

COURSE NAME : CLINICAL NEUROLOGY

COURSE CODE : 746285

TITLE : NEUROLOGY ASSESSMENT – PART I

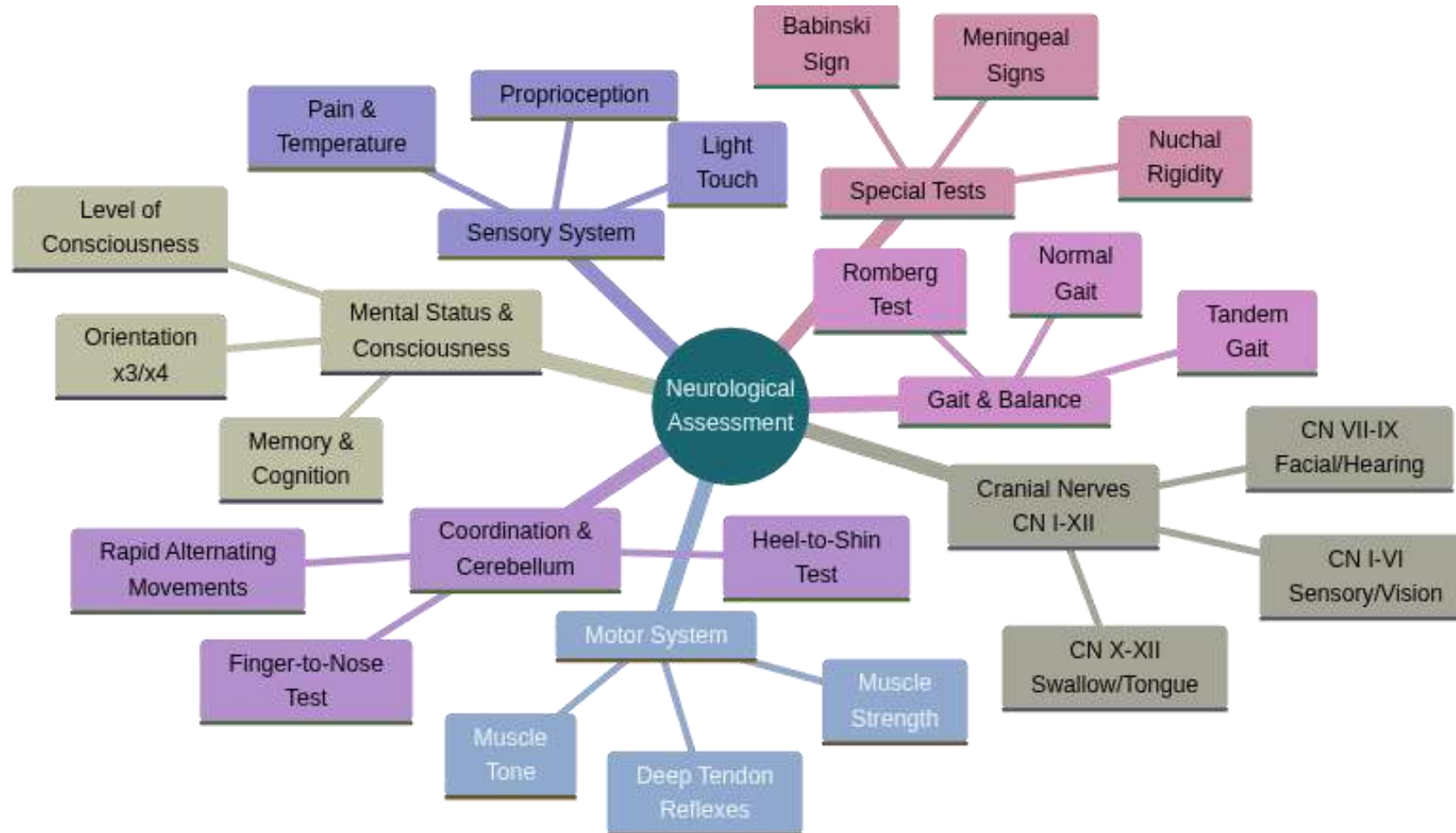
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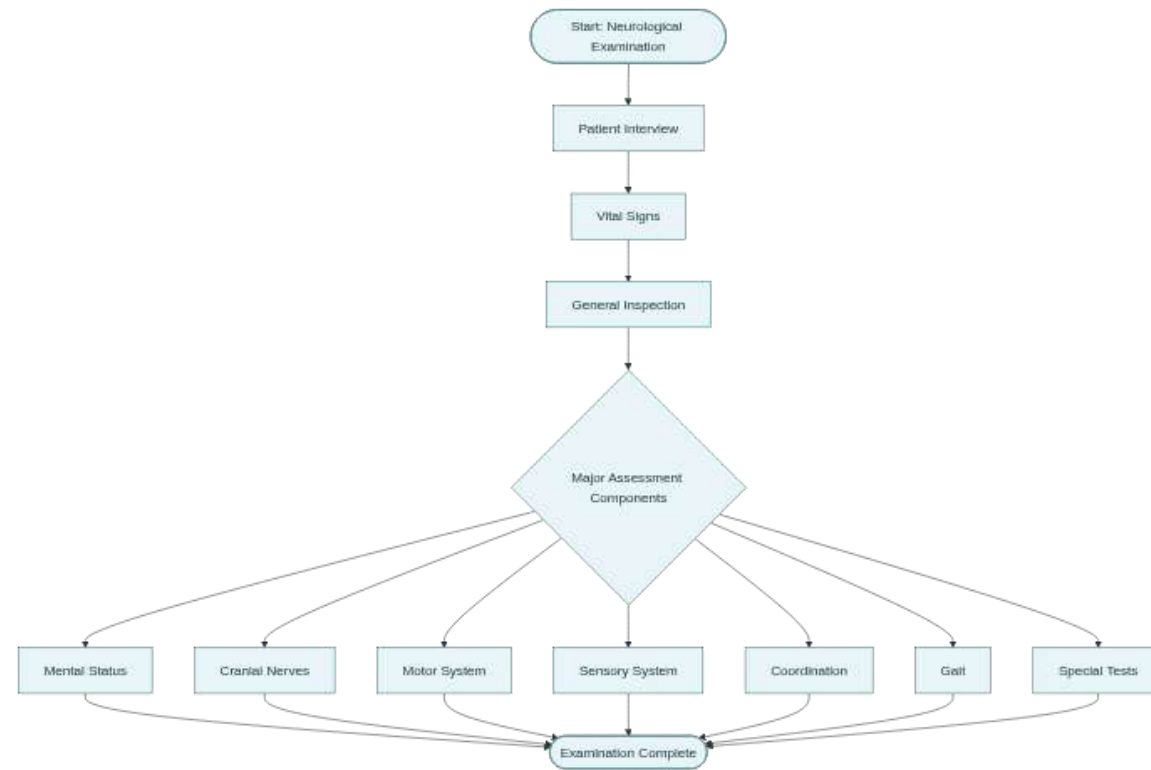
NEUROLOGICAL ASSESSMENT

Clinical Examination & Diagnosis

NEUROLOGICAL ASSESSMENT COMPONENTS



ASSESSMENT SEQUENCE & FLOW



MENTAL STATUS ASSESSMENT


CONSCIOUSNESS • ORIENTATION • COGNITION • MEMORY • AFFECT

NEUROLOGICAL ASSESSMENTS

LEVEL OF CONSCIOUSNESS (LOC)

Level of CONSCIOUSNESS (LOC) is always #1 with neurological assessment.

A change in LOC may be the only sign that there is a **PROBLEM!**



MENTAL STATUS

Q1 ARE THEY AWARE OF THEIR SURROUNDINGS?

Q2 ARE THEY ORIENTED TO PERSON, PLACE, TIME, & SITUATION?

Q3 DO THEY HAVE THEIR SHORT TERM & LONG TERM MEMORY?


Ask these Types of questions to assess mental status:

- What is your name?
- Do you know where you are?
- Do you know what month it is?
- Who is the current U.S. president?
- What are you doing here?

PUPILLARY CHANGES

PERRLA

Pupils, Equal, Round, Reactive to Light & Accommodation

 **NORMAL PUPIL SIZE: 2 - 6 mm**

GLASGOW COMA SCALE

TOOL FOR MEASURING A CLIENT'S RESPONSE TO STIMULI

EYE OPENING RESPONSE	Spontaneous	4
	To speech	3
	To pain	2
	No response	1
VERBAL RESPONSE	Oriented	5
	Confused	4
	Inappropriate words	3
	Unclear words	2
MOTOR RESPONSE	Obeys command	6
	Localizes pain	5
	Withdraws	4
	Flexion	3
TOTAL	Extension	2
	None	1
TOTAL		3 - 15

3 Severe impairment of neurological function, coma, or brain death

4 Conscious patient

15 Fully alert & oriented

DEEP TENDON REFLEX (DTR) RESPONSES

0 = No response

1+ = Present, but sluggish or diminished

2+ = Active or expected response

3+ = More brisk than excited; Hyperactive

4+ = Brisk, Hyperactive, with intermittent, or transient clonus



BABINSKI REFLEX (PLANTAR REFLEX)

ELICITED BY STROKING THE LATERAL SIDE OF THE FOOT

INTACT CNS

The lateral sole of the foot is stroked and the toes contract & draw together.

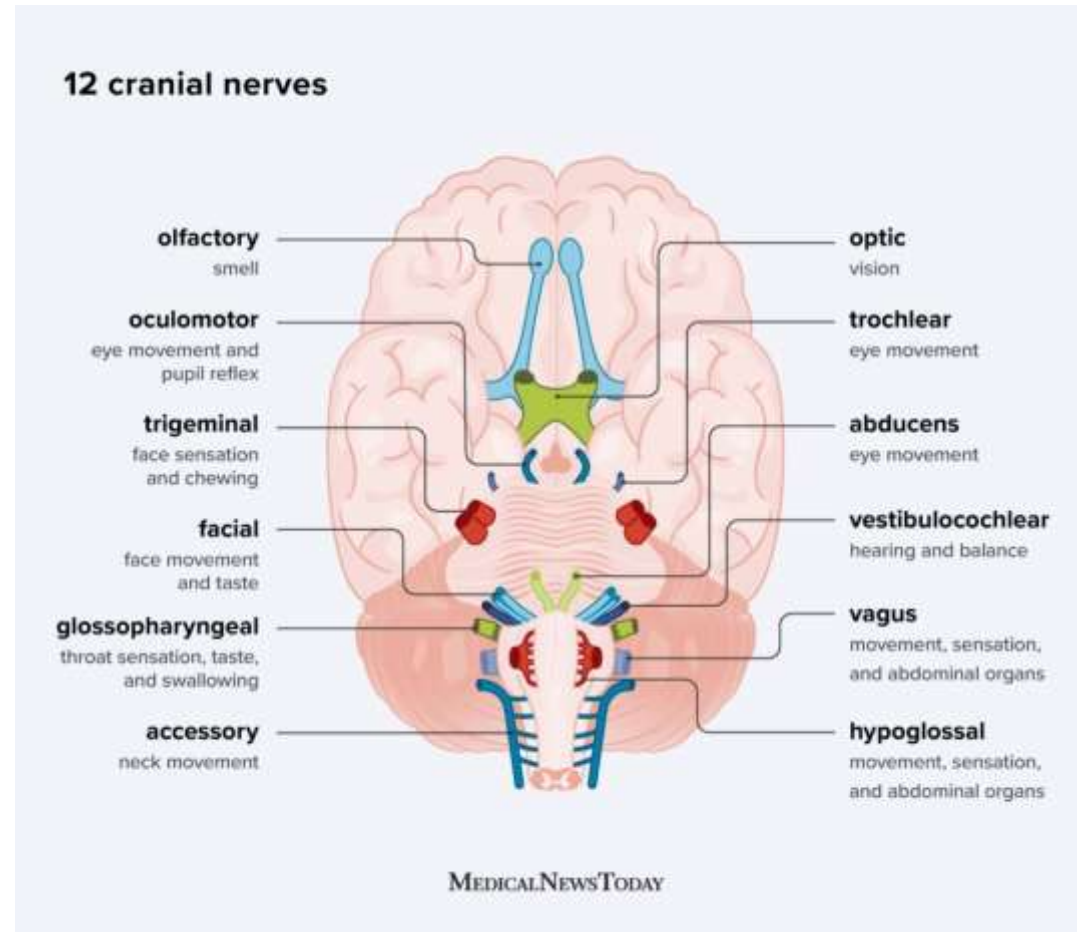
BRAIN DYSFUNCTION

Toes fan out when stroked.

Remember this is only normal in newborns & infants up to 2 years of age, but abnormal in adults.

Normal Normal in Babies & the Big toe fans out

CRANIAL NERVES (CN I - XII)

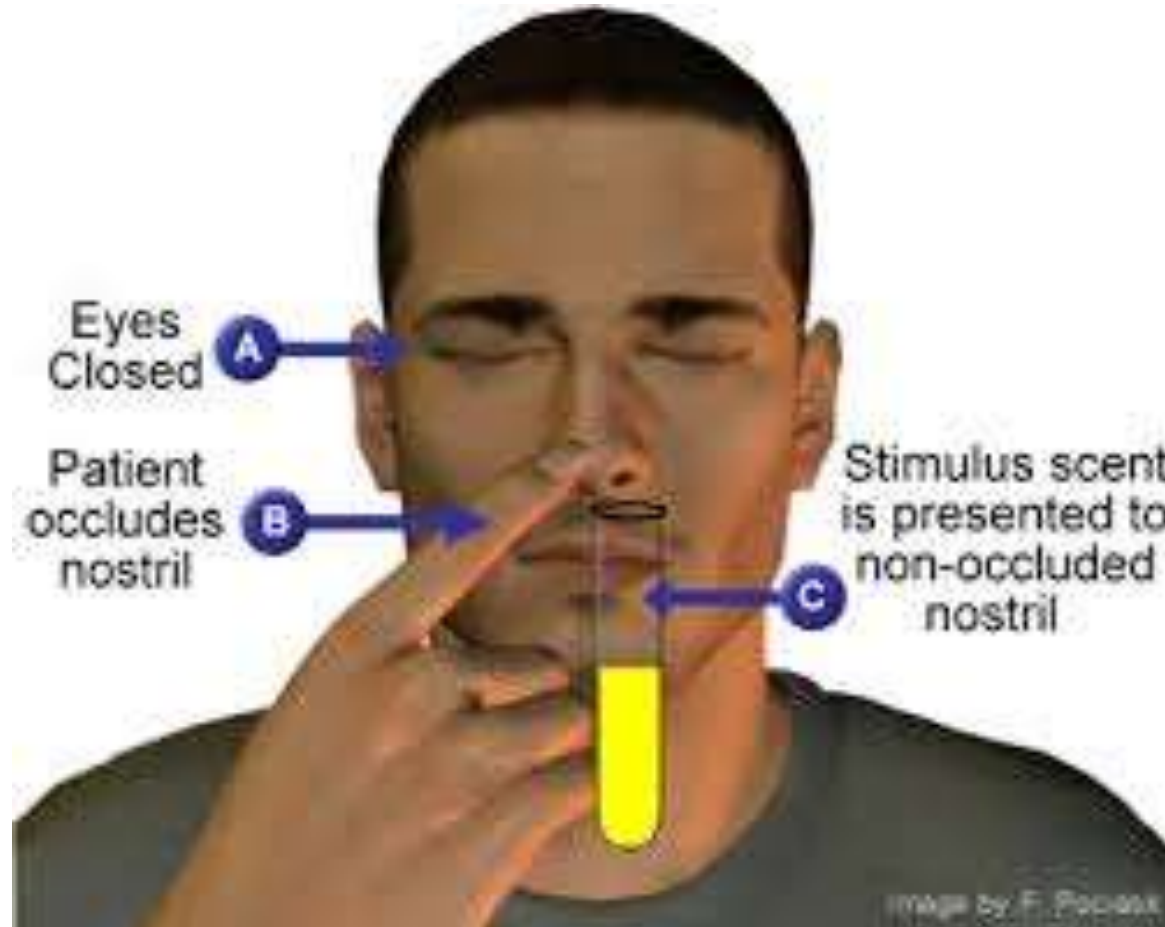


12 CRANIAL NERVES REFERENCE

Number	Name	Type	Function
I	Olfactory	Sensory	Smell
II	Optic	Sensory	Vision
III	Oculomotor	Motor	Eye movement, pupil
IV	Trochlear	Motor	Eye movement (SO)
V	Trigeminal	Mixed	Facial sense, chew
VI	Abducens	Motor	Eye movement (LR)
VII	Facial	Mixed	Facial expr, taste
VIII	Vestibulocochlear	Sensory	Hearing, balance
IX	Glossopharyngeal	Mixed	Taste, swallow
X	Vagus	Mixed	Parasympathetic
XI	Accessory	Motor	Neck/shoulder move
XII	Hypoglossal	Motor	Tongue movement

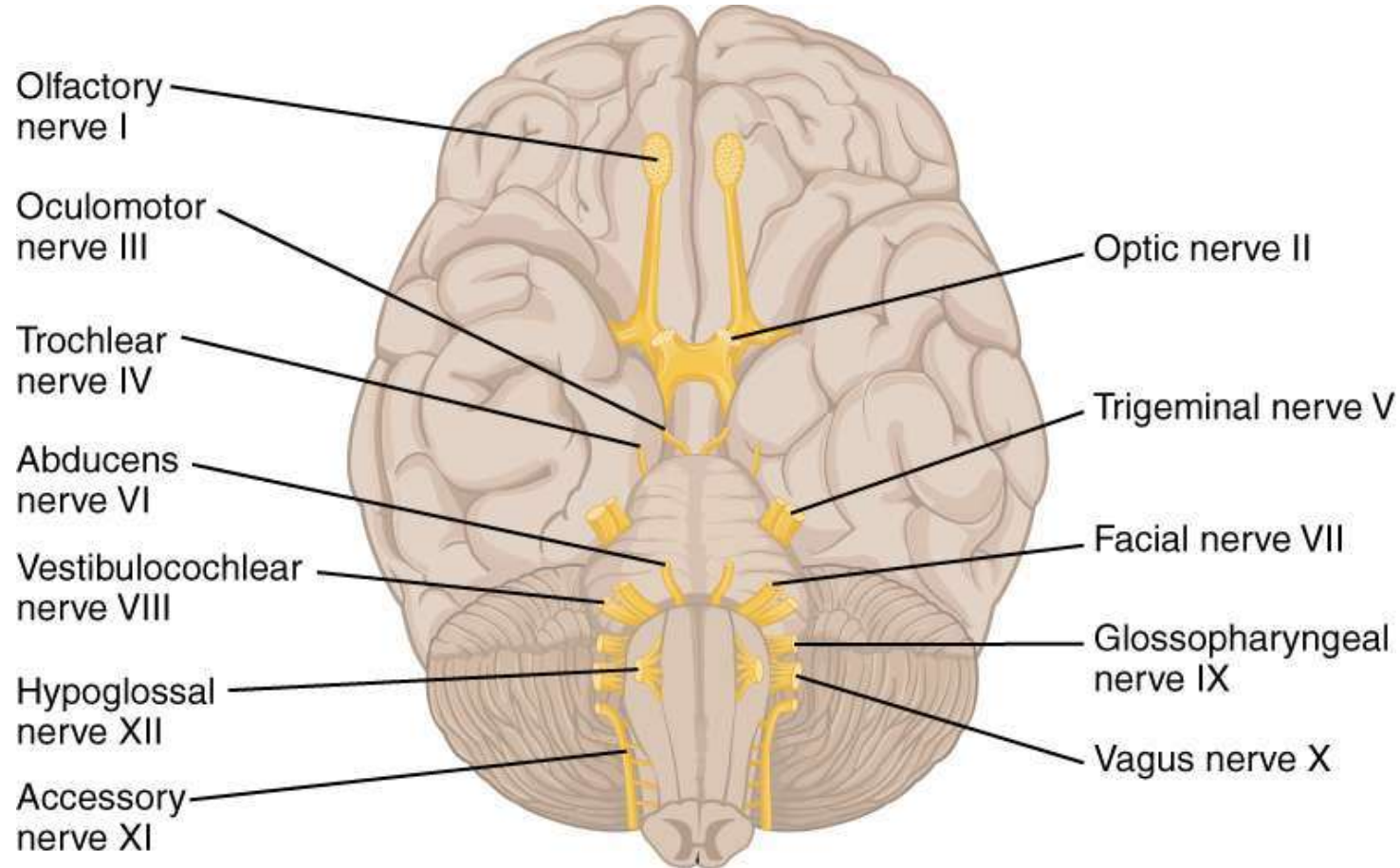
CN I: OLFACTORY NERVE

SENSORY • SMELL • ASSESSMENT: ODOR IDENTIFICATION




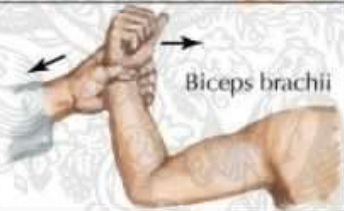
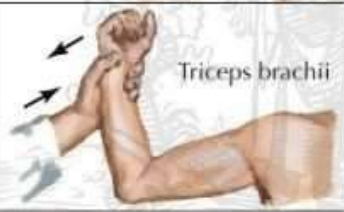

CN II-III: OPTIC & OCULOMOTOR

VISION • EYE MOVEMENT • ASSESSMENT: VISUAL FIELDS, EYE TRACKING



CN V-VII: TRIGEMINAL & FACIAL

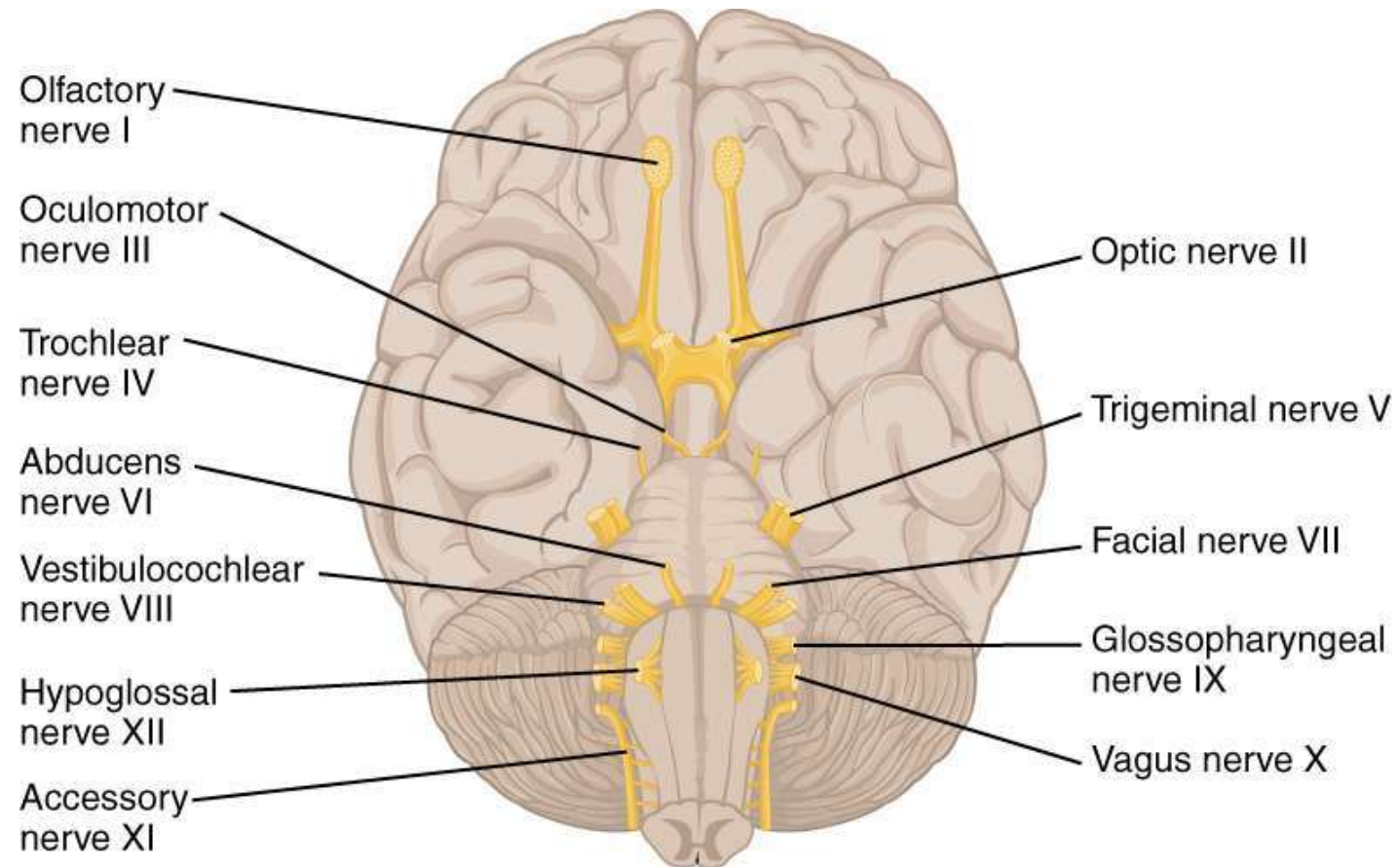
FACIAL SENSATION • FACIAL MOVEMENT •
ASSESSMENT: FACIAL SYMMETRY, SENSORY TESTING

Level	Motor signs (weakness)
C5	
C6	
C7	
C8	

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CN VIII: VESTIBULO COCHLEAR

HEARING • BALANCE • ASSESSMENT: WEBER & RINNE TESTS, NYSTAGMUS CHECK



CN IX-XII: GLOSSOPHARYNGEAL, VAGUS, ACCESSORY, HYPOGLOSSAL

SWALLOW • SPEECH • NECK/SHOULDER • TONGUE • ASSESSMENT: GAG REFLEX, PHONATION



INCLASS ASSESSMENT

1. **When taking a neurological history, which of the following best helps localize a lesion to the SPINAL CORD rather than brain or peripheral nerve?**
 - A. Unilateral facial weakness sparing the forehead
 - B. Distal glove-and-stocking sensory loss with reduced ankle jerks
 - C. Bilateral sensory level with weakness and sphincter disturbance below a specific dermatome
 - D. Isolated wrist drop following compression at the spiral groove

2. **A key question to distinguish brain involvement from peripheral nerve disease during history taking is:**
 - A. “Do you have numbness only in your toes?”
 - B. “Do you have difficulty with bladder emptying only at night?”
 - C. “Have you noticed problems with speech, understanding words, or inappropriate words coming out?”
 - D. “Do your symptoms get worse when you raise your arms above your head?”

3. **Orientation as part of higher mental function is MOST accurately assessed by asking about:**
 - A. Ability to follow two-step motor commands
 - B. Time, place, and person
 - C. Immediate recall of three objects after 5 minutes
 - D. Interpretation of proverbs and similarities

INCLASS ASSESSMENT

4. **During higher mental function assessment, a patient is unable to name common objects and cannot repeat phrases, although comprehension is relatively preserved and speech output is non-fluent and effortful. This pattern is MOST suggestive of:**
- A. Wernicke's aphasia
 - B. Broca's aphasia
 - C. Dysarthria
 - D. Global aphasia
5. **Which of the following bedside tests is MOST appropriate to assess cranial nerve II (optic nerve) function?**
- A. Testing eye movements in the six cardinal positions of gaze
 - B. Checking jaw clenching and facial sensation
 - C. Testing visual acuity and visual fields by confrontation
 - D. Asking the patient to shrug shoulders against resistance

INCLASS ASSESSMENT

ANSWERS

1. C. Bilateral sensory level with weakness and sphincter disturbance below a specific dermatome.
2. C. “Have you noticed problems with speech, understanding words, or inappropriate words coming out?”.
3. B. Time, place, and person.
4. B. Broca’s aphasia.
5. C. Testing visual acuity and visual fields by confrontation.

THANK YOU!!!!

References Books:

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- Satish Khadilker - Neuromuscular Disorders
- Vishram Singh - Textbook of Clinical Neuro Anatomy 2nd edition
- Kenneth W. Lindsay - Neurology and Neurosurgery Illustrated