

### CN IX

Efferent	Afferent
Stylopharyngeus - Pharyngeal plexus	Sensory to posterior 1/3 of tongue (taste, touch, nociception + temp)
Preganglionic Parasympathetic - Otic Ganglion - Parotid Gland	Eustachian tube
	Oropharynx
	Carotid sinus to CNS

#### Dysfunction =

Swallowing, loss of taste posterior 1/3 of tongue, decreased secretion of parotid gland  
 Almost never lesioned in isolation  
 Symptoms may be unnoticeable by the patient - overlap in innervations

### CN X

Efferent	Afferent
Thoracic + abdomen Viscera	External Auditory Meatus sensation (Nervus intermedius - VII)
Motor fibres to pharynx + soft palate	Pharynx, larynx, trachea + viscera of tx + abdomen
Superior laryngeal - tensors of vocal folds	
Recurrent laryngeal - adduction + abduction fold	

#### Dysfunction=

Hoarseness of voice  
 Reduced vocal strength  
 Weak cough  
 Nasal quality of speech  
 Nasal regurgitation + dysphagia - in severe cases  
 Pain/altered sensation in EAM  
 Reduction in control of circulatory system (BP + HR)  
 Poor digestion

### CN XI

Efferent	Afferent
Traps + SCM (ipsilaterally)	Possible sensory from muscles supplied from C3 & C4

#### Dysfunction =

Weakness + Difficulty turning head and with shoulder movement  
 May have some difficulty with swallowing  
 Rarely affects both Traps & SCM

### CN XII

#### Purely motor nerve that innervates:

Intrinsic muscles of the tongue  
 Genioglossus, hyoglossus, styloglossus (extrinsic muscles of the tongue)  
 Geniohyoid

#### Dysfunction =

Due to the nerve running under the external portion of carotid, this nerve is affected by carotid artery disorders such as: aneurysms + dissection.  
 Deviation + atrophy (LMNL) of the tongue - deviates towards weak side



### Conditions

#### Vernet's syndrome

IX, X, XI affected

Caused by a thrombus/lesion in lateral sinus - presses on nerves passing through jugular foramen

#### Collet Sicard Syndrome

IX, X, XI, XII affected (can affect sympathetic)

Caused by a lesion at jugular foramen - schwannoma/other tumours

#### Villaret's

IX,X,XI,XII + cx sympathetics affected ipsilaterally

Lesion at retropharyngeal/retroparotid space



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