



Final OSCE Checklist

Neurological Examination



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COLOR CODE

Black: Comments

Gray: Clarification and Notes

Green: What you ask the patient to do

Blue: Examination Steps

Start-Up:

1. **R**equest a chaperone.
2. **I**ntroduce yourself.
3. Ask for **P**ermission / Ensure **P**rivacy.
4. **E**xplain the examination / Check your **E**quipment.
5. **W**arm and sanitize your hands.
6. Check the **I**nterior (warm, quiet, well-lit room).
7. **P**osition: **Several positions depending on the particular exam.**
8. **E**xposure: **Expose the parts required for each exam.**

General Look (Foot of the Bed):

- Conscious, Alert, Orientated to person/place/time.
- Assess using the **Glasgow Coma Scale (GCS)** – Normal is 15/15.
- No connections to medical equipment (catheters, IV lines, monitors).
- No respiratory distress.
- Normal facial expression and general demeanor.
- No abnormal/involuntary movements.

Vital Signs:

- BP, HR, RR, O₂ saturation, Temp., BMI.

Stance and Gait:

- Look at shoes for abnormal wearing pattern.
- *Ask the patient to stand on a narrow base with eyes open, then closed (feet together);* perform the push/pull test with safety precautions.
- *Perform a timed get-up-and-go test (<12 sec normally).*
- Listen for the slapping sound of a foot drop gait.

- *Ask the patient to walk normally, turn around, and walk back. Assess stride length, arm swing, symmetry, balance, and turning.*
 - *Ask the patient to walk first on tip of toes (S1 / plantarflexion).*
 - *Ask the patient to walk on their heels (L4-L5 / dorsiflexion).*
 - *Ask the patient to walk heel to toe in a straight line (tandem gait).*
- Normal stance and gait. No truncal ataxia. Normal heel, toe, and tandem walking.
- Negative Romberg test (no sensory ataxia), and no cerebellar ataxia.

Speech and Language:

- Listen to the patient's spontaneous speech, noting volume, rhythm, clarity, fluency, and content (appropriateness).
 - *Ask the patient to make sounds and repeat specific phrases:*
 - Labial sounds: "حرف الباء، مثال: بطة بيضاء".
 - Lingual sounds: "حرف اللام، مثال: لعبة لارا".
 - Tongue twister: "خيط حرير على حيط خليل".
 - *Ask the patient to count steadily to 30 to assess fatigue (Progressive weakness or nasal quality is suggestive of myasthenia gravis).*
 - *Ask the patient to cough and then ask them to say 'Ah'. Observe the soft palate rising bilaterally.*
 - *Ask the patient to name a common object.*
 - *Ask the patient to repeat a simple sentence (e.g., المملكة الأردنية الهاشمية).*
 - *Give a simple three-stage command (e.g., "Take this paper, fold it in half, and place it on the table").*
 - *Ask the patient to read a passage from a newspaper.*
 - *Ask the patient to write a sentence; examine his handwriting.*
- Speech is normal in volume, rhythm, articulation, and fluency, with appropriate content. There is no dysarthria, dysphonia, or fatigability. Labial and lingual sounds are intact. Cough is strong, and the palate elevates symmetrically on phonation. Naming, repetition, comprehension, reading and writing are intact.

Apraxia

- *Ask the patient to perform or imitate a familiar learned purposeful movement:*
 - *"Show me how you brush your teeth."*
 - *"Show me how you drink a cup of tea."*
 - Check for difficulty doing *complex tasks like wearing clothes or drawing squares.*
- No Apraxia.

Motor System Examination

1. Inspection

- Inspect for asymmetry, deformity, abnormal movement (fasciculation, tremors, and myoclonic jerks), and muscle wasting or hypertrophy.
 - Palpate for bulk, hypertrophy, wasting, tenderness, and masses.
- No asymmetry, deformity, abnormal movements, or muscle wasting/hypertrophy.

2. Tone + Clonus

- *Ask the patient to go floppy/relax and lay in a supine position.* Warm your hands.
 - Passively move the joints through a full range of motion both slowly and quickly; be unpredictable.
 - **Upper limb (Bilateral):** Hold as if shaking hands & support the elbow with the other hand. Flex and extend the hand, forearm, and the shoulder, and rotate the forearm (pronation/supination). *Ask the patient to draw circles in the air with one hand while assessing the other to distract them.*
 - **Lower limb (Bilateral):** Roll the leg from one side to the other, then briskly lift the knee into a flexed position.
 - **Ankle clonus:** Rapidly dorsiflex the ankle in response to brisk dorsiflexion and eversion of the foot (with both knee and ankle resting on 90 degrees flexion) and hold. Look for repetitive plantar/dorsiflexion.
- Normal tone, no hypertonia (spasticity or rigidity) or hypotonia. No clonus.

3. Power

- Ask about pain before proceeding.
- Assess power against gravity, then apply resistance, and compare both sides.
- **Proximal/truncal strength:** *Ask the patient to sit up from a lying position, and then stand from sitting without using their arms if safe.*
- **Upper limb (Patient sitting):** *Ask the patient to lift their arms above their head and to play the piano.* Test shoulder abduction, elbow flexion/extension, wrist extension/flexion, finger flexion/extension, and finger/thumb abduction.

- **Lower limb (Patient reclining):** Test hip flexion/extension, knee flexion/extension, ankle dorsiflexion/plantar flexion/eversion/inversion, and great toe extension.
- Power is 5/5 all over four limbs.

4. Pronator Drift

- *Ask the patient to close their eyes and hold hands outstretched forward at shoulder level, supinated and fingers straight; wait for 10 seconds (mention).*
- Look for downward drift and pronation.
- No pronator drift.

5. Reflexes

- Keep patient as relaxed as possible in a supine position, check for symmetry of response, and compare each reflex with the other side.
- Flex your wrist and allow the weight of the tendon hammer head to determine the strength of the blow. Strike the tendon, not the muscle or bone.
- *Ask the patient to use reinforcement if needed* (make a fist with the other hand for upper limbs; interlock the fingers and pull one hand against the other for lower limbs).
- **Biceps jerk (C5):** Place thumb over biceps tendon and tap to elicit elbow flexion.
- **Supinator/brachioradialis (C6):** Place thumb over the tendon and tap to elicit slight elbow flexion/supination.
- **Triceps jerk (C7):** Tap directly on triceps tendon above the olecranon for elbow extension.
- **Hoffmann's jerk:** Place your index finger under the DIPJ of the middle finger then flick the patient's finger with your thumb (Positive/abnormal = thumb and index flexion-adduction).
- **Finger jerk (C8):** Place your middle and index fingers across the palmar surface of the patient's proximal phalanges, tap your own fingers with the hammer, and watch for flexion of the patient's fingers.
- **Knee jerk (L3, L4):** Tap directly on the patellar tendon for knee extension.
- **Ankle jerk (S1):** Tap directly on the Achilles tendon with slight passive dorsiflexion applied.

- **Plantar response (Babinski):** Stroke with a blunt object from the heel laterally upwards towards the little finger. (Normal response is plantar flexion of the great toe. Positive Babinski sign = great toe extension).
 - **Just mention:** Abdominal reflexes (T8-T12), Cremasteric reflex (males L1, L2), Primitive reflexes (Snout, Grasp, Palmomental, Glabellar tap).
- Reflexes are present, symmetrical and normal (++) bilaterally. No hyperreflexia or hyporeflexia. No plantar response (Babinski sign). Negative Hoffmann's sign.

6. Apraxia (mention unless asked to do it)

Coordination (Cerebellar) Examination

1. Speech

- *Ask the patient to say a short sentence: "المملكة الأردنية الهاشمية".* Listen specifically for dysarthria (slurred, disjointed, or staccato (scanning) speech indicating cerebellar dysfunction).
- No dysarthria, slurred or staccato speech.

2. Stance

- *Ask the patient to stand up* (Testing for truncal ataxia), *with feet together with eyes open for 30 seconds* (Testing for cerebellar ataxia).
- *Ask the patient to close their eyes for 30 seconds* (Romberg test; testing for sensory ataxia). Stand close by with your hands around them for safety.
- (Positive Romberg = marked increase in swaying with eyes closed, indicating sensory ataxia. Cerebellar ataxia presents with swaying even with eyes open).
- No abnormal wearing pattern. Steady posture and regular base of support.
- Negative Romberg test. No sensory or cerebellar or truncal ataxia.

3. Gait

- *Ask the patient to walk normally, on heels, and on toes.*
- *Ask the patient to walk heel to toe in a straight line (tandem gait) – Important.*
- Smooth arm swing, with proper alignment during regular and heel/toe walking.
- **No abnormal tandem gait.**

4. Eye Movements

- *Ask the patient to follow an object or your finger in all directions (H-pattern).*
- Assess for nystagmus, gaze-evoked nystagmus, or abnormal/jerky pursuit.
- Normal eye movements, no nystagmus.

5. Upper and Lower Limb Coordination

- **Finger-to-nose test:** *Ask the patient to touch his nose with the tip of his index finger and then touch your fingertip.* Hold your finger just within the patient's

arm's reach and *ask him to repeat the movement as quickly as possible*. Make the test more sensitive by moving your finger just as the patient's finger is about to leave his nose. (Look for dysmetria, dyssynergia and intention tremor).

- **Rapid alternating movements test:** Demonstrate repeatedly patting the palm of your hand with the palm and back of your opposite hand as quickly and regularly as possible. *Ask the patient to copy your actions*, then repeat with the opposite hand. (Look for dysdiadochokinesia).
- **Rebound phenomenon:** *Ask the patient to flex their arm against resistance*, then push the patient's wrist quickly downward and observe the returning movement.
- **Heel-to-shin test:** With the patient lying supine, *ask him to place his heel on his opposite knee, and then slide his heel up and down the shin between the knee and ankle*. (Look for dysmetria, dyssynergia and intention tremor).

➤ No dysmetria, dyssynergia, intention tremor, dysdiadochokinesia, or rebound phenomenon in all 4 limbs.

6. Mention (unless asked to do them; tested as mentioned before):

- **Apraxia.**
- **Tone (specifically looking for hypotonia).**
- **Reflexes (looking for pendular reflexes or delayed relaxation after reflex).**

➤ No apraxia, hypotonia, pendular reflexes, or delayed relaxation after reflex.

Sensory Examination

Primary Modalities:

1. Light Touch (**dermatomal**)

- *Ask the patient to look away or close their eyes.*
- Use a touch pen or cotton wool to dab (rather than stroke) irregularly, moving from distal to proximal, and compare both sides.

2. Superficial Pain (**dermatomal, usually skipped**)

- *Ask the patient to look away or close their eyes.*
- Explain and demonstrate on the sternum first.
- Use a special sharp neurologic pen or needle to map any abnormal area, moving from reduced to higher sensibility.

3. Temperature (**dermatomal, usually skipped**)

- Use a tuning fork for cold sensation (Ideally, it should be examined using cold tubes and hot tubes).

4. Vibration

- First demonstrate on the sternum or sternal angle.
- **Upper limb:** Place on the DIP joint of the forefinger. If impaired, progress proximally to the PIP, MCP, wrist, elbow, shoulder, and clavicle.
- **Lower limb:** Place on the tip of the great toe. If impaired, progress proximally to the medial malleolus, patella, ASIS, and lower chest wall.

5. Joint Position Sensation

- Demonstrate on the great toe or middle finger with eyes open, *then ask the patient to close their eyes.*
- Start the examination distally with the big toe and the DIP of the middle finger. Proceed proximally if impaired.

► Normal sensation to light touch, superficial pain, temperature, vibration, and joint position sense bilaterally.

Higher Cortical Functions:

6. Stereognosis & Graphesthesia

- *Ask the patient to close his eyes.*

- **Stereognosis:** Place a familiar object in his hand (e.g., a coin) and *ask him to identify it.*
- **Graphesthesia:** Use the blunt end of a pencil (or your finger) to trace letters or digits on the patient's palm and *ask him to identify it.*

7. Point Localization & Sensory Inattention

- *Ask the patient to close his eyes.*
 - **Point localization:** Touch his arms/legs in turn or different fingers and *ask the patient which side/finger is touched.*
 - **Sensory inattention:** Touch both sides simultaneously and *ask whether the left, right, or both sides were touched.*
- Intact stereognosis, graphesthesia, and point localization. No sensory inattention.

8. Apraxia (mention unless asked to do it; tested as mentioned before).

Cranial Nerves Examination

Olfactory Nerve (CN I) – Rarely tested

- Check the nasal passage.
 - *Ask the patient to close their eyes and close one nostril at a time.*
 - Use "scratch and sniff" test cards, such as the University of Pennsylvania Smell Identification Test (UPSIT).
- Intact olfaction, no anosmia, parosmia or phantosmia, bilaterally.

Optic Nerve (CN II)

- Observe the face, orbit, and eyelids for asymmetry, swelling, erythema, ptosis, or lid retraction.
- Look for eyeball protrusion (proptosis) from behind and above.
- Palpate around the orbital rim and orbit to look for masses.
- **Visual acuity:** Use a backlit Snellen chart at 6 meters with dim lighting. *Ask the patient to cover one eye and read from the top down.* Use a pinhole for uncorrected refractive errors. Assess near vision with text of reducing font size.
- **Direct and consensual light reflex:** *Ask the patient to fixate on a distant point.* Shine a bright light into one eye; look for ipsilateral constriction (direct) and contralateral constriction (consensual).
- **Relative afferent pupillary defect (RAPD):** Move the light briskly from one eye to the other, placing it on each eye for a minimum of 3 seconds (look for paradoxical dilation).
- **Accommodation:** *Ask the patient to look at a close fixation target after fixating on a distant target* (do not use a light source).
- **Visual field:** Sit facing the patient 1 meter away. *Ask the patient to look straight at your face and close/cover one eye* (close your opposite eye). Extend your arm and position your hand in the middle between you and the patient, start wiggling your fingers as you move your hand from the periphery towards the center; *ask the patient to point when they first see it.* Test all four quadrants separately and compare the patient's visual field to yours.
- **Sensory inattention:** Test both eyes open. Wiggle your fingers while both left and right arms are extended simultaneously; *ask if they see one or both sides move.*

- **Color desaturation:** Show a red target (hatpin/Neurotip) and *ask them what color they see* (dull/pale red suggests desaturation). Alternatively, assess red-green color vision using Ishihara test plates.
 - **Examine for blind spot:** *Ask the patient to close one eye and you close the opposite eye.* Move a red-tipped target temporally until it disappears, then move slowly up/down and side-to-side. Repeat with both eyes open for homonymous defects.
 - **Ophthalmoscopy (mention):** Look for optic disc swelling from compression.
- There is no orbital or eyelid abnormality or proptosis. Visual acuity is normal bilaterally. Pupils are equal and reactive to light and accommodation, with normal direct and consensual responses and no RAPD. Visual fields are normal to confrontation with no sensory inattention. Color vision is intact with no red desaturation. Blind spots are physiological.

Oculomotor, Trochlear, Abducens Nerves (CN III, IV, VI)

- **Position:** Check for abnormal resting positions.
 - **Lid lag:** Move your finger across the visual field from the top downward. Watch if the upper eyelid is lagging behind the eyeball.
 - **Ocular movements:** *Ask the patient to follow a target/pen-torch about 50 cm away in the six positions of gaze (H-pattern).* Look for nystagmus or unsmooth movements.
 - *Ask if they experience horizontal or vertical diplopia.*
- No abnormal eye position.
- Normal, symmetrical ocular movements in all directions. No diplopia, nystagmus, or lid lag.

Trigeminal Nerve (CN V)

- **Sensory:** *Ask the patient to close their eyes and say 'Yes/نعم' each time they feel a light touch* (using cotton-wool, dabbing) in the V1, V2, and V3 areas. Repeat using a fresh neurological pin to test superficial pain. Compare both sides.
- **Motor:** Inspect for wasting of the muscles of mastication. *Ask the patient to clench their teeth;* feel the masseters. *Ask the patient to open their jaw* and note any deviation.

- **Corneal reflex (not routine):** Gently depress the lower eyelid while the patient looks up. Lightly touch the lateral edge of the cornea with damp cotton wool; look for direct and consensual blinking.
 - **Jaw jerk:** *Ask the patient to let their mouth hang half open.* Place your forefinger in the midline between the lower lip and chin, percuss gently downwards with a tendon hammer, noting any reflex closing (a slight response is normal).
- Normal, symmetrical facial sensation in V1, V2, and V3. Normal, symmetrical bulk and power of muscles of mastication with no jaw deviation. Normal corneal and jaw jerk reflexes.

Facial Nerve (CN VII)

- **Motor function:** Inspect the face for asymmetry or differences in blinking/eye closure, and watch for spontaneous/involuntary movement.
 - *Ask the patient to:*
 - *Raise their eyebrows* (frontalis).
 - *Screw their eyes tightly shut and resist you opening them* (orbicularis oculi).
 - *Bare their teeth* (orbicularis oris).
 - *Blow out their cheeks with their mouth closed* (buccinators and orbicularis oris).
 - Mention testing taste sensation over the anterior two thirds of the tongue.
- Normal, symmetrical eye blinking and facial expressions. Normal, symmetrical power in all muscles of facial expression.

Vestibulocochlear Nerve (CN VIII)

- **Whispered voice test:** Stand behind the patient, and mask hearing in one ear by rubbing the tragus. *Ask the patient to repeat multisyllable numbers and words* whispered at 15 cm, then at arm's length (60 cm).
- **Weber's test:** Place a vibrating tuning fork base in the middle of the patient's forehead. *Ask, "Where do you hear the sound?"*.
- **Rinne's test:** Place a vibrating tuning fork on the mastoid process. Then place the vibrating base at the external auditory meatus and *ask, "Is it louder in front of your ear or behind?"*.

- Normal, bilateral hearing on whispered voice test. Weber's test is centralized with no lateralization, Rinne's test is positive bilaterally.

Glossopharyngeal & Vagus Nerves (CN IX, X)

- Assess speech for dysarthria or dysphonia.
 - *Ask the patient to say 'Ah'.* Look at the movements of the palate and uvula using a torch.
 - *Ask the patient to puff out their cheeks with lips tightly closed;* listen for air escaping from the nose.
 - *Ask the patient to cough;* assess the strength of the cough.
 - **Swallow test (in conscious patients only):** Administer 3 teaspoons of water and observe for absent swallow, cough, delayed cough, or voice change. If normal, observe them swallowing a full glass of water.
- Speech is normal with no dysarthria or dysphonia. The palate elevates symmetrically on phonation, with the uvula remaining central. There is no nasal air escape. Cough is strong. Swallowing is intact with no coughing, choking, or change in voice quality.

Accessory Nerve (CN XI)

- Inspect sternomastoid muscles for wasting/hypertrophy; palpate to assess bulk.
 - Stand behind the patient to inspect the trapezius muscle for wasting/asymmetry.
 - *Ask the patient to shrug their shoulders,* then apply downward pressure with your hands to assess power.
 - *Ask the patient to turn their head to the right and left* while you provide resistance on the chin to test the opposite sternomastoid.
 - *Ask the patient to flex their neck* while you apply your palm to their forehead as resistance.
- Normal, symmetrical bulk and power of sternocleidomastoid and trapezius muscles.

Hypoglossal Nerve (CN XII)

- *Ask the patient to open their mouth;* look at the tongue at rest for wasting, fasciculation or involuntary movement.
 - *Ask the patient to put out their tongue;* look for deviation or involuntary movement.
 - *Ask the patient to move their tongue quickly from side to side.*
 - *Ask the patient to press their tongue against the inside of each cheek while you* press from the outside with your finger to test power.
 - *Ask the patient to say “لعبة لارا”* to assess lingual articulation.
- Normal, symmetrical tongue with no wasting, fasciculation, or deviation upon protrusion.
- Normal, symmetrical tongue movements and power.
- Normal articulation of lingual sounds. No dysarthria.