Dr. Weyrich and Dr. Morton

Unit 1: Back and Thorax

Reading:
1. Gray’s Anatomy for Students, Chapters 2 and 3
2. Gray’s Dissection Guide for Human Anatomy, Units 1 and 2 (Labs 1-9)

Objectives:
To know and understand the:
1. Surface anatomy of the back and thorax and its clinical importance
2. Identification of back muscles, their attachments, actions, and nerve supply
3. Characteristics of the vertebral column and its normal and abnormal curvatures
4. Basic understanding of the nervous system with emphasis on spinal cord anatomy
5. Understand the thoracic cage as a whole in relation to the organs it encloses
6. Know the anatomy of the thoracic muscles and breast, their blood supply, and innervation
7. Understand the pleurae, pleural cavities, and clinically related problems
8. Characteristics of each lung, their innervation, and blood supply
9. Know the anatomy of the heart and clinically related syndromes
10. Understand the subdivisions of the mediastinum and the contents of each division
Lecture 01: Superficial and Deep Back Muscles

Objectives:
- Gain an understanding of the osteology of the back (vertebral column)
- Gain an understanding (basic attachments, blood supply and innervation) of the superficial (extrinsic) back muscles and their actions on the upper limb
- Gain an understanding (basic attachments, blood supply and innervation) of the deep (intrinsic) back muscles and their actions on the vertebral column

Back Osteology - Review Ch. 2; pp. 26-37, 41-47 and Figs 2.15, 2.20-2.21, 2.31-2.32, 2.35-2.37

- The vertebral column is composed of a series of 33 vertebrae namely the cervical (7), thoracic (12), lumbar (5), sacrum (fused 5) and coccyx (fused 3-4)
- Identify the following on a typical vertebra:
  1. transverse process
  2. spinous process
  3. lamina
  4. pedicle
  5. vertebral foramen
  6. intervertebral foramen
  7. superior articular facets
  8. inferior articular facets
  9. body
**Back Osteology continued ...**

- Compare and contrast the characteristics of cervical, thoracic and lumbar vertebrae (Understand unique characteristics of cervical vertebrae such as transverse foramina, C1 and C2, etc ...)
- Understand the composition and topography of an intervertebral discs
- Understand the curvatures of the vertebral column (Kyphosis, Lordosis and Scoliosis)
- Understand the following vertebral ligaments anterior longitudinal, posterior longitudinal, supraspinous, interspinous and ligamentum flavum; understand the zygapophyseal joint
Back musculature - Review Ch. 2.; pp. 47-61 and Figures 2.40, 2.48-2.49, Tables 2.1 and 2.3-2.6

The muscles of the back are divided into superficial muscles and deep muscles. The superficial back muscles attach to the axial skeleton, scapula and humerus. As such, their movements primarily orchestrate movement of the upper limb.

- Trapezius m.: occipital bone, sp C7-T12, spine and acromion of scapula and clavicle; spinal accessory n. (CN XI); superficial branch of transverse cervical a.
- Rhomboid mm.: C7-T4, medial margin of scapula; dorsal scapular n. (C5); deep branch of transverse cervical a.
- Levator scapulae m.: TP of C1-C4, superior angle of scapula; C3-C4 ant. rami and dorsal scapular n. (C5); transverse cervical a.
- Latissimus dorsi m.: sp T7-sacrum, iliac crest, intertubercular groove of humerus; thoracodorsal n. (C6-C8); thoracodorsal a.
Back musculature continued …

The deep back muscles attach along the vertebral column. As such, their movements aid in vertebral extension and posture. Describe the basic attachments, innervation and blood supply for the:

- Splenius muscles - capitis and cervicis
- Erector spinae muscles - iliocostalis, longissimus, spinales
- Transversospinalis muscles - semispinalis, multifidus, rotatores
Suboccipital triangle

Understand the suboccipital muscles and suboccipital triangle and contents
- Suboccipital muscles: rectus capitis major/minor, obliquus capitis superior/inferior
- Suboccipital triangle: bordered by rectus capitis posterior major and the obliquus capitis superior and inferior mm.
  - Contents: sub-occipital n. (post ramus C1), vertebral artery