Chapter 5 - Head, Neck & Face

5 Head, Neck & Face
Sphenoid Bone

5.15 Anterior view showing location of the sphenoid bone

5.16 “Dawn of the Dead”? No, just exploring the facial bones with your partner supine.
Mandible

5.18 Lateral view of right temporomandibular (TM) joint

5.19 Lateral view of right temporomandibular (TM) joint
Muscles of the Head, Neck and Face

Mylohyoid
Submandibular gland
Thyrohyoid
Omothyoid (superior belly)
Sternohyoid
Middle scalene
Anterior scalene
Omothyoid (inferior belly)
Trapezius
Stylohyoid
Digastro (anterior and posterior bellies)
Internal jugular vein
Common carotid artery
Thyroid cartilage
Omothyoid (cut)
Sternothyroid (cut)
Sternohyoid (cut)
Clavicle
Sternocleidomastoid

5.32 Anterior view of neck, superficial muscles removed on his left side
Synergists – Muscles Working Together

Cervical Spine

**Flexion**
*(antagonists on extension)*
- Sternocleidomastoid (bilaterally)
- Anterior scalene (bilaterally)
- Longus capitis (bilaterally)
- Longus colli (bilaterally)

**Extension**
*(antagonists on flexion)*
- Trapezius (upper fibers, bilaterally)
- Levator scapula (bilaterally)
- Splenius capitis (bilaterally)
- Splenius cervicis (bilaterally)
- Rectus capitis posterior major
- Rectus capitis posterior minor
- Oblique capitis superior
- Semispinalis capitis
- Longissimus capitis (assists)*
- Longissimus cervicis (assists)*
- Iliocostalis cervicis (assists)*
- Multifidi (bilaterally)*
- Rotatores (bilaterally)*
- Intertransversarii (bilaterally)*
- Interspinalis*
Synergists - Cervical Spine, Rotation

**Cervical Spine**

**Text**

**Rotation**

*(unilaterally to the same side)*

- Levator scapula
- Splenius capitis
- Splenius cervicis
- Rectus capitis posterior major*
- Oblique capitis inferior*
- Longus colli*
- Longus capitis*
- Longissimus capitis (assists)*
- Longissimus cervicis (assists)*
- Iliocostalis cervicis (assists)*

**Rotation**

*(unilaterally to the opposite side)*

- Trapezius (upper fibers)
- Sternocleidomastoid
- Anterior scalene
- Middle scalene
- Posterior scalene
- Multifidi*
- Rotatores*
Cervical Spine

**Lateral Flexion**
(unilaterally to the same side)
Trapezius (upper fibers)
Levator scapula
Sternocleidomastoid
Anterior scalene (with ribs fixed)
Middle scalene (with ribs fixed)
Posterior scalene (with ribs fixed)
Splenius capitis
Splenius cervicis
Longus capitis
Longus colli
Longissimus capitis (assists)*
Longissimus cervicis (assists)*
Iliocostalis cervicis (assists)*
Oblique capitis superior*
Intertransversarii*
Sternocleidomastoid

A Unilaterally:
   Laterally flex the head and neck to the same side
   Rotate the head and neck to the opposite side

Bilaterally:
   Flex the neck
   Assist to elevate the ribcage during inhalation

O Sternal head:
   Top of manubrium
   Clavicular head:
   Medial one-third of the clavicle

I Mastoid process of temporal bone and the lateral portion of superior nuchal line of occiput

N C(1), 2, 3
Scalenes

All Scalenes

Unilaterally:
With the ribs fixed, laterally flex the head and neck to the same side (All)

Rotate head and neck to the opposite side (All)

Bilaterally:
Elevate the ribs during inhalation (All)
Flex the head and neck (Anterior)

Anterior Scalene

Transverse processes of third through sixth cervical vertebrae (anterior tubercles)

First rib

C(3), 4-8
Scalenes

Middle Scalene

- Transverse processes of second through seventh cervical vertebrae (posterior tubercles)
- First rib
- C(3), 4-8

Posterior Scalene

- Transverse processes of sixth and seventh cervical vertebrae (posterior tubercles)
- Second rib
- C(3), 4-8
**Masseter**

- **A** Elevate the mandible (temporomandibular joint)
  - May assist to **protract** the mandible (TM joint)

- **O** Zygomatic arch

- **I** Angle and ramus of mandible

- **N** Trigeminal (V) nerve (mandibular division)

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**5.51 Lateral view showing superficial head of masseter**

**5.52 Lateral view**
**Temporals - AOIN**

**Temporalis**

- **Elevate** the mandible (temporomandibular joint)
- **Retract** the mandible (TM joint)
- **O** Temporal fossa and fascia
- **I** Coronoid process and anterior edge of ramus of the mandible
- **N** Trigeminal (V) nerve (mandibular division)

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5.56 Lateral view of temporalis

5.57 Origin and insertion of temporalis
Platysma

A Assist to **depress** the mandible (temporomandibular joint)

**Tighten** the fascia of the neck

**Draw down** corner of the mouth

O Fascia covering superior part of pectoralis major

I Base of mandible, skin of lower part of face

N Facial (VII)

5.72 Anterior/lateral view with head turned showing platysma

5.73 Partner supine, contracting the tissue of the anterior neck
Occipitofrontalis

A Frontalis: 
Raise the eyebrows and wrinkle the forehead

Occipitalis: 
Anchor and retract the galea posteriorly

O Both: Galea aponeurotica

I Frontalis: Skin superior to eyebrows
Occipitalis: Superior nuchal line of the occiput

N Facial (VII)

5.74 Lateral view

5.75 Partner supine, isolating the frontalis fibers

5.76 Partner supine, isolating the occipitalis fibers
Muscles of Facial Expression - Anterior

- Orbicularis oculi (orbital part)
- Orbicularis oculi (palpebral part)
- Levator labii superioris alaeque nasi
- Levator labii superioris
- Zygomaticus minor
- Levator anguli oris
- Zygomaticus major
- Buccinator
- Risorius
- Platysma
- Frontalis (cut)
- Procerus
- Corrugator supercilii
- Orbicularis oculi (cut)
- Auricularis anterior
- Nasalis, transverse part
- Zygomaticus major
- Levator anguli oris
- Orbicularis oris
- Depressor anguli oris
- Depressor labii inferioris
- Mentalis
Cervical Lymph Nodes

Text

Brachial Plexus

Text