OSCE Stations: Neck Anatomy

## Station 1: Subcutaneous Emphysema

\*\*Clinical Scenario:\*\* A 30-year-old male presents with neck trauma and palpable crepitus under the skin.

\*\*Candidate Task:\*\* Explain the anatomical basis for the spread of air through the neck and chest wall.

\*\*Examiner Instructions:\*\* Expect candidate to mention skin and superficial fascia composition and the continuity of fascial planes into thorax.

## Station 2: Platysma During Surgery

\*\*Clinical Scenario:\*\* During a neck dissection, the surgeon encounters a superficial thin muscle.

\*\*Candidate Task:\*\* Identify this muscle, describe its location, nerve supply, and surgical significance.

\*\*Examiner Instructions:\*\* Look for identification of platysma, facial nerve supply, and relevance in surgical incisions.

## Station 3: Fascial Planes and Neck Infections

\*\*Clinical Scenario:\*\* A dental abscess progresses to mediastinitis.

\*\*Candidate Task:\*\* Describe how neck fascial planes facilitate this spread.

\*\*Examiner Instructions:\*\* Candidate should mention pretracheal fascia, retropharyngeal space, and danger space.

## Station 4: Investing Layer in Parotidectomy

\*\*Clinical Scenario:\*\* Post-parotidectomy, swelling is confined to the region superior to the mandible.

\*\*Candidate Task:\*\* Explain the anatomical basis for this limited spread.

\*\*Examiner Instructions:\*\* Expect reference to investing layer attachments and anatomical barriers.

## Station 5: Danger Space in Retropharyngeal Abscess

\*\*Clinical Scenario:\*\* A patient with retropharyngeal abscess deteriorates rapidly with chest symptoms.

\*\*Candidate Task:\*\* Describe the location and clinical relevance of the danger space.

\*\*Examiner Instructions:\*\* Expect explanation of its boundaries (between alar and prevertebral fascia) and communication with posterior mediastinum.

## Station 6: Hyoid Bone and Forensics

\*\*Clinical Scenario:\*\* A forensic pathologist suspects manual strangulation.

\*\*Candidate Task:\*\* Describe the anatomical features of the hyoid bone and why it's important in such cases.

\*\*Examiner Instructions:\*\* Look for mention of hyoid U-shape, lack of joints, and fracture patterns.

## Station 7: Transverse Foramina and Vertigo

\*\*Clinical Scenario:\*\* A patient experiences dizziness when rotating the head.

\*\*Candidate Task:\*\* Explain the anatomical features of cervical vertebrae involved in this symptom.

\*\*Examiner Instructions:\*\* Candidate should refer to transverse foramina and vertebral artery course.

## Station 8: Posterior Triangle Lymph Node Biopsy

\*\*Clinical Scenario:\*\* A patient develops shoulder droop after lymph node biopsy.

\*\*Candidate Task:\*\* Trace the course of the spinal accessory nerve through the posterior triangle and describe expected deficits.

\*\*Examiner Instructions:\*\* Look for mention of trapezius and sternocleidomastoid innervation.

## Station 9: Posterior Triangle Injury

\*\*Clinical Scenario:\*\* A child falls onto a stick, penetrating the posterior triangle.

\*\*Candidate Task:\*\* Identify key neurovascular structures at risk and explain their anatomical course.

\*\*Examiner Instructions:\*\* Expect reference to external jugular vein, brachial plexus, cervical plexus branches, and accessory nerve.

## Station 10: Central Line and Carotid Sheath

\*\*Clinical Scenario:\*\* You are assisting in placing a central venous catheter.

\*\*Candidate Task:\*\* Describe the contents and boundaries of the carotid sheath.

\*\*Examiner Instructions:\*\* Look for internal jugular vein (lateral), common carotid (medial), vagus nerve (posterior), and fascial relationships.

## Station 11: Surface Landmarks of the Neck

\*\*Clinical Scenario:\*\* You are performing a neck ultrasound.

\*\*Candidate Task:\*\* Identify key surface landmarks used to locate deeper neck structures.

\*\*Examiner Instructions:\*\* Expect identification of sternal notch, thyroid cartilage, hyoid bone, and SCM borders.

## Station 12: Cervical Fascia in Tracheostomy

\*\*Clinical Scenario:\*\* A patient is undergoing an emergency tracheostomy.

\*\*Candidate Task:\*\* Describe the fascial layers encountered in midline neck dissection.

\*\*Examiner Instructions:\*\* Candidate should name skin, superficial fascia, investing fascia, pretracheal fascia.

## Station 13: Fascial Layers and Hematoma Spread

\*\*Clinical Scenario:\*\* A postoperative neck hematoma expands and compresses the airway.

\*\*Candidate Task:\*\* Explain how fascial anatomy contributes to spread and airway compromise.

\*\*Examiner Instructions:\*\* Look for reference to confined spaces by deep cervical fascia and potential airway compression.

## Station 14: Torticollis and Sternocleidomastoid

\*\*Clinical Scenario:\*\* An infant presents with congenital torticollis.

\*\*Candidate Task:\*\* Identify the affected muscle and explain its attachments and actions.

\*\*Examiner Instructions:\*\* Candidate should identify sternocleidomastoid and explain unilateral contraction action.

## Station 15: External Jugular Vein Cannulation

\*\*Clinical Scenario:\*\* You are asked to identify the external jugular vein for cannulation.

\*\*Candidate Task:\*\* Describe its anatomical course, relations, and clinical significance.

\*\*Examiner Instructions:\*\* Look for location on SCM, tributaries, and risks during cannulation.

## Station 16: Cervical Vertebrae Identification

\*\*Clinical Scenario:\*\* You are reviewing a cervical spine X-ray.

\*\*Candidate Task:\*\* Identify the key features of cervical vertebrae and distinguish C1 and C2.

\*\*Examiner Instructions:\*\* Look for mention of transverse foramina, bifid spinous process, atlas and axis morphology.

## Station 17: Supraclavicular Lymphadenopathy

\*\*Clinical Scenario:\*\* A patient has palpable left supraclavicular lymph nodes.

\*\*Candidate Task:\*\* Explain the anatomical boundaries and significance of this region.

\*\*Examiner Instructions:\*\* Expect description of posterior triangle subdivisions and Virchow’s node relevance.

## Station 18: Posterior Triangle and Brachial Plexus

\*\*Clinical Scenario:\*\* A patient develops arm weakness following a neck stab injury.

\*\*Candidate Task:\*\* Identify the likely structure injured and describe its anatomical course.

\*\*Examiner Instructions:\*\* Candidate should identify the brachial plexus roots/trunks in posterior triangle.

## Station 19: Lesser Occipital Nerve Pathway

\*\*Clinical Scenario:\*\* A patient has posterior scalp numbness following neck surgery.

\*\*Candidate Task:\*\* Identify the likely nerve involved and describe its course.

\*\*Examiner Instructions:\*\* Expect reference to lesser occipital nerve from cervical plexus, traveling along posterior border of SCM.

## Station 20: Fascial Compartment Syndrome

\*\*Clinical Scenario:\*\* A patient presents with tense neck swelling and reduced neck mobility after blunt trauma.

\*\*Candidate Task:\*\* Describe the deep neck compartments involved and clinical concerns.

\*\*Examiner Instructions:\*\* Candidate should mention investing, pretracheal, carotid sheath, and prevertebral compartments, with emphasis on vascular and airway compromise.