Frequency of Recording Neurological Observations

2nd Edition

British Association of Neuroscience Nurses

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1. Guideline

This guidance aims to support nurses caring for Neurosurgical patients following Neurosurgery or a Neuro-radiological procedure to ensure that all patients receive appropriately timed observations.

- Always check the post-op notes and use clinical judgement (or consult a senior member of staff) to increase frequency of observations.

- Always check pupil reactions for sedated patients, especially those who may not need a Glasgow Coma Scale (GCS) assessment.

- Any alterations or deterioration from the patient's normal baseline must be escalated for urgent review by the medical staff who should respond as per NEWS2 criteria within 30 minutes; specifically:

    - ❖ A sustained drop of 1 point (at least 30 minutes), in the motor response of the GCS
      and / or
    - ❖ A deterioration of 2 points in the eye-opening or verbal response
      or
    - ❖ A deterioration of 3 or more points overall in the GCS is of clinical significance.

In addition, if there are any of the following symptoms this should prompt escalation: -

- The development of new confusion, agitation, or abnormal behaviour.
- Severe or persistent headache
- Vomiting. or signs such as pupil inequality or asymmetry of limb or facial movement
- Scoring less than A on the AVPU score (new symptom as per NEWS2)
- Development of a new limb weakness.

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2. Frequency of Observations

Categories listed below are a guideline. There may be occasions when more frequent observations will be required (e.g. a patient who has been receiving anticoagulants or where there have been intra-operative difficulties).

There are four categories of patients requiring different timing of observations.

Category A

Procedure

Craniotomy, included but not limited to:

- Debulking/ removal of tumour
- Clipping of aneurysm
- Craniectomy
- Cranioplasty
- Acoustic neuroma
- Transsphenoidal hypophysectomy
- Craniotomy (resection of arterio-venous malformation, lobectomy, extradural and subdural haematoma
- Foramen magnum decompression
- Microvascular decompression
- Embolisation
- Coiling of ‘acute’ aneurysm
- Any other major intracranial procedure not listed above.

Frequency of observations:

- On return to the ward record observations: (GCS observations, Temperature Pulse Respirations (TPR); Heart Rate (HR); Blood Pressure (BP)) every 30 minutes for six hours; hourly for eight hours; two hourly for eight hours.

Category B

Procedure:

- Burr hole biopsy of tumour
- Coiling of uncomplicated ‘cold’ aneurysms
- Shunt/ External Ventricular Drain (EVD) insertion
- Burr hole and evacuation of subdural haematoma
- Open discectomies/ anterior cervical decompression/ open laminectomies/ spinal fixations/ excision of spinal tumours
- Cervical laminectomies for C1/ C2
- Stereotactic radiofrequency lesions
- Carotid endarterectomy

Frequency of observations:

- On return to ward, as a minimum, record observations every 30 minutes for four hours; hourly for four hours; two hourly for four hours.

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- Carotid endarterectomy –if patients return with an arterial line in-situ, monitoring will continue for six hours post operatively, (then two hourly observations for four hours then four hourly until discharge home or are deemed stable).
- Record GCS for all intracranial surgery and spinal surgery at C1/C2.
- All spinal patients to have spinal and sensory observations performed.

Category C

Procedure:

- Minimally invasive spinal surgery for discectomy/ laminectomy

Frequency of observations:

- On return to ward record observations for four hours of hourly spinal observations; TPR, BP + MEWS and sensory assessment.
- **Note:** Must pass urine before discharge.

Category D – Miscellaneous

1. Untreated subarachnoid haemorrhage
    - Observe frequency: two hourly GCS; TPR; BP; NEWS2 or as patient condition dictates.

2. Spinal injuries and spinal fractures
    - On admission spinal observations, sensory, GCS and NEWS2 should be taken half hourly for six hours and hourly for six hours, then 1-2 hourly for 12 hours, two hourly for 24 hours, assess patient and increase to four hourly if stable.
    - Assessment of respiratory rate and patterns is paramount.
    - Measure forced vital capacity (FVC) in those patients with cervical or thoracic spinal cord injury. Serial measurements will help to assess respiratory function. A gradual drop in FVC indicates respiratory deterioration. Frequency of FVC recordings depends on initial measurement and condition of the patient. Record four hourly for the first 48 hours.

3. Immunoglobulin administration (IVIG's)
    - As per guidelines/ protocols

4. Patient Controlled Analgesia (PCA) pump
    - Hourly checks on volume infused etc

5. Muscle biopsy/ carpal tunnel
    - One set of observations on return from theatre. Please give patient a copy of patient information on discharge.

6. Baclofen/ vagal nerve stimulation
    - GCS and SHEWS should be taken half hourly for four hours and hourly for six hours, then 1-2 hourly for 12 hours, increase to four hourly, if stable

7. Angiography (Femoral / Radial)
    - Post procedure; record GCS /NEWS2/ vascular observations - pedal or radial pulses, limb observations (colour and temperature), every 30 minutes for four hours; hourly for four hours; two hourly for four hours, then four hourly until discharge.
    - Post procedure; record cardiovascular/NEWS2/ observations – specifically signs and symptoms of hemodynamic instability (hypotension, tachycardia) caused by: -

- Inadvertent puncture of the posterior wall of the femoral artery during interventional procedures (retroperitoneal hemorrhage and active bleeding into the abdominal or pelvic cavity).
- Pseudoaneurysm - an expanding pulsatile haematoma in communication with a ruptured vessel – observe for tenderness, swelling over the groin and auscultate the vessel for audible bruit, sudden fall in hemoglobin level.
- Refer to specific instructions on Angio observations for ward/radiology

NB: If patient is sedated, ventilated or unconscious, the limb observations must continue for 24hrs.

Definitions

Term	Description
GCS	Glasgow coma scale
LOC	Level of consciousness
AVPU	Alert, voice, pain, unresponsive
EVD	External ventricular drainage
IVIG	Intravenous immunoglobulin
NCCU	Neurosciences critical care unit
PCA	Patient controlled analgesia
TPR	Temperature
VNS	Vagal nerve stimulation

Monitoring compliance with and the effectiveness of the guideline

a) Regular spot checks by senior nursing staff
b) Reviewed at bedside handovers.
c) Local audit.

References

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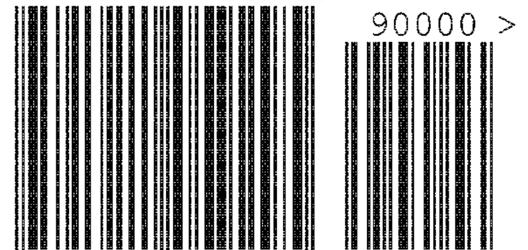

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