spinal part of Accessory Nerve

Main Action
Elevate Scapula
  – Upper Fibres with Levator Scapulae
Retract Scapula
  – Middle Fibres with Rhomboids
Forward Rotation of Scapula
  – Upper and Lower Fibres with Serratus Ant.
Latissimus Dorsi

**Origin**
- Post 1/3 of outer lip of iliac crest
- Post Layer of Thoracolumbar Fascia
- Lower Four ribs
- Spines of T7 – T12
- Inferior Angle of Scapula

**Insertion**
Floor of intertubercular sulcus
( Bicipital Groove)
Latissimus Dorsi

Nerve Supply
Nerve to L. Dorsi (Thoracodorsal Nerve)
(From post. Cord)

Action
Adduction
Extension and
Medial rotation of Shoulder

Swimming, Climbing

Costal fibres help in inspiration

Rest in violent expiration
– Coughing, Sneezing
Levator Scapulae

**Origin**
- Tr. Process of C1 - C4

**Insertion**
- Medial (Vertebral border of Scapula) from Sup. Angle to apex of spine

**N. Supply**
- C3 C4
- N. to Rhomboids (Dorsal Scapular Nerve)

**Action**
- Elevate Scapula with Trepezius (Upper Fibres)
Rhomboideus Major

**Origin**
Spine of T2 – T5

**Insertion**
Dorsal aspect of medial border from inferior angle to root of spine

Rhomboideus Minor

**Origin**
Lower part of Ligamentum Nuchae
Spine of C7 and T1

**Insertion**
Apex of Spine

**Action**
Retract scapula with Tr. Middle Fibres
Rotate Scapula and depress shoulder with levator scapulæ

Both supplied by Nerve to Rhomboids (Br Of Root)
Movements

Elevation of Scapula (Shrugging of Shoulders)
  Upper fibres of Trepezius
  Levator Scapulae

Depression of Scapula (Drooping of Shoulders)
  Gravity
  Lower fibres of Serratus anterior
  Pectoralis minor

Protraction of Scapula (Pushing and Punching movements)
  Serratus Anterior
  Pectoralis Minor

Retraction of Scapula (Squaring of Shoulders)
  Rhomboids
  Middle fibres of Trepezius

Forward Rotation of Scapula (Overhead abduction of Shoulder)
  Upper fibres of Trepezius
  Lower fibres of Serratus Anterior

Backward rotation of Scapula
  Gravity
  Levator Scapulae
  Rhomboids