

Introduction to Clinical Skills

Practical – Cervical Spine

Learning Objectives

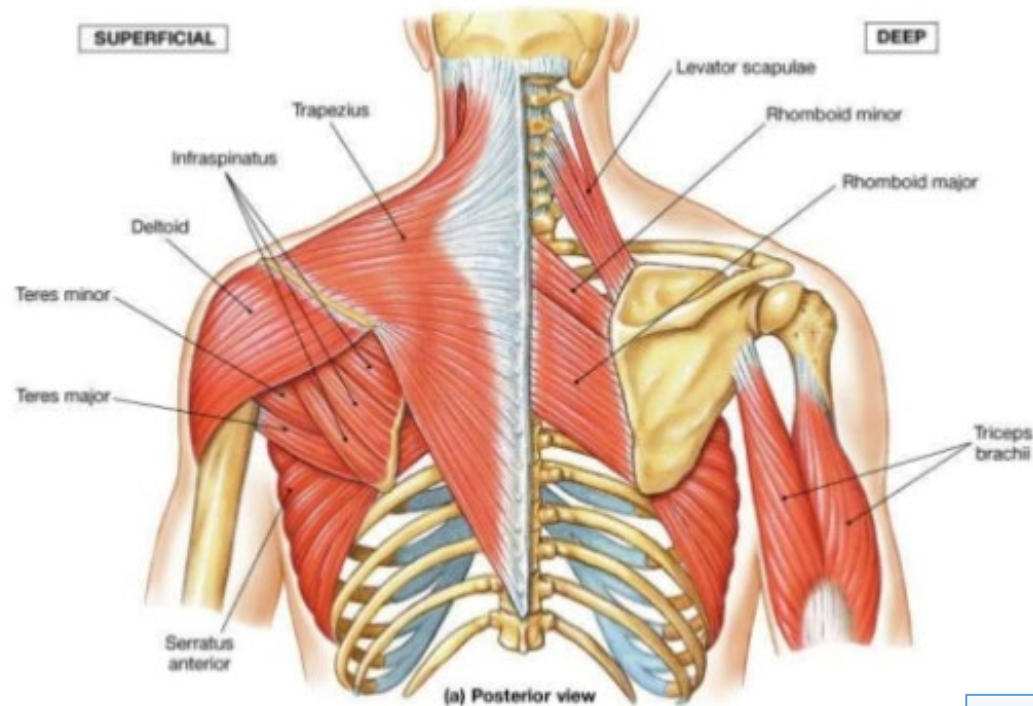
- Describe myology of the Upper Quadrant
- Understand where the origins and insertions are
- Explain the significance of the musculoskeletal anatomy of the region

Introduction

- Structures of upper quadrant perform are involved in a vast amount of movements
- Synergistic effect
- The design of a muscles will relate to its function

The Upper Trunk Region

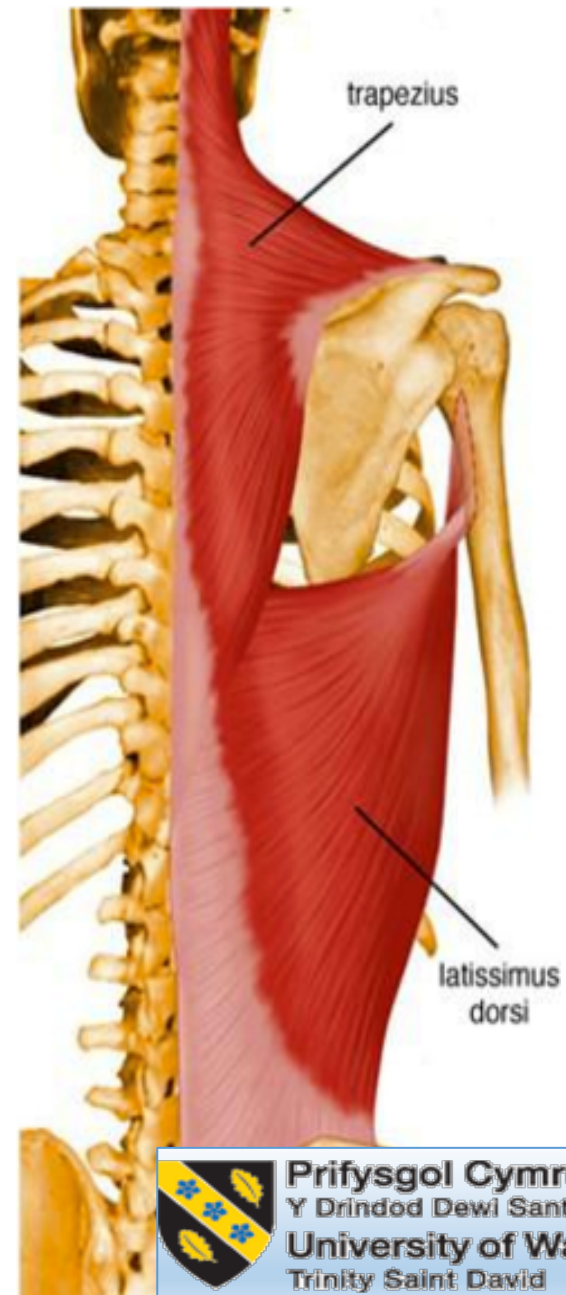
Pectoral Girdle Muscles



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Trapezius

- **Origin** Medial third of superior nuchal line; base of the occipital bone
- **Insertion** Lateral third of clavicle, acromion, and spine of scapula
- **Action** Elevates, retracts and rotates scapula; superior fibers elevate, middle fibers retract, and inferior fibers depress scapula; superior and inferior fibers act together in superior rotation of scapula
- **Innervation** Spinal root of accessory nerve (CN XI) (motor) and cervical nerves (C3 and C4) (pain and proprioception)



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Rhomboid Major and Minor

- **Origin**
- **Minor:** nuchal ligament and spinous processes of C7 and T1 vertebrae
Major: spinous processes of T2 - T5 vertebrae
- **Insertion** Medial border of scapula from level of spine to inferior angle
- **Action** Retract scapula and rotate it to depress glenoid cavity; fix scapula to thoracic wall
- **Innervation** Dorsal scapular nerve (C4 and **C5**)



Axial Muscles – Neck Muscles [3]

- **Sternocleidomastoid**

- **Origin:**

- Manubrium of sternum
 - Sternal end of clavicle

- **Insertion:**

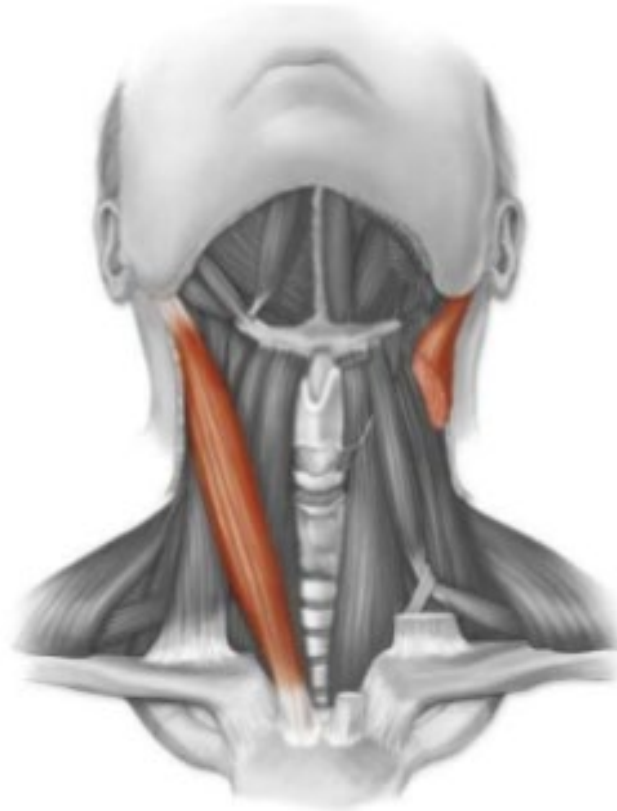
- Mastoid process of temporal bone

- **Action:**

- **One side:** lateral flexion with rotation of head to opposite side
 - **Both sides:** flexes head & neck

- **Textbook Reference:**

- Description: p. 336
 - Figures: 11.8, 11.9



Axial Muscles – Neck Muscles [3]

- **Splenius capitis**

- **Origin:**

- Ligamentum nuchae
(connective tissue covering
the spinal processes of the
cervical vertebrae)

- **Insertion:**

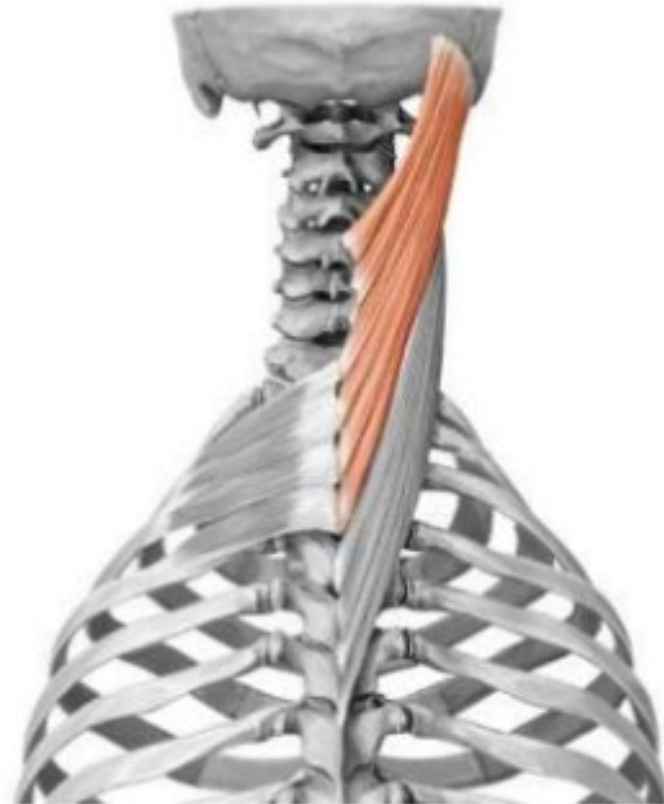
- Occipital bone
 - Mastoid process of temporal
bone

- **Action:**

- **One side:** turns head to same
side
 - **Both sides:** extends head &
neck

- **Textbook Reference:**

- Description: p. 336
 - Figures: 11.10, 11.11



Mnemonic:
**PUT THE CAP ON TO
CERVICIS**



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Axial Muscles – Neck Muscles [3]

- **Splenius cervicis**

- **Origin:**

- Spinous processes of T3-T6 vertebrae

- **Insertion:**

- Transverse processes of cervical vertebrae

- **Action:**

- **One side:** turns head to same side
 - **Both sides:** extends head & neck

- **Textbook Reference:**

- Description: p. 336
 - Figures: 11.10, 11.11



Mnemonic:

**PUT THE CAP ON TO
CERVICIS**



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Axial Muscles – Facial Expression Muscles [8]

- **Platysma**

- **Action:**

- Pulls lower lip inferiorly
 - Tenses skin of neck

- **Textbook Reference:**

- Description: p. 322
 - Figures: 11.2a & b

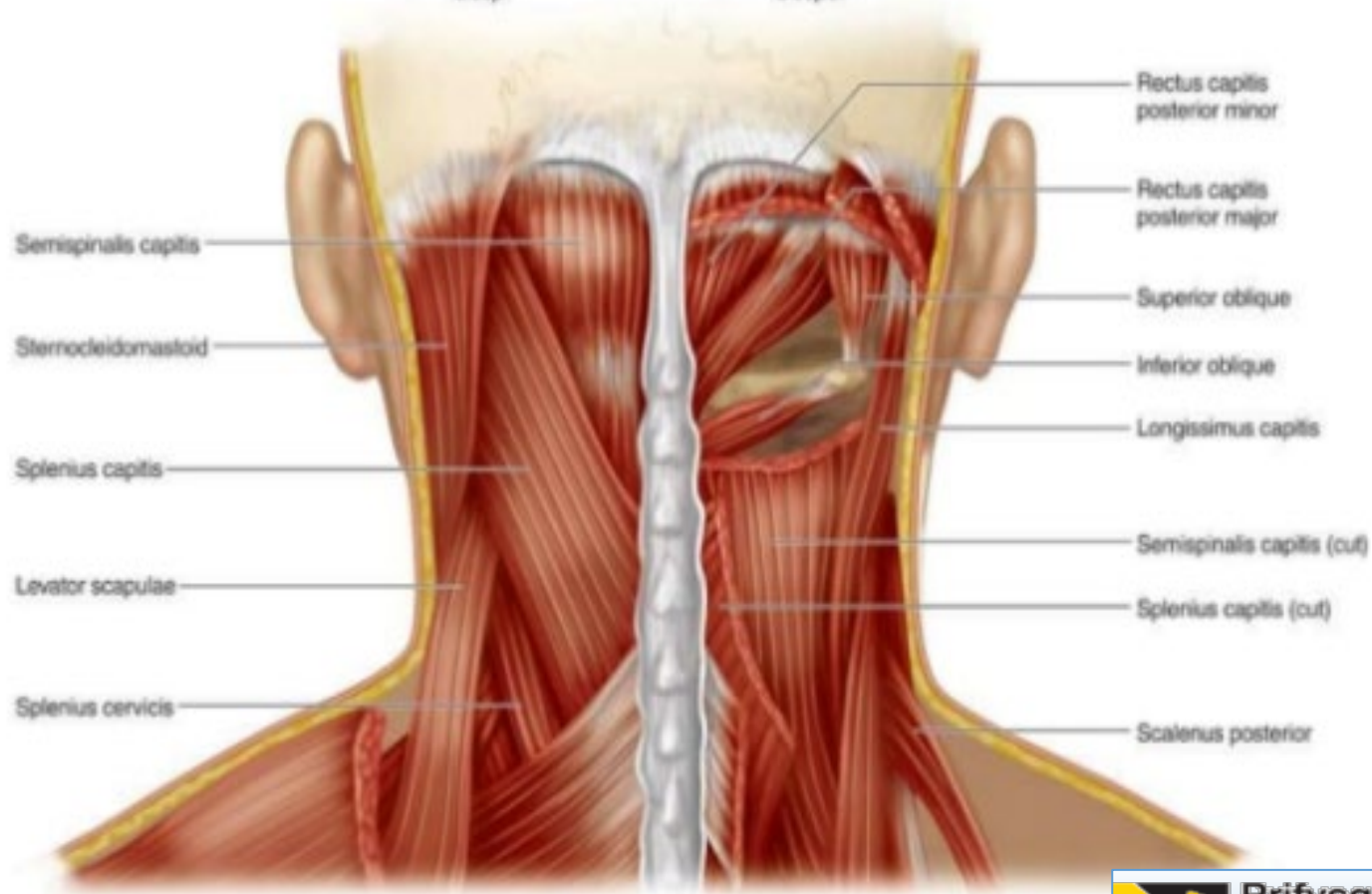


Posterior Neck Muscles

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Deep

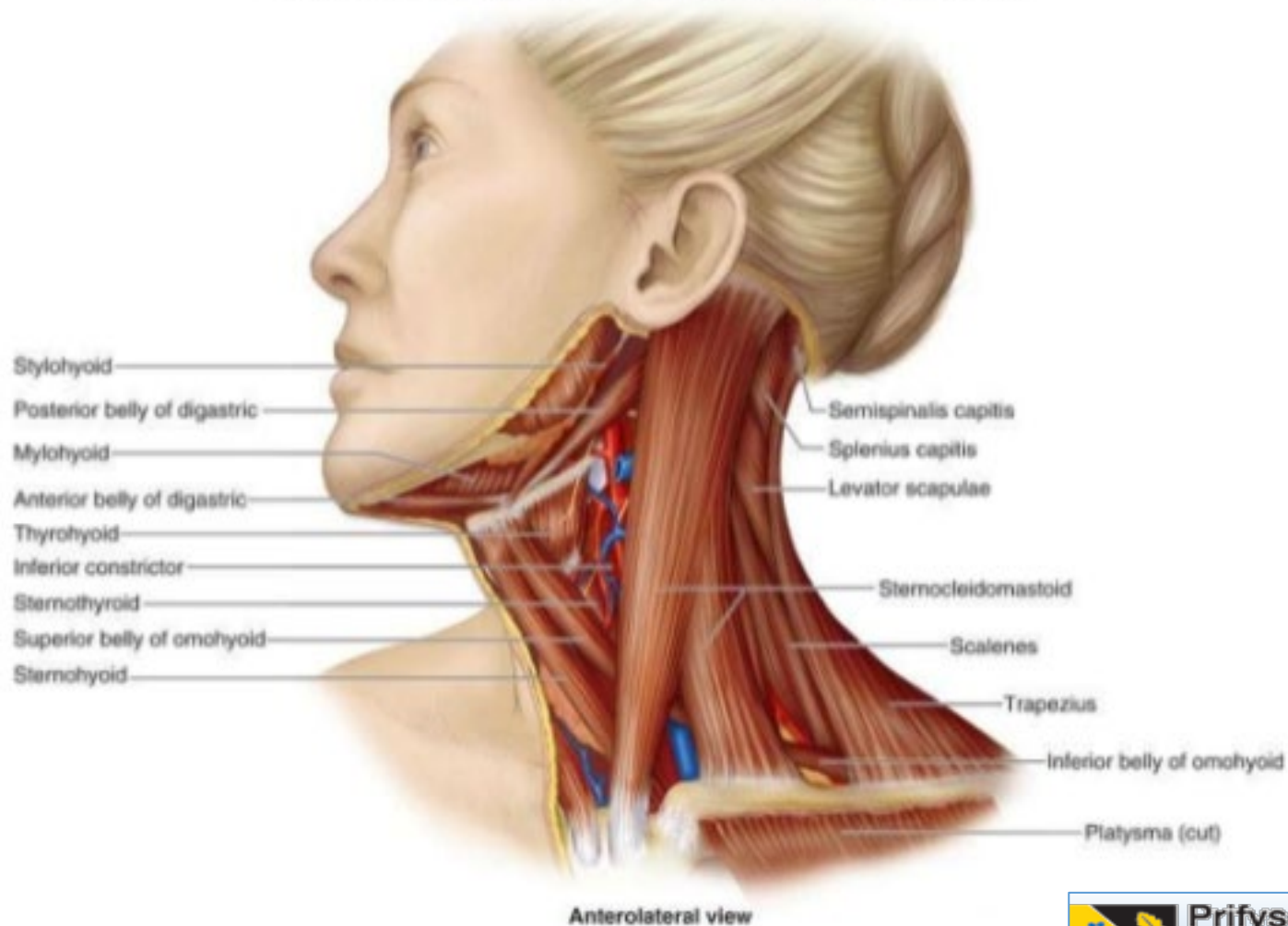
Deeper



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Neck Muscles

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Active ROM

- Flexion
- Extension
- Right Side Flexion
- Left Side Flexion
- Right Rotation
- Left Rotation
- Protraction
- Retraction

Passive ROM

- Flexion
- Extension
- Right Side Flexion
- Left Side Flexion
- Right Rotation
- Left Rotation
- Protraction
- Retraction

Resisted ROM

- Flexion
- Extension
- Right Side Flexion
- Left Side Flexion
- Right Rotation
- Left Rotation
- Protraction
- Retraction

Manual Muscle Tests

- Upper Traps
- Sternocleidomastoid