MCQs for the DOHNS

Mr S Ahluwalia
1. Recurrent Laryngeal Nerve

- A.) Has only motor fibres
- B.) Supplies all of the muscles of the larynx
- C.) Lies in the tracheo oesophageal groove on the Left
- D.) Hooks under the aortic arch on the right
- E.) is intimately associated with the superior thyroid artery
Recurrent Laryngeal Nerve

Answers

- A.) False
- B.) False
- C.) True
- D.) False
- E.) False
Recurrent Laryngeal Nerve

Discussion

• Left – under aortic arch (L 6th arch artery)
• Right – under subclavian artery (4th arch artery)
• Originates from Vagus X
• Motor to all intrinsic laryngeal muscles except cricothyroid (ext laryng n. from sup laryng branch of vagus)
• Sensory to subglottic mucosa and pharynx
2. Otology

• A.) The scala media and tympani contain perilymph whilst the scala vestibuli contains endolymph

• B.) Chorda tympani supplies taste to the posterior 2/3 of the tongue

• C.) Tendon of the stapedius muscle emerges from the base of the pyramid

• D.) Tympanic membrane is approx 1cm in diameter
Otology Answers

- A.) False
- B.) False
- C.) False
- D.) True
Otology discussion

- The scala media contains endolymph (K/na)
- The scal vestibuli contains perilymph (k/NA)
- The scala tympani contains perilymph and is continuous with the vestibuli at the apex.
- The chorda tympani and facial nerve pass through the middle ear
- Taste anterior 2/3 tongue
3. Thyroid and Parathyroids

- A.) The thyroid may be supplied by the thyroid ima artery
- B.) The superior parathyroids are derived from the 3rd pouch
- C.) The thyroid is enclosed by platysma
- D.) The recurrent laryngeal nerve is intimately related to the inferior thyroid artery
- E.) The thyroid is embryologically related to the foramen caecum
Thyroid and Parathyroids

Answers

• A.) True
• B.) False
• C.) False
• D.) True
• E.) True
Thyroid and Parathyroids

Discussion

• The thyroid is supplied by the superior, inferior thyroid and thyroid ima arteries.
• Drained via the sup, middle & inf thyroid veins
• Enclosed by pretracheal fascia
• Superior parathyroids derived from the 4th arch and inferior from the 3rd arch
• Thyroid descends from the foramen caecum
4. Nose and Sinuses

• A.) The nose is supplied exclusively by the ICA
• B.) The septum is composed of triangular cartilage and bone
• C.) The anterior ethmoid artery is a branch of the ECA
• D.) The nasal valve is situated at the middle meatus
Nose and Sinuses Answers

- A.) False
- B.) False
- C.) False
- D.) False
Nose and Sinuses

Discussion

• Septum – quadrilateral cartilage, vomer, perpendicular plate of the ethmoid & maxillary crest
• ECA – Internal maxillary – SPA & greater palatine artery
• ICA – ophthalmic artery – anterior & posterior ethmoidal artery
• Nasal valve is ant to the ant inf turbinate
Nasal Septum
5. Facial Nerve

- **A.** Terminal branches include Temporal and Zygomatic
- **B.** Is a purely motor nerve
- **C.** Emerges from the stylomastoid foramen
- **D.** Synapses at the geniculate ganglion
- **E.** Traverses the Internal Acoustic Meatus with the Vestibulocochlear nerve
Facial Nerve Answers

- A.) True
- B.) False
- C.) True
- D.) True
- E.) True
Facial nerve

Discussion

• Motor and sensory
• Infratemporal & Extratemporal portions
• Stylomastoid foramen and divides into T, Z, B, M, C nerves within parotid gland
• Facial expression, lacrimation, salivation
• Taste sensation anterior 2/3 of tongue
6. Muscles of the Larynx

- A.) Cricothyroid tenses the vocal folds
- B.) Lateral cricoarytenoid abducts the vocal folds
- C.) Posterior cricoarytenoid abducts the vocal folds
- D.) Thyroarytenoid is supplied by the recurrent laryngeal nerve
- E.) Cricothyroid is supplied by the external laryngeal nerve
Muscles of Larynx

Answers

• A.) True
• B.) False
• C.) True
• D.) True
• E.) True
Muscles of Larynx

Discussion

- Tensor – Cricothyroid – External Laryngeal Nerve
- Relaxor – Thyroarytenoid – RLN
- Adductor – Lateral Cricoarytenoid – RLN
  - Transverse Arytenoid - RLN
- Abductor – Posterior Cricoarytenoid - RLN
7. The tonsil

• A.) Palatoglossus lies anterior to the tonsil
• B.) The tonsil is supplied by the tonsillar artery, a branch of the pharyngeal artery
• C.) The ECA lies 2.5cm behind and lateral to the tonsil
• D.) Lymph drains to the upper deep cervical & jugulodigastric lymph nodes
Tonsil Answers

- A.) True
- B.) False
- C.) False
- D.) True
Tonsil Discussion

• The tonsil lies between the palatoglossus and palatopharyngeus, superiorly the palate and inferiorly the tongue.

• Supplied by the tonsillar artery via the facial artery.

• The ICA lies 2.5cm behind & lateral to the tonsil
Insulin Diabetic Patient undergoing total thyroidectomy, should

a. Be admitted 1 hour before surgery
   False

b. Receive pre-operative insulin
   False

c. Receive intravenous normal saline preoperatively
   False

d. Receive a glucose, insulin and potassium infusion preoperatively
   True

e. Should receive intravenous insulin intraoperatively
   False
IDDM surgical patients

- All patients must be admitted before any period of starvation
- Normal insulin dose regimes usually include intermediate/long acting insulin, therefore stop all normal doses
- Maintain hourly blood glucose readings between 6-12 mmol/L using a dextrose, insulin and potassium sliding scale infusion
- Run patient’s ‘hyperglycaemic’ during surgery
- Keep on sliding scale until back to normal diet, and then watch BMs closely whilst on normal s/c insulin regime
Total serum thyroxine is reduced by

a. Oral contraceptive pills
   False

b. Pregnancy
   False

c. Nephrotic Syndrome
   True

d. Propanolol
   False
Total serum thyroxine

- Thyroxine (T4) is present in serum as free T4 and bound T4. The bound form predominates and is bound to thyroglobulin (TBG), prealbumin, and albumin.
- This bound form of T4 serves as a reservoir, hence buffers against wild fluctuations of free/active T4.
- In pregnancy, TBG rises, reducing free T4 which stimulates TSH production, and therefore T4 production. Total T4 therefore rises, although free T4 does not.
- In Nephrotic syndrome, TBG and albumin is lost. Free T4 consequently rises, inhibiting TSH production and T4 synthesis. Total T4 therefore falls.
The following are absorbable sutures

a. Cat gut  
   True

b. Silk  
   False

c. Polyamide (Nylon)  
   False

d. Polyglactin (Vicryl)  
   True

e. Polyglyconate (Maxon)  
   False
# Sutures

<table>
<thead>
<tr>
<th>Absorbable</th>
<th>Non-absorbable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat gut</td>
<td>Polyamide (Nylon)</td>
</tr>
<tr>
<td>Polydioxanone (PDS)</td>
<td>Polypropylene (Prolene)</td>
</tr>
<tr>
<td>Polyglactin (Vicryl)</td>
<td>Polytetrafluoroethylene (PTFE or Goretex)</td>
</tr>
<tr>
<td>Vicryl Rapide, Monocryl etc</td>
<td>Silk</td>
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</table>
Surgery on the submandibular gland

a. An incision on the lower border of the mandible is safe
   False

b. The submandibular gland is seen to wrap around the posterior border of mylohyoid
   True

c. The facial artery and vein are divided as they course through the deep part of the gland
   False

d. The hypoglossal nerve is seen to loop under the submandibular duct
   False

e. Damage to the lingual nerve will cause loss of sensation to the posterior third of the tongue
   False
Submandibular gland surgery

- Incision is usually two finger breaths below mandible to avoid marginal mandibular nerve
- Gland has deep and superficial parts that wrap around posterior border of mylohyoid
- Facial vessels are divided and ligated superficial to the gland. Artery hooks over the top of gland, and may be encountered several times!
- Lingual nerve and not hypoglossal ‘double crosses’ the duct. Passing under the duct, from lateral to medial, then running forwards on hyoglossus at a level above the duct
- Lingual nerve supplies the anterior two thirds of the tongue
A 11 month old child presenting with a midline cystic swelling just below the midline

a. Ultrasound is helpful in the diagnosis  
   True

b. Technetium scanning aids diagnosis  
   True

c. Typically has an associated lingual thyroid  
   False

d. Often resolves spontaneously  
   False

e. Often recurs if excision does not remove the body of the hyoid  
   True
Otosclerosis

a. Patients often require surgery in both ears
   True

b. Otoscopy is normal
   True

c. May be associated with a white forelock and heterochromia
   False

d. Causes conductive hearing loss
   True

e. May be associated with blue sclera
   True
Otosclerosis

- Only 15% of otosclerosis is truly unilateral
- The ‘flamingo flush’ or Schwartze sign is very uncommon
- Unilateral SNHL, white forelock, eye lid deformity with heterochromia describes Waardenburg’s syndrome (AD syndrome)
- Conductive loss occurs. Carhart’s notch is a rise in BC thresholds at 2kHz due to stapes inertia
- There is an association with Osteogenesis Imperfecta
Juvenile angiofibroma

a. Patients have often had repeated episodes of epistaxis
   True

b. It is a tumour of young boys with a mean age of 14 at presentation
   True

c. Bone erosion of the greater wing of the sphenoid does not occur
   False

d. External beam radiotherapy is first-line treatment
   False
Juvenile angiofibroma

- Tumour of young boys who suffer severe bouts of epistaxis, hyponasal speech and otalgia
- Starts in the sphenopalatine foramen, invades the pterygopalatine fossa, and then the infratemporal fossa to eventually erode the anterior face of the greater wing of the sphenoid
- Surgery with pre-operative embolisation gives best results
- Never biopsy the tumour!
**Tracheostomy**

a. Fenestration is made through the first tracheal ring
   **False**

b. Can lead to tracheal stenosis
   **True**

c. Recurrent laryngeal nerves must be identified and displaced
   **False**

d. Increases anatomical dead space
   **False**

e. Improves the efficiency of coughing and therefore improves bronchial toilet
   **False**
Tracheostomy

- Fenestration is usually made between the 2\textsuperscript{nd} and 3\textsuperscript{rd} rings
- Large circumferential fenestrations may lead to stenosis following decannulation
- Recurrent laryngeal nerves are not usually identified
- Anatomical dead space is reduced. Air no longer passes through the nose, naso and oropharynx and supraglottis
- Reduces the efficiency of coughing but allows bronchial toilet in those who have lost ability to cough
Vocal cord nodules

a. May become malignant
   **False**

b. Respond favourably to speech therapy in most patients
   **True**

c. Are always bilateral
   **False**

d. Are related to the consumption of dark spirits
   **False**

e. Should be removed by microsurgical techniques to exclude an early squamous cell carcinoma
   **False**
Glossopharyngeal nerve

a. Is the nerve of the 2\textsuperscript{nd} branchial arch
   \textbf{False}

b. Is motor to the intrinsic lingual muscles
   \textbf{False}

c. Is motor to some extrinsic lingual muscles
   \textbf{False}

d. Supplies sensation to the middle ear mucous membrane
   \textbf{True}

e. Is deep to the tonsillar fossa
   \textbf{True}
Glossopharyngeal nerve

- Is the nerve of the 3rd branchial arch
- Glossopharyngeal nerve is motor to only one muscle, the stylopharyngeus
- Sensory innervation includes carotid body, taste to posterior third of tongue, secretomotor fibres to the parotid gland
- May be section through a tonsillectomy approach for glossopharyngeal neuralgia
The following structures are removed in the operation of a radical neck dissection:

a. Trapezius
   - False

b. External carotid artery
   - False

c. Sternothyroid muscle
   - False

d. Submandibular gland
   - True

e. Omo-hyoid muscle
   - True

Other structures include accessory nerve, sternocleidomastoid muscle and IJV.
Match the following patients with the most appropriate form of imaging

- CT
- MRI
- Soft tissue neck X-ray
- Ultrasound with fine needle aspiration cytology
- A dominant nodule in the left thyroid lobe
- Sudden sensorineural hearing loss
- Suspected fishbone in the hypopharynx
- Patient with nasal polyps not resolving with medical treatment
The following are 10 year survival rates for localised thyroid cancer following treatment:

- Less than 1%
- Less than 10%
- Between 50-80%
- Better than 80%

- Sporadic (non-hereditary) Medullary Thyroid Carcinoma
- Anaplastic thyroid carcinoma
- Papillary thyroid carcinoma
- Follicular thyroid carcinoma
Matching the following cases with the named syndromes

- **Kartagener’s**
  - Patient has obstructive azoospermia, sinusitis and bronchiectasis. Ciliary motility is normal.

- **Young’s**
  - Patient with situs inversus, sinusitis and bronchiectasis. Cilia are found to be immotile on electron microscopy.

- **Cystic Fibrosis**
  - Patient has chronic bronchopulmonary infection, malabsorption and high sodium content in sweat.

- **Osler-Weber-Rendu syndrome**
  - Patient has recurrent nose bleeds.