

Week 2

Neurological Examination

Examination of Cranial Nerves

OBJECTIVE: To conduct a complete Examination of Cranial Nerves as a part of Neurological Examination.

MATERIALS: Well illuminated examination room, examination table, tendon hammer, scent stimuli, Snellen chart/near vision card, ophthalmoscope, penlight, tuning fork, pins and needles, a piece of cotton wool.

D: Appropriately done PD: Partially done ND: Not done/Incorrectly done

STEP/TASK	D	PD	ND
Preparation			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Examination			
The olfactory nerve (CN I):			
9.			
<ul style="list-style-type: none"> • Ask the patient if she/he has noticed a change in his sense of smell or taste. <i>(If yes, perform an olfactory examination: test each nostril separately)</i> <i>(Ask the patient to close his/her eyes and block one nostril.)</i> <i>(Take one of the scent stimuli and ask patient to sniff and describe the scent.)</i> 			
The optic nerve (CN II): (examine each eye separately)			
10.			
<ul style="list-style-type: none"> • Test visual acuity on a Snellen chart or using a near vision card <i>(or a page in a book)</i>. • Test the visual fields by confrontation. • Examine the retina and optic nerve by direct fundoscopy. 			
The oculomotor, trochlear, and abducens nerves (CN III, IV, and VI):			
11.			
Inspect the eyes: <ul style="list-style-type: none"> • Look for the size, shape, equality and regularity of the pupils. • Look for a visible ptosis (Horner's syndrome) or squint. • Test the direct and consensual pupillary light reflexes. • Test accommodation by asking patient to look into the distance and then focus his/her eyes on an object <i>(finger or pen)</i> brought to a point about 30 cm in front of the nose. 			
12.			
Examine eye movements: <ul style="list-style-type: none"> • Ask the patient to keep his/her head still and to follow your finger with his/her eyes and to tell you if he sees double at any point <i>(move your fingers laterally-left to right- and vertically - up and down-)</i>. • Look for nystagmus at the extremes of gaze. 			
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Neurological Examination: Examination of Cranial Nerves			
STEP/TASK	D	PD	ND
Examination			
The trigeminal nerve (CN V):			
13. Sensory Part (<i>Ask patient to close his/her eyes.</i>) <ul style="list-style-type: none"> • Test light touch, pain and temperature senses in the three branches of the trigeminal nerve. Compare both sides. • Test the corneal reflex (<i>Inform patient that this is likely to cause some discomfort.</i>) Motor Part Test the muscles of mastication by asking the patient to: <ul style="list-style-type: none"> • Clench his/her teeth (<i>palpate his temporal and masseter muscles bilaterally.</i>) • Open and close his/her mouth against resistance (<i>place your fist under his chin.</i>) (<i>Inform patient that you would hold his/her chin and test the jaw jerk.</i>) • Ask the patient to let his mouth fall open slightly. • Place your index finger on his/her chin and hold chin with your middle finger • Gently tap on your index finger with a tendon hammer and observe jaw jerk. 			
The facial nerve (CN VII):			
14. <ul style="list-style-type: none"> • Look for facial asymmetry. (<i>Note that the nasolabial folds and the angle of the mouth are especially indicative of facial asymmetry.</i>) Sensory Part <ul style="list-style-type: none"> • Test the anterior two-thirds of the tongue for taste sensation by applying either/or salty, bitter sour, sweet solutions on the tongue. Motor Part Test the muscles of facial expression by asking the patient to: <ul style="list-style-type: none"> • Lift his/her eyebrows as far as they will go. • Close his/her eyes as tightly as possible. (<i>Try to open them.</i>) • Blowout his/her cheeks. • Purse his/her lips or whistle. • Show his/her teeth. 			
The acoustic nerve (CN VIII): (<i>remove patient's hearing devices</i>)			
15. <ul style="list-style-type: none"> • Test hearing sensitivity in each ear by occluding one ear and rubbing your thumb and fingers together in front of the other. • Apply Rinne and Weber tests and examine the ears by auroscopy. 			
The glossopharyngeal nerve (CN IX):			
16. <ul style="list-style-type: none"> • Test the gag reflex by touching the tonsillar fossae on both sides. (<i>Inform patient that this is likely to cause some discomfort.</i>) 			
The vagus nerve (CN X):			
17. Ask the patient to phonate (say aaah~) and look for deviation of the uvula with a pen light.			
The hypoglossal nerve (CN XII):			
18. Aided by a pen light, inspect the tongue for wasting and fasciculation. Ask the patient to stick out his tongue and to wiggle it from side to side.			
The accessory nerve (CN XI):			
19. Look for wasting of the sternocleidomastoid and trapezius muscles. Ask the patient to: <ul style="list-style-type: none"> • Shrug his shoulders against resistance. • Turn his/her head to either side against resistance. 			
After the examination			
20. Ensure that the patient is comfortable.			
21. Make explanations to the patient, answer his/her questions and discuss management plan.			
22. Dispose of sharps and waste material according to infection control standards.			
23. Wash hands.			
24. Document the procedure.			