6-PAGE STUDENT + PEER EXAMINER EDITION • VERSION 2.0

Neurological Examination OSCE PDF

A focused five-phase checklist, with clinical reasoning prompts and an assessor worksheet. Designed to supplement the OSCE.ai step-by-step guide - not repeat it.

START HERE | Read the station brief before examining.
Select the relevant components, compare right with left where appropriate, document what you actually tested, and use your school's marking rubric. A full examination is not required in every station.

1 Choose the focused examination

STATION CLUE	PRIORITY EXAM	AVOID THE TRAP
New arm or leg weakness	Inspect, tone, power, drift, reflexes, plantar response and sensory distribution.	First consider onset and urgency; do not miss an acute deficit.
Visual / facial complaint	Relevant CN II-VII screen; pupils, visual fields, eye movements, face.	Ask about diplopia; map associated deficits.
Imbalance or incoordination	Eye movements, limb coordination, proprioception, gait and safe balance testing.	Do not call a positive Romberg a cerebellar sign.

2 Before the first maneuver

- ☐ Hand hygiene, equipment and identity.
- ☐ Introduce yourself; explain; obtain consent.
- ☐ Ask about pain; avoid painful maneuvers.
- ☐ Position, expose and protect privacy.
- ☐ Observe speech, posture and movement.
- ☐ Check safety before standing / walking.

3 The five-phase route

01	**General inspection + cognition** Spontaneous movement, speech, attention / orientation as indicated.
02	**Cranial nerves** Select relevant CN II-XII tests; explain close-contact testing.
03	**Upper limb** Inspect → tone → power / drift → reflexes → sensation → coordination.
04	**Lower limb + cerebellar** Inspect → tone → power → reflexes / plantar → sensation → heel-to-shin.
05	**Gait + closure** Observe only if safe; present positives, relevant negatives and next step.

THE OSCE.ai REASONING LOOP: Observe → Verify → Localize → Act. Every abnormal sign should lead to a useful clinical question, not just the next checklist item.

PHASES 1-2 / SELECT AND INTERPRET

Cranial nerves + cognition

Tests are chosen for the station question. Explain close-contact maneuvers; avoid reflexes without a clinical indication.

Phase 1 | Observe before you test

- ☐ **Appearance / behavior:** posture, movement, neglect.
- ☐ **Speech / language:** dysarthria, fluency, understanding.
- ☐ **Brief cognition:** orientation / attention if indicated.
- ☐ **Targeted cognition:** memory or higher functions as relevant.

Phase 2 | Cranial nerve screen

NERVE	EXAMINATION TASK	CHECK THAT CHANGES INTERPRETATION
I	Smell **only when indicated**.	Not a routine OSCE screen.
II	Acuity **each eye**; fields by confrontation; consider fundoscopy.	Fields: compare quadrants; pupils need separate assessment.
III, IV, VI	Pupil size / direct and consensual light responses; eye movements; diplopia / nystagmus.	Test pupils appropriately; consider swinging flashlight for an afferent defect if indicated.
V	Facial light touch in V1/V2/V3; jaw clench; corneal reflex only if indicated.	Compare analogous areas and explain touch.
VII	Raise eyebrows, close eyes firmly, smile / show teeth, puff cheeks.	Describe forehead and lower-face involvement; patterns are clues, not stand-alone diagnoses.
VIII	Screen hearing; Rinne and Weber when hearing loss needs characterization.	Differentiate hearing screen from formal audiometry.
IX, X	Voice quality; say "ah"; palate symmetry; swallowing concerns when relevant.	Do **not** provoke gag reflex routinely; take dysphagia seriously.
XI	Shoulder shrug and head turn against resistance.	Stabilize and compare sides.
XII	Tongue bulk, fasciculations, protrusion and power in cheek.	Describe deviation at protrusion and associated signs.

TECHNIQUE PEARL | A normal result is only meaningful if the test was valid.
Give one instruction at a time. Test each eye separately when required. Compare sides using the same method. Record uncertainty rather than declaring an equivocal finding normal.

Conditional: CN I, corneal and gag reflexes, detailed cognition and specialized vestibular maneuvers are not routine in every station. [1, 7]

When a cranial nerve finding is abnormal

CLUE	NEXT CHECK
Reduced vision or field defect	Confirm one eye at a time, repeat the field comparison and assess pupillary responses as indicated; sudden loss warrants urgent assessment.
Double vision or abnormal eye movement	Ask whether diplopia disappears with either eye covered; check ptosis, pupils, alignment, nystagmus and other neurological signs.
Facial asymmetry	Describe forehead *and* mouth movement, onset and accompanying signs; do not diagnose a peripheral palsy from appearance alone.

PHASES 3-4 / CORRECT TECHNIQUE MATTERS

Upper + lower limb examination

Perform each maneuver correctly, compare equivalent muscles and sides, then describe the actual distribution of any deficit.

Phase 3 | Upper limb

☐ **Inspect**	Wasting, fasciculations, involuntary movements and asymmetry.
☐ **Tone**	Relaxed passive shoulder / elbow / wrist movement; note spasticity vs rigidity.
☐ **Power**	Shoulder abduction, elbow flexion/extension, wrist extension, finger abduction and grip as appropriate.
☐ **Drift**	Arms forward, palms up, eyes closed; observe pronation or downward drift.
☐ **Reflexes**	Biceps, brachioradialis, triceps; compare sides with similar position / relaxation.
☐ **Sensation**	Light touch / pinprick, plus vibration / joint position as indicated; map any deficit.
☐ **Coordination**	Finger-to-nose and rapid alternating movement; account for weakness or visual loss.

Phase 4 | Lower limb + coordination

☐ **Inspect / tone**	Bulk, fasciculations, passive movement; clonus if indicated.
☐ **Power**	Hip flexion, knee flexion/extension, ankle dorsiflexion/plantarflexion, great-toe extension.
☐ **Reflexes**	Knee and ankle jerks; compare. Plantar: use a clean, suitable blunt instrument; note flexor, extensor or equivocal.
☐ **Sensation**	Compare equivalent sites, including distal vibration / great-toe position if indicated.
☐ **Coordination**	Heel-to-shin with the patient supported; assess trajectory and smoothness.

MRC power: grade each muscle group, not the whole limb

0	1	2	3	4	5
No contraction	Trace contraction	Movement with gravity eliminated	Against gravity	Against resistance (less than normal)	Normal power

Root recall: Biceps C5-6 · Brachioradialis C5-6 · Triceps predominantly C7 · Patellar L3-4 · Achilles S1. **Validity:** stabilize the joint, consider pain-limited effort, compare like with like; for sensation demonstrate the stimulus first and test with eyes closed. [1-3]

Sensory findings: map the distribution before naming the lesion

PATTERN	WHAT TO CHECK NEXT
Symmetric distal loss	Compare distal with proximal sites; check vibration / position and ankle reflexes.
Dermatomal or nerve-territory loss	Map neighboring sites; correlate with selected myotomes, reflexes and specific peripheral-nerve muscles.
A sensory level	Define the level and look for leg weakness, long-tract signs, bladder / bowel changes and a progressive course.

Sensory maps overlap. Light touch is a useful screen; pinprick, vibration and position sense help refine localization. [8]

SIGNATURE OSCE.AI LAYER / CLINICAL REASONING

What changes next?

A sign is a clue - not a diagnosis. Confirm it, identify the pattern, and choose an examination or action that can change management.

The four-step reasoning loop

1 OBSERVE	2 VERIFY	3 LOCALIZE	4 ACT
Describe the objective sign.	Repeat correctly; assess confounders.	Look for a coherent pattern.	Choose a focused test or escalate.

Pattern → interpretation → next useful action

OBSERVATION	WHAT IT MAY SUGGEST	NEXT CLINICAL MOVE
Pronator drift + increased reflexes ± extensor plantar response	Corticospinal (upper motor neuron) dysfunction.	Map power / tone / reflex asymmetry; check timing of onset. New deficit = emergency assessment.
Focal wasting or weakness + reduced reflexes	Possible lower motor neuron / peripheral nerve, root or anterior horn cell process.	Test myotomes, nerve territory and sensation; check for progression.
Bilateral distal sensory loss + depressed ankle reflexes	Length-dependent peripheral neuropathy pattern.	Map distal-to-proximal gradient; assess vibration / position sense and gait.
Sensory level on trunk or limbs ± UMN signs below	Possible spinal cord process.	Define level and associated motor / autonomic symptoms; urgent pathway if acute or progressive.
Dysmetria + broad-based gait / gaze-evoked nystagmus	Cerebellar pathway involvement is possible.	Assess limb and gait coordination, eye movements, speech; check acute onset.
Eyes-open stance steady, marked worsening eyes closed	Visual compensation for impaired proprioceptive or vestibular inputs.	Assess joint position / vibration and vestibular symptoms; do not label "cerebellar Romberg."

Three high-impact interpretation checks

1 Do not overlocalize.
One abnormal reflex or subjective sensory report is rarely sufficient alone.

2 Distinguish test limitations.
Pain, fatigue, understanding and poor stabilization can mimic weakness.

3 Time course matters.
Acute onset changes urgency even before localization is complete.

Remember: These are associations to guide focused examination, not stand-alone diagnostic criteria. Integrate history, timing, risk factors, and the complete pattern. [1-4]

30-second micro-drill: foot drop is a finding, not a diagnosis

Observation: A patient has reduced ankle dorsiflexion and catches the toes while walking.
Next useful examination: Compare great-toe extension, ankle inversion / eversion, sensation over the dorsum of the foot and lateral leg, and the relevant reflex / proximal muscle pattern. Then consider root versus peripheral nerve causes in the clinical context.

PHASE 5 / SAFETY, HANDOVER, CLOSURE

Gait, escalation + findings

Do not let completion of a routine station delay recognition of a time-critical neurological problem.

Gait: observe only when safe

OBSERVE	CLINICAL CLUE / TECHNIQUE
Normal walking and turns	Base width, stride, foot clearance, arm swing, symmetry and turning.
If appropriate: tandem / toes / heels	Tandem stresses balance; toe/heel walking samples distal plantar- / dorsiflexion.
Broad-based or ataxic	Consider cerebellar / sensory / vestibular pathways and other causes; look for associated signs.
Shuffling, reduced arm swing	Consider parkinsonian features in context; not diagnostic alone.
Steppage or circumduction	Describe what you see and map distal weakness or pyramidal signs.

ROMBERG | Eyes open, then closed - with close guarding.
If balanced with eyes open but markedly worse with eyes closed, suspect impaired proprioceptive or vestibular contribution. Cerebellar ataxia often impairs stance even with eyes open. Do not perform if unsafe; never guarantee that the patient cannot fall. [4]

Stop the routine sequence when an acute warning sign appears

RED-FLAG PRESENTATION	PRIORITY RESPONSE
Sudden focal deficit, new severe speech or visual disturbance	Activate the local acute stroke pathway, obtain timing / last known well, and check glucose under protocol.
Rapidly progressive bilateral weakness ± swallowing / breathing concern	Immediate clinical escalation and respiratory / bulbar assessment per local pathway.
Acute severe back pain with new bladder, bowel or saddle sensory symptoms	Immediate assessment for possible cauda equina syndrome.
Declining consciousness or inability to protect airway	Call for urgent help; primary assessment and stabilization take priority.

Follow your setting's emergency protocol and supervision arrangements; this box does not prescribe treatment. [5, 6]

Present your findings, then state what you need

20-second examiner summary (example):
"I examined the limbs and found right-sided weakness with increased reflexes and an extensor plantar response. This suggests a corticospinal pattern. If the deficit is new, I would initiate urgent assessment rather than continue routine testing."

Examiner summary: Scope → objective positives with side → relevant *tested* negatives → likely localization / uncertainty → next step. **For urgent handover:** use SBAR (Situation, relevant Background, Assessment, Recommendation) and specify urgency.

Close: Explain that the examination is complete, thank the patient, restore comfort and privacy, dispose of equipment / perform hand hygiene as appropriate, and communicate follow-up without alarming labels.

PRINT ONE PER ATTEMPT / PEER-ASSESSMENT WORKSHEET

Observe. Interpret. Improve.

Record what the candidate actually demonstrated. Mark steps N/A when they were outside the station brief; never reward unsafe testing.

Candidate: _____ **Assessor:** _____
Station brief / focus: _____
Date: _____ **Station duration:** _____

Layer 1 | Observed actions

OBSERVED BEHAVIOR	DONE	RETRY	N/A
Introduced role; checked identity, consent, pain and hand hygiene	☐	☐	☐
Selected an appropriately focused exam based on station brief	☐	☐	☐
Protected privacy, comfort, positioning and fall safety	☐	☐	☐
Observed speech, posture, movements; screened cognition if relevant	☐	☐	☐
Examined indicated visual, pupil and eye-movement functions	☐	☐	☐
Examined indicated facial, hearing, bulbar and other CN functions	☐	☐	☐
Upper limb: performed tone, power and pronator drift properly	☐	☐	☐
Upper limb: reflexes, sensation and coordination; compared sides	☐	☐	☐
Lower limb: tone, power, reflexes and plantar response if indicated	☐	☐	☐
Lower limb: sensory testing and heel-to-shin if indicated	☐	☐	☐
Assessed gait / balance safely, or justified omission	☐	☐	☐
Reported objective positive findings and relevant tested negatives	☐	☐	☐
Localized cautiously; selected next test / action; escalated when needed	☐	☐	☐
Closed respectfully, restored comfort and gave a clear handover	☐	☐	☐

Layer 2 | Quality and clinical judgement

☐ Technique reliable / reproducible? ☐ Reasoning matches the pattern? ☐ Safety-critical error? Yes / No

Layer 3 | Next deliberate practice target

One thing done well: _____
One technique / interpretation to repeat: _____
Next practice task (specific, observable): _____

Source notes & further study (click to open)

[1] Merck Manual Professional, Introduction to the Neurologic Examination
[2] Merck Manual Professional, How to Assess the Motor System
[3] NCBI Bookshelf, Clinical Methods: The Plantar Reflex
[4] NCBI Bookshelf, Romberg Test
[5] NICE NG128, Stroke and transient ischaemic attack
[6] NICE NG127, Suspected neurological conditions
[7] Merck Manual Professional, Assessing the Cranial Nerves
[8] Merck Manual Professional, Assessing Sensation

Scope and limitations: Educational aid, not an official university mark scheme or clinical protocol. Follow the station brief, institutional guidance and clinician supervision. Editorial update: 11 November 2026.