

NGN NCLEX 2026

NEUROLOGICAL SYSTEM · ASSESSMENT CARD

Neurological Assessment

Comprehensive head-to-toe neuro exam — normal vs abnormal findings, GCS, cranial nerves, pupil response, motor & sensory function, and red-flag patterns of increased ICP and herniation.

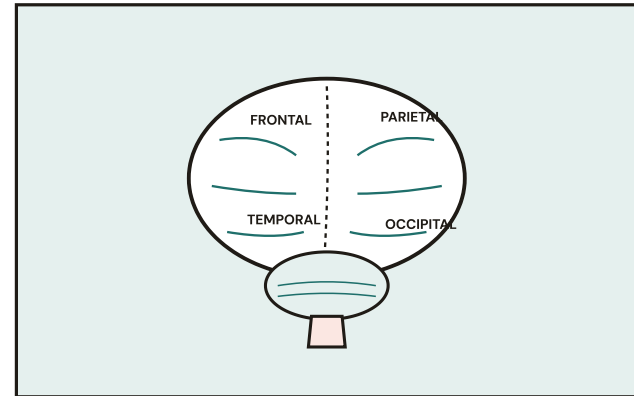
LOC / GCS

CRANIAL NERVES

MOTOR & SENSORY

↑ ICP

CUSHING'S TRIAD



01

DEFINITION

Overview & Why It Matters

What it is

Systematic head-to-toe evaluation of CNS and PNS function — assessing LOC, cranial nerves, motor, sensory, reflexes, cerebellar function, and vital signs.

Why it matters

Earliest detection of deterioration. Subtle change in LOC is the FIRST and MOST sensitive indicator of neurologic decline — before pupils, vitals, or posturing.

When to perform

On admission (baseline), every shift, before/after procedures, with any acute change. Frequency increases with TBI, stroke, post-op cranial surgery, ↑ ICP risk.

02 PATHOPHYSIOLOGY Components of the Neuro Exam

1 LOC Most sensitive indicator	2 Pupils Brainstem function	3 Cranial Nerves CN I–XII function	4 Motor Strength, drift, posture	5 Vital Signs Late changes (Cushing's)
 Mental Status Orientation × 4 (person, place, time, situation), memory, judgment	 Pupils — PERRLA Pupils Equal, Round, Reactive to Light & Accommodation	 Motor Function Strength 0–5, drift, gait, coordination, symmetry	 Sensory Function Light touch, pain, temperature, vibration, proprioception	
 Reflexes (DTRs) Graded 0–4+ ; 2+ is normal. Babinski, Romberg	 Cerebellar Finger-to-nose, heel-to-shin, Romberg, rapid alternating movements	 Speech Clarity, fluency, comprehension — aphasia, dysarthria, slurring	 Vital Signs BP, HR, RR pattern, temperature — late ICP changes	

Key principle: Always compare findings to the patient's baseline. An "abnormal" exam may be the patient's normal — and a "normal-looking" exam can be deteriorating from baseline. Trend matters more than a single snapshot.

03

FINDINGS

Normal vs. Abnormal — by System

Level of Consciousness (LOC) MOST SENSITIVE

NORMAL

- ✓ Alert, oriented × 4 (person, place, time, situation)
- ✓ Responds appropriately to verbal stimuli
- ✓ Cooperates with exam, follows commands
- ✓ Speech clear, coherent, appropriate

ABNORMAL RED FLAG

- ✗ Confusion, disorientation (any sphere lost)
- ✗ Lethargy → obtundation → stupor → coma
- ✗ Restlessness — early sign of hypoxia/↑ICP
- ✗ Responds only to pain, or unresponsive
- ✗ **Subtle LOC change = FIRST sign of neuro decline**

Pupils (PERRLA)

NORMAL

- ✓ 3–5 mm diameter, equal bilaterally
- ✓ Round shape, brisk reaction to light
- ✓ Constrict with near vision (accommodation)
- ✓ Consensual response present

ABNORMAL RED FLAG

- ✗ **Anisocoria** — unequal pupils (>1 mm)
- ✗ **Fixed & dilated unilaterally** — CN III compression / herniation
- ✗ Fixed & dilated bilaterally — late, ominous
- ✗ Pinpoint — opioid OD or pontine lesion
- ✗ Sluggish or non-reactive — ↑ ICP

Motor Function & Strength

NORMAL

- ✓ Strength 5/5 — full ROM against full resistance
- ✓ Symmetrical strength bilaterally
- ✓ No pronator drift (arms held out, palms up, eyes closed)
- ✓ Steady, coordinated gait
- ✓ Purposeful movement to commands

ABNORMAL RED FLAG

- ✗ Weakness, hemiparesis, hemiplegia
- ✗ Pronator drift (arm drifts down/inward) → early stroke sign
- ✗ **Decorticate posturing** — arms flexed to core (cortical lesion)
- ✗ **Decerebrate posturing** — arms extended/rigid (brainstem)
- ✗ Flaccidity — worst, ominous sign

Sensory Function & Deep Tendon Reflexes

NORMAL

- ✓ Intact light touch, pain, temperature, vibration
- ✓ Position sense (proprioception) intact

ABNORMAL RED FLAG

- ✗ Numbness, tingling, paresthesia, anesthesia
- ✗ Loss of proprioception (foot drop)

- ✓ DTRs 2+ — normal, brisk and symmetric
- ✓ Babinski negative in adults (toes flex down)
- ✓ Romberg negative — steady with eyes closed

- ✗ DTRs 0 (absent) or 4+ (clonus) — UMN/LMN lesion
- ✗ **Positive Babinski (toes fan up)** — abnormal in adults; UMN lesion
- ✗ Positive Romberg — falling indicates cerebellar/posterior column

Speech, Cranial Nerves & Cerebellar

NORMAL

- ✓ Clear, fluent, appropriate speech
- ✓ Symmetric facial movement (CN VII)
- ✓ Tongue midline (CN XII), uvula midline (CN X)
- ✓ Smooth finger-to-nose, heel-to-shin
- ✓ Steady gait, balance, no nystagmus

ABNORMAL RED FLAG

- ✗ Aphasia (expressive/receptive), dysarthria, slurring
- ✗ Facial droop — stroke (CN VII)
- ✗ Tongue/uvula deviation, dysphagia (aspiration risk)
- ✗ Ataxia, dysmetria, intention tremor
- ✗ Nystagmus, dizziness, falls

Vital Signs — Late ICP Changes

NORMAL

- ✓ BP, HR, RR within patient's baseline range
- ✓ Regular, even respiratory pattern
- ✓ Temperature 36.5–37.5°C (97.7–99.5°F)

ABNORMAL CUSHING'S TRIAD

- ✗ **↑ Systolic BP with widening pulse pressure**
- ✗ **↓ HR (bradycardia)**
- ✗ **Irregular respirations** (Cheyne-Stokes, ataxic)
- ✗ = LATE sign of ↑ ICP, impending herniation — EMERGENCY
- ✗ Hyperthermia — hypothalamic involvement

Cushing's Triad — Brain Herniation

3

A LATE sign of severely elevated ICP. By the time it appears, brainstem compression is imminent. Notify provider STAT.

↑ Systolic BP / Widened Pulse Pressure

↓ Bradycardia

Irregular Respirations

04 LOC SCORING TOOL Glasgow Coma Scale (GCS)

Eye Opening (E)	Score	Verbal Response (V)	Score	Motor Response (M)	Score
Spontaneous	4	Oriented, conversant	5	Obeys commands	6
To verbal command	3	Confused	4	Localizes to pain	5
To pain	2	Inappropriate words	3	Withdraws from pain	4
None	1	Incomprehensible sounds	2	Decorticate (flexion)	3
—	—	None	1	Decerebrate (extension)	2
—	—	—	—	None / flaccid	1

13–15
MILD INJURY

9–12
MODERATE INJURY

≤ 8
SEVERE — INTUBATE

GCS ≤ 8 = comatose; protect airway → intubate. Document each component (e.g., E3 V4 M5 = 12), not just the total.

05

12 CRANIAL NERVES

CN Function & Quick Tests

I Olfactory **S**

Identify smells (coffee, soap) — each nostril

II Optic **S**

Snellen chart, visual fields, fundoscopy

III Oculomotor **M**

PERRLA, EOMs (6 cardinal fields), ptosis

IV Trochlear **M**

Eye moves down & inward (superior oblique)

V Trigeminal **B**

Facial sensation, jaw clench, corneal reflex

VI Abducens **M**

Lateral eye movement (lateral rectus)

VII Facial **B**

Smile, frown, puff cheeks, taste anterior 2/3 tongue

VIII Vestibulocochlear **S**

Hearing (whisper, Weber, Rinne), balance

IX Glossopharyngeal **B**

Gag reflex, swallow, taste posterior 1/3 tongue

X Vagus **B**

Uvula midline, "ahh", swallow, hoarseness

XI Spinal Accessory **M**

Shrug shoulders, turn head against resistance

XII Hypoglossal **M**

Tongue protrusion midline, side-to-side

Mnemonic for Type: "Some Say Marry Money But My Brother Says Big Brains Matter More" | **S** = Sensory · **M** = Motor · **B** = Both

06

VISUAL PATTERN RECOGNITION

Pupils & Abnormal Posturing

Pupil Findings



Normal 3–5mm
Equal, round, reactive



Pinpoint
Opioid OD, pontine lesion



Fixed Dilated
CN III compression / herniation



Anisocoria
Unequal — concerning if new



Abnormal Posturing



Decorticate
"To the core" — arms flexed to chest.
Cortical/cerebral lesion. **Less severe**



Decerebrate
Arms extended/rigid. **Brainstem** lesion — more ominous than decorticate.

Progression of severity: Purposeful → withdrawal from pain → Decorticate → Decerebrate → Flaccidity (worst). Movement away from severity = improving; movement toward flaccidity = worsening.

07

NURSING ACTIONS

Priority Nursing Interventions

A Airway, Breathing, Circulation

- ▶ Assess airway patency — gag, cough, swallow reflexes
- ▶ Monitor RR pattern (Cheyne–Stokes, ataxic = brainstem)
- ▶ Apply O₂, monitor SpO₂ — keep > 94%
- ▶ Suction PRN — but limit to ≤ 10 sec (raises ICP)
- ▶ Prepare to intubate if GCS ≤ 8

B Baseline & Serial Neuro Checks

- ▶ Establish baseline; reassess q1–4h or per protocol
- ▶ Use GCS, NIHSS, or facility tool consistently
- ▶ Document **trends** — single value less helpful
- ▶ Report ANY decline in LOC immediately
- ▶ Use noxious stimuli only if needed (trapezius pinch, sternal rub)

C ⚠ ICP Precautions

- ▶ HOB 30° — promotes venous drainage
- ▶ Head/neck midline — no neck flexion or rotation
- ▶ Avoid hip flexion, Valsalva, coughing, straining
- ▶ Cluster care; minimize stimulation; quiet room
- ▶ Stool softeners; no enemas; avoid suctioning > 10 sec

D Safety & Seizure Precautions

- ▶ Bed in low position, side rails padded, call light in reach
- ▶ Suction & O₂ at bedside
- ▶ Do NOT restrain; do NOT put anything in mouth
- ▶ Turn to side (if possible) to protect airway
- ▶ Time the seizure; note onset, duration, type

08 PHARMACOLOGY Common Neuro Drugs

Drug / Class	Mechanism	Side Effects	Nursing Considerations
Mannitol OSMOTIC DIURETIC	Pulls fluid from brain into vasculature → reduces ICP	Dehydration, hypotension, electrolyte imbalance, pulmonary edema (rebound)	Monitor I/O, serum osmolality (target 300–320), use in-line filter, watch for crystallization
Hypertonic Saline 3% VOLUME EXPANDER	Draws water from brain cells via osmotic gradient → ↓ ICP	Hypernatremia, fluid overload, phlebitis	Central line preferred; monitor sodium q4–6h (max ↑ 12 mEq/24h)
Phenytoin (Dilantin) ANTICONVULSANT	Stabilizes neuronal membranes — prevents seizure	Gingival hyperplasia, ataxia, nystagmus, rash (SJS)	Therapeutic level 10–20 mcg/mL; flush IV with NS only (precipitates in dextrose); good oral hygiene
Levetiracetam (Keppra) ANTICONVULSANT	Modulates neurotransmitter release → seizure control	Drowsiness, mood/behavior changes, irritability	Renal dosing; monitor mood; do not stop abruptly
Dexamethasone CORTICOSTEROID	Reduces vasogenic edema (esp. tumor-related)	Hyperglycemia, immunosuppression, GI bleed	Check glucose; PPI prophylaxis; taper — do not stop abruptly
Propofol SEDATIVE	GABA agonist → sedation; reduces cerebral metabolism & ICP	Hypotension, ↑ triglycerides, propofol infusion syndrome	Continuous BP monitoring; allow daily "sedation vacation"; check triglycerides & ANY enzyme test ending in -ASE
tPA (Alteplase) THROMBOLYTIC	Lyses fibrin clot — ischemic stroke only	Bleeding (intracranial, GI, GU), angioedema	Window ≤ 4.5h from onset; rule out hemorrhagic stroke (CT first); strict BP control < 185/110

09

⚠ AVOID THESE WRONG ANSWERS

NCLEX Test Traps

TRAP 1

"What's the FIRST sign of neurologic decline?"

- ✗ Pupil change, posturing, or vital sign change
- ✓ Subtle change in LOC — restlessness, confusion, drowsiness. Pupils & vitals are LATE signs.

TRAP 3

Babinski reflex — positive is normal in...

- ✗ All patients (it's a normal reflex)
- ✓ Positive (toes fan up) is NORMAL in infants < 2 yr. In adults = ABNORMAL → UMN lesion.

TRAP 5

Patient is post-stroke — best position?

- ✗ Trendelenburg or flat
- ✓ HOB 30°, head/neck midline. Trendelenburg ↑ ICP. Flexion of neck blocks venous drainage.

TRAP 7

GCS of 8 — what's the action?

- ✗ Continue monitoring q1h
- ✓ GCS ≤ 8 = comatose. Prepare to intubate — patient cannot protect airway.

TRAP 2

Cushing's triad means... start treating ICP?

- ✗ Means we have time to intervene
- ✓ Cushing's = LATE sign of impending herniation. Brainstem already compressed. Notify provider STAT — emergency.

TRAP 4

Decorticate vs. Decerebrate — which is worse?

- ✗ Decorticate (because arms move)
- ✓ Decerebrate is WORSE (brainstem lesion). Decorticate = "to the Core" arms flexed. Decerebrate = arms Extended.

TRAP 6

"During seizure, the nurse should..."

- ✗ Restrain the patient and put a tongue blade in the mouth
- ✓ NEVER restrain or insert anything in mouth. Turn to side, protect head, time seizure, suction & O₂ ready.

TRAP 8

Suspected stroke — first action before tPA?

- ✗ Give tPA immediately based on symptoms
- ✓ CT scan FIRST to rule out hemorrhagic stroke. tPA in hemorrhagic = catastrophic.

10

NGN TEST PLAN

NCJMM — Clinical Judgment Framework

1

Recognize Cues

↓ LOC, restlessness, confusion, headache, pupil change, motor weakness, vomiting, vital sign trends, GCS score

2

Analyze Cues

Cluster: LOC drop + pupil dilation + posturing = ↑ ICP. Cushing's triad = herniation risk. Slurred speech + drift = stroke.

3

Prioritize Hypotheses

Rule out: stroke, ↑ ICP, seizure, hypoglycemia, hypoxia, infection. Most life-threatening first (ABCs).

4

Generate Solutions

HOB 30°, midline neck, O₂, IV access, neuro recheck, glucose check, CT scan, notify provider, prepare meds.

5

Take Action

Implement ICP precautions, support airway (intubate if GCS ≤ 8), give ordered mannitol/3% saline, seizure precautions.

6

Evaluate Outcomes

Did LOC improve? GCS ↑? Pupils responsive? VS stable? Reassess q1h or per protocol; trend results.

11

TEACH BACK

Patient & Family Education

❖ Warning Signs to Report

- Sudden severe headache ("worst of my life")
- One-sided weakness, facial droop, slurred speech
- Sudden vision changes or double vision
- Loss of balance, dizziness, falls
- Confusion, drowsiness, hard to wake
- Seizure, loss of consciousness
- Numbness or tingling that doesn't resolve

❖ Stroke Recognition — F.A.S.T.

- **Face** — Ask to smile; is one side drooping?
- **Arms** — Raise both arms; does one drift?
- **Speech** — Can they repeat a phrase clearly?
- **Time** — Call 911 immediately. Time = brain.
- "Time is brain" — every minute, ~1.9 million neurons die

❖ Home Safety

- Remove tripping hazards, install grab bars, good lighting
- Use assistive devices (cane, walker) as prescribed
- Avoid alcohol; review meds with provider for drowsiness
- Wear medical alert bracelet for seizure/stroke history
- Keep emergency numbers visible

❖ Lifestyle & Risk Reduction

- Control BP, glucose, cholesterol — leading stroke risks
- No smoking; limit alcohol
- Take seizure meds on schedule — never skip or stop suddenly
- Wear helmet (bike, sports); seatbelt always
- Adequate sleep — sleep deprivation lowers seizure threshold

12

MEMORY BOOSTERS

Mnemonics & Pattern Recognition

A·V·P·U

QUICK LOC SCREEN

A lert

V erbal stimulus response

P ainful stimulus response

U nresponsive

F·A·S·T

STROKE RECOGNITION

F ace drooping

A rm drift / weakness

S peech slurred

T ime to call 911

PERRLA

PUPIL ASSESSMENT

P upils

E qual

R ound

R eactive to **L** ight &

A ccommodation

CN NAMES

"ON OLD OLYMPUS..."

O n — Olfactory (I)

O ld — Optic (II)

O lympus' — Oculomotor (III)

T owering — Trochlear (IV)

T op — Trigeminal (V)

A — Abducens (VI)

F inn — Facial (VII)

A nd — Acoustic (VIII)

G erman — Glossopharyngeal (IX)

V iewed — Vagus (X)

S ome — Spinal Accessory (XI)

H ops — Hypoglossal (XII)

3 B'S

CUSHING'S TRIAD

B ig BP (rising systolic)

B radycardia

B reathing irregular

= *LATE ICP / herniation*

D·R·I·P

DECORTICATE VS DECEREBRATE

D ecorticate = arms drawn **IN** to **core** (flexion)

R elatively less severe

D ecerebrate = limbs **extended**, rigid

P oor prognosis (brainstem)

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