

APPENDIX B: NEURO EXAM FOR A TBI PATIENT

Below is a detailed description and training overview of what a primary nurse is expected to do when performing a neuro exam on a patient with a traumatic brain injury (TBI):

Neuro Exam for a TBI Patient – Primary Nurse Responsibilities

Purpose:

To assess neurological function and detect any changes in a patient with a traumatic brain injury, enabling early recognition of deterioration and timely intervention.

Frequency Assessment

Follow facility protocols and provider orders (commonly every 1-2 hours initially, then less frequently as the patient stabilizes).

Increase frequency if any change is noted.

Components of the Neuro Exam

A. Level of Consciousness (LOC)

- Use the Glasgow Coma Scale (GCS):
 - Eye Opening (1-4)
 - Verbal Response (1-5)
 - Motor Response (1-6)
- Document and compare changes over time.
- Note if the patient is awake, drowsy, stuporous, or unresponsive.

B. Orientation

- Ask the patient:
 - Their Name
 - Location (where are you?)
 - Date or Situation
- Document if they are oriented to person, place, time, and situation (AAOx4).

C. Pupillary Response

Assess pupil size, shape, equality, and reactivity to light.

Use a penlight in a darkened environment.

Normal response: pupils equal, round, reactive to light (PERRL).

Note sluggish, nonreactive, or unequal pupils – report immediately.

D. Motor Function

- Ask the patient to:
 - Squeeze your hands
 - Push/pull feet against resistance
 - Lift limbs on command
- Check for strength (0-5 scale), symmetry, and purposeful vs. non-purposeful movement.
- If Unconscious, apply noxious stimuli (e.g., shoulder pinch) to assess response.

E. Sensory Assessment

- Light touch and pain (if applicable and patient is alert).
- Assess if the patient can feel and localize sensation on both sides of the body.

F. Speech and Language

- Assess clarity, coherence, and appropriateness of speech.
- Monitor for slurred, garbled, or aphasic speech patterns.

G. Vital Signs

- Monitor for signs of Cushing's Triad (late sign of increased ICP):
 - Hypertension with widening pulse pressure (e.g., elevated systolic BP with low or normal diastolic BP)
 - Bradycardia
 - Irregular respirations (e.g., Cheyne-Stokes, ataxic breathing patterns)
- Document and report any abnormal findings immediately.

Red Flags and Late Clinical Signs of Increased Intracranial Pressure – When to Escalate!

These are critical findings and must be reported immediately as they signify worsening or severe neurological compromise:

- Decrease in GCS score

- Unequal or fixed pupils
- New onset weakness or paralysis
- Seizure activity
- Vomiting without nausea
- Worsening headache or behavior change
- Cushing's Triad (see vital signs section above)
- Abnormal Posturing: in unconscious or deteriorating patients, observe for abnormal motor responses to painful stimuli:
 - Decorticate Posturing (flexor)
 - Arms flexed and adducted over the chest, legs extended.
 - Indicates damage to the cerebral hemispheres or internal capsule.
 - Decerebrate Posturing (extensor):
 - Arms extended and pronated, legs extended with plantar flexion.
 - Indicates damage to the brainstem – worse prognosis.

Documentation

Use a Neuro Flowsheet if available.

Always document:

- Time of exam
- GCS
- Pupil findings
- Motor and sensory results
- Changes from previous assessments

Report any significant or acute changes to the provider immediately.

Communication

Use SBAR (Situation, Background, Assessment, Recommendation) when reporting changes.

Collaborate with the provider, neuro team, or rapid response as needed.